CHAPTER 3

CAGUAS' PUBLICO TERMINALS

A. INTRODUCTION

1. Background

The Municipality of Caguas is located in the Turabo Valley in the eastern section of Puerto Rico, just south of the San Juan Metropolitan Area (See Figure 3-1). It consists of an urbanized area centered around the Plaza Palmer (traditional town square) and ten surrounding "barrios" or wards as follows: Bairoa, Río Cañas, San Antonio, Tomás de Castro, Turabo, San Salvador, Borinquen, Beatriz, Cañaboncito, and Cañabón (See Figure 3-2). The city of Caguas stands at the cross-roads of seven major island highways which connect Caguas with the rest of the Island as well as its neighboring municipalities.

Caguas is geographically and administratively the head of a much larger region (metropolitan area) that includes the sprawling city of Caguas plus substantial areas of the municipalities of Gurabo, Juncos, Las Piedras, San Lorenzo, Cidra, and Cayey, all of which are encompassed within a ten mile radius of the city of Caguas (Figure 3-3). As the head of the region, Caguas contains diversified governmental, medical, legal, educational, banking, and commercial services.

The population of the Municipality of Caguas increased from 95,661 inhabitants in 1970 to 117,959 in 1980, according to the U.S. Census Bureau statistics. This change represents a 23.3 percent increase between 1970 and 1980. In 1980, 105,252 persons (or approximately 89.2 percent of the total population) were within the urban area.

2. Transportation

The Municipality of Caguas is served by an extensive network of roadways ranging from major multi-lane freeway facilities to local neighborhood and country roads reaching into the more distant rural mountainous areas. Naturally, the more urbanized areas in the northern sectors have the larger and better facilities. Figure 3-4 shows the major roadway network of Caguas. Figure 3-5 presents the urban roadway system.

The development of Caguas has been concentrated along the PR-1 corridor. PR-1 is the major north-south highway, extending from Old San Juan southward through San Juan, Caguas, and numerous municipalities, terminating at the city of Ponce on the south-central coast of the Island. In Caguas, this roadway enters the central urban area through the town center. Most recently, this route's function has been supplemented by the construction of the

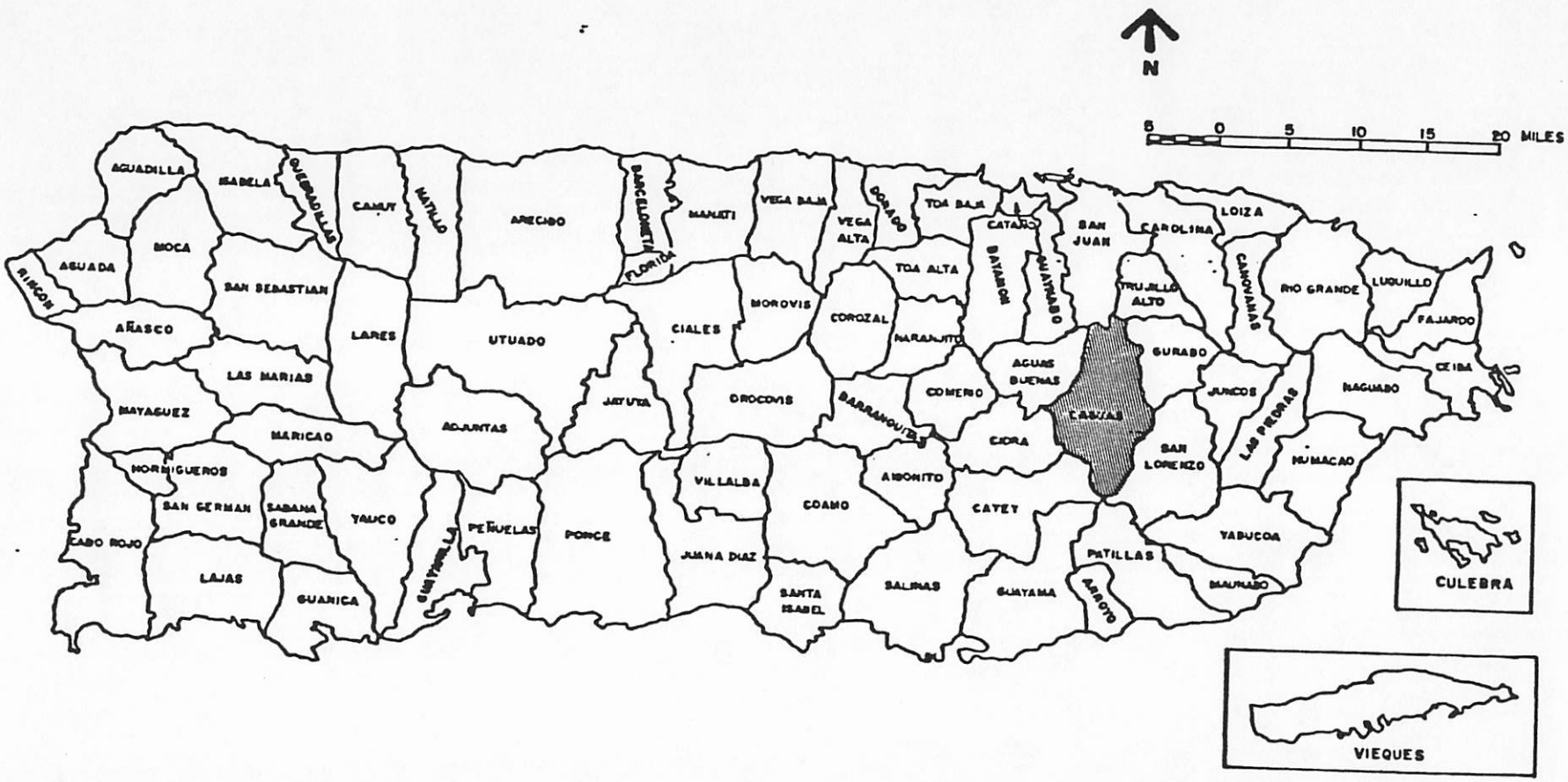


FIGURE 3-1 LOCATION OF MUNICIPALITY OF CAGUAS

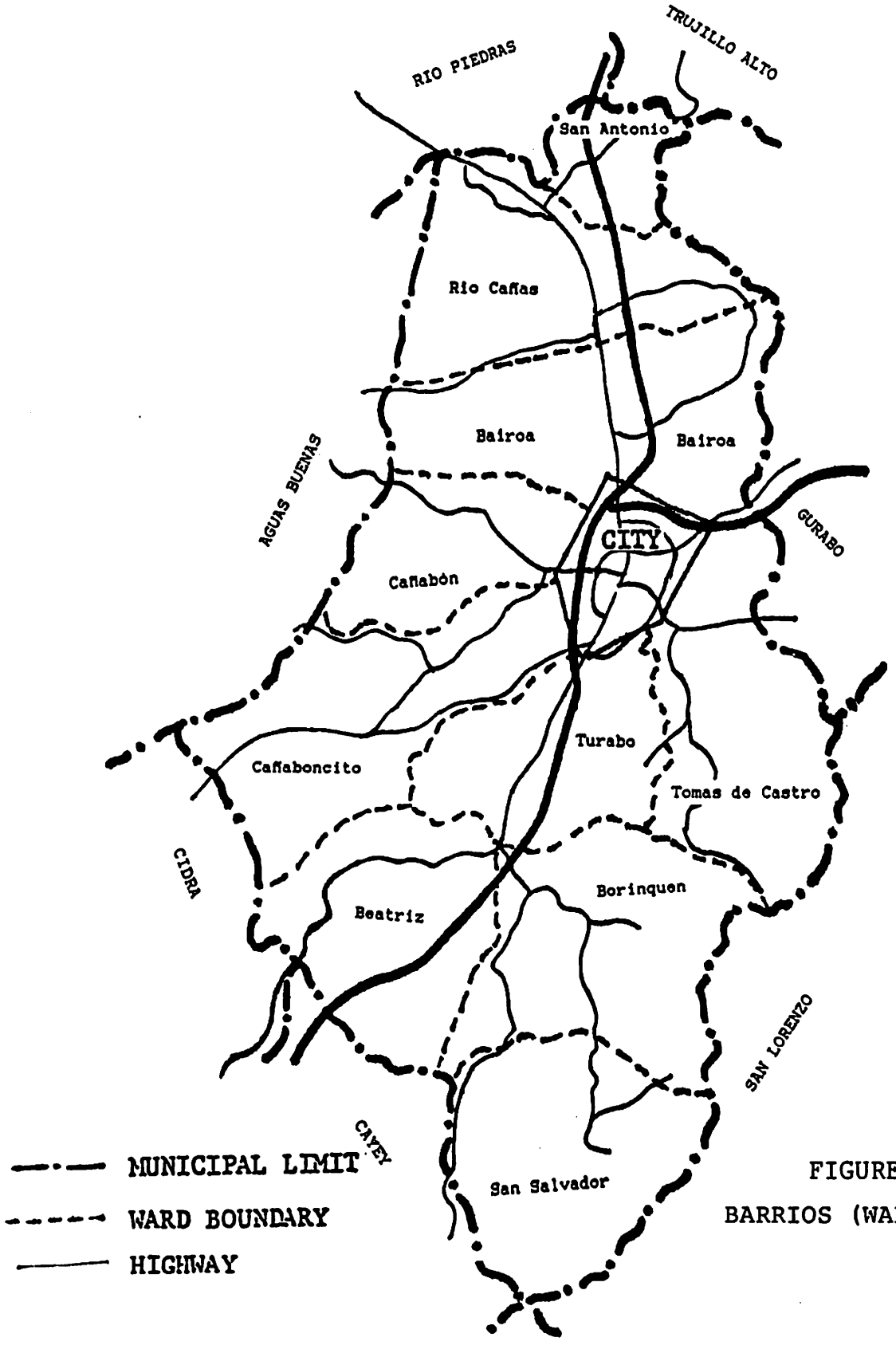


FIGURE 3-2
BARRIOS (WARDS) OF CAGUAS

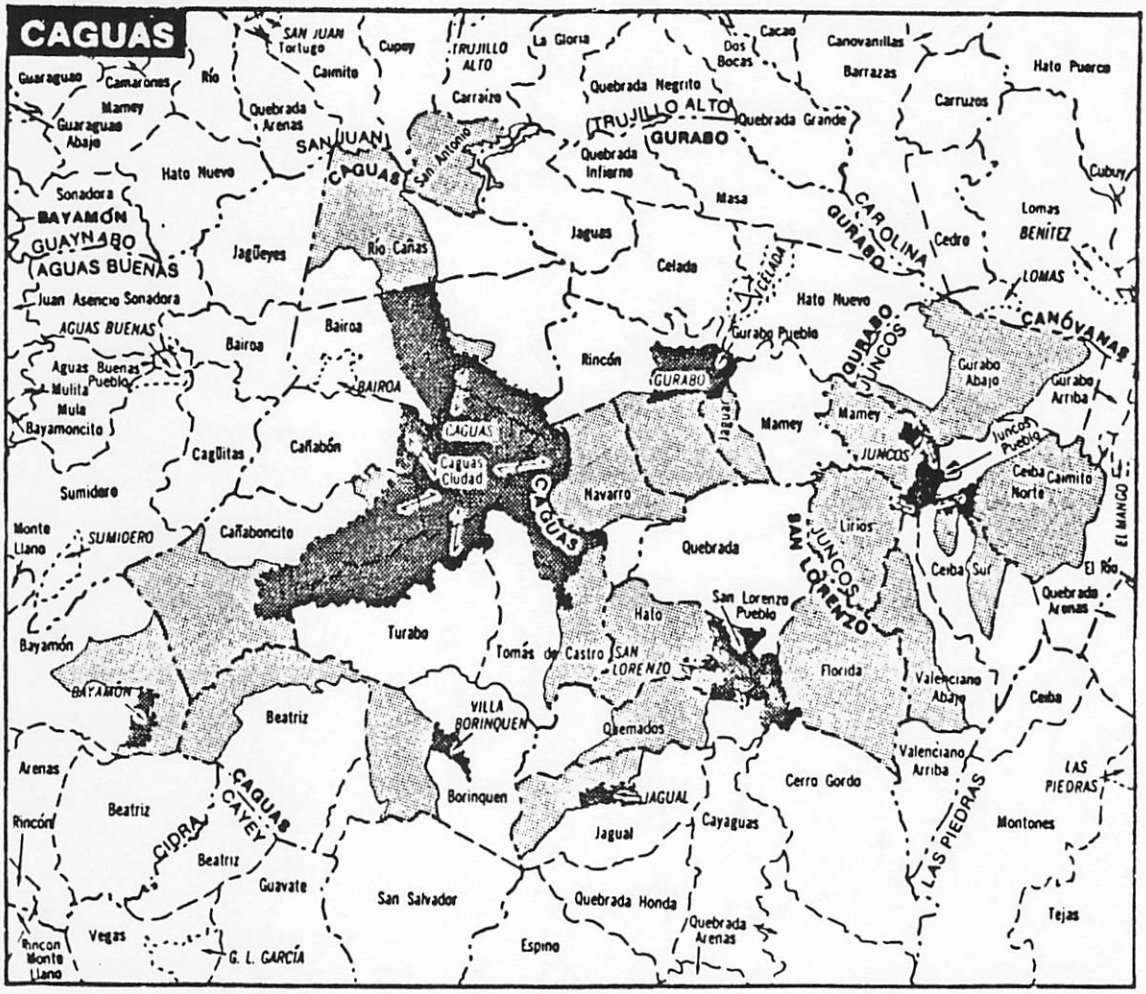


FIGURE 3-3

CAGUAS METROPOLITAN AREA
AND CONNECTING URBANIZED AREA

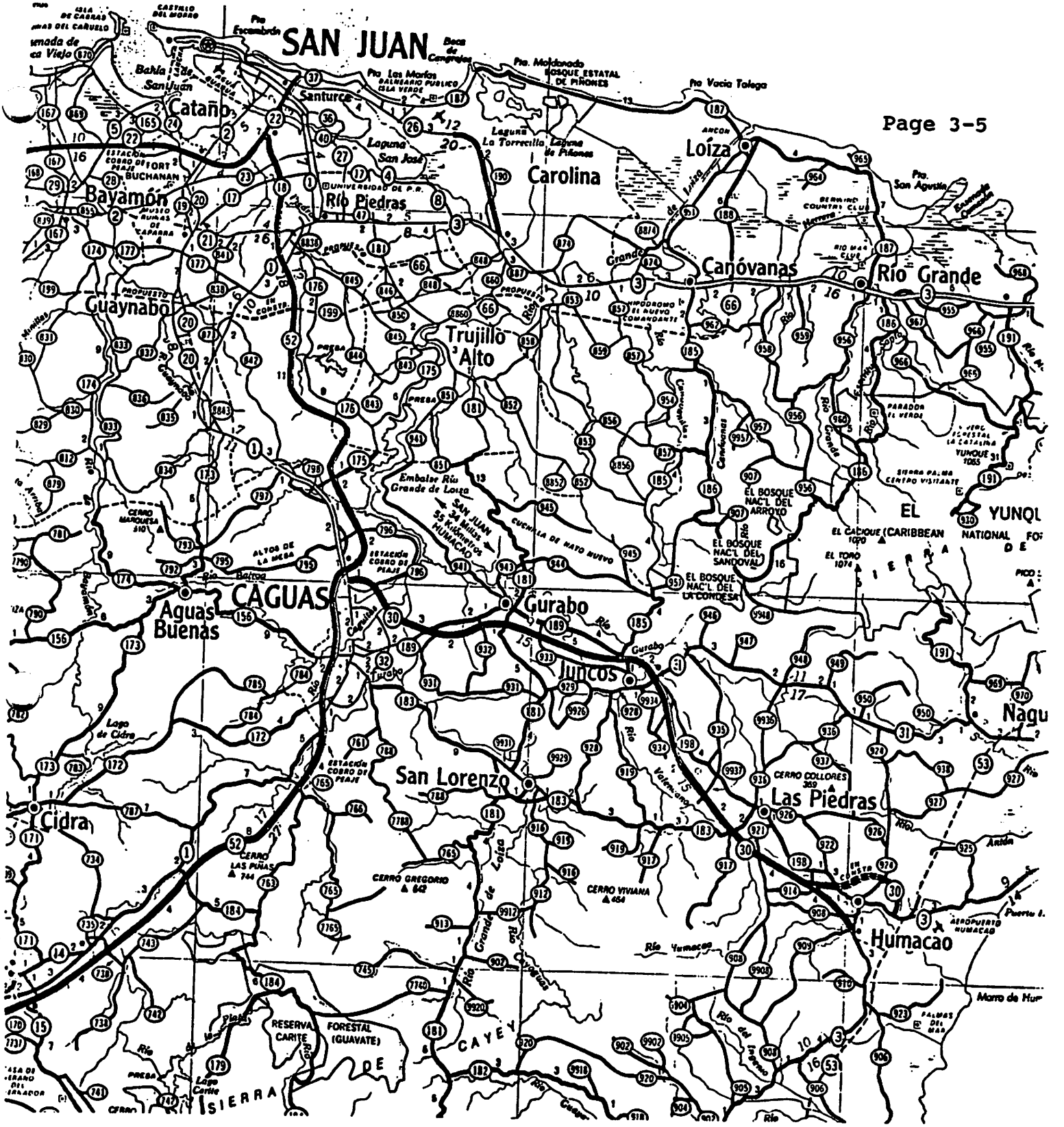


FIGURE 3-4 CAGUAS REGIONAL ROADWAY SYSTEM

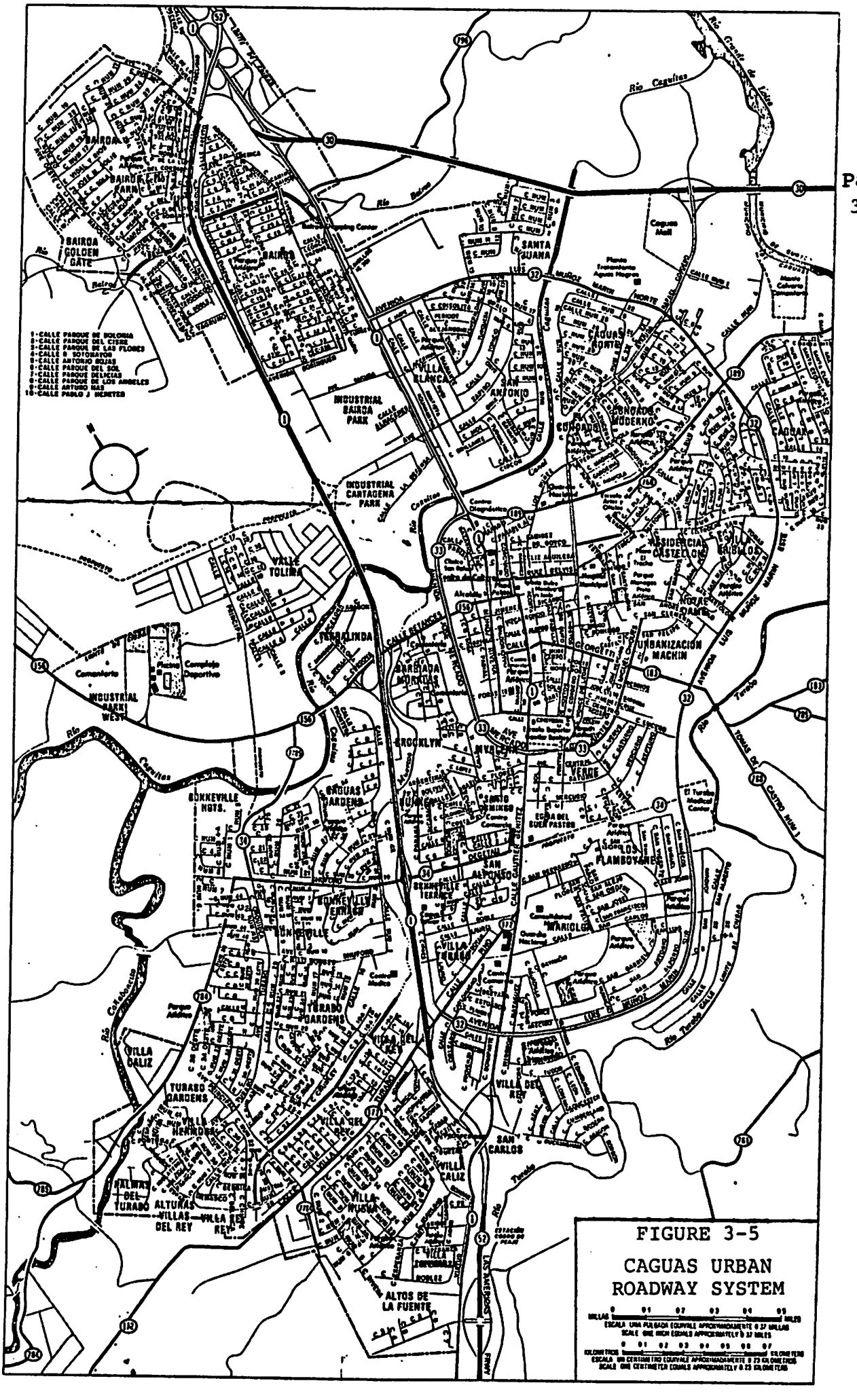


FIGURE 3-5
CAGUAS URBAN
ROADWAY SYSTEM
BAIROA
BAIROA GOLDEN GATE
INDUSTRIAL BAIROA PARK
INDUSTRIAL CARTAGENA PARK
INDUSTRIAL PARK WEST
SANTA JUANA
CAGUAS NORTE
VILLA BLANCA
SAN ANTONIO
CONDADO MODERNO
RESIDENCIAL CASTELLON
VILLA GARIBALDI
URBANIZACIÓN MACHIN
BARBADA MORALES
BROCKLYN
INVERNADO
CENTRO VERDE
SAN ALFONSO
LOS FLAMBOYANES
MARIOLGA
VILLA TERRACE
BONKEVILLE HGTS.
BONKEVILLE TERRACE
CAGUAS GARDENS
TURABO GARDENS
VILLA CALIZ
VILLA HERNANDEZ
VILLA DEL REY
SAN CARLOS
PALMAS DEL TURABO
ALTURAS DE VILLAS DEL REY
ALTOS DE LA FUENTE
Río Caguitas
Río Grande de Loíza
Río Bairoa
Río Turabo
Caguas Mall
Complejo Deportivo
Cementerio
ESCALA UNA PULGADA EQUIVALE APROXIMADAMENTE A 0.17 MILLAS
SCALE ONE INCH EQUALS APPROXIMATELY 0.17 MILES
ESCALA UN CENTIMETRO EQUIVALE APROXIMADAMENTE A 0.23 KILOMETROS
SCALE ONE CENTIMETER EQUALS APPROXIMATELY 0.23 KILOMETERS

toll facility (PR-52) between San Juan and Ponce. In the Caguas area, PR-52 is served by two toll collection facilities (north and south) and functions as a west bypass.

The existing roadway system also includes other major corridors. The PR-156 corridor serves the eastern sectors towards Aguas Buenas. The PR-189 corridor represents the long established access to the eastern and southeastern municipalities of Gurabo, Juncos, Las Piedras, and Humacao. This corridor is reinforced by PR-30, a four-lane, high speed expressway.

Highway PR-183 provides access to the eastern sectors of Caguas and the Municipality of San Lorenzo. Highway PR-172 forms the southwestern corridor to the Municipality of Cidra.

The principal central urban areas are circumvented by two almost continuous ring roads: PR-33, José Mercado Avenue and Júpiter Street, forms a partial western internal ring around the Central Business District (CBD); PR-32, Luis Muñoz Marín Avenue, forms the much larger outer western ring (see Figure 3-5).

Public passenger transportation in the region and city of Caguas is provided by a combination of privately owned bus lines, publico-cars, and taxis.

Públicos provide a highly flexible type of passenger transportation at a speed similar to that of the private car. During the trip, passengers are unloaded at any site along the established route as requested by the passenger or are picked up, depending on the availability of seats. It is estimated that there are currently 41 Caguas based routes with 631 público vehicles serving the Municipality of Caguas either in rural, interurban, or intraurban service. Table 3-1 presents a summary of the public transit services operating in Caguas. Table 3-2 presents an inventory of the público-car routes serving Caguas.

Bus service is similar to that of the público, except for the number of passengers they transport and the fixed stop system established along the urban sections of the routes. Currently there are four interurban and nine local urban bus routes with a total of approximately thirty-one (31) buses serving the City of Caguas.

There are three taxi organizations plus a number of independents with over 136 vehicles serving Caguas. These taxis are provided with off-street spaces at or near the Terminal plus some spaces at Plaza Palmer and various area shopping centers.

TABLE 3-1

CURRENT CAGUAS PUBLIC TRANSPORTATION

Publicos	Private Buses	Taxis
41 Routes 631 vehicles	8 Routes 31 buses	3 Companies 136 vehicles
*30 local routes with 269 vehicles	*Rio Piedras	*Cooperativa de Bogamé
	*San Lorenzo	*Turabo Taxi
	*Cayey	
*11 interurban routes with 362 vehicles	*Cidra	*Victoria Taxi
	*Comerio via Aguas Buena	
	*Cidra via Aguas Buena	
	*Mariolga	

TABLE 3-2
PUBLICO-CAR ROUTE INVENTORY
MUNICIPALITY OF CAGUAS

PUBLIC SERVICE COMMISSION CODE	ROUTE	NUMBER OF VEHICLES	TERMINAL LOCATION	UNION No.
I-13-04	AGUAS BUENAS	32	PADIAL	103
I-13-18	CAYEY	25	CTC	2960
I-13-21	CIDRA	15	CTC	69
I-13-33	GURABO	50	CTC	90
I-13-36	HUMACAO VIA JUNCOS	49	CTC	92
I-13-58	PONCE	1	CTC	
I-13-67	SAN LORENZO	37	CTC	2853
I-13-V-62	CENTRO MEDICO DE RIO PIEDRAS	7	CTC	
I-62-13	RIO PIEDRAS	50	CTC	68
L-13-01	RES. BAIROA, V. BLANCA IND.	12	CTC	3161
L-13-03	BONNEVILLE, HOSP. SUBREGIONAL	19	CTC	4814
L-13-04	BARRIO BORINQUEN	13	GEORGETTY	6287
L-13-05	BO. CAÑABONCITO	27	RUIZ BELVIS	2847
L-13-06	CAGUAS NORTE	4	CTC	7310
L-13-07	VILLA TOLIMA	6	RUIZ BELVIS	9422
L-13-08	TURABO GARDENS	6	CTC	4709
L-13-10	CASTELLON Y CASERIO DELGADO	2	CTC	
L-13-11	BARRIO GUAVATE	8	GEORGETTY	9258
L-13-12	BARRIO LA MESA Y LA BARRA	16	CTC	1926
L-13-13	LAS CAROLINAS	13	CTC	104
L-13-14	VILLA DE CASTRO, ALT TURABO	2	CTC	
L-13-14	CASERIO JOSE MERCADO	1	NONE	
L-13-15	BO. NAVARRO DE GURABO	4	CTC	6976
L-13-18	CAGUAX	25	CTC	97
L-13-19	BARRIO SAN ANTONIO	7	CTC	8086
L-13-20	BARRIO SAN SALVADOR	10	GEORGETTY	
L-13-21	TOMAS DE CASTRO I	13	RAFAEL CORDERO	3525
L-13-22	BARRIO TOMAS DE CASTRO II	3	HOSTOS	
L-13-23	VILLA DEL REY, COL. BAUT.	29	CTC	4336
L-13-24	VILLA ESPERANZA	4	CTC	1324
L-13-26	GAUTIER BENITEZ	13	CTC	4337
L-13-27	QUEBRADA ARENAS	1	NONE	
L-13-30	BARRIO BEATRIZ	7	BALDORIOTY	9182
L-13-31	JAGUEYES VIA LA CHANGA	1	CTC	2853
L-13-32	BO. HORMIGA	5	RUIZ BELVIS	
L-13-E-08	LA CHANGA ADENTRO	2	NONE	
L-13-E-23	HOSP SUBREGIONAL, V.DEL REY	8	CTC	
L-13-E-32	CAGUITAS	1	NONE	
L-13-E-33	VILLA BLANCA , EXT. STA JUANA	7	CTC	6131
SJ-66-13	SAN JUAN (LINEA PALMER)	44	CTC	84
SJ-66-13	SAN JUAN (LINEA TURABO)	52	CTC	68
	TOTAL NUMBER OF ROUTES =	41		
	TOTAL NUMBER OF VEHICLES =	631		

3. The Caguas Central Business District

Traditionally, the main commercial activity of the city of Caguas has been centered on the area immediately surrounding the Plaza Palmer, forming the Central Business District (CBD). Generally, this CBD is bordered on the North by PR-189, on the East by Rafael Cordero Avenue, on the South by Cristóbal Colón Street, and on the West by José Mercado Avenue (PR-32)/Padial Street (Figure 3-6). The main commercial activity within this area is concentrated along Muñoz Rivera, Gautier Benítez, Betances, Ruiz Belvis, and Acosta Streets.

The Caguas CBD has a great diversity of activities which, together with the existing local transportation system, serves to attract a large number of visitors for shopping, visiting public and/or private services, schools, etc.

The Caguas CBD contains a large commercial activity enhanced by the presence of principal regional governmental, health, and educational facilities and services. The CBD is also the Caguas Region's main transportation hub.

4. Existing Street System

Traffic circulation within the Caguas CBD is mainly north-south concentrated along Muñoz Rivera (PR-1), Gautier Benítez, Acosta, and Dr. Rufo Streets with the major east-west traffic concentrated along Goyco, Ruiz Belvis, Betances, Georgetti, and Cristóbal Colón Streets. The existing street pattern is basically a traditional grid pattern typical of Puerto Rico's central town areas. The pattern is dominated by one-way streets and centered on the Town Plaza (see Figure 3-7). All of the streets within the Study Area are under municipal jurisdiction except for Muñoz Rivera Street (PR-1 Southbound), Gautier Benítez Street (PR-1 Northbound), Georgetti Street (PR-183), PR-189 (Gurabo Road), José Mercado Avenue (PR-33), and Betances Street (PR-156) which are under the jurisdiction of the PR Department of Transportation and Public Works (DTPW). Figure 3-8 shows the current public transit route paths in the CBD.

Pavement widths vary significantly throughout the Study Area. The inner CBD streets have widths that vary from a narrow 4.9 metres (16 feet) along a section of Jiménez Sicardó Street to 10.4 metres (34.1 feet) along Gautier Benítez Street south of Georgetti Street. The larger and wider roadways are located mainly in the northeastern sector (Goyco and Acosta Streets, Rafael Cordero Avenue, and PR-189). These roadways have up to 6 lanes along various segments. The very recently extended José Mercado Avenue (PR-33) is a six lane avenue extending southwestward from PR-1 in the north (at PR-189) intersecting with PR-156 (Betances Street) and other local streets, including Cristóbal Colón Street, and terminating at Júpiter and

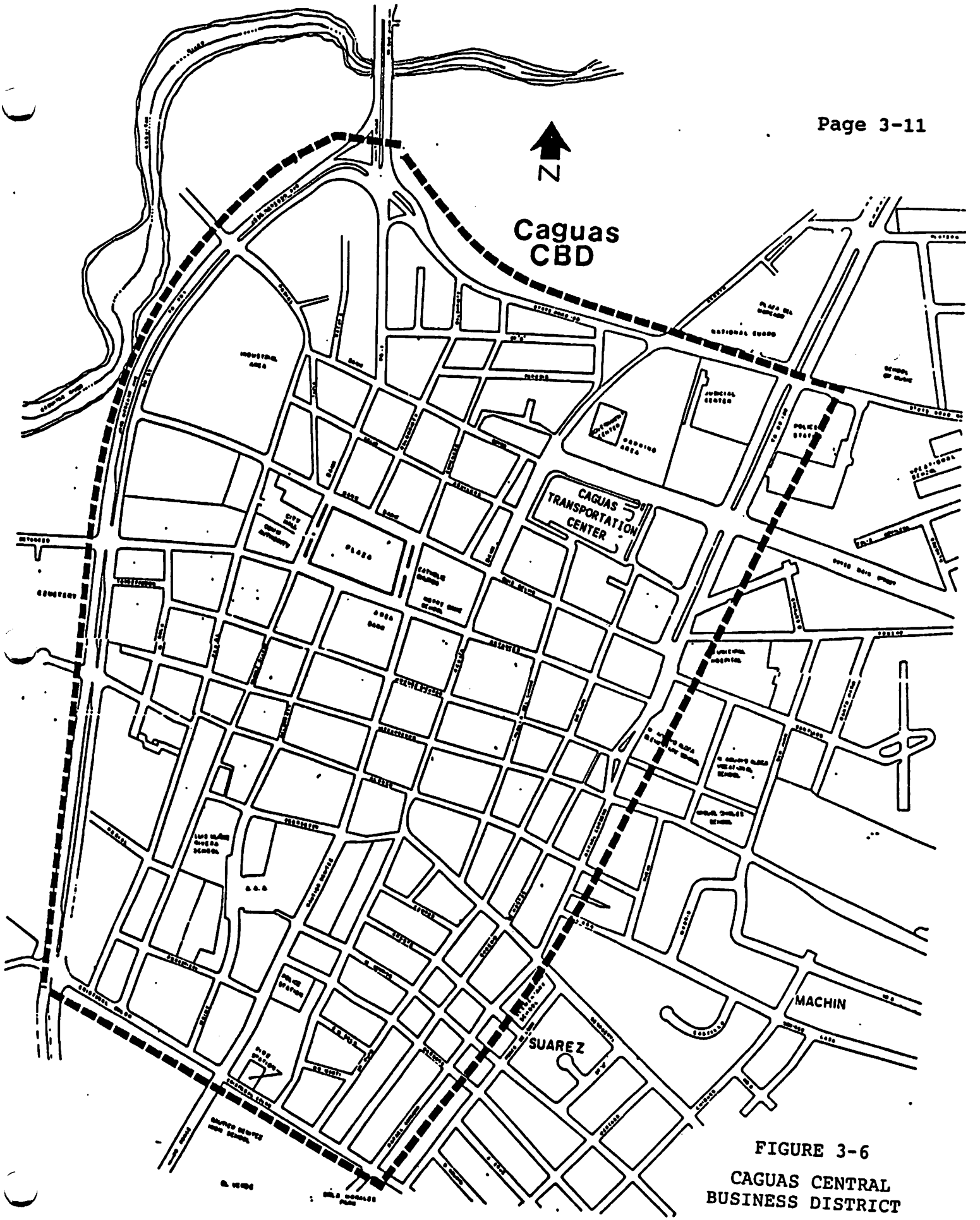


FIGURE 3-6

CAGUAS CENTRAL
BUSINESS DISTRICT

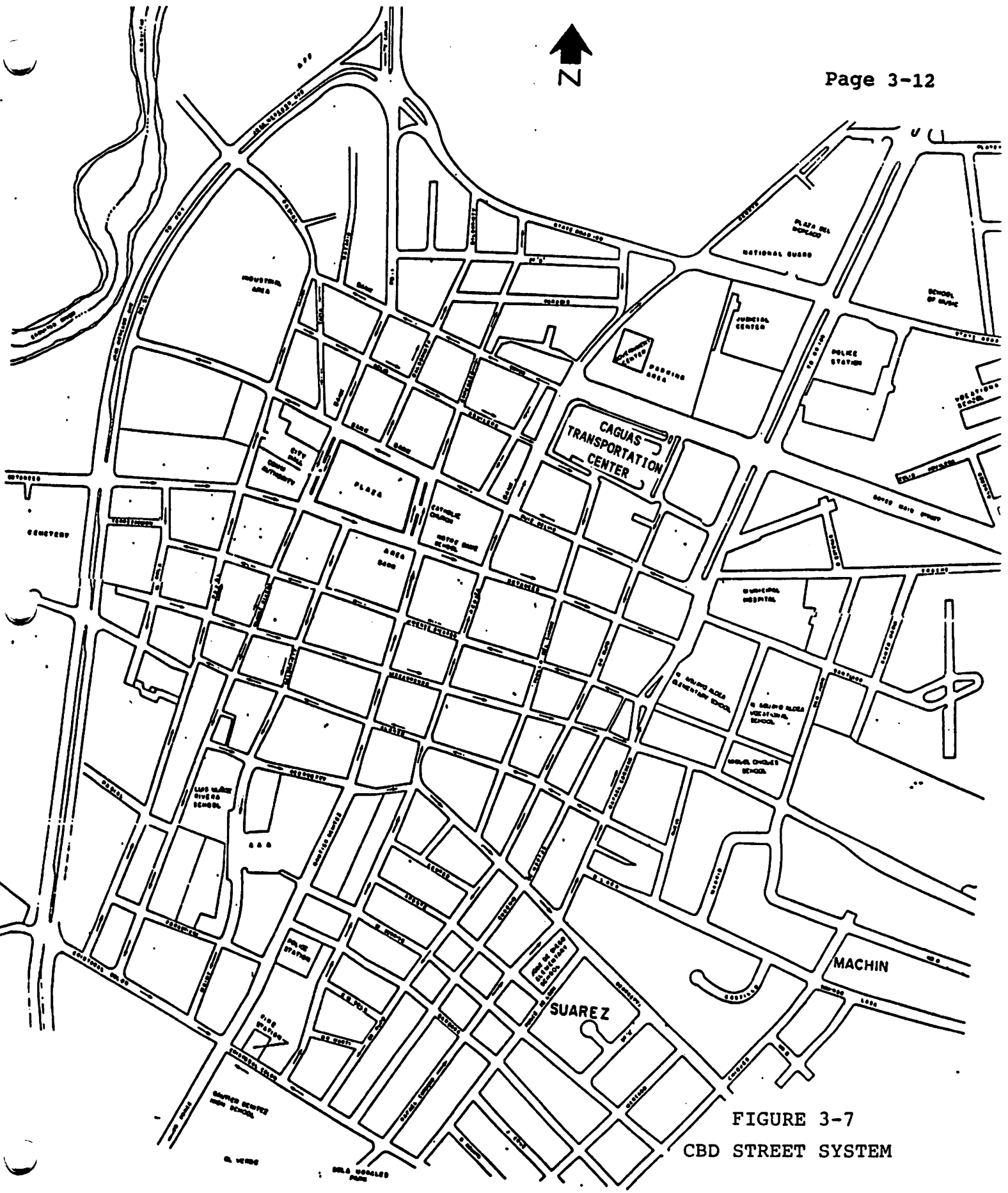


FIGURE 3-7
CBD STREET SYSTEM

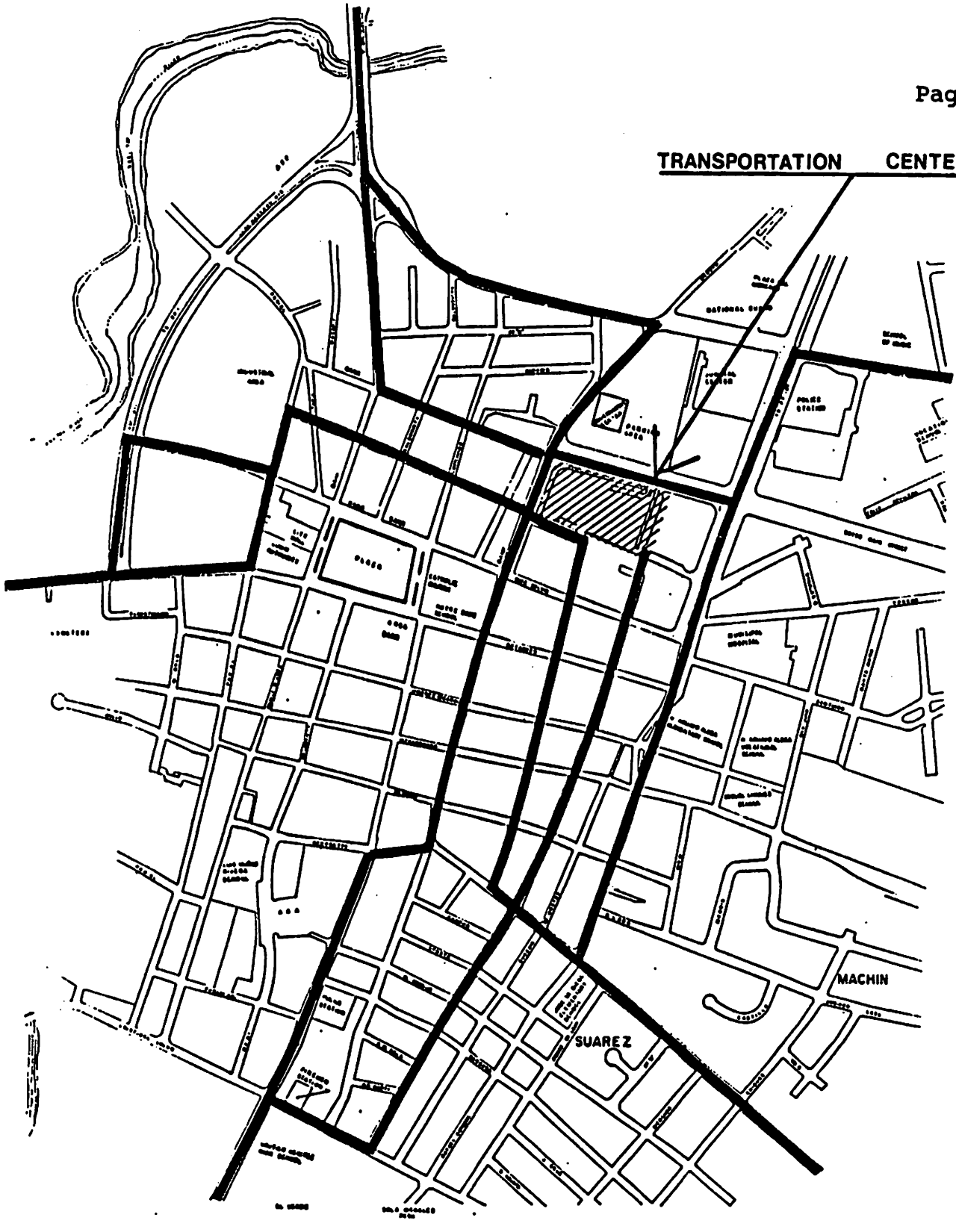


FIGURE 3-8
PUBLIC TRANSIT ROUTE PATHS IN CBD

Gautier Benítez Street south of the Study Area. This roadway now serves as a peripheral bypass for vehicles travelling north-south or east-south and thus avoid entering the CBD.

Up until early 1980, the Caguas CBD was like all the other town centers in Puerto Rico in which practically all of the public transit services, público-car, and buses had their terminals concentrated at or near the Town Plaza. In Caguas this had caused a continuous and aggravating problem with traffic congestion and parking deficiencies. In 1980 as part of the municipality's program to improve the general aspects of the CBD and help relieve the congestion problems, the Caguas Transportation Center was inaugurated.

Traffic volumes entering and leaving the CBD tend to be moderately high. Figure 3-9 shows the estimated 1986 average weekday traffic volumes along several CBD streets. These volumes are modified based on DTPW data and counts made in the 1983-84 study for the proposed Gautier Benítez Pedestrian Mall. The impact of the José Mercado Avenue extension has not been considered.

From Figure 3-9 it can be noted that the higher traffic volumes within the CBD are concentrated mainly along Muñoz Rivera, Acosta, Gautier Benítez, Ruiz Belvis, and Betances Streets. Even with the relocation of the públicos from the Town Plaza to the Terminal, traffic still remains relatively high around the Plaza.

5. Parking

Curb parking within the CBD is normally limited along one side of the street. Although parking ordinances exist, these are not rigorously enforced and thus creates a troublesome situation with respect to parking demand and traffic circulation.

Currently, there are at least five major public parking lots along the peripheral of the CBD: two lots at Durlach (Columbus parking) and Woolworth, the "Lincoln" lot at Goyco and Baldorioty Streets, the New York Department Store at Mercado Avenue, and a large surface lot adjacent to the east side of the transportation terminal (Figure 3-10). There are also several smaller private lots spread out within the CBD.

B. CAGUAS' PUBLICO-CAR TERMINAL SYSTEM

Up until April 1980, público cars and some bus lines operated exclusively from street terminals in the central business district to terminals within or outside the city limits, to rural wards, and more distant locations in adjacent municipalities. Taxis operated from stands in the Plaza area to any part of the urban area, in some cases, to other communities and municipalities, if requested.

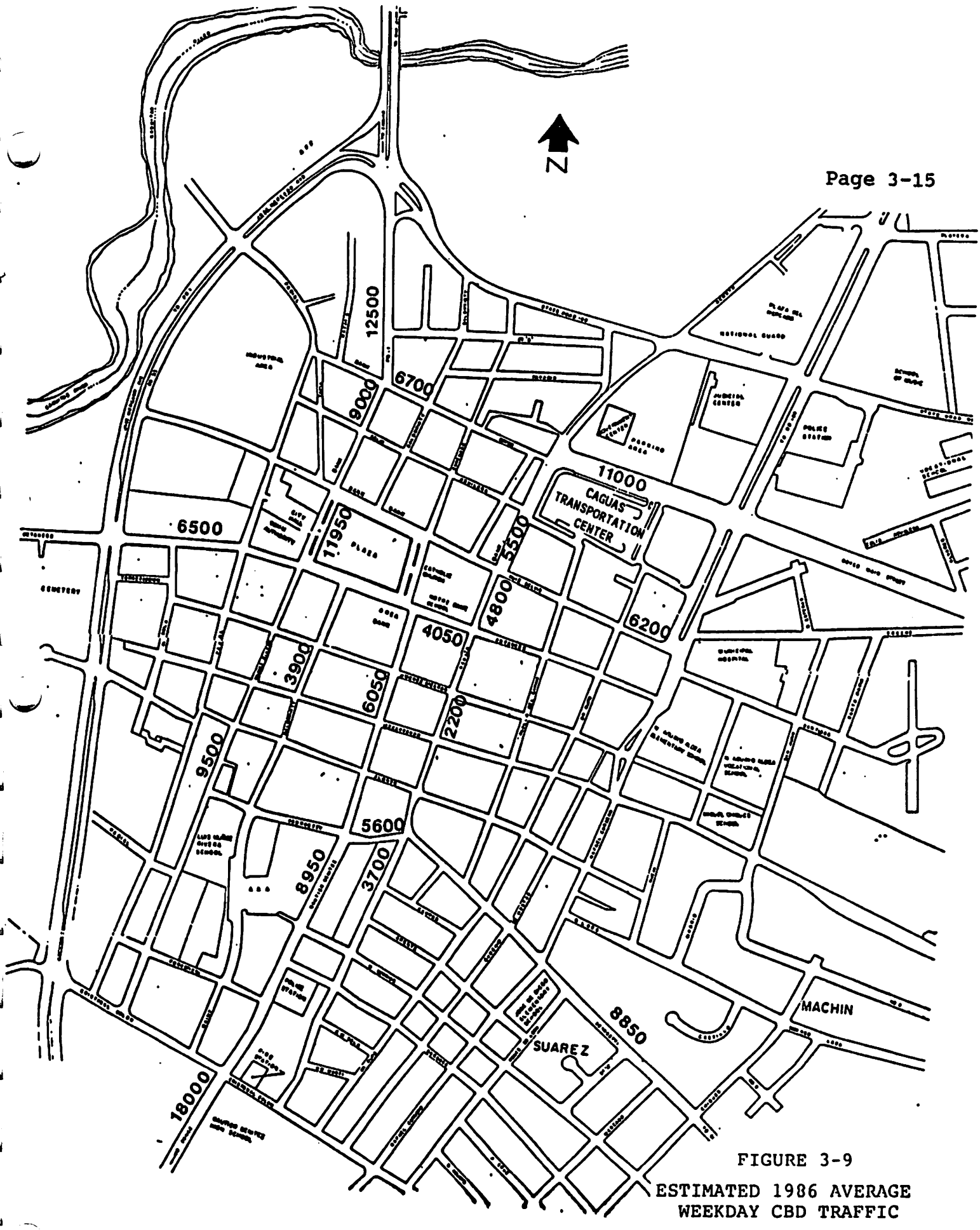


FIGURE 3-9

ESTIMATED 1986 AVERAGE
WEEKDAY CBD TRAFFIC

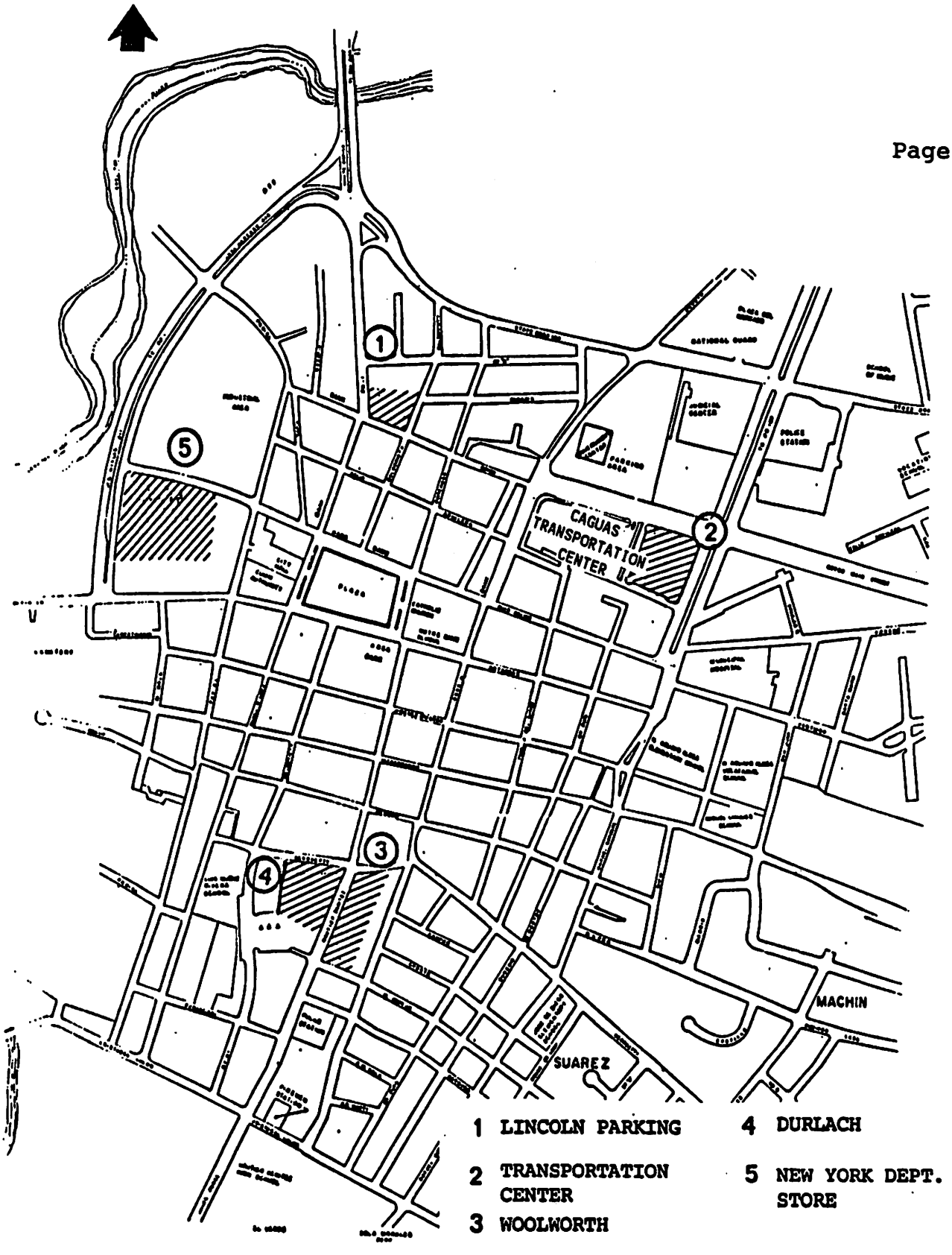


FIGURE 3-10
LOCATION OF MAJOR PARKING LOTS

Caguas' público-car terminal system consists of one major terminal building, Caguas Transportation Terminal (CTC)-- capacity 249) and several existing curbside terminals in the western and southern sectors of the CBD. Figure 3-11 shows the location of the existing terminals. Figure 3-12 shows the location of the route terminals prior to the construction of the CTC.

The Caguas Transportation Terminal was inaugurated on April 6, 1980, making it Puerto Rico's first truely intermodal terminal to include público-cars, buses, and taxis. The terminal is located in the northeastern sector of the CBD bounded on the north by Dr. Goyco Street, on the west by Acosta Street, on the south by Celis Aguilera Street (and south terminal access road), and on the east by a surface parking lot off Rafael Cordero Avenue.

The CTC is located on the northern fringe of the CBD's commercial sector and right across Goyco Street from the Caguas Governmental and Judicial Centers. The Market Plaza is located approximately two blocks to the north.

The CTC is a two level facility with a total vehicular capacity of 249. The ground floor includes the large, continuous passenger concourse area with 74 público-car berths (Figure 3-13). The second level contains 175 spaces comprising the holding area. The CTC serves as the terminal for 27 of Caguas' publico-car routes, representing 502 vehicles (or 80 percent of the total system vehicles).

The passenger drop-off areas are located separate from the boarding areas, externally along Acosta Street and internally in the eastern entrance area (adjacent to the bus terminal).

The CTC also includes a nine-berth bus terminal plus three curbside bus stop areas to the east of the main terminal. This area provides the terminal area for both local and intercity private bus lines.

A taxi stand has been provided along Goyco Street. The main taxi terminals, however, are located opposite the terminal on the south side of Aguilera Street.

The vehicular accesses to the terminal are off Goyco and Aguilera (one-way) Streets and Rafael Cordero Avenue. The exits are onto Goyco and Dr. Rufo (one-way) Streets and Cordero Avenue. Originally, in the initial operational configuration, the accesses to and from the terminal were restricted to only public transit vehicles. However, during recent years, private vehicles have constituted a very large percentage of the terminal's traffic. This is discussed later in this chapter.

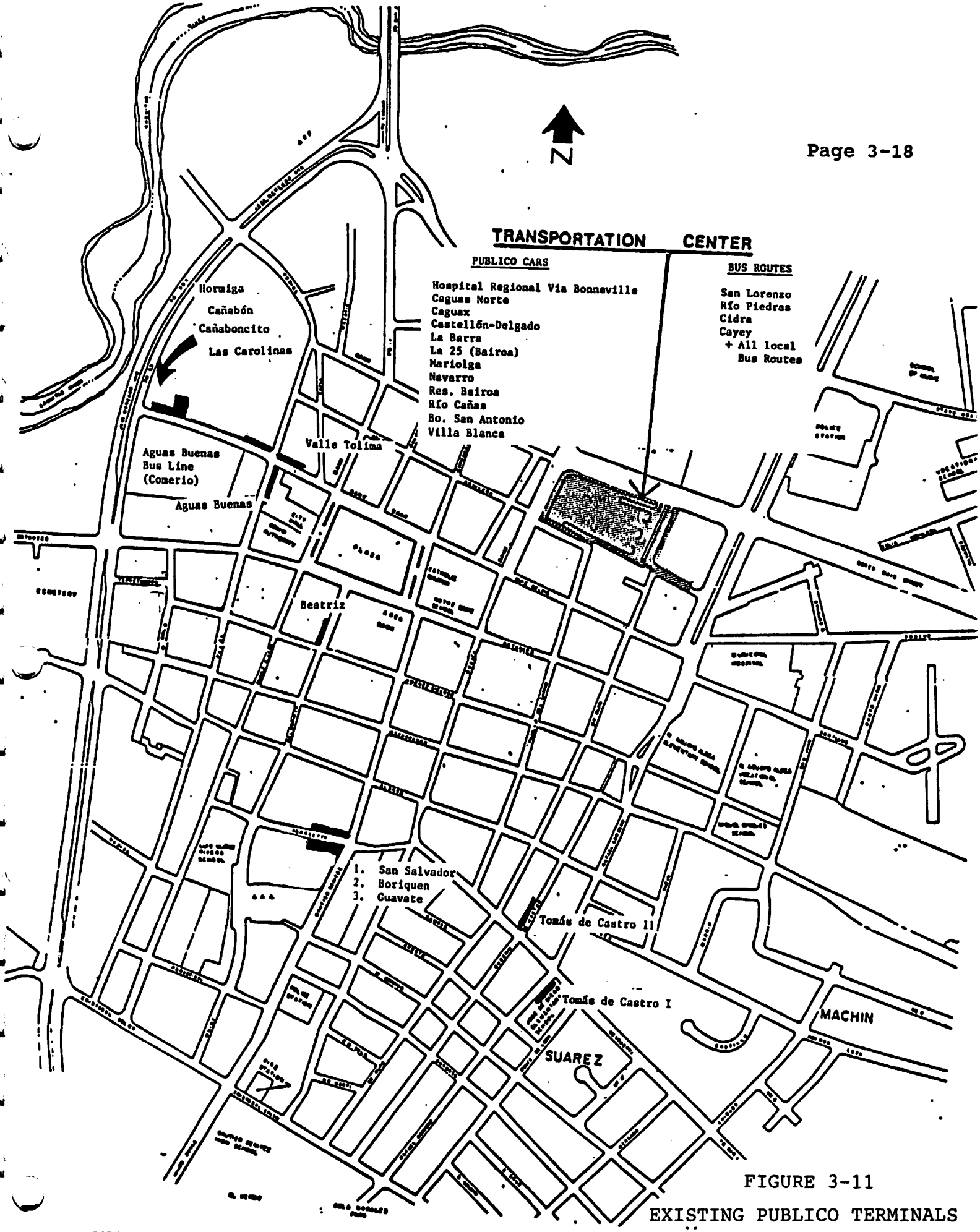


FIGURE 3-11

EXISTING PUBLICO TERMINALS

MANAGEMENT & TECHNICAL CONSULTING GROUP, INC.

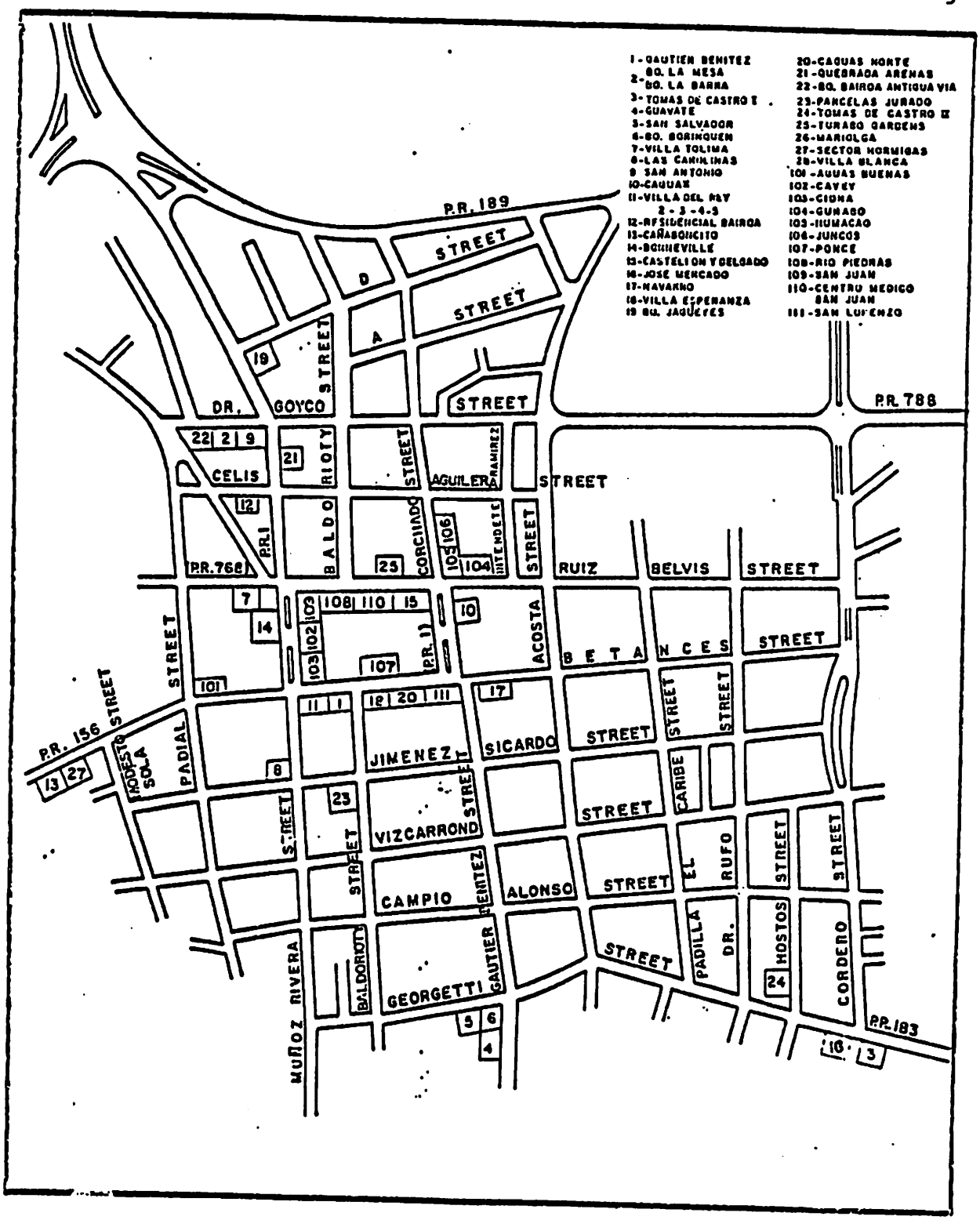


FIGURE 3-12 LOCATION OF PUBLICO TERMINALS PRIOR TO TRANSPORTATION CENTER

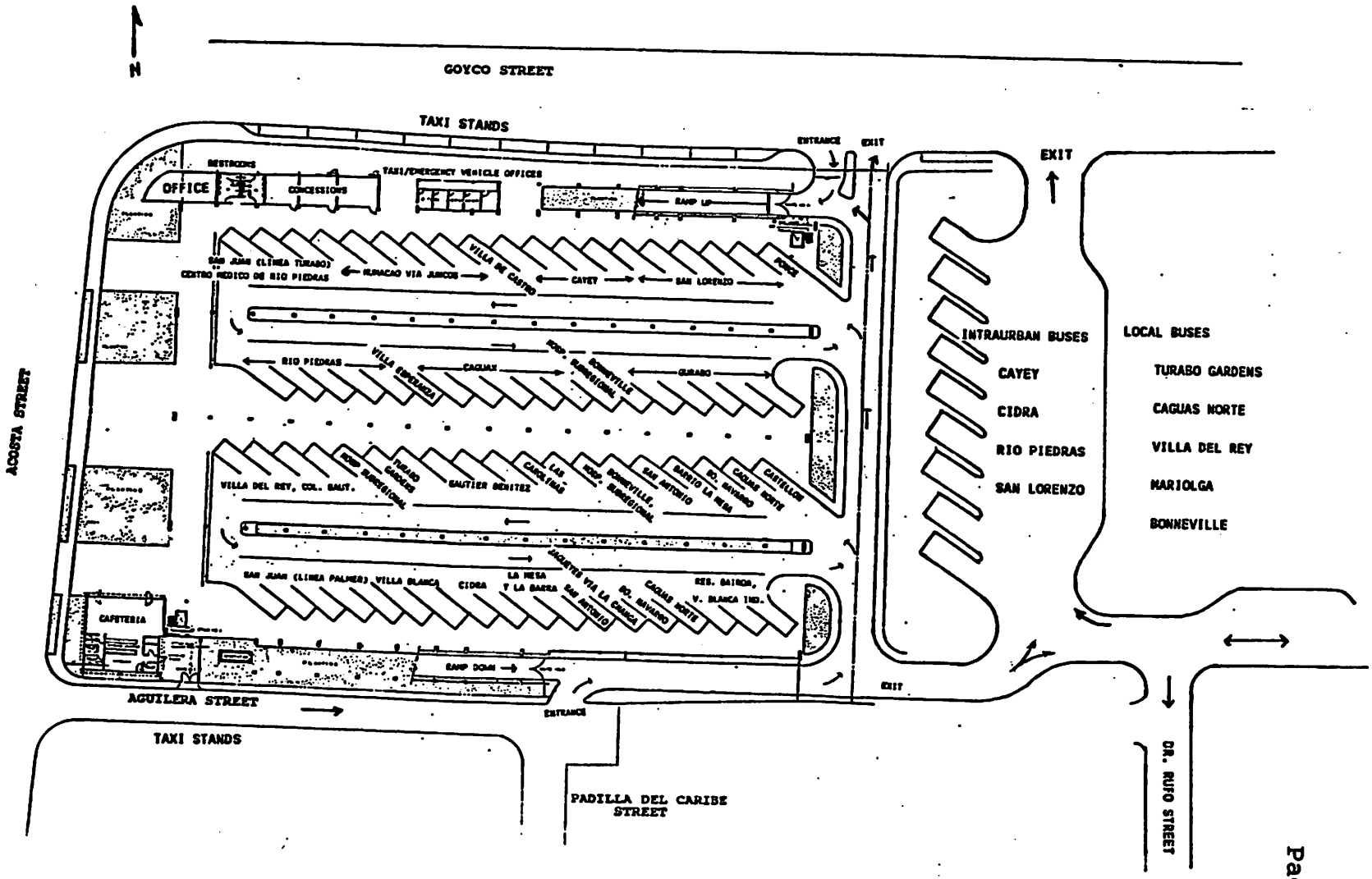


FIGURE 3-13 TERMINAL ROUTE LAYOUT

Unlike Bayamón, there are still several curbside terminals located on the peripheral of the CBD. The existing curbside terminals are located in two general areas: the south area and the west area. In the south area of the CBD, there are six routes with authorized curb space. These routes are: (1) Barrio Borinquen, (2) Barrio Guavate, (3) Barrio San Salvador (these three with terminals on Georgetti Street), (4) Tomás de Castro II (Hostos Street), and (6) Barrio Beatriz (Baldorioty Street). The west area has four routes: (1) Aguas Buenas (Padial Street), (2) Cañaboncito, (3) Villa Tolima, and (4) Barrio Hormiga (Ruiz Belvis Street).

At the present time, the Caguas Municipal Government has planned the implementation of a satellite terminal system to eventually relocate all the público-cars off the streets. Figure 3-14 presents the projected terminal system. The south terminal is presently under construction, integrated with a commercial/parking project at the corner of Gautier Benítez and Georgetti Streets. The west terminal is proposed along the north side of Ruiz Belvis Street between Padial Street and José Mercado Avenue.

In addition to the proposed terminal system, a CBD shuttle bus system is presently under consideration. As proposed, this two-route system would connect the three terminals and the CBD, permitting ease of access and transfers. Figure 3-15 presents the layout of the proposed system.

C. PUBLIC TRANSIT PASSENGER AND VEHICLE VOLUMES

1. Current Service

In order to assess the impact of the terminal facilities upon the existing publico-car operations in Caguas, it was necessary to obtain information concerning current average vehicle and passenger volumes. For this purpose an extensive public transit vehicle and passenger count survey was conducted during mid-April of 1987.

The field counts were conducted both as outer and inner cordon counts. The outer cordon counts were made at the peripheral of the Caguas CBD; whereas, the inner counts were made at the CTC and its approaches. A total of ten stations were covered at the outter cordon count stations (peripheral of CBD) as shown in Figure 3-16. The nine inner stations are shown in Figure 3-17. Appendix D contains a series of the detailed counts by 10-minute periods and hourly summaries for each station and direction of flow.

Table 3-3 presents a summary of the peripheral counts. A total of 4,901 público-cars, (2,403 in and 2,498 out) and 39,151 passengers (18,137 in and 21,014 out) were recorded at the cordon stations. These values represent an average vehicle occcupancy of about 8.0 passengers/vehicle (7.55 in and 8.41 out). It should be pointed out that these values represent minimum daily vehicle and passengers trips since these counts were made at cordon stations and

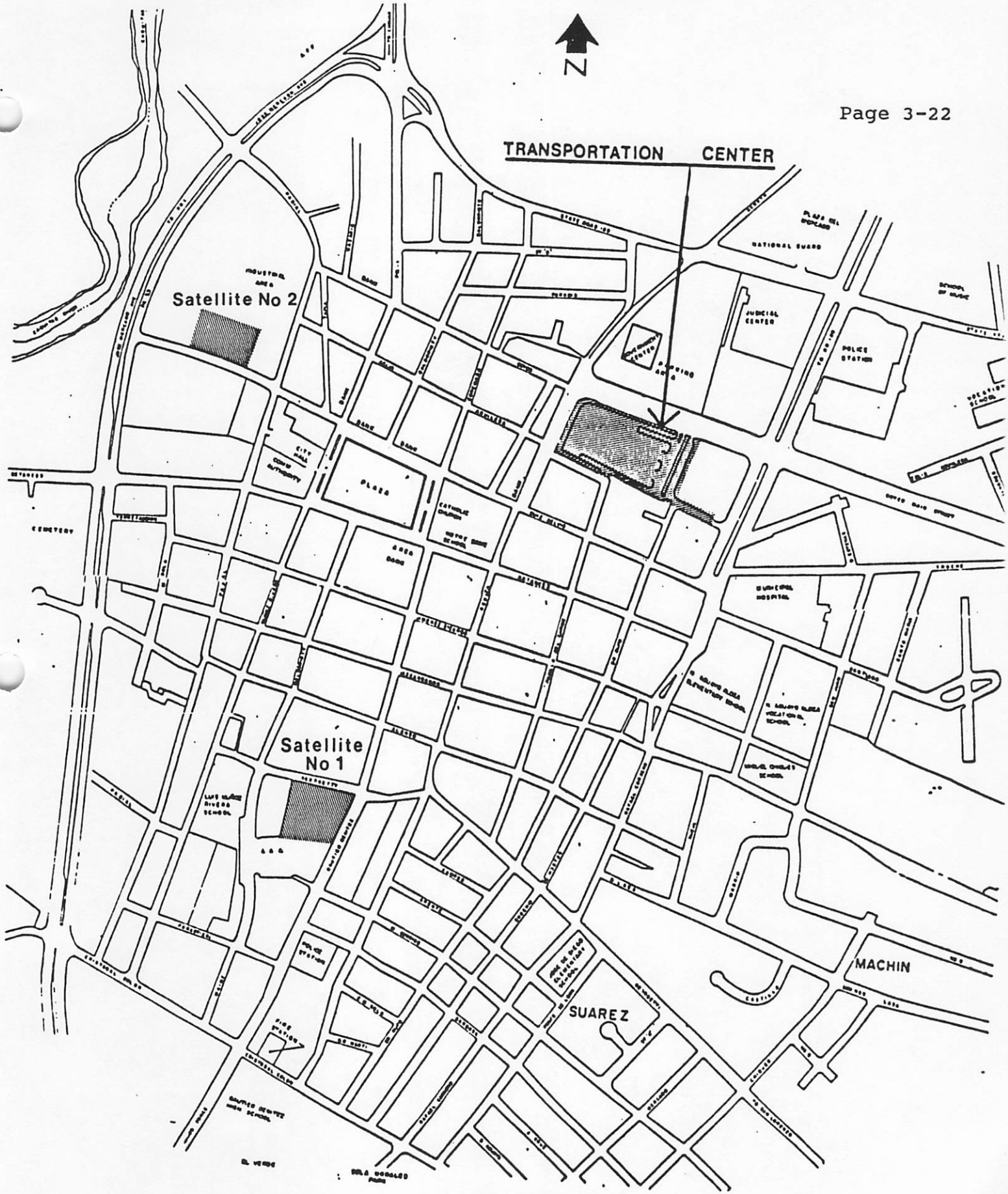


FIGURE 3-14
CAGUAS PUBLIC TRANSPORTATION TERMINAL PLAN
MANAGEMENT & TECHNICAL CONSULTING GROUP, INC.

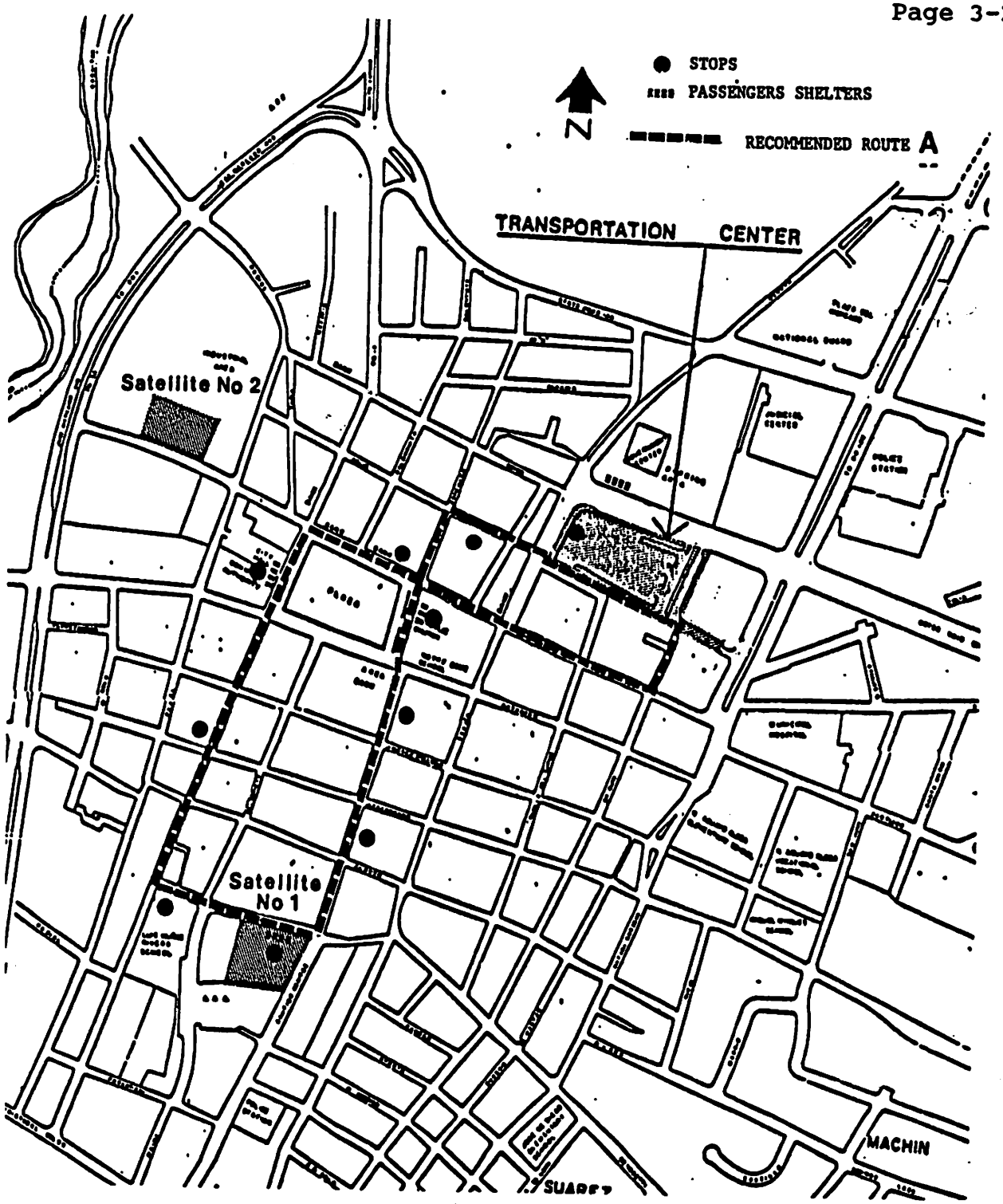


FIGURE 3-15
PROPOSED SHUTTLE BUS ROUTE AND STOPS

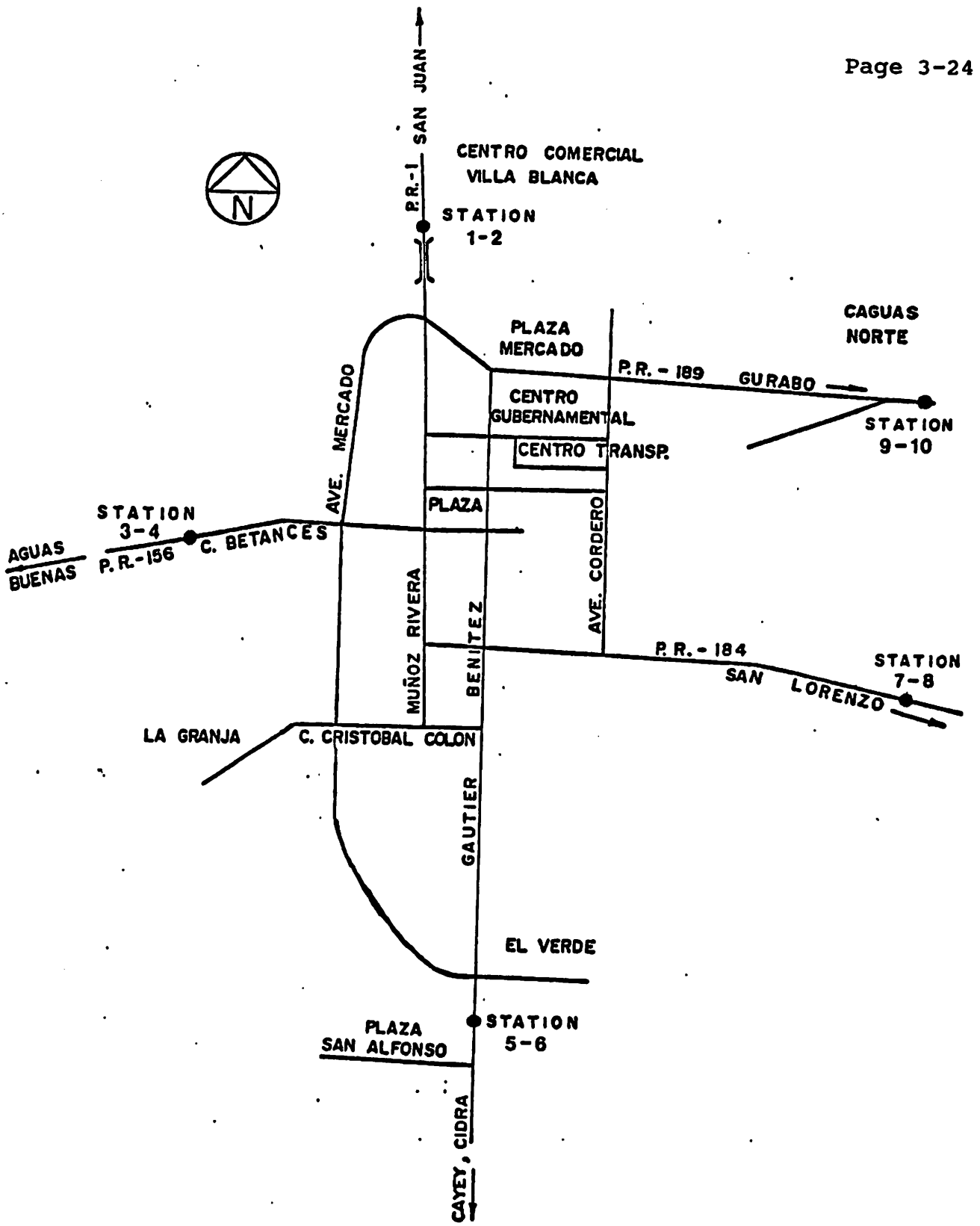


FIGURE 3-16 LOCATION OF PERIPHERAL COUNT STATIONS

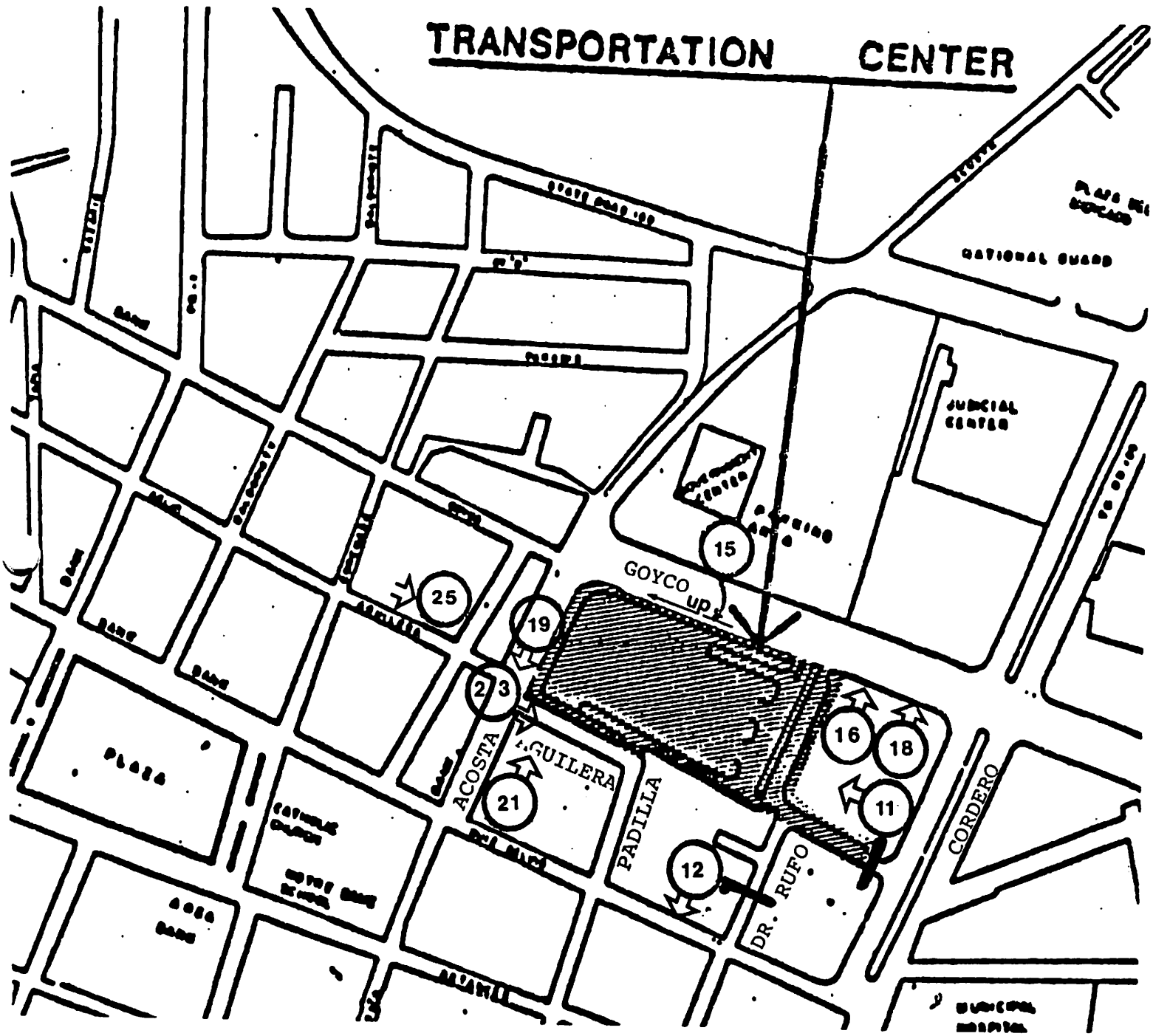


FIGURE 3-17 LOCATION OF INNER COUNT STATIONS
(SEE ALSO TABLE 3-4)

TABLE 3-3
SUMMARY OF PUBLICO-CAR COUNTS
PERIPHERAL STATIONS, CAGUAS
APRIL 1987 (6AM-6PM)

STATION NUMBER	LOCATION	DIRECTION	NUMBER OF VEHICLES	NUMBER OF PASSENGERS	AVERAGE OCCUPANCY
1	PR-1, Villa Blanca (North)	IN	461	3,474	7.5
2	PR-1, Villa Blanca (North)	OUT	627	4,841	7.7
3	PR-156 at Mercado Avenue	IN	370	2,087	5.6
4	PR-156 at Mercado Avenue	OUT	400	3,804	9.5
5	PR-1, Gautier Benitez (SOUTH)	IN	758	6,948	9.2
6	PR-1, Gautier Benitez (SOUTH)	OUT	703	5,188	7.4
7	PR-184	IN	254	2,155	8.5
8	PR-184	OUT	286	2,627	9.2
9	PR-189	IN	605	4,569	7.6
10	PR-189	OUT	498	4,182	8.4
TOTAL		IN	2,448	19,233	7.9
TOTAL		OUT	2,514	20,642	8.2
TOTAL		IN + OUT	4,962	39,875	8.0

do not include passengers in segments totally traveling outside the cordon nor do they include vehicles entering or leaving the inner cordon area through smaller streets. The stations were selected in order to cover the maximum number of routes based on Caguas' público-car fixed route pattern. These stations also correspond to station locations covered during a 1980 cordon count survey prior to the opening of the CTC. The counts were made in March of 1980.

The most heavily travelled corridor was found to be the South Caguas--PR-1 Corridor (Stations 5 and 6) with 11,654 passengers. This corridor serves the major southern residential areas of Caguas as well as the Municipalities of Cayey and Cidra. The Caguas-Gurabo-Humacao Corridor which serves the major eastern Puerto Rico developed areas as well as the University of Turabo, the principal educational institution within the defined Greater Caguas Area, registered the next highest passenger volumes with 8,545 passengers. The Caguas-Río Piedras Corridor registered 8,305 passengers; whereas, the Caguas-Aguas Buenas Corridor had 5,803 passengers, and the Caguas-San Lorenzo Corridor had 4,764.

Table 3-4 presents the count summaries at the Caguas inner stations. In comparison with Table 3-3, two observations stand out. First, the number of passengers exiting the terminal (18,301) represents approximately 88.7 percent of the total outbound passenger volumes at the peripheral stations. Since the few routes that are not stationed in the terminal account for practically all of the difference, it is observed that the terminal serves as the principal boarding area.

In comparing the inbound passenger volumes at both the inner and outer stations, it was found that about 35.4 percent of the passengers travel directly to the terminal. The remaining 64.5 percent normally get off at points within the CBD.

2. Comparison with Previous Volumes

A comparison of the existing público-car vehicle and passenger volumes can be made with similar data obtained prior to the opening of the CTC. Table 3-5 presents a comparison of the Caguas 1987 counts with March 1980 pre-terminal counts, at each of the peripheral stations. The comparison of the total passenger volumes shows a reduction of approximately 17.6 percent from 1980 to 1987. The vehicle volume was reduced by 26.5 percent. Nevertheless, the vehicle occupancy rates increased from 7.2 in 1980 to 8.0 in 1987.

The following summary presents a comparison of the 1980 counts with the present counts (1987).

TABLE 3-4
PUBLICO-CAR COUNT SUMMARY
INNER STATIONS
CAGUAS TRANSPORTATION CENTER
APRIL 1987 (6AM-6PM)

STATION NUMBER	LOCATION	DIRECTION	NUMBER OF VEHICLES	NUMBER OF PASSENGERS	AVERAGE OCCUPANCY
11	East Access off Cordero Avenue	IN	753	4,422	5.6
12	South Access Dr. Rufo St.	OUT	304	562	1.8
15	North Access-Upramp	IN	563	0	0.0
16	Main North Access to Goyco Street	OUT	2,066	17,719	8.6
18	Bus North Access	OUT	5	20	4.0
19	Acosta/Goyco St.	IN	600	3,114	5.2
21	Acosta St. at Ruiz Belvis St.	IN	771	3,997	5.2
23	Main South Access off Acosta Street	IN	1,564	2,581	1.7
25	Celis Aguilera St. at Acosta St.	IN	143	715	5.0
Totals In (Terminal) Stations 11, 23		IN	2,317	6,803	2.9
Totals Out (Terminal) Stations 12, 16, 18		OUT	2,385	18,301	7.7

TABLE 3-5

COMPARISON OF 1980 AND 1987
CAGUAS PUBLICO-CAR COUNTS
AT PERIPHERAL STATIONS
APRIL 1987 (6AM-6PM PERIOD)

		NUMBER OF VEHICLES		NUMBER OF PASSENGERS		AVERAGE OCCUPANCY	
STATION	DIRECTION	1980	1987	1980	1987	1980	1987
1	IN	718	461	5,494	3,474	7.7	7.5
2	OUT	855	627	6,796	4,841	7.9	7.7
3	IN	566	370	3,030	2,087	5.4	5.6
4	OUT	671	400	3,915	3,804	5.8	9.5
5	IN	944	758	7,237	6,948	7.7	9.2
6	OUT	757	703	5,882	5,188	7.8	7.4
7	IN	319	254	2,927	2,155	9.2	8.5
8	OUT	287	286	2,481	2,627	8.6	9.2
9	IN	868	605	5,530	4,569	6.4	7.6
10	OUT	766	498	5,119	4,182	6.7	8.4
ALL	IN	3,415	2,448	24,218	19,233	7.1	7.9
ALL	OUT	3,336	2,514	24,193	20,642	7.3	8.2
ALL	IN + OUT	6,751	4,962	48,411	39,875	7.2	8.0

Notes:

(1) 1980 Counts made on Wednesday, March 13, 1980
(2) 1987 Counts made on Wednesday, April 23, 1987

Trips (In+Out)	1980 Counts (Before)	1987 Counts (After)	% Change (1981-1987)
Público-cars	6,751	4,962	-26.5%
Passengers	48,411	39,875	-17.6%
Occupancy	7.2	8.0	+11.1%

The results presented in the above table indicate that both the number of público-car vehicle and passenger trips entering and leaving the Caguas CBD seem to have decreased during the past seven years of terminal operation. On the other hand, the vehicle occupancy increased by 11.1 percent, indicating an improved operational function. Iti should be pointed out, however, that each of the count surveys, was made during one day each year and may not necessarily reflect any significant decrease in ridership.

While the preceding numbers seem to indicate a possible negative impact with respect to passenger volumes caused directly or indirectly by the terminal, it is not possible to correctly assess the negative impact. The reduction in passenger vehicle trips can be due to various factors not associated with the terminals. For example, since 1980, private vehicle acquisition and use in Caguas has increased, reflecting the general characteristics towards the use of the private vehicle in place of the public transit modes. Refering back to the private automobile registration growth statistics as presented in Chapter 2, **PUBLIC TRANSIT PASSENGER AND VEHICLE VOLUMES,** the auto registration in Caguas has grown at an annual rate of 5.08 percent. This contrasts with the observed publico-car passenger decrease of -2.73 percent annually between fiscal years 1980 and 1987. Another related cause may be the use of private vehicles in areas not presently served or inadequately served by públicos.

Because the CTC is located at a site very close to the majority of the previous curbside terminals, it cannot be readily concluded that the terminals or their locations are the root cause of the decrease in público-car passenger volumes at the CBD.

3. Private Bus Service

With respect to bus and passenger volumes, Table 3-6 presents a comparison of the 1980 and 1987 bus volumes. The results indicate a general reduction in service provided by the buses. For example, the passenger volumes indicate a reduction of up to 34 percent in passengers in seven years. The number of bus trips have been

TABLE 3-6

COMPARISON OF 1980 AND 1987
CAGUAS BUS AND PASSENGER COUNT
PERIPHERAL STATIONS
(6 AM - 6 PM)

STATION	LOCATION	NUMBER OF BUSES		NUMBER OF PASSENGERS		AVERAGE OCCUPANCY	
		1980	1987	1980	1987	1980	1987
1+2	PR-1, Villa Blanca	93	85	1,460	856	15.7	10.1
3+4	PR-156	45	43	946	854	21.0	19.9
5+6	PR-1,Gautier Benitez	379	244	5,196	3,135	13.7	12.8
7+8	PR-184	86	52	1,517	1,154	17.6	22.2
TOTALS		603	424	9,119	5,999	15.1	14.1

NOTE

Stations 9+10 (PR-189, Caguas-Humacao Road) no longer has bus service available. The 1980 bus and passenger volumes were 30 and 290, respectively, with an average occupancy of 9.7. Therefore, the total 1980 Caguas bus and passenger volumes would be 633 and 9,409, respectively with an average occupancy of 14.9.

reduced up to 30 percent during the same period. Nevertheless, the average occupancy has decreased slightly from 15.1 to 14.1 passengers per bus trip.

D. TERMINAL UTILIZATION

1. Introduction

A very important factor to consider in evaluating the impact of a publico-car terminal is the determination of the utilization of the terminal. The method used herein to determine the utilization is based upon the accumulation of the publico-cars within the terminal in relation to the terminal's capacity. This accumulation includes those vehicles within the loading areas, holding areas and in circulation within the terminal.

The accumulation is determined by recording each vehicle that enters and exits the terminal within a specified time period (30 minute intervals for this study). Knowing the number of vehicles present in the terminal prior to the counts will help determine the accumulation more accurately.

2. Utilization Evaluation

Utilizing the field survey data, Table 3-7 shows the público-car accumulation pattern at the CTC. The table presents the number of vehicles entering and exiting the terminal, the total accumulation by 30 minute interval, the capacity of the terminal, the percent accumulation or utilization (by 30 minute interval), the maximum accumulation, and the percent utilization at maximum accumulation. Figure 3-18 graphically illustrates the accumulation pattern.

From the table, it can be seen that the maximum accumulation of 160 vehicles at the CTC occured between 9:30 and 10:00 a.m., representing 64.3 percent of the terminal's capacity. This indicates what can be considered as an efficiently utilized terminal facility.

A similar analysis can be made with just the upper level (holding area). Table 3-8 presents the tabulated accumulation pattern for the upper level; Figure 3-19 illustrates the accumulation pattern. The maximum accumulation of 99 vehicles was recorded at 10:00 a.m. representing a utilization of 56.6 percent. This represents an adequate utilization of the holding area.

3. Private Vehicles in Terminals

One situation that has been observed is the use of the terminals by private vehicles. This use is not limited just to passenger discharge or pickup, but also to parking.

TABLE 3-7

PUBLICO-CAR ACCUMULATION
TOTAL TERMINAL
CAGUAS TRANSPORTATION CENTER

HOUR	NUMBER PUBLICOS IN	NUMBER PUBLICOS OUT	TOTAL ACCUMULATION	CAPACITY	PERCENT ACCUMULATION
6 AM	AT START======>		76	249	30.5%
	121	112	85	249	34.1%
7	158	149	94	249	37.8%
	151	138	107	249	43.0%
8	141	138	110	249	44.2%
	123	111	122	249	49.0%
9	133	111	144	249	57.8%
	96	91	149	249	59.8%
10	123	112	160	249	64.3%
	60	72	148	249	59.4%
11	80	85	143	249	57.4%
	70	101	112	249	45.0%
12	96	100	108	249	43.4%
	89	88	109	249	43.8%
1 PM	88	88	109	249	43.8%
	100	97	112	249	45.0%
2	87	94	105	249	42.2%
	94	95	104	249	41.8%
3	73	87	90	249	36.1%
	106	117	79	249	31.7%
4	91	92	78	249	31.3%
	73	76	75	249	30.1%
5	91	91	75	249	30.1%
	68	78	65	249	26.1%
6	48	52	61	249	24.5%
TOTALS	2360	2375			

MAXIMUM CAPACITY = 249
MAXIMUM ACCUMULATION = 160
MAXIMUM % UTILIZATION = 64.3%

FIGURE 3-18
TERMINAL UTILIZATION

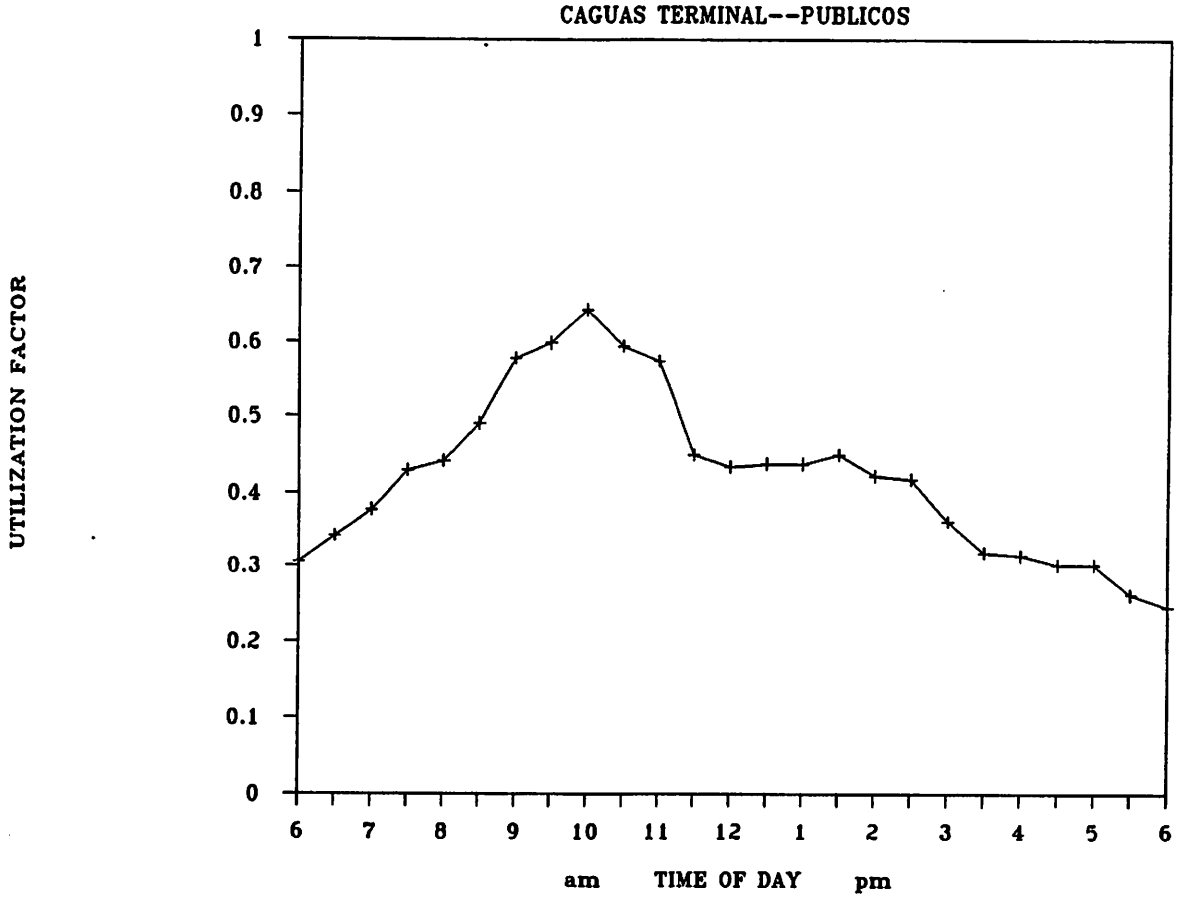


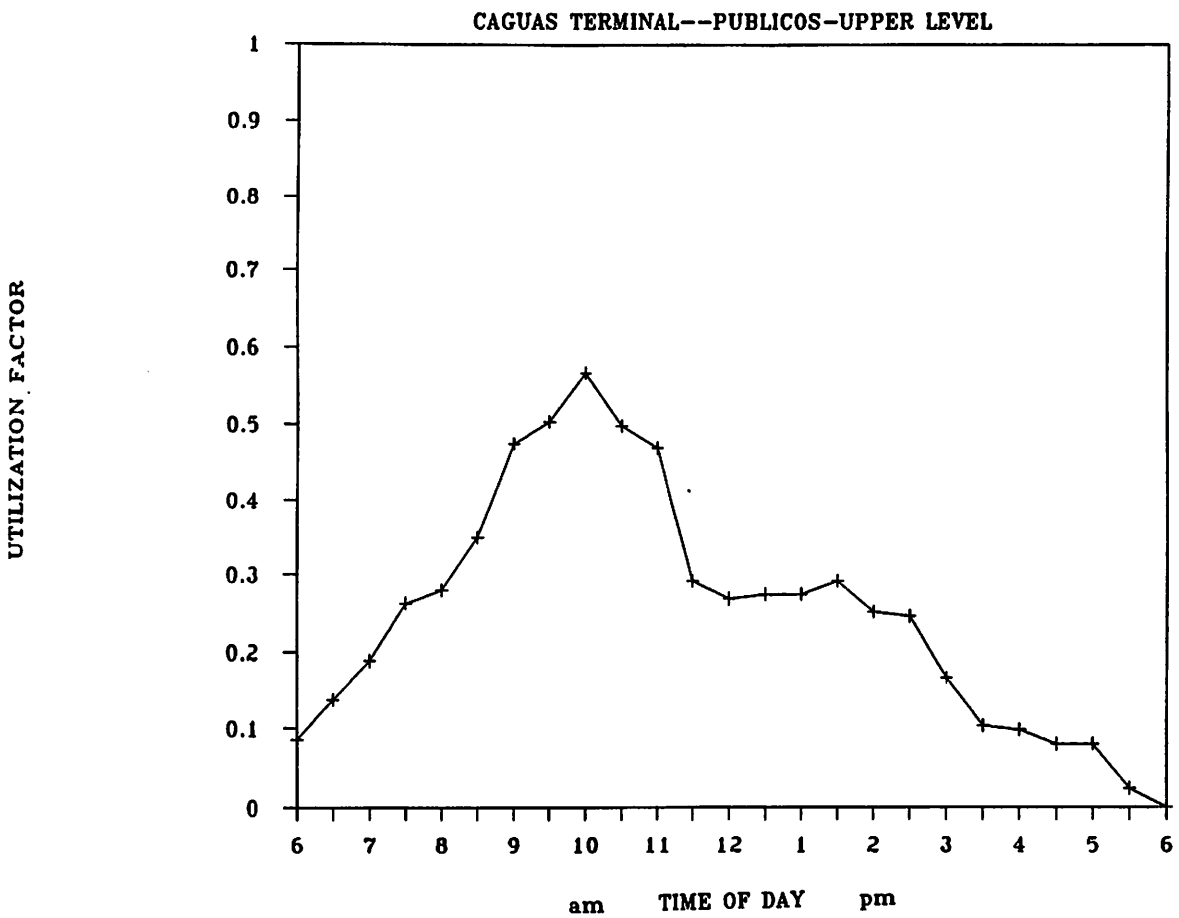
TABLE 3-8

PUBLICO-CAR ACCUMULATION
UPPER LEVEL
CAGUAS TRANSPORTATION CENTER

HOUR	NUMBER PUBLICOS UP	NUMBER PUBLICOS DOWN	TOTAL ACCUMULATION	CAPACITY	PERCENT ACCUMULATION
6 AM	AT START======>		15	175	8.6%
	22	13	24	175	13.7%
7	26	17	33	175	18.9%
	32	19	46	175	26.3%
8	35	32	49	175	28.0%
	44	32	61	175	34.9%
9	46	24	83	175	47.4%
	33	28	88	175	50.3%
10	34	23	99	175	56.6%
	22	34	87	175	49.7%
11	33	38	82	175	46.9%
	21	52	51	175	29.1%
12	38	42	47	175	26.9%
	31	30	48	175	27.4%
1 PM	29	29	48	175	27.4%
	31	28	51	175	29.1%
2	22	29	44	175	25.1%
	23	24	43	175	24.6%
3	22	36	29	175	16.6%
	22	33	18	175	10.3%
4	22	23	17	175	9.7%
	18	21	14	175	8.0%
5	11	11	14	175	8.0%
	5	15	4	175	2.3%
6	0	4	0	175	0.0%
TOTALS	622	637			

MAXIMUM CAPACITY = 175
MAXIMUM ACCUMULATION = 99
MAXIMUM % UTILIZATION = 56.6%

FIGURE 3-19
TERMINAL UTILIZATION



The field surveys included the recording of all private vehicles entering and exiting the terminal. Table 3-9 presents the private vehicle flow and accumulation at the CTC. Figure 3-20 presents the corresponding graphic pattern.

From the above sources, it was found that the maximum accumulation of private vehicles within the CTC was 15 vehicles recorded at 6:30 a.m. This represents 6.0 percent of the terminal's capacity. It should be noted that none of these vehicles actually park within the terminal. These are mainly motorists entering to discharge passengers. The terminal's layout seems to promote this situation.

E. SURVEY OF PUBLICO-CAR USERS

The survey of público-car users in Caguas was conducted in order to obtain information on the users' opinion concerning the existing service and opinions on the terminal facilities. A total of 234 interviews were made during January 1988, concentrated primarily within the CTC.

Table 3-10 presents the Caguas público-car users' opinions concerning the existing público-car service. Almost 89 percent of those interviewed indicated that the existing service is acceptable or better. Only 11.1 percent said that it was deficient or poor.

With respect to their opinions about the perceived impacts of the CTC, Table 3-11 shows the survey results concerning location, passenger boarding area, passenger drop-off area, sanitary facilites, cafeteria facilities, and the administration and maintenance.

Just about 94 percent of those surveyed said that the terminal location was good; whereas, only 1.3 percent said that it was poor.

The passenger boarding area was given a good rating by 78.3 percent; while 60.5 percent rated the drop-off area as good. The main complaint about the boarding areas concerned the lack of specifically designated areas.

Possibly the worst complaints deal with the terminal's sanitary facilities. About 74.5 percent of the users said that these facilities were poor. The principal complaint was the lack of maintenance while several persons said that more facilities were needed.

The cafetería facilities are generally rated as fair by almost 60 percent of the users. Some of the negative comments concerning the cafetería facilities were orientated mainly towards their lack of such facilities within the terminal area.

TABLE 3-9
PRIVATE CAR ACCUMULATION
CAGUAS TRANSPORTATION CENTER

HOUR	NUMBER PRIVATE IN	NUMBER PRIVATE OUT	TOTAL ACCUMU-LATION	CAPACITY	PERCENT ACCUMU-LATION
6 AM		AT START>	0	239	0.0%
	8	8	0	239	0.0%
7	5	5	0	239	0.0%
	5	2	3	239	1.3%
8	6	6	3	239	1.3%
	16	16	3	239	1.3%
9	13	12	4	239	1.7%
	7	1	10	239	4.2%
10	7	1	16	239	6.7%
	8	1	23	239	9.6%
11	10	13	20	239	8.4%
	12	11	21	239	8.8%
12 PM	8	2	27	239	11.3%
	8	9	26	239	10.9%
1	2	11	17	239	7.1%
	15	14	18	239	7.5%
2	5	8	15	239	6.3%
	18	20	13	239	5.4%
3	2	12	3	239	1.3%
	15	14	4	239	1.7%
4	5	3	6	239	2.5%
	3	7	2	239	0.8%
5	7	6	3	239	1.3%
	9	6	6	239	2.5%
6 PM	7	3	10	239	4.2%
TOTALS	18	20			

MAXIMUM CAPACITY = 239
MAXIMUM ACCUMULATION = 27
MAXIMUM % UTILIZATION = 11.3%

FIGURE 3-20

TERMINAL UTILIZATION

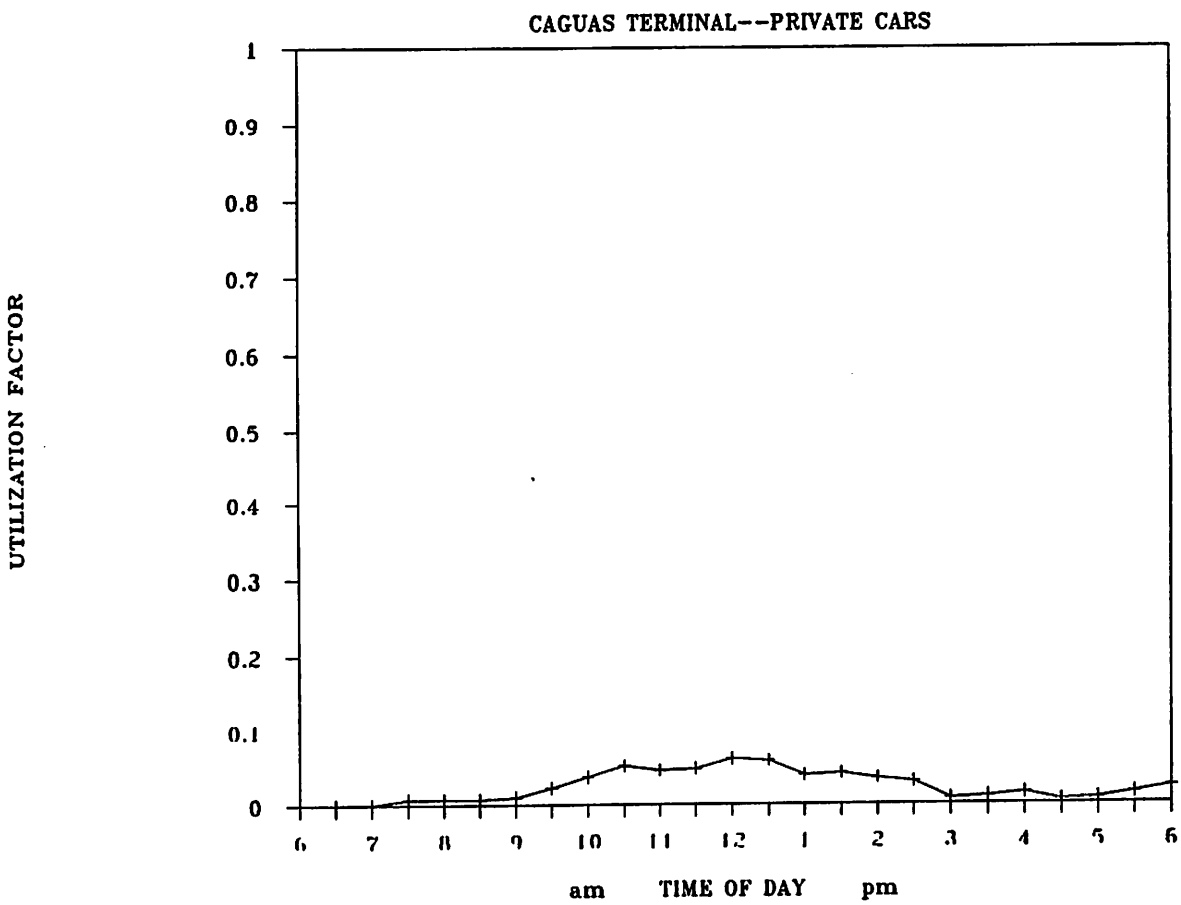


TABLE 3-10

PUBLICO-CAR USERS' OPINIONS CONCERNING EXISTING PUBLICO-CAR SERVICE MUNICIPALITY OF CAGUAS

Opinion of Service	Number of Responses	Percent of Total
Excellent	26	10.7
Good	108	44.4
Acceptable	82	33.8
Deficient	13	5.3
Poor	14	5.8
TOTAL	243	100.0

TABLE 3-11

PUBLICO-CAR USERS' OPINIONS
CONCERNING TERMINAL CHARACTERISTICS
MUNICIPALITY OF CAGUAS

TERMINAL ASPECT	GOOD No.	GOOD %	FAIR No.	FAIR %	POOR No.	POOR %	TOTAL RESPONSES
LOCATION	220	94.0%	11	4.7%	3	1.3%	234
PASSENGER BOARDING AREA	180	78.3%	42	18.3%	8	3.5%	230
PASSENGER DROP-OFF AREA	133	60.5%	57	25.9%	30	13.6%	220
SANITARY FACILITIES	13	6.0%	42	19.4%	161	74.5%	216
CAFETERIA FACILITIES	66	29.7%	132	59.5%	24	10.8%	222
ADMINISTRATION & MAINTENANCE	78	37.1%	94	44.8%	38	18.1%	210

The administration and maintenance sector of the terminal operations received a generally good to fair approval (56.2 percent and 37.1 percent, respectively). The general comments concerning the overall condition indicated that the sanitary facilities needed more maintenance than any other sector of the terminal.

As presented in the previous chapters, the principal objective of this study is the evaluation of the impact of a público-car terminal facility on the urban area, a question requesting the user's opinion on the most important effect of the terminal facility was included in all of the user's questionnaries.

It is interesting and significant to note that the most frequent responses of the Caguas CTC users concerning impacts of the terminals included those aspects indicated at Bayamón (Chapter 2). These mostly positive aspects include: (1) easy access due to good location, (2) facilitates transfer, and (3) has helped to improve service. The critical comments echoed were also similar to those made at Bayamón, including:

(1) The lack of adequate maintenance of the sanitary facilities,

(2) Need for additional roofing in the open area of the terminal, and

(3) The need for more security and access control

F. SURVEY OF PUBLICO-CAR OPERATORS

The survey of público-car operators was conducted during April-May 1987. A total of 27 questionnaires were sent, one to each of the routes operating from the CTC. A total of 16 (59.3 percent) route representatives filled out the form and returned it.

Table 3-12 presents a summary of the Caguas público-car operators' opinions concerning several of the physical and operational aspects of the terminals.

The majority of the operators (81.3 percent) indicated that the location was good, while 12.5 percent indicated that it was fair. The larger number of operators were previously assigned spaces around Plaza Palmer and other adjacent streets where chronic congestion was the norm.

The operators were queried about the terminal's internal circulation. Slightly less than a third (31.3 percent) said that it was good, while 37.5 percent indicated that it was fair and 31.3 percent that it was poor. Some of the problems that were cited included (1) private vehicles within the terminal, (2) a high degree

TABLE 3-12

PUBLICO-CAR OPERATORS' OPINIONS
CONCERNING TERMINAL CHARACTERISTICS
MUNICIPALITY OF CAGUAS

TERMINAL ASPECT	GOOD No.	GOOD %	FAIR No.	FAIR %	POOR No.	POOR %	TOTAL RESPONSES
LOCATION	13	81.3%	2	12.5%	1	6.3%	16
INTERNAL CIRCULATION	5	31.3%	6	37.5%	5	31.3%	16
PASSENGER BOARDING AREA	12	75.0%	4	25.0%	0	0.0%	16
PASSENGER DROP-OFF AREA	7	43.8%	5	31.3%	4	25.0%	16
SANITARY FACILITIES	1	6.3%	2	12.5%	13	81.3%	16
CAFETERIA FACILITIES	12	75.0%	4	25.0%	0	0.0%	16
ADMINISTRATION & MAINTENANCE	2	12.5%	10	62.5%	4	25.0%	16

of pedestrian/vehicle conflicts, and (3) inadequate passenger discharge areas. These are basically the same complaints as for Bayamón.

The passenger boarding area was considered as good by 75.0 percent and fair by 25.0 percent. No one considered the boarding area layout as poor.

The passenger drop-off or discharge area was considered to be rated as good by only 43.8 percent of the operators, fair by 31.3 percent, and poor by 25 percent.

As with the users, the operators tended to rate the sanitary facilities as poor (81.3 percent). Only one operator (6.3 percent) rated them as good with 12.5 percent rating them as fair.

The cafetería facilities tended to receive a good rating (75.0 percent) with 25.0 percent rating them as poor.

The administration and maintenance of the terminal received a relatively neutral rating with 12.5 percent indicating the service as good, 62.5 percent as fair, and 25 percent as poor.

Table 3-13 presents the operators' opinions concerning the terminals' impact upon several aspect of their services. These included:

(1) Fare

(2) Gasoline Expenditures

(3) Number of Passengers

(4) Operator Comfort

(5) Transit User Comfort

(6) Operators' Income

Fourteen of the route representives (82.4 percent of total) indicated that their fares have not changed because of the terminal. The changes that have occured between 1980 and 1987 were due primarily to increases in fuel prices, maintenance costs, and vehicle replacement costs. The changes have been realized with the approval of the Public Service Commission.

With respect to gasoline expenditures, only 17.6 percent said that these had increased. Twelve routes (70.6 percent) indicated that no significant change was observed. Two routes (11.8 percent) indicated an actual noticible reduction in gasoline costs.

TABLE 3-13

PUBLICO-CAR OPERATORS' OPINION CONCERNING
IMPACT OF TERMINAL UPON SERVICE CHARACTERISTICS
MUNICIPALITY OF CAGUAS

SERVICE ASPECT	INCREASED No.	%	DECREASED No.	%	NO CHANGE No.	%	TOTAL RESPONSES
FARE	3	17.6%	0	0.0%	14	82.4%	17
GASOLINE EXPENDITURES	3	17.6%	2	11.8%	12	70.6%	17
NUMBER OF PASSENGERS	0	0.0%	7	41.2%	10	58.8%	17
OPERATOR COMFORT	15	88.2%	2	11.8%	0	0.0%	17
TRANSIT USER COMFORT	15	88.2%	1	5.9%	1	5.9%	17
OPERATORS' INCOME	1	5.9%	7	41.2%	9	52.9%	17

Slightly less half of the routes (7, 41.2 percent) claim that their ridership has decreased since the openning of the terminals. This claim can be reinforced with the results of the field surveys, which indicate a reduction of about 27.7 percent. Just how much of this reduction is due to the terminal and how much is due to the general trend in the reduction is not known. On the other hand, ten routes (58.8 percent) indicate that they have not perceived any significant change is their route passenger volumes. None have indicated an increase in passengers.

A large majority of the operators (15, 88.2 percent) find that they have benefitted in terms of comfort. These benefits include less time looking for a parking space, easy access, and a better control of the route operations. Two routes (11.8 percent) claim a decrease in driver comfort, citing in some cases, the long distance from the Town Plaza where they formally had their terminals.

Practically all of the operators (15, 88.2 percent) agree that the transit user benefits have increased. Only one (5.9 percent) has said that no change has occured.

In terms of income, only one (5.9 percent) of the operators said that his income had increased, 9 (52.9 percent) said that no change has occured, and 7 (41.2 percent) have indicated that they have experienced a decrease in income.

Asked about their opinion concerning the principal impact of the público-car terminals, the operators' responses included the following:

(1) Reduction in traffic congestion

(2) Increased passenger comforts

(3) Improved passenger tranfers

(4) Decreased passenger volumes

(5) More competition, particularly from private bus companies

(6) Improved accessibility

(7) Too many private vehicles allowed in terminals

The terminal size was considered adequate or more than adequate by a majority of the operators. Other respondents said that the terminal was too large because of the expansiveness.

Some of the terminal aspects that the operators indicated should be improved include:

(1) Prohibit private vehicles from entering the immediate area (access and circulation streets)

(2) Provide cleaner and more sanitary facilities

(3) Repair roof (leaking in some parts)

(4) Increase security

G. SURVEY OF LOCAL MERCHANTS

The survery conducted amongst the local merchants had the objective of receiving their opinions as input to this study. The businesses surveyed (a total of 134) included a wide range of establishments as shown in Table 3-14. The survey was conducted during January-February 1988.

The businesses surveyed included those located at or very near Plaza Palmer, Caguas' Town Plaza, where the público-cars and private buses used to have their terminals prior to the CTC. Other businesses surveyed included several located near the existing curbside terminals for the Aguas Buenas corridor routes. Another large number of businesses surveyed included those along the four block length of Gautier Benítez Street from Plaza Palmer to Georgetti Street, where several routes that serve the southern rural sectors of Caguas are located.

Table 3-15 shows the distribution of responses related to the merchant's preferred público-car terminal system. Of the 134 merchants interviewed, 53 (or 39.6 percent) indicated that they preferred curbside terminals. A total of 45 merchants (33.6 percent) said that they preferred the terminal buildings; whereas, 36 (26.9 percent) had no preference.

Table 3-16 presents the merchants' opinions (127 responses) of the location of the Caguas Transportation Terminal. Over one-half of the merchants (76, 59.8 percent) indicated that they considered the location as good. Another twenty-two merchants (17.3 percent) said that it was fair; but, slightly over one-fifth (29, 22.8 percent) consider its location as poor.

Table 3-17 presents the distribution of the merchants' opinions concerning the perceived impacts of the terminals upon several aspects such as sales, number of local and other customers, and traffic congestion.

From the table, it can be seen that just over one-third of the merchants (53, 43.8 percent of the 121 respondents) said that their sales had experienced a general decrease. About 20 percent (24 respondents) said that their sales have increased while 43.8 percent said that they have not experienced any significant change.

TABLE 3-14

DISTRIBUTION OF TYPE OF
BUSINESS ESTABLISHMENT SURVEYED
MUNICIPALITY OF CAGUAS

TYPE OF BUSINESS	NUMBER SURVEYED	PERCENT OF TOTAL
DEPARTMENT STORE	12	9.0%
CLOTHING STORE	30	22.4%
SHOE RETAIL	15	11.2%
RESTAURANT/CAFETERIA	8	6.0%
JEWELRY STORE	18	13.4%
FURNITURE STORE	11	8.2%
PHARMACY	7	5.2%
OTHER	33	24.6%
TOTAL	134	100.0%

TABLE 3-15

PREFERENCE OF LOCAL BUSINESSMEN
TYPE OF PUBLICO-CAR TERMINAL
MUNICIPALITY OF CAGUAS

TYPE OF PUBLICO-CAR TERMINAL	NUMBER OF RESPONSES	PERCENT OF TOTAL
PUBLICO-CARS AT CURBSIDE TERMINALS	53	39.6%
PUBLICO-CARS AT CENTRAL TERMINAL	45	33.6%
NO PREFERENCE	36	26.9%
TOTAL =	134	100.0%

TABLE 3-16

OPINION OF LOCAL BUSINESSMEN
CONCERNING LOCATION OF TERMINAL BUILDING
MUNICIPALITY OF CAGUAS

OPINION	NUMBER OF RESPONSES	PERCENT OF TOTAL
GOOD	76	59.8%
FAIR	22	17.3%
POOR	29	22.8%
TOTAL	127	100.0%

TABLE 3-17

OPINIONS OF BUSINESSMEN CONCERNING
IMPACT OF PUBLICO-CAR TERMINAL
UPON THEIR BUSINESSES
MUNICIPALITY OF CAGUAS

IMPACT UPON....	INCREASED	PERCENT	DECREASED	PERCENT	NO CHANGE	PERCENT
SALES	24	19.8%	44	36.4%	53	43.8%
NUMBER OF LOCAL CUSTOMERS	23	19.2%	44	36.7%	53	44.2%
NUMBER OF OTHER CUSTOMERS	25	21.0%	38	31.9%	56	47.1%
TRAFFIC CONGESTION	13	10.9%	58	48.7%	48	40.3%

Before making any valid conclusions concerning significant negative impacts upon the merchants' incomes, it is necessary to review the merchants' responses concerning the impacts upon the number of customers, both local and external. From Table 3-17, it can be observed that just one-fifth of the merchants have indicated that they have experienced an increase in both types of customers. Between 31.9 and 36.7 percent have indicated a decrease in customers while between 44.2 and 47.1 percent have not perceived any significant changes.

A scrutiny of the surveyed merchants has indicated that the majority of the businesses which are said to have experienced a decrease in sales and customers are those located along Gautier Benítez Street. Although these businesses did not have any public transit terminals fronting their facilities, the accessibility to the main routes was further diminished with the relocation of the routes.

With respect to traffic congestion, of the total 118 respondents to this question, 58 or 48.7 percent of the merchants said that they perceived a significant reduction. Approximately, 40 percent perceived no significant change; whereas, 13 (or 10.9 percent) felt that the congestion had increased.

General merchants' opinions concerning the impacts of the terminals included the following:

(1) Beneficial to operators and users,

(2) Distance from several CBD sectors too far, (i.e., Gautier Benítez Street) negatively affecting businesses in those areas since many passengers would not be willing to walk to the stores,

(3) Has helped to reduce the degree of congestion especially around Plaza Palmer,

(4) Some público-car routes have been diverted in order to improve accessibility to the terminal; this has adversely affected several businesses near major traditional discharge areas such as Gautier Benítez Street, where the routes that previously used this street now use Acosta Street one block away.