3.5 Traffic and Transportation

3.5.1 Introduction

This section examines existing transportation operations in the vicinity of the Project Site and future conditions with the Project completed. The description of the network's present day operations is referred to as the Existing Condition. Future transportation operations are examined for the No Build Condition (without the Project) and Build Condition (with the Project). The No Build Condition is the future baseline upon which project traffic is based and the Build Condition represents the combination of the No Build Condition plus the traffic that would result from development and operation of the Proposed Project. Future operations (No Build and Build) are analyzed for the year 2014.

The City of Yonkers has approved a major development project described herein as the Struever Fidelco Cappelli ("SFC") development. SFC is under construction and is located in the project vicinity. The SFC development consists of the following major components: River Park Center, Cacace Center, Larkin Plaza, and Palisades Point. The locations of the SFC project components are shown on Figure 3.8-2.

A traffic analysis examining transportation impacts that would result from implementation of the SFC development was prepared, reviewed, and accepted by the City of Yonkers during the SEQRA process for that project. Data from the analysis were used to determine the traffic impact that will result from construction of the Buena Vista Teutonia project, with and without the construction of the SFC development.

Summary Findings

The Project site straddles Buena Vista Avenue south of the Metro North Yonkers railroad station. Residents of this new transit-oriented development ("TOD")[1] are well positioned to use the Metro North trains and twelve nearby Westchester County Bee Line bus routes for commuter access, thereby expanding ridership on the rail and bus lines. Use of mass transit will reduce vehicle trips and limit demand for on-site parking. Locating high density residential development adjacent to a fixed rail station is consistent with smart growth principles that strive to minimize auto travel during peak commuter periods. The high level of transit availability is sufficient to handle the highest anticipated transit trip generation.

The proposed project is expected to generate 106 new vehicle trips during the peak a.m. weekday hour and 119 trips new vehicle trips during the peak p.m. weekday hour.

An automated parking garage is incorporated into the Project's design. The automated parking garage offers several advantages including but not limited to reduced levels of noise, energy, pollution, crime, and floor area when compared to a a conventional parking garage.

The garage will have a total capacity to store 540 vehicles. Four (4) parking spaces are also proposed adjacent to the auto court. On December 8, 2009, the Yonkers City Council approved General Ordinance No. 8 of 2009 amending the City Zoning Ordinance by adding the following new section:

[1] For more about TODs and TODs in the greater New York Metropolitan area region including the City of Yonkers see Appendix G or visit http://policy.rutgers.edu/vtc/tod/METRONYTOD/Vol1-No1/index.php

> "Section 43-138. Reduced Parking Requirements for certain Apartment Houses and Live-Work Units.
>
> Under Section 43-130-B, for new construction of Apartments and Live-Work Units within one quarter mile (1/4) of a mile of an active train station used for passenger rail-transportation purposes, the minimum number of required parking spaces shall be one parking space per apartment or live-work unit."

The new apartment building is located within 1/4-mile radius of the Yonkers Train Station (see Figure 3.4-2). Thus, the new apartment building would require 412 parking spaces.

The new parking requirements are consistent with the findings of a parking study performed for the nearby Hudson Park development. A study of the adjoining Hudson Park residential development concluded that actual parking demand was 0.89 parking spaces per dwelling unit. Based on a rate of 0.89 spaces/unit, the Project would create demand for 367 parking spaces. Based on this estimate of parking demand, the Project's demand for parking will be met by the capacity proposed for the automated garage. If surplus capacity in the garage exists, Trolley Barn occupants, which have no on-site parking, would be permitted to use the garage thereby freeing up parking capacity elsewhere. Visitors and guests may also use the nearby parking garage located on Buena Vista Avenue.

The hydroponic farm reduces roadway network truck traffic and vehicle miles traveled by locating the food source closer to the point of sale.

Hydroponic Farm

The hydroponic garden or "farm" would be located atop the roof of the automated garage. Five commuter trips associated with the farm are estimated in each of the peak hours. It is anticipated that an average of one to three single unit trucks or vans will transport produce daily during off peak periods. Tractor trailers or combination trucks will not be used in the farm's operation - according to the project engineer, there is insufficient room to maneuver large trucks into the loading area based on a review of applicable turning radius. Furthermore, given estimated quantities of produce to be picked up, small box trucks are sufficient. If necessary, the maximum vehicle size permitted within the auto court can be posted at the entrance. Occasional public tours of the greenhouse or field trips for educational purposes are also anticipated but these trips would also occur outside of peak traffic periods.

Levels of Service

Based on the results of the traffic analyses, overall intersection delays created by site-generated traffic would increase by no more than three (3) seconds per vehicle at study intersections. No new intersection levels of service E or F are anticipated as a result of the Project. Declines in volume to capacity ratios and increased queuing are expected. Some lane blockages and some spillback to intersections are anticipated even without the Project. However, no new lanes will experience blockage or spillback as a result of the Project's traffic. Blockages and spillback tend to clear out each cycle, but loss of through capacity at certain signalized intersections is expected to continue to increase.

With regard to operation of the automated parking garage, the peak 15 minute traffic loads and peak hourly volumes can be handled with only three of four lifts functioning. The 16 vehicle

internal queuing storage (see Figure 3.5-10) is sufficient to keep the parking queue on-site. The lifts and other components have redundant systems to reduce the potential that there will be down time during the peak traffic periods.

Mitigation Measures

No significant adverse impacts to traffic operating conditions are anticipated to result from the No-Build to Build Condition and thus roadway improvements are not required for this Project.

This transit-oriented PUR adjoins the railroad station and transit hub. Vehicular trips are minimized given the ready access and availability of bus and rail service, especially during the peak commuter traffic periods.

The City of Yonkers applied for a Transportation Investment Generating Economic Recovery (TIGER) federal grant to create a Yonkers Metro Center Multi Modal Facility proximate to the Yonkers train station within the i.park Hudson development.[2] The present bus staging area is located along the eastern side of Riverdale Avenue and north of Prospect Street. Improved traffic operations would result at the intersection of Riverdale Avenue and Prospect Street if the staging area was relocated as part of the creation of multi-modal facility. The lane presently used for bus staging would be made available to traffic, increasing capacity by an additional lane.

The left turn lane on southbound Riverdale Avenue could be lengthened using the existing median. Although the Project's traffic contributes minimally to this movement, the Applicant could, as mitigation, set aside funds to replace the eight median trees that would be removed. According to the application, the City was seeking $26,600,000 from the TIGER program - Yonkers did not receive funding in 2010 from this program.

3.5.2 Existing Conditions

The Regional Network

The subject site is located in the City of Yonkers, Westchester County, New York, just east of the Hudson River and immediately south of the Yonkers Metro-North Railroad Station. The Regional Road Network is shown in Figure 3.5-1.

Westchester County has numerous north-south highways that serve as primary commuter corridors within the New York City metropolitan region. These include but are not limited to: Saw Mill River Parkway, New York State Thruway, Sprain Brook Parkway, and Bronx River Parkway. The Cross County Parkway is a connecting east-west highway. Nepperan Avenue to Yonkers Avenue provide the most direct arterial access to the Saw Mill River Parkway and Cross County Parkway. The Cross County Parkway provides access to other parkways and the Thruway (Interstate 95).

The north-south arterial nearest to the Project Site is US Route 9. US Route 9 and Nepperhan Avenue provide access to the Project Site via Prospect Street and Main Street.

[2] The grant application, prepared by the City, refers to downtown Yonkers as a "stellar example of transit oriented development". The proposed project is located in downtown Yonkers.

The Local Road Network

Figure 3.5-2 illustrates the local road network and key intersections in the Project's vicinity. Roads in the vicinity of the site include:

Buena Vista Avenue
Main Street
Prospect Street
Hudson Street
Riverdale Avenue
Nepperhan Avenue
Nepperhan Street
South Broadway (US Route 9 and NYS Route 9A)

Road widths are shown in Figure 3.5-3. Traffic controls and general on-street parking regulations are depicted in Figures 3.5-4 and 3.5-5, respectively.

Buena Vista Avenue

Buena Vista Avenue runs north-south for eight blocks from Larkin Plaza to O'Boyle Park and is a two-lane street.

Main Street

Main Street is a two-lane east-west road running from the Hudson River and under a Metro North overpass to Riverdale Avenue. Main Street is a one-way road westbound into Riverdale Avenue.

Prospect Street

Prospect Street is a two-lane east-west road and is a block south of Hudson Street. Prospect Street has a raised median between Buena Vista Avenue and Riverdale Avenue.

Hudson Street

Hudson Street is a block south of Main Street and runs parallel to it in an east-west direction. Hudson street is one lane eastbound from Hawthorne Avenue to South Broadway. Between Hawthorne Avenue and Buena Vista Avenue, Hudson Street is two-way with one lane in each direction.

Riverdale Avenue

Riverdale Avenue extends into Warburton Avenue at Main Street. Riverdale is a two-way north-south road. Riverdale Avenue has two through lanes in each direction and turning lanes at its intersections.

Nepperhan Avenue

Nepperhan Avenue is a two-way major arterial which runs generally east west providing residential and commercial access through the center of the City of Yonkers. Nepperhan

Avenue has two lanes of travel with dedicated turn lanes at major intersections. It runs from Riverdale Avenue continuing east past Yonkers Avenue.

Nepperhan Street

Nepperhan Street is a one-way street running east-west between Buena Vista Avenue and Warburton Avenue. Nepperhan Street generally has one lane. Dock Street runs in the opposite direction one block to the north.

South Broadway/North Broadway

South Broadway, also known as US Route 9 and NYS Route 9A, is a major north-south roadway that runs along the western border of Westchester County near the Hudson River. US Route 9 travels from the George Washington Bridge to the south and continues north to upstate New York. Known in Yonkers as North and South Broadway, this route provides residential and commercial access along its length. South of Hudson Street South Broadway is one lane in each direction. Immediately north of Hudson Street, South Broadway is northbound only. South Broadway is northbound for only one block into Getty Square where it turns into North Broadway. North Broadway is northbound for only two blocks until it intersects with Wells Avenue where it again becomes a two-way street.

Intersection Analysis

The following intersections were investigated in this traffic study:

1. Buena Vista Avenue and Main Street
2. Buena Vista Avenue and Prospect Street
3. Riverdale Avenue and Hudson Street
4. Riverdale Avenue and Prospect Street
5. Riverdale Avenue and Main Street
6. Buena Vista Avenue and Hudson Street
7. Hudson Street and South Broadway
8. Nepperhan Street and Warburton Avenue
9. Nepperhan Avenue and South Broadway and Prospect Street
10. Hawthorne Avenue and Hudson Street

Aerial photos of each intersection that illustrate lane geometrics and pavement markings are provided in Appendix G. Descriptions of the study intersections are provided below:

1. Buena Vista Avenue and Main Street: As shown in Appendix G Figure G-1, Buena Vista and Main Street is a four way intersection. This intersection is signal controlled. The railroad station is on the northwest corner. The project site is on the southwest corner.

2. Buena Vista Avenue and Prospect Street: As shown in Appendix G Figure G-2, Prospect Street ends as a standard "T" intersection, which is an all way stop controlled at both Buena

Vista Avenue and Prospect Street. Curb side parking reduces sight lines depending on the location and size of vehicles parked.

3. Riverdale Avenue and Hudson Street: As shown in Appendix G Figure G-3, this intersection is a four way intersection that is signalized. However, Hudson Street is one way eastbound. Riverdale Avenue is median divided with two lanes of traffic in each direction and dedicated turn lanes onto the eastbound Hudson Street.

4. Riverdale Avenue and Prospect Street: As shown in Appendix G Figure G-4, this intersection is a four way intersection that is signalized. Each approach has two lanes of traffic and dedicated turn lanes.

5. Riverdale Avenue at Main Street: As shown in Appendix G Figure G-5, this is a multi lane four way signalized intersection. Riverdale Avenue has two travel lanes in each direction in addition to a dedicated northbound left turn lane and a shared southbound right turn lane.

6. Buena Vista Avenue at Hudson Street: As shown in Appendix G Figure G-6, this intersection is a standard “T” intersection, or three way intersection, immediately adjacent to the project site. Hudson Street is stop sigh controlled at Buena Vista Avenue.

7. Hudson Street at South Broadway: As shown in Appendix G Figure G-7, this is a "T" intersection which is all way stop controlled. Hudson Street is one way eastbound and South Broadway is one way northbound from Hudson Street. There are cross walks on both South Broadway and Hudson Street.

8. Nepperhan Street at Warburton Avenue: As shown in Appendix G Figure G-8, this intersection is a three way intersection offset to Dock Street.

9. Nepperhan Avenue and South Broadway and Prospect Street: As shown in Appendix G Figure G-9, this intersection is a multi lane signalized intersection with dedicated turn lanes.

10. Hawthorne Avenue and Hudson Street: As shown in Appendix G Figure G-10, this intersection is a straight forward four way unsignalized intersection with one lane of travel in each direction. Hudson Street is one-way eastbound, to the east of Hawthorne Avenue and Hawthorne Avenue is one way northbound, to the south of Hudson Street.

Off-Site Parking

The 24-hour parking garage located at 8 Buena Vista Avenue operated by the City of Yonkers Parking Authority has 610 spaces. This facility utilizes a kiosk pay station. Based on a conversation March 18, 2010 with Joseph Dalli, Deputy Executive Director/CFO of the Yonkers Parking Authority, there are approximately 90 to 100 spaces vacant throughout the day. There are some vacant properties in the area that, once reoccupied, could reduce the availability of these spaces. The garage serves commuters and area employees during the day, residents overnight and weekends, and restaurants during the evenings. Figure 3.5-5 illustrates the general on-street parking availability and restrictions located within the study area. Sidewalks are located along all road segments in the study area.

Mass Transit

The site is well served by existing mass transit and commuter rail service. As shown in Figure 3.5-13, the Westchester County Bee Line bus system operates 12 routes in proximity to the project which provide a total of more than 135 a.m. peak hour buses and 103 p.m. peak hour

buses. These key bus routes have the peak route run loads with average maximum load utilization below 80 percent based on Bee-Line data[3].

Metro-North operates the Hudson Line between the Yonkers Station and Grand Central Terminal with more than 30 peak hour trains less than two blocks from the project site. Metro-North has suffered over a four percent decline in ridership going into the final quarter of 2009 compared to the same period in 2008[4].

Existing Pedestrian Environment

The project site is located in an urban environment and sidewalks are present along all of the streets which form the study area. As discussed above, twelve Bee Line bus routes have stops located along Hudson Street, Main Street, and Prospect Street. There is a pedestrian connection to the Yonkers Metro-North Rail station at Main Street and Buena Vista Avenue.

The Westchester RiverWalk[5] is a planned 51.5-mile multi-faceted pathway paralleling the Hudson River in Westchester County that is intended to link village centers, historic sites, parks, and river access points via a connection of trails, esplanades and boardwalks. It spans 14 municipalities in Westchester and is part of the Hudson River Valley Greenway system. It provides intermodal accessibility, as it connects directly with 13 of 14 Metro North Hudson Line Stations and 27 Bee-Line Bus Routes including the Tappan Zee Express.

In the vicinity of the Project Site along the Yonkers waterfront is a 2.25 mile section of the RiverWalk which extends from the Metro-North Yonkers train station to the New York City border. The RiverWalk detours under the Main Street to follow Buena Vista Avenue in front of the Project Site.

Main Street travels under the Metro-North right-of-way overpass and terminates at the riverfront by Esplanade Park. The park was dedicated in September 2003 and includes a Sculpture Meadow, a September 11th Memorial Garden, and an amphitheater. The Victorian Pier has been restored and renovated and is occupied by a restaurant.

Traffic Counts

The Existing Conditions evaluation is based on 2009 and 2010 traffic counts. The Existing Conditions data forms the basis of the year 2014 future conditions (each future year with and without the proposed action).

Figures 3.5-6 and 3.5-7 provide existing a.m. and p.m. and peak hour traffic, respectively, at the studied intersections.

Manual counts for the weekday a.m. peak hour and p.m. peak hour were collected on Tuesday, December 1, 2009 and Tuesday, March 23, 2010 at study intersections while schools were in session. Traffic volume count data are included in Appendix G.

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[3] "2008 Passenger Counts weekdays", Bee-Line.
[4] "Public Transportation Ridership Report Fourth Quater 2009", American Public Transpiration Association Washington D.C., March 2010.
[5] Hudson River Trailway Plan, Westchester County Department of Planning, Sept 2003; www.westchestergov.com

Intersection counts were used to ascertain the hour with the greatest traffic volume or "peak hour". The peak hours for weekday a.m. and p.m. for the study intersections are shown in Table 3.5-1 based on the data collected. The individual peak hours are used in all level of service calculations as they represent the highest volume and therefore typically the worst case.

Table 3.5-1
Occurrence of Weekday Peak Hour Traffic Volumes

	Intersection	A.M. Peak Hour *	P.M. Peak Hour *
1	Buena Vista Avenue with Main Street	8:00 a.m. to 9:00 a.m.	4:15 p.m. to 5:15 p.m.
2	Buena Vista Avenue with Prospect Street	8:00 a.m. to 9:00 a.m.	4:00 p.m. to 5:00 p.m.
3	Riverdale Avenue with Hudson Street	8:15 a.m. to 9:15 a.m.	4:00 p.m. to 5:00 p.m.
4	Riverdale Avenue and Prospect Street	8:00 a.m. to 9:00 a.m.	5:00 p.m. to 6:00 p.m.
5	Riverdale Avenue with Main Street	8:00 a.m. to 9:00 a.m.	4:00 p.m. to 5:00 p.m.
6	Buena Vista Avenue with Hudson Street	8:00 a.m. to 9:00 a.m.	4:00 p.m. to 5:00 p.m.
7	Hudson Street with South Broadway	8:00 a.m. to 9:00 a.m.	4:00 p.m. to 5:00 p.m.
8	Nepperhan Street with Warburton Avenue	8:00 a.m. to 9:00 a.m.	4:00 p.m. to 5:00 p.m.
9	Nepperhan Avenue with South Broadway and Prospect Street	8:00 a.m. to 9:00 a.m.	4:30 p.m. to 5:30 p.m.
10	Hawthorne Avenue with Hudson Street	8:00 a.m. to 9:00 a.m.	5:00 p.m. to 6:00 p.m.

*See Manual traffic volume count data included in Appendix G.

Reference: Tim Miller Associates, Inc., 2010.

Traffic volumes between intersections will vary due to intervening traffic generators and destinations such as parking garages, parking lots, and other intersecting streets. Also, peak hour traffic data were collected at different times . For more detail, refer to Appendix G.

Peak Hour Factor

Peak hour factors are a measure of the flow rate within the peak hour. Peak hour factors can change on a day to day basis. The SFC report[6] uses a peak hour factor of 0.92 for "consistency and for comparison". Based on the existing study intersection volumes, the proposed average peak hour factor of 0.91 was used for all conditions (Existing, No Build, and Build Conditions). The SFC report used five percent trucks at each intersection based on New York State Department of Transportation information for this area. This traffic analysis uses seven percent trucks based on the total trucks and volume counted during each peak hour period at seven study intersections where trucks were counted.

Saturday Traffic

New York State Department of Transportation (NYSDOT) traffic counts were examined for Saturday traffic. Saturday traffic is anticipated to be less than 66 to 89 percent of the p.m. peak hour traffic as indicated in Table 3.5-2. The SFC Report[7] prepared as part of the DEIS for the Palisades Point, Cacace Center, and the River Park Center[8] indicated the Saturday traffic was 80 percent of the p.m. peak hour traffic, which falls in this 66 to 89 percent range.

[6] Traffic Analysis for the Struever Fidelco Capelli (SFC) project prepared by John Collins Engineers, P.C. April 2007.
[7] Traffic Analysis for the Struever Fidelco Capelli (SFC) project prepared by John Collins Engineers, P.C. April 2007.
[8] The DEIS for the combined Palisades Point, Cacace Center, River Park Center and Larkin Plaza, submitted in July 2007 and Accepted on March 18, 2008, on Behalf of Struever, Fidelco, Capelli, LLC known herein as the SFC Project, Page III.E-5.

Table 3.5-2
Saturday Traffic in Site Vicinity

Location	Year	Peak Hour Traffic**			Percent Saturday Peak Hour Volume is of PM Weekday Traffic
		Weekday AM Peak*	Weekday PM Peak*	Saturday Peak	
NYS Route 9A (Saw Mill River) End Route 9 overlap to Neperhan Avenue	2006	757	944	842 (793*** to 945***)	89%
US Route 9 North Broadway NYS Route 9A to Yonkers North City Line	2008	1000	1008	670 (520***)	66%
Nepperhan Avenue South Broadway to Walsh Road	2006	2298	2596	2037 (1577****, 1806***)	78%

** Average weekday Hours (Axle Factored, Monday 6 a.m. to Friday Noon).*

*** See Appendix G for NYSDOT traffic counts.*

*** SFC Saturday volume are based on 80 percent of PM peak hour traffic (SFC Appendix A[8] at nearest intersection(s).

**** Actual Saturday traffic count at South Broadway and Nepperhan Avenue (SFC traffic study[8].)

3.5.3 Future Traffic Without the Project - No Build Condition

No Build Traffic

Traffic impact is typically determined by comparing projected future traffic conditions without the project's traffic in the Build Year to the projected traffic conditions with project-generated traffic in the Build Year. In this case, it is expected that construction will be complete within five years, thus traffic expected in the year 2014 is evaluated to assess No-Build and Build Conditions.

The No-Build Condition is a scenario that establishes a future baseline condition. The No-Build Condition is determined based on a number of factors: (1) improvements in the local road network that are planned or underway; (2) traffic from general population growth in the local area; and (3) traffic from identified development projects in the project site vicinity.

Roadway Improvements

The New York State Department of Transportation (NYSDOT) has several projects listed in the Transportation Improvement Program[9] (TIP). The currently approved TIP (October 2009) covers traffic improvement projects to be initiated and/or completed during the period between October 2, 2009 and September 30, 2014. These projects are as follows (the applicable Project Identification Number, or PIN, is presented in parentheses after the name of the project):

a) Upgrade of Westchester County Signals (876054).
b) Upgrade Yonkers Signals, Upgrade Pedestrian Signals (876059).
c) Increase Bus Service to Routes 2 and 20 (876086).
d) Westchester County Bus Stop Enhancements (882145).
e) Replace Aging Westchester County Bee Line Shuttle Buses (882226).
f) Purchase two trolley buses for City of Yonkers (8TRM98).
g) Ashburton Avenue Improvement (876032).

[9] New York Metropolitan Transportation Council, Transportation Improvement Program, October 2, 2009.

For traffic analysis purposes, the transit improvements were not considered to have an effect on the intersection operations or transit demand. No additional capacity increase was presumed regarding signal hardware improvements. Signal hardware improvements can also have a positive effect on off-peak operations which affect the majority of time and travel. Traffic signals have been assumed to be retimed to reflect new traffic volumes. Traffic signal retiming has been included as part of the No Build Condition for the intersection of Prospect Street, Nepperhan Avenue, and South Broadway as indicated in Appendix G of this DEIS.

The Yonkers Metro Center Multi-Modal Facility[10] proposal was submitted to the United States Department of Transportation for a Tiger Program Grant in 2009. The center would be located proximate to the Yonkers rail road station platform. It would contain 600 parking spaces, 120,000 square feet of office space, serve as the bus layover area for Yonkers downtown buses, contain a terminus and service depot for approximately 120 Metropolitan Transportation Authority express buses, a taxi stand, bike racks, 120,000 square feet of office space, and provide a direct pedestrian connection to rail platforms and the Hudson riverfront. This is a shovel-ready project part of the Alexander Street Master Plan and Urban Renewal Plan. The project would start construction in one year from award and have a two year construction period. Improvements related to this project have not been included in the future conditions. However, the potential benefit of moving the current bus staging area off of Riverdale Avenue is discussed. As noted previously, the project did not receive federal TIGER funding for 2010.

The Ashburton Avenue Improvement from Warburton Avenue to Yonkers Avenue includes signal timing changes, left turn lanes, expanded sidewalks, streetscape and bus transit improvements. The TIP[11] indicates $35.7 million is programmed for starting additional right-of-way acquisition and construction in 2010. The SFC report recommended signal timing changes[12]. Based on the work proposed for Ashburton Avenue, the No Build traffic distribution to Nepperhan Avenue may be conservatively high.

Background Growth

To evaluate the impact of the proposed development, traffic projections were prepared for the year when the Project would be completed (2014).

In determining future traffic volumes, existing traffic volumes are projected forward using a generalized growth factor that accounts for area-wide growth. Traffic generated by developments in the vicinity of the Project Site are then added to existing traffic volumes and background growth. The No-Build traffic volumes represent future traffic operating conditions without the development of the Project and are a benchmark against which potential project-related traffic impacts can be measured.

A growth rate of one percent (1%) per year cumulative over four years was used. A one percent growth rate is typically used for urban areas and was approved by the City of Yonkers Director of Traffic Engineering[13] The one percent growth in traffic is in addition to traffic generated by other area projects described below.

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[10] City of Yonkers, "Yonkers Metro Center, A Transportation Facility", September, 2009.
[11] New York Metropolitan Transportation Council, Transportation Improvement Program, October 2, 2009, Page 34.
[12] The DEIS for the combined Palisades Point, Cacace Center, River Park Center and Larkin Plaza, Accepted on March 18, 2008, on Behalf of Struever, Fidelco, Capelli, LLC known herein as the SFC Project. Saccardi and Schiff, Inc., Exhibit III.E-54.
[13] Email and phone communication from Mr. Grealy on October 15, 2010.

Other Area Projects

Planned, pending, or approved projects in the area that might add a significant volume of traffic to the intersections in the study area were identified through consultation with City officials and review of available planning documents and traffic studies. The projects included in this traffic analysis are those currently under review (pending) in the City of Yonkers that have not yet been built. These No Build projects are listed in Table 3.5-3, Approved or Pending Projects in Site Vicinity. Trip generation was derived using the Institute of Transportation Engineer's (ITE) trip generation rates. The rates are provided in Appendix G.

The No-Build Condition does not include the Struever Fidelco Cappelli (SFC) project[14]. This project is included in a separate traffic analysis of traffic conditions which include the SFC project, called No-Build Condition with SFC.

For the No Build and Build conditions, projects listed in Table 3.5-3 are assumed to be completed and occupied by 2014, the build year. Existing traffic volumes were increased from 2009-10 to 2014 for the build-out by an annual rate of one (1) percent. The vicinity development traffic volumes were added to the 2014 background, resulting in the No-Build volumes, which is shown in Appendix G Figures E-11 and E-12. The No Build peak hour traffic volumes are presented graphically in Figures 3.5-8 and 3.5-9.

Table 3.5-3
Approved or Pending Projects in Site Vicinity

Project *	Size and Type **	Location
Old Furniture Storage / Cooks	4,400 square feet	14 Warburton Avenue
Main Street Lofts	12,000 square feet of retail 171 residential lofts	66 Main Street
I-Park Phase 2	30,000 square feet of Retail 100,000 square feet of Office	Warburton Avenue
Homes for America	58,000 square feet Office 12,000 square feet of retail	86 Main Street
Ashburton Ave. Redevelopment (Mulford Gardens) Replacing 552 units of public housing	Residential Project 300 residential units replacing existing units retail and office space (1st Build 80 Dwelling units occupied)	Ashburton Avenue (Between St. Joseph and Vineyard Avenues)

Sources; **The DEIS for the combined Palisades Point, Cacace Center, River Park Center and Larkin Plaza, Accepted on March 18, 2008, on Behalf of Struever, Fidelco, Capelli, LLC known herein as the SFC Project.
*Saccardi and Schiff, Inc., fax dated March 19, 2010.

3.5.4 Future Traffic With the Project - Build Condition

Residential Trip Generation

The Project trip rates are summarized in Table 3.5-4. Table 3.5-5 shows the projected number of residential trips. Use of ITE trip generation rates is acceptable by the City of Yonkers Traffic

[14] The DEIS for the combined Palisades Point, Cacace Center, River Park Center and Larkin Plaza, Accepted on March 18, 2008, on Behalf of Struever, Fidelco, Capelli, LLC known herein as the SFC Project.
Saccardi and Schiff, Inc.,

Engineering Division[15]. Trips from the existing Trolley Barn portion are already traveling on the network and were not included in Tables 3.5-4 and 3.5-5.

The apartments on the east side of Buena Vista Avenue are currently generating existing traffic. This analysis conservatively includes apartment traffic as new trips from the parking structure. This has been done to indicate the apartments would not impact network traffic even if the traffic was shifted into the parking garage. Figure 3.5-10 shows the main project site west of Buena Vista Avenue and apartments to be remodeled on the east side of Buena Vista Avenue.

Table 3.5-4
Project Site Trip Rate Summary

Land Uses {ITE Code}	Trip Rates			
	A.M. Weekday Peak Hour		P.M. Weekday Peak Hour	
	IN (Trips/ Units)	OUT (Trips/ Units)	IN (Trips/ Units)	OUT (Trips/ Units)
High Rise {222} 412 Residential Dwelling units	0.075	0.226	0.213	0.136
Apartment {220} 13 Residential Dwelling units	0.155	0.122	0.403	0.217
Trip Generation, Institute of Transportation Engineers, 8th edition, Washington, D.C., 2008.				

Table 3.5-5
Projected Residential Site Trips

Land Uses (ITE Code)	Trips					
	A.M. Weekday Peak Hour			P.M. Weekday Peak Hour		
	IN (Trips)	OUT (Trips)	Total Trips	IN (Trips)	OUT (Trips)	Total Trips
High Rise {222} 412 units	31	93	124	88	56	144
Apartment {220} 13 units	2	8	10	5	3	8
Total Residential Trips	**33**	**101**	**134**	**93**	**59**	**152**
Trip Generation, Institute of Transportation Engineers, 8th edition, Washington, DC, 2008.						
See trip rate Table 3.5-4.						

Future Pedestrian Environment

The lobby of the new apartment building will be connected to the Trolley Barn in order to allow interior access to the lower level on Main Street thereby allowing residents to travel through the Trolley Barn building to access the train station. Based on the Project's proximity to the train station and local bus stops, a high percentage of pedestrian trips are expected to be mass transit related.

The Westchester RiverWalk in the vicinity of the project site includes Hudson Park along the Yonkers Waterfront and a 2.25-mile section which extends from the Metro-North Yonkers station to the New York City border along Buena Vista Avenue. The automated parking garage and hydroponic farm will be points of interest along this route.

[15] April 19, 2010 response from City of Yonkers Traffic Engineering included in Appendix B for reference.

For pedestrian safety within the site, a passenger drop off point is provided in the site's auto court. The walkway to the parking garage is covered. See Appendix G for discussion of automated garage operation and see http://www.aptparking.com/video.php to view automated garage operation including pedestrian interaction. Drivers will enter and exit their cars in the cabins and access or egress the cabins by the west or interior door. A covered walkway is provided between the south lobby doors, auto court, and west cabin doors as shown in Figure 3.5-10.

Public sidewalks in front of the new apartment building will be approximately seven and one-third feet in width as shown in Figure 3.5-10. There is an additional two and two third foot buffer to the building at the garage and courtyard access. This buffer is intended to force pedestrians away from the building to create a line of sight between pedestrians and vehicles exiting the garage. Pedestrian safety areas are provided between each garage egress.

Mass Transit

The Traffic Engineering Division approved use of a 25 percent modal split for mass transit utilization after review of trip generation analyses[16] prepared by Tim Miller Associates that were based upon the US Census data and the Hudson Park survey[17]. The concept of a transit oriented development is to encourage transit use and reduce the need for car parking spaces to reduce impacts to the environment. As described in the TIGER multimodal center grant application, the City of Yonkers recognizes downtown Yonkers as a transit-oriented development. As the Project Site is adjacent to the Yonkers train station and 12 Westchester County Bee Line bus routes are available within one block of the site, the 25 percent modal split is conservative. Table 3.5-6 summarizes mass transit and auto trips that would be generated by the Project.

Table 3.5-6
Total Projected Residential Site Trips

Land Uses	Trips					
	A.M. Weekday Peak Hour			P.M. Weekday Peak Hour		
	IN (Trips)	OUT (Trips)	Total Trips	IN (Trips)	OUT (Trips)	Total Trips
Total Residential Trips	33	101	134	93	59	152
25% Reduction for Mass Transit Trips	(8)	(25)	(33)	(23)	(15)	(38)
Residential Auto Trips Generated	**25**	**76**	**101**	**70**	**44**	**114**

Trip Generation, Institute of Transportation Engineers, 8th edition, Washington, DC, 2008.

Thirty-three (33) trips during the a.m. peak hour and 38 trips in the p.m. peak hour would be mass transit trips. These estimates are low and the actual transit use could be double the 71 trips calculated above.

To handle the Project's transit passengers, twelve different bus routes have a combined total of more than 238 peak hour bus trips and are immediately available. Ridership is at less than 80 percent of capacity. The Bee-Line's excess capacity during peak transit periods is sufficient to handle this Project's demand without adding buses to routes or requiring upgrades.

[16]March 25, 2010 letter from TMA included in Appendix B for reference.

[17] "Hudson Park Parking Survey Yonkers, New York", BFJ Planning New York, NY, June 2009.

With more than 30 peak hour Metro North Trains, and at least six passenger cars each, a total of 180 rail cars are available to travel to and from Grand Central Terminal.

Based on double the ridership calculated above, the 142 mass transit riders in the two peak hours would equate to less than one trip per bus or one trip per passenger rail car. The addition of the Project's transit riders is small in comparison to the more than four percent decline in Metro North ridership. Sufficient capacity exists to handle projected transit ridership from the Project.

Overall, a mass transit split comparable to that for Westchester County might be more appropriate. Specifically, 21,481 County residents (28%) commuted by bus and 55,587 County residents (72%) commuted by rail[18].

Hydroponic Farm

The greenhouse area totals approximately 13,340 square feet. A conveyor belt area located behind the garage next to a loading area would be used to move produce from the farm to trucks for transport. It is estimated that between 5-10 full time jobs would be created by the operation. For the purpose of the traffic analysis, five commuter trips are assigned to both the a.m. and p.m. peak hours as shown in Table 3.5-7.

Based upon the anticipated volume of food to be harvested, an average of one to three single unit trucks or vans will be used to transport the produce daily. Tractor trailers or combination trucks will not be used to transport the vegetables grown. It is expected that all truck trips would occur during off peak periods. One to three deliveries would be expected per day between 9 a.m. and 4 p.m. Contracts between the farm operator and deliverers can specify the maximum vehicle size permissible on-site.

Occasional public tours of the greenhouse or field trips for educational purposes may generate additional school bus trip or bus trips - these would occur during off peak periods. No more than two bus trips per day are anticipated. School bus trips typically occur during school hours.

Table 3.5-7
Total Projected Site Trips

Land Uses	Trips					
	A.M. Weekday Peak Hour			P.M. Weekday Peak Hour		
	IN (Trips)	OUT (Trips)	Total Trips	IN (Trips)	OUT (Trips)	Total Trips
Residential Auto Trips Generated	25	76	101	70	44	114
Hydroponic Garden Trips Generated	5	0	5	0	5	5
Total New Trips Generated	**30**	**76**	**106**	**70**	**49**	**119**

Trip Generation, Institute of Transportation Engineers, 8th edition, Washington, DC, 2008.

The Project is expected to generate a total of 106 new vehicle trips during the weekday a.m. and 119 trips new vehicle trips during the p.m. peak hour. The trips exiting and entering the Project are shown in Table 3.5-7.

[18] U.S. Census Bureau, Census 2000 Summary File 4, Matrix PCT 55.

Peak Hour Traffic Growth at Nearby Intersections

The Scoping Document for this DEIS requires an evaluation of up to seven additional intersections listed in Table 3.5-8 if the site generated traffic increases existing volumes by more than five percent (5%). The minimum traffic volume necessary to produce more than five percent growth in traffic at any one intersection is 129 trips. The Project generates 119 trips in the p.m. peak hour indicating that this five percent increase condition would not be met at any intersection even if 100 percent of Project's site traffic were to travel through the lowest volume intersection. Thus, no additional analysis of these intersections is warranted.

Table 3.5-8
Peak Hour Traffic Growth at Nearby Intersections

	Total Entering Traffic	
	Mid-weekday AM Peak Hour	**Mid-weekday PM Peak Hour**
Location	Existing Condition*	Existing Condition*
1. Nepperhan Avenue and New Main Street	2,918	3,006
2. Nepperhan Avenue and New School Street	3,183	3,226
3. Nepperhan Avenue and Elm Street	3,745	3,569
4. Yonkers Avenue and Walnut Street	2,674	2,562
5. Yonkers Avenue and Prescott Street	2,787	3,112
6. Yonkers Avenue and Saw Mill Parkway Off Ramp (Southbound)	4,584	4,446
7. Yonkers Avenue and Saw Mill Parkway On-Off Ramps (Northbound)	3,949	3,850

* Source = Traffic Analysis, SFC Yonkers Project John Collins Engineers, P.C., 2006.

Site Trip Distribution

Trip distribution for the Project is shown in Figures 3.5-11 and 3.5-12 for the weekday a.m. and weekday p.m. time periods. The site generated trips (Table 3.5-7) during these periods are shown in Figures 3.5-14 and 3.5-15. Project trips are added to No Build volumes (Figures 3.5-8 and 3.5-9) to obtain the Build Condition volumes (Figure 3.5-16 and 3.5-17).

Palisades Point, River Park Center, Cacace Center, and Larkin Plaza - SFC Project

A second scenario of traffic operating conditions includes construction of the SFC project and has been included in this analysis.

The overall SFC Plan includes the following sites:

- Palisades Point - a 5.8 acre site along the Hudson River
- River Park Center - a 13 acre site bounded by Nepperhan Avenue, New Main Street Palisade Avenue and Elm Street including the Chicken Island parking lot.
- Cacace Center - a 4.3 acre parcel to the south of Neperhan Avenue across from City Hall

- Larkin Plaza - a 1.9 acre site bounded by Dock Street to the north, Nepperhan avenue to the south, Buena Vista Avenue to the west and Warburton Avenue to the east.

The overall proposed development program for the SFC project includes approximately 1,386 housing units, 473,000 square feet of retail space, 90,000 square feet of restaurant space, 475,000 square feet of office space, 80,000 square foot of cinema space, a 150 room hotel, 49,000 square feet for a new City of Yonkers Fire Department Headquarters, 6,600 parking spaces and a 6,500 seat ballpark.

The trips generated by the SFC projects are shown in Table 3.5-9. Much of the SFC traffic would access roads east of the study area and do not affect intersections in the study area. The SFC traffic volumes are shown in Figures 3.5-18 and 3.5-19, the No Build Condition with SFC is shown in Figures 3.5-20 and 3.5-21 and the Build Condition with SFC is shown in Figures 3.5-22 and 3.5-23.

Table 3.5-9
SFC Trip Generation

Land Uses	Peak Hour Trip *								
	Weekday A.M.			Weekday P.M.			Saturday		
	IN (Trips)	OUT (Trips)	TOTAL (Trips)	IN (Trips)	OUT (Trips)	TOTAL (Trips)	IN (Trips)	OUT (Trips)	TOTAL (Trips)
SFC Development **	1171	855	2026	1734	2089	3823	2056	1882	3938

Trip Generation, Institute of Transportation Engineers, 7th edition, Washington, DC, 2003.
*A 30% Credit (reduction in trips) was taken to account for mass transit usage, interplay between uses and for pass-by trips.

**Palisades Point, River Park Center, Cacace Center, and Larkin Plaza

Transportation improvements required to mitigate the traffic impact associated with the SFC project are listed in Table 3.5-10. These improvements are included in the analysis of the No Build condition with SFC and the Build Condition with SFC, except as noted in Table 3.5-10. This list includes improvements proposed to the roadway network and intersections outside the project study area.

Table 3.5-10
SFC Project - Recommended Traffic Improvements

Location	Recommended Improvements*
Buena Vista Avenue with Main Street	No traffic improvements proposed
Buena Vista Avenue with Prospect Street	No traffic improvements proposed Construct a new bridge and fourth leg to intersection**
	No traffic improvements proposed
Riverdale Avenue with Hudson Street Riverdale Avenue and Prospect Street	• Restripe the Westbound Nepperhan Avenue right turn lane to provide for through and right turn movements. • Upgrade signal and connect to City's computerized traffic signal system.
Riverdale Avenue with Main Street	No traffic improvements proposed
Buena Vista Avenue with Hudson Street	No traffic improvements proposed
South Broadway with Hudson Street	Upgrade existing flashing signal to full operation and connect to City's computerized traffic signal system
Nepperhan Street with Warburton Avenue	No improvements proposed
Nepperhan Avenue with South Broadway and Prospect Street	Construct Northbound right turn lane on South Broadway
Hawthorne Avenue with Hudson Street	Not analyzed
* Source; "SFC Yonkers Project" John Collins Engineers, P.C., 2006, Table 3A.	
** Although proposed in the DEIS, the SFC traffic analysis did not include this fourth leg and associated redistribution of traffic. This analysis follows that procedure in showing the traffic and associated level of service without this additional connection.	
Timing changes may be required to optimize the operation of existing traffic signals.	

Emergency Access

Emergency access to the apartment building will be from Buena Vista Avenue. Emergency service providers would generally access the site via the Main Street and Buena Vista Avenue intersection or the Prospect Street and Buena Vista Avenue intersection. Since Hudson Street is one way east of Hawthorne Avenue, it would be used to a lesser degree.

It is proposed that parking be prohibited along the west curb of Buena Vista Avenue from Hudson Street south to the southerly property boundary. Approximately 15 on-street spaces on the west side of Buena Vista Avenue would be eliminated. Approximately 7-8 spaces would be eliminated in front of the auto court and parking garage. This will improve sight distance for vehicles leaving the building. Parking is already prohibited on the slope of Buena Vista Avenue from Main Street to Hudson Street. An on-site drop off location has been provided to limit standing along the curb.

The parking garage is automated making police and medical access to the parking garage non-ground level floors generally unnecessary as these are not publicly accessible areas. The automated parking garage should eliminate crimes in the non-public areas. Breaking into

vehicles and auto theft should be eliminated in these areas. The potential for robbery or other bodily harm is eliminated within the automated garage.

Construction Traffic

The primary components of construction traffic are the construction vehicles arriving at the beginning of the construction period, trucks carrying materials to or from the site, and daily trips of construction workers. Equipment storage areas will be identified on or near the site to reduce trips of construction equipment during the construction season. Staging is anticipated to occur on other existing City-owned vacant sites within the project vicinity. Truck access for construction activity will be Prospect Street to Buena Vista Avenue to the main entrance location as indicated on the Site Plan, Sheet TR, Truck Route. This routing has trucks maneuvering through the intersection of Prospect Street and Buena Vista Avenue. In the morning, parents that may park on the north side of Prospect Street or the east side of Buena Vista Avenue may cross the street at times when a truck is present. Most of the truck traffic generated by equipment deliveries, etc., should be concluded by the p.m. peak hour and not interfere with children pick-ups. This would be considered a short-term construction-related impact.

Two parcels controlled by the City have been identified for potential construction parking and/or material storage. The properties are located at 56 and 60 Buena Vista Avenue (Block 511, Lots 30 and 31) are adjacent to the three residential buildings on the east side of Buena Vista Avenue and across the street from the project site.

The project is divided into three phases - demolition, excavation, and building construction. During demolition, clear and grub materials will be removed from the site, soil stockpiled, and demolition materials will be removed from the site. Excavation is anticipated to be 2,900 truck loads to remove cut materials based on 15 cubic foot trucks.

Construction workers typically arrive and depart a construction site prior to the peak hours of traffic, as would the initial construction equipment vehicles. It is anticipated that construction workers would utilize the existing parking garages in the vicinity of the project site, and will be instructed not to use the existing on-street parking spaces. Trucks would bring construction materials (concrete, steel, wood, doors, windows) and remove the excess construction materials during the day. The non-local construction traffic will primarily be routed via either the NYS Thruway to Yonkers Avenue and Nepperhan Avenue or via NYS Route 9A. Local contractor traffic would use Prospect Street, Hudson Street, and Main Street. Maintenance of traffic drawings will conform to City, State, and Federal regulations. When possible, vehicular and pedestrian traffic will continue in the vicinity of the project site.

Buena Vista Avenue may be closed periodically during construction between Hudson Street and Prospect Street. These closures will be timed so that they avoid closure during the peak AM or PM time periods when drop-offs or pick-ups may be occurring. It has been observed that parents park their vehicles and then escort or carry their children to the daycare center. Street closure would be limited in a manner which avoids closure of the intersection of Prospect Street and Buena Vista Avenue. Drop-offs and pick-ups could still occur along Buena Vista Avenue south of the intersection or along Prospect Street. Avoiding closures during peak time periods, and ensuring that the intersection of Buena Vista Avenue and Prospect Street remains open will address potential pick-up and drop-off issues.

Information concerning construction scheduling, staging, and other construction details can be found in Section 3.12.1 Construction.

3.5.5 Levels of Service - Measure of Effectiveness Criteria

"Level of service" is used as the measure of effectiveness for traffic flow conditions. Peak hour average vehicle delays are calculated to establish the quality of operation (level of service). Level of service is identified on a scale of level of service "A" representing the most efficient conditions to level of service "F" representing the least efficient conditions. A volume to capacity ratio of one means the volume is equal to the theoretical capacity. A volume to capacity ratio of less than one indicates there is available capacity to handle additional traffic at the intersection. Detailed information concerning measures of effectiveness criteria (delay, level of service, queuing, and volume to capacity ratios) are provided in Appendix G.

3.5.6 Levels of Service

Saturday Level of Service

As the Saturday volumes are less than 66 to 89 percent of the p.m. weekday traffic, the level of service and delay under the p.m. weekday condition will be equal to or worse than the Saturday level of service. The p.m. weekday intersection delays are expected to be higher than the Saturday delays.

Levels of Service

The results of the level of service analyses for the study intersections are summarized in Table 3.5-11. Detailed tables showing individual groups of lanes or "lane groups" are provided in Appendix G, Tables 1 through 4. Level of service calculations are provided in Appendix G. In some instances, individual lane groups may decline in level of service when intersection levels of service remain unchanged.

Existing Condition Levels of Service

Overall, levels of service for all intersections studied are equal to or better than level of service C as shown in Table 3.5-11 except the intersection of Prospect Street, Nepperhan Avenue and South Broadway which operates at level of service E. Some individual lane groups as indicated in Appendix G tables have worse levels of service.

No Build Level of Service

Table 3.5-11 summarizes the level of service for the No Build Condition (without SFC). All intersections will operate at a level of service D or better. The improvement in level of service and reduction in delay is based on a higher cycle length in the p.m. peak hour, better coordination, and signal timing, however the longer cycle lengths may increase queues lengths.

Build Condition Level of Service

With the Project, delays will increase by up to one second per vehicle at most intersections. However, all intersections will operate with an increase in delay less than three seconds per vehicle. Intersection level of service remains unchanged from the No Build to the Build

Condition as shown in Table 3.5-11. There were only three instances of lanes groups changing level of service and two were from level of service B to C and one from A to B as indicated in Tables G1 to G4.

No-Build with SFC Traffic Operating Conditions - Level of Service

Table 3.5-11 shows the intersection improvement at Prospect Street, Nepperhan Avenue and South Broadway improves level of service to C. Despite the improvement at Prospect Street and Riverdale Avenue, this intersection is at or above capacity in the weekday peak hour. The p.m. peak hour at Main Street and Riverdale Avenue becomes level of service D from C in the No Build Condition. In the p.m. peak hour, Hudson Street at Riverdale Avenue and Hudson Street at South Broadway declines from level of service B to C, however all other locations level of services remain the unchanged.

Build with SFC Traffic Operating Conditions - Level of Service

The levels of service at the studied intersections remain unchanged from the No Build Condition with SFC except the Prospect Street and Buena Vista Avenue intersection declines from B to C in the p.m. peak hour. There are three lane groups that decline from level of service C to D. In most cases, the intersection delays increase less than one second per vehicle., but in no case does the delay increase more than three seconds per vehicle. *In some cases, lane group level of service may appear to improve however this can be due to changes in green time demand or upstream intersection delay and should not be inferred as a network improvement.*

Table 3.5-11
Level of Service and Delay Summary

	Existing Condition		No Build Condition		Build Condition		No Build Condition w/ SFC		Build Condition with SFC	
Intersection	**A.M. Peak Hour**	**P.M. Peak Hour**	**A.M. Peak Hour**	**P.M. Peak Hour**	**A.M. Peak Hour**	**P.M. Peak Hour**	**A.M. Peak Hour**	**P.M. Peak Hour**	**A.M. Peak Hour**	**P.M. Peak Hour**
Approach Direction - Movement	**LOS** (Delay)**	**LOS** (Delay)**	**LOS** (Delay)**	**LOS** (Delay)**	**LOS** (Delay)**	**LOS** (Delay)**	**LOS** (Delay)**	**LOS** (Delay)**	**LOS** (Delay)**	**LOS** (Delay)**
Main Street and Buena Vista Avenue (signalized)										
Overall	B 14.4	B 14.1	B 14.8	B 14.5	B 15.3	B 14.7	B 16.0	B 18.1	B 16.8	B 18.6
Prospect Street and Buena Vista Avenue (All-way Stop)										
Overall	B 11.8	B 10.9	B 12.5	B 11.3	B 13.4	B 12.4	C 15.0	B 13.7	C 16.8	C 15.8
Hudson Street and Riverdale Avenue (signalized)										
Overall	B 12.8	B 13.5	B 18.7	B 15.7	B 18.9	B 15.8	B 15.2	C 22.2	B 15.3	C 22.2
Prospect Street and Riverdale Avenue (signalized)										
Overall	D 48.6	C 30.9	D 36.8	C 33.2	D 38.3	C 34.0	E 68.2	F 94.6	E 71.2	F 97.3
Main Street and Riverdale Avenue (signalized)										
Overall	B 18.5	C 20.5	B 17.3	C 25.7	B 17.6	C 28.6	C 21.7	D 40.0	C 22.5	D 42.5
Hudson Street and Buena Vista Avenue (unsignalized)										
Overall	B 12.5	B 14.8	B 12.8	C 15.4	B 13.4	C 16.1	B 14.1	C 18.3	B 14.7	C 19.3
Hudson Street and South Broadway (All-way Stop)* **										
Overall	B 10.0	B 11.8	B 10.6	B 13.4	B 10.6	B 13.6	B 14.6	C 32.6	B 14.7	C 34.1
Nepperhan Street and Warburton Ave. (signalized)										
Overall	B 13.5	B 13.5	B 14.6	B 15.5	B 14.6	B 15.7	B 10.2	B 12.4	B 10.3	B 12.4
Prospect Street, Nepperhan Avenue, and S. Broadway (signalized)										
Overall	E 59.4	E 67.1	D 35.7	D 45.1	D 36.5	D 47.9	C 29.0	C 26.6	C 28.7	C 29.9
Hudson Street and Hawthorne Avenue (unsignalized)										
Overall	B 10.5	B 11.9	B 10.6	B 12.1	B 10.7	B 12.2	B 10.6	B 12.1	B 10.7	B 12.2
Buena Vista Avenue and site Access										
Overall**	--	--	--	--	B 13.5	B 13.7	--	--	C 15.5	C 15.5

* Level of service (Delay in seconds per vehicle). Delays for all-way stops are rounded to one decimal place.

** Analysis is of future accesses is as if a single access with the combined traffic.

*** signalized under SFC No Build and Build Conditions.

See Appendix G for calculations and summary tables with individual lane groups. Ref.: Tim Miller Associates, Inc., 2010.

Queuing

Two way stop control intersections are anticipated to have queues of less than one vehicle.

Appendix G Tables G-6 to G-8 show the anticipated queuing at signalized intersections. Blockage of through traffic from queues exceeding the left turn capacity is anticipated to increase in locations and frequency in the future. Lanes with queue storage issues in the No Build Conditions will continue to have storage issues in the corresponding Build Conditions. However, no additional lanes are anticipated to develop storage issues.

Tables G-6, G-7, and G-8 indicate four movements where queues are anticipated to exceed the storage by more than half a vehicle length (more than 12.5 feet) in the No Build and Build Conditions. The four movements are:

- Prospect Street and Riverdale Avenue, southbound left movements, Existing Condition a.m. peak hour and all p.m. peak hour conditions.
- Main Street and Riverdale, southbound through movement, No Build and Build conditions p.m. peak hour conditions.
- Prospect Street, Nepperhan Street, and South Broadway, westbound left movement, all conditions a.m. and p.m. peak hours.
- Prospect Street, Nepperhan Street, and South Broadway, eastbound through-right, No Build and Build Conditions p.m. Peak hour.

The SFC No Build and Build Conditions show an additional three (3) movements exceeding the queue storage as shown in Tables G-6, G-7, and G-8.

Volume to Capacity Ratios

Appendix G Table G-5 shows volume to capacity ratios. Signalized intersection overall volume to capacity ratios are anticipated to increase 0.03 or less. Unsignalized intersections have volume to capacity ratio increases less than 0.03 based on individual lanes except Prospect Street and Buena Vista Avenue. At Prospect Street and Buena Vista Avenue, volume to capacity ratios change by up to 0.01. However, delays remain below 21 seconds with level of service C or better.

3.5.7 Parking Analysis

The 412 dwelling units would require a minimum number of 412 conventional parking spaces based on the City of Yonkers zoning requirements. The concept plans proposes 540 parking spaces within the automated garage and four at grade spaces, or 37 spaces less than required by zoning. The proposed parking space ratio is approximately 1.32 parking space per dwelling unit.

The Hudson Park Parking Study[19] was conducted in 2008 and the Clermont and Phoenix buildings were complete and occupied at that time. Comparable to the Project, these buildings are within one block of the Metro North Yonkers train station.

The study found that 306 parking spaces were provided for 266 apartments, or 1.15 spaces per apartment. Of this total, 250 apartments were occupied and 1.12 parking spaces per occupied

[19] Hudson Park Parking Study, BFJ Planning, June 2009.

apartment had been assigned. Actual peak parking utilization at 3 a.m. was 0.89 spaces per occupied apartment or 0.84 per apartment. Using 0.89 spaces per unit, the Project's 412 apartments would create demand for 367 parking spaces. Based on this parking standard, the Project would provide a surplus of 173 parking spaces. The surplus parking spaces could be used by Trolley Barn residents, thereby freeing up parking spaces elsewhere in the project vicinity. Trolley Barn does not have on-site parking facilities. Based on these standards, it is anticipated that the demand for parking created by the Project can be met on-site.

Approximately 15 on-street parking spaces would be eliminated on the west side of Buena Vista Avenue south of Hudson Street. Of those located north of the auto court, four spaces may be preserved and "No Standing" would be allowed in front of the building courtyard.

Automated Parking Garage

The Project includes construction of an automated parking garage, a system where each driver parks a vehicle on a steel plate which operates as a moveable pallet. The driver exits the vehicle and the vehicle is transported vertically and/or horizontally until it is brought to a vacant parking space. This parking process is discussed more fully in Appendix G and can be seen at http://www.aptparking.com/video.php. The greatest advantage of automated garages over conventional garages is space. Thirty to fifty percent more cars can be parked in the same volume of space.

A study comparing pollution and energy characteristic of a conventional 350 car garage to those from a 350 car automated garage indicated Volatile Organic Compounds (VOC) were reduced by 68 percent, carbon monoxide by 77 percent, nitrogen oxides by 81 percent and carbon dioxide by 83 percent. The fuel savings also averaged 83 percent.[20]

Automated parking reduces personal exposure to crime, eliminates theft from vehicles or of vehicle parts, and makes fender benders from parking nonexistent. A criminal cannot hide in the parking box, since sensors will detect human presence. Surveillance and intense lighting need only cover the ground floor; this is the only area the public can access thus reducing the potential for assault or robbery. The dings, scrapes, and dents commonplace in garages will be eliminated since the car moving on a pallet does not make contact with any other car. Auto thieves have no access to the car to hot wire and drive off, even if the keys were left in the vehicle. Automated parking garages are consistent with principles outlined in Crime Prevention through Environmental Design[21], especially access control, target hardening, and surveillance in addition to activity support, maintenance, and territoriality.

The useful life of a conventional car deck is about 20 years. The earliest European systems of automated garages show little or no wear after about fifteen years. These steel structures may have twice the life of a conventional garage. In addition, operating costs for conventional garages are considerably higher with greater needs for maintenance, security, cleaning snow and salt removal.

Table 3.5-12 provides examples of Westfalia Automated Garage systems which use lifts and shuttles. A New York City project has 270 parking spaces with 3 entry/exit cabins (each with a turntable), 3 lifts and 4 horizontal shuttles. The Boston project has 300 parking spaces with 2

[20]Source: EEA Consultants, Inc., *Automated Parking System Offer Air Quality and Fuel Consumption Benefits*, retrieved Oct. 8, 2009 from http://www.eeaconsultants.com/news/summer2009/ .
[21] Cozens, Saville, and Hillier, "Crime Prevention Through Environmental Design (CPTED): a Review and Modern Bibliography", Property Management, Emerald Group Publishing Limited, Volume 23, No. 5, 2005. pages. 328-356.

entry/exit cabins (each with a turntable), 2 lifts and 10 horizontal shuttles (the Boston project also has a separate one-story lift that services the single basement storage level only).

Unlike other automated garages, this site's design does not require rotating the vehicle, saving vehicle processing time and post processing time on both vehicle entry and exit. It also reduces the mechanical equipment thereby reducing the potential for breakdowns and decreasing maintenance. A residential development during peak times will have customers with more experience with the automated parking and a machine more in tune with departure times than hotels, retail, or other public parking areas.

Table 3.5-12
Westfalia Automated Garage Projects

Facility	Location	Number of Parking Spaces	Number of Levels	Number of Lifts	Number of Shuttles	Project Status
Coney Island Avenue	New York, NY	270	2	2	4	Under Construction
Lovejoy Wharf	Boston, MA	300	10	3*	10	Under Construction
Conrad Hilton Hotel	Dubai, UAE	1,100	12	8	22	Under Construction
Schlesinger Platz	Vienna, Austria	262	4	4	4	Operational
Norre Alle	Copenhagen, Denmark	164	4	2	4	Operational
Leifsgade	Copenhagen, Denmark	408	4	4	8	Operational
Under Elmene	Copenhagen, Denmark	266	4	3	2	Operational
Teutonia Buena Vista	**Yonkers, NY**	**540****	**5**	**4**	**8**	**Proposed**

Source: APT Garages, New York, NY, 2010.
* One lift serves only the basement level
** Automated garage only - excludes ground level parking.

There is no level of service analysis for waiting time on automated garages. An automated garage is really an automated vehicle system comparable in some respects to valet parking. The function is the same and basic operational premise of delivering vehicles to parking spaces is the same. An automated parking garage replaces valets with machines.

There are some differences between an automated garage and valet parking. The automated system's regular operation provides no human contact. The automated system does not have to start the vehicle and quickly finds the vehicle. The machines are not subject to losing keys or being robbed, do not steal or rob the vehicles, are always available, are more energy efficient, do not accept tips, and are non-discriminatory.

Automated garages can also do some things a valet can, such as learn the habits of a customer and park cars closer than the regular drivers. Like a human valet system the automated system can pre-position vehicles depending on expected departure times. The

automated system can also shuffle vehicles to pre-position vehicles as the departure time approaches.

The level of service waiting for a vehicle should be similar to valet waiting time. People going to work would likely be the least patient. People tend to follow more of a pattern at this time, which should assist the automated garage in learning the peak demand. Typically, the retrieve time would be under two minutes or level of service A. The automated garage can simultaneous handle more vehicles than there are lifts, reducing the actual processing time.

Peak operations should occur faster that off peak operations as the human time should be faster and vehicles will be better located for processing.

Table 3.5-13
Valet Parking Level of Service Criteria

Level of Service	Wait Time from Presentation of Ticket
A	less than 4 minutes
B	greater than or equal to 4 and less than 6 minutes
C	greater than or equal to 6 and less than 8 minutes
D	greater than or equal to 8 and less than or equal to 10 minutes
F	greater than 10 minutes

Source: Richard Raskin, "Successful Management of a Valet Operation" .

Parking Demand and Internal Site Queuing

The a.m. peak hour is anticipated to be the peak exiting period, as the number of exiting vehicles would be higher and the network traffic would also be high. Delays at that time would be under 16 seconds per vehicle (Build Condition with SFC) assuming all vehicles use a single access. The design provides for four exiting points in addition to one exit for non-garage vehicles. With only a 16 second average delay, any exit would unlikely process another exiting vehicle in twice that time, so there should not be any exiting queues beyond the vehicle in the drive at the exit points. When vehicles are entering the garage, the vehicle on the driveway would have an even longer wait before a vehicle would queue behind it.

The p.m. peak is a different condition. Seventy (70) vehicles are anticipated to enter the site with 49 leaving. The leaving vehicles would contribute to the internal site queue by delaying the processing of incoming vehicles. In the p.m. peak hour, the internal queue peaks are based on the peak processing. With 119 vehicles expected, at least 10 percent or 12 trips would be vehicles that would not use the garage, leaving 107 vehicles to process. For four lifts, each lift would need to process 27 vehicles, or one every 130 seconds. Three lifts would need to handle one vehicle every 100 seconds, or 36 vehicles per hour. The system is anticipated to be able exceed the 100 seconds per vehicle thus being able to handle the hourly load even with one lift down. It should be noted that all equipment has redundant components to reduce the potential of a subsystem going off line.

Since the queue processing is affected by vehicles not entering the garage, the effective volume includes all entering and exiting vehicles. The trip rate of 119 trips would include some vehicles being counted twice once entering and again exiting; 119 would be a conservative rate

processing. Suggested[22] 15 minutes volumes load factor for intersections of 100 vehicles would be a peak hour factor of 0.83 or approximately 30 vehicles. For 119 vehicles, a peak 15 minute load would be 36 vehicles. With processing under 100 seconds peak loading in a 15 minute period for four lifts should be able to handle 36 vehicles without any queuing.

There is queue storage for 16 vehicles. The four lifts and 16 spaces for internal queuing could handle over 25 percent of the entering vehicles arriving simultaneously without queuing into the road. Vehicles enter the auto court at the driveway providing access to it. Handicap accessible parking and temporary parking is provided to the left. To the right is a drop off and pick up zone. Proceeding straight brings the driver to the traffic "circle". The traffic circle allows vehicles to circulate around the circle and back to Buena Vista Avenue through the auto court driveway or to enter the garage staging area. The staging area will either be access controlled or signed, the specific design which will be determined as the project advances through the site plan stage. If not access controlled, a pass through or other feature will be included to handle errant drivers. In most cases, drivers exiting the site will choose the visible and least impeded route back out the original entry point.

Upon entering the staging area, the driver will be either directed to advance the vehicle to a specific station to wait or will be instructed to advance to a green lighted station. There may be as many as four vehicles queued at stations three to five feet in front of lift cabins awaiting entry. During the weekday afternoons, all operating lifts will be accommodating entering vehicles. However, one or more may not be accepting exiting vehicles. During the morning, all lifts will accommodate exiting vehicles, however one or more may not be accepting arrivals. The garage will "learn" from repeated actions, and will position vehicles for easy retrieval in the weekday morning. The internal site queuing and operation of the automated parking garage is dependent on the logic algorithms by which the garage operates to maximize efficiency. Entry side cabin doors will open when it is time for the vehicle to enter the cabin.

The project will replace five existing curb cuts with a single auto court driveway and four garage exits. The four garage exits are set in pairs. The lifts brings the car into the cabin and the cabin exit door opens. Upon exiting the cabin, the outer garage door will open unless its exit pair's door is already open. In that case, the door will not open until the other is closed. Functionally the two sets of doors operate as two garage exits only. The capacity analysis indicates the garage could operate with all traffic using one exit. There are manual overrides in both the garage doors and the cabinets. For example, if a garage door got stuck in the open position, it could be manually closed and the cabin set as entry only. The opening of the garage doors also provide a visual and audio signal to pedestrians that a vehicle is about to exit the premises. This visual and auditory cue is not provided as typical driveways. The doors also ensure the vehicles will be traveling at slow speeds as they enter the sidewalk and streets. Planters have been set up against the building to move pedestrians away from the building thereby increasing visibility between the drivers and pedestrians.

Based on the projected 76 a.m. peak trips exiting the site, during the worst hour of the day the average time between vehicles exiting is 45 seconds and the anticipated delay is under 14 seconds. At least during half of the peak hour, there would be no vehicle exiting. In addition to a low probability of exiting vehicle interaction, the exiting doors will further reduce the potential interaction. The garage also has limitations on processing vehicles that puts an upper limit on the rate of exiting conflicts. Standard garages have no upper limit on conflicting movements into and out of parking spaces or at internal intersections. A standard parking garage presents

[22] Synchro Studio 7 Traffic Signal Software User Guide, Trafficware, Sugar Land, TX, 2006.

potential conflict points with vehicles entering and exiting spaces and vehicles turning into or out of aisles throughout the garage space.

3.5.8 Mitigation Measures

No significant adverse impacts to traffic operating conditions are anticipated to result from the No-Build to Build Condition.

This transit-oriented development adjoins the railroad station and transit hub. Thus, vehicular trips are minimized given the ready access and availability of bus and rail service, especially during the peak commuter traffic periods.

The Applicant will include special priority parking for motorcycles and bicycles on the first level with convenient access as a means for further supporting efficient transportation.

The hydroponic farm reduces roadway network truck traffic and vehicle miles traveled by locating the food source closer to the point of sale. This supports a long-term trend to reconnect healthy, fresh, and local produce to urban centers.

Funding for a multi-modal transportation center in the City of Yonkers has been requested by the City. The present bus staging area is located along the eastern side of Riverdale Avenue and north of Prospect Street. Improved traffic operations would result at the intersection of Riverdale Avenue and Prospect Street if the staging area was relocated as part of the creation of a hub. The lane presently used for bus staging would be made available to traffic, increasing capacity by an additional lane. TIGER funding was not awarded in 2010. This mitigation is not being funded by the Applicant and has not been evaluated as a mitigation.

Queue Storage Mitigation

No mitigation is proposed for this project where the Build Condition does not exceed the queue storage by half a car length and conditions where the queue storage is exceed for only SFC conditions (No Build with SFC and Build with SFC).

The following movements had queues projected in excess of the storage by more than 12.5 feet (half a one car length):

- Prospect Street and Riverdale Avenue, southbound left movements, Existing Condition a.m. peak hour and all p.m. peak hour conditions.
- Main Street and Riverdale, southbound through movement, No Build and Build conditions p.m. peak hour conditions.
- Prospect Street, Nepperhan Street, and South Broadway, westbound left movement, all conditions a.m. and p.m. peak hours.
- Prospect Street, Nepperhan Street, and South Broadway, eastbound through-right, No Build and Build Conditions p.m. Peak hour.

The left turn lane on southbound Riverdale Avenue could be lengthened using the existing median. The southbound left movement will likely require additional storage in the No Build Condition as shown in Appendix G Table G-6. Although the Project's traffic contributes minimally to this movement, the Applicant could, as mitigation, set aside funds to replace the eight median trees that would be removed. See Figure G-3 for existing median terminus at Hudson Street. Also see Figure 3.5-2 for Riverdale Avenue median between Prospect Street and Hudson Street.

The Main Street and Riverdale Avenue queues mitigation would be coordination and potentially metering the intersection to stabilize the approaching flow. As this is only slightly under one car length for the No Build Condition and is unchanged in the Build Condition, this improvement is considered a signal maintenance function and is not proposed to be mitigated by the Applicant.

The Nepperhan Avenue westbound left turn lane at Riverdale Avenue could be extended by shortening the left turn lane eastbound on Nepperhan Avenue at New Main Street. As there is a pedestrian overpass connecting to the Government Center, a lane expansion is impractical. This area has recently been re-paved. The SFC report indicated eastbound left turning volumes into New Main Street in 2006 at 42 a.m. peak hour trips and 33 p.m. peak hour trips. The SFC Synchro analysis indicated queue lengths of under one vehicle and storage of over 200 feet. Thus, it seems practical the westbound left could be expanded today. If the left turn is not expanded, through vehicles can still bypass the left turn queue as there are two through lanes.

Under the SFC improvements, New Main Street would be reversed in direction, eliminating the need for a left turn into New Main Street. Furthermore, the Government Center parking would be altered to allow for exiting onto New Main Street. Government workers headed east on Nepperhan Avenue after work could exit the parking garage and turn left at New Main Street and Nepperhan Avenue totally avoiding the westbound U-turn at South Broadway. At that time the westbound left turn lane on Nepperhan Avenue into South Broadway could be expanded to New Main Street. Extending the left turn lane and reducing the left turning traffic could allow for a reduction in exclusive left turn phase to be replaced by through phase green time thus reducing the eastbound through queuing.

Extending the westbound left turn lane does not increase flow through the intersection. The SFC EIS recommended a northbound right turn lane be constructed on South Broadway at Nepperhan Avenue to increase capacity. This is the heaviest north-south movement which would allow additional green time to shift from north-south to east-west. As the left turn lane into New Main Street needs to be eliminated with the SFC project and the South Broadway northbound right turn lane is to be constructed as part of SFC, no additional lane changes are proposed.

Pedestrian Environs Mitigation

The frontage sidewalk on the west side of Buena Vista Avenue is to be replaced from the southern boundary line north to meet the existing sidewalk south of Hudson Street as indicated on the Site Plan Layout (Plan Sheet LA, Milone & MacBroom, July 7, 2010). As part of this project's final site design, sidewalks being disturbed on both sides of an intersection approach will be considered for accessible drop curbs and painted crosswalks.

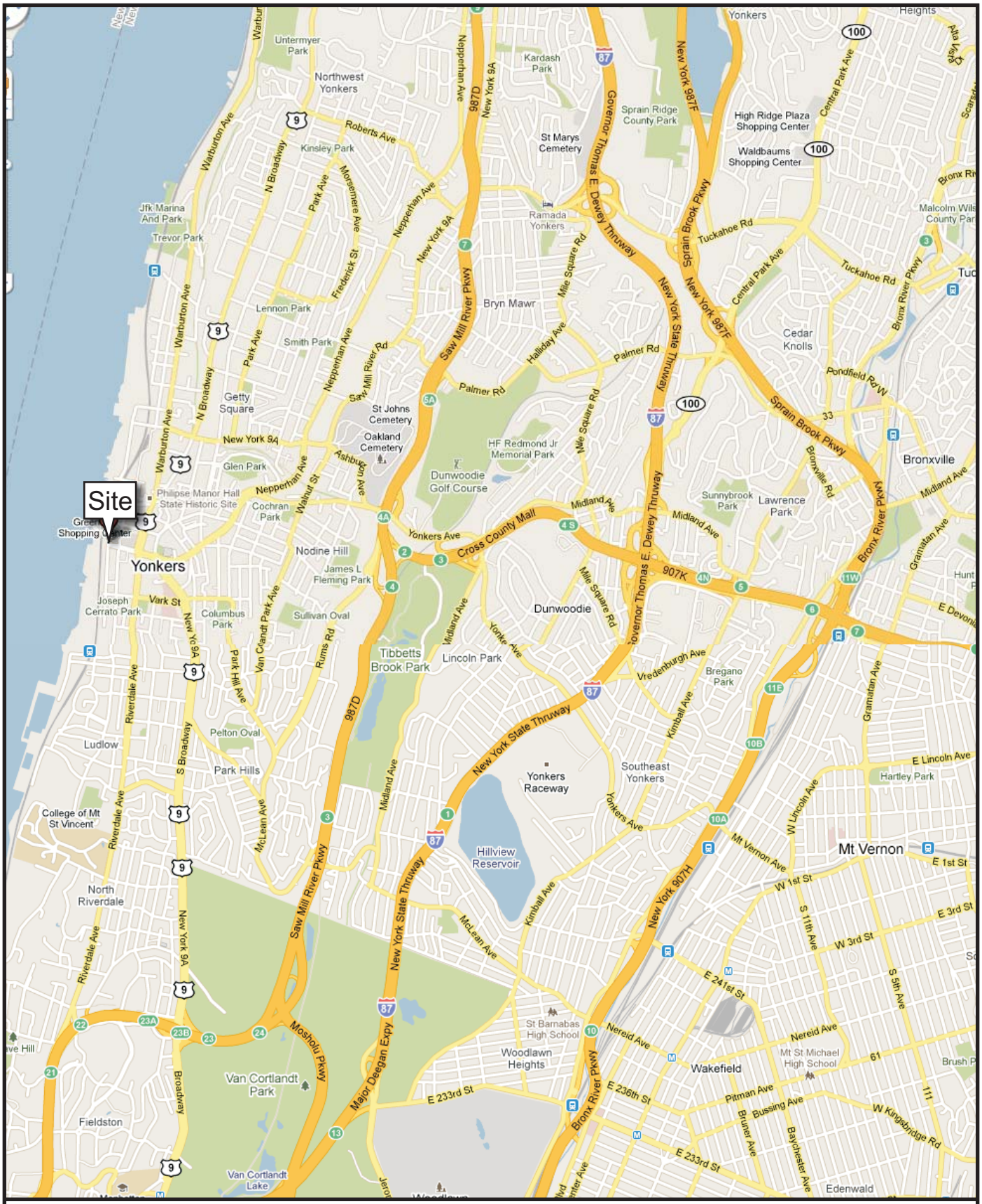

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Figure 3.5-1: Regional Network

Buena Vista Teutonia PUR

City of Yonkers, Westchester County, New York

Base Map: Google Maps

Scale: 1"= 3225'

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JS:\09044

Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

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KEY

One Way Street Segment

Figure 3.5-2: Local Area Network

Buena Vista Teutonia PUR

City of Yonkers, Westchester County, New York

Base Map: NYS GIS Clearinghouse, 2007 Orthoimagery

Scale: 1" = 250'

File 09044 02/27/10
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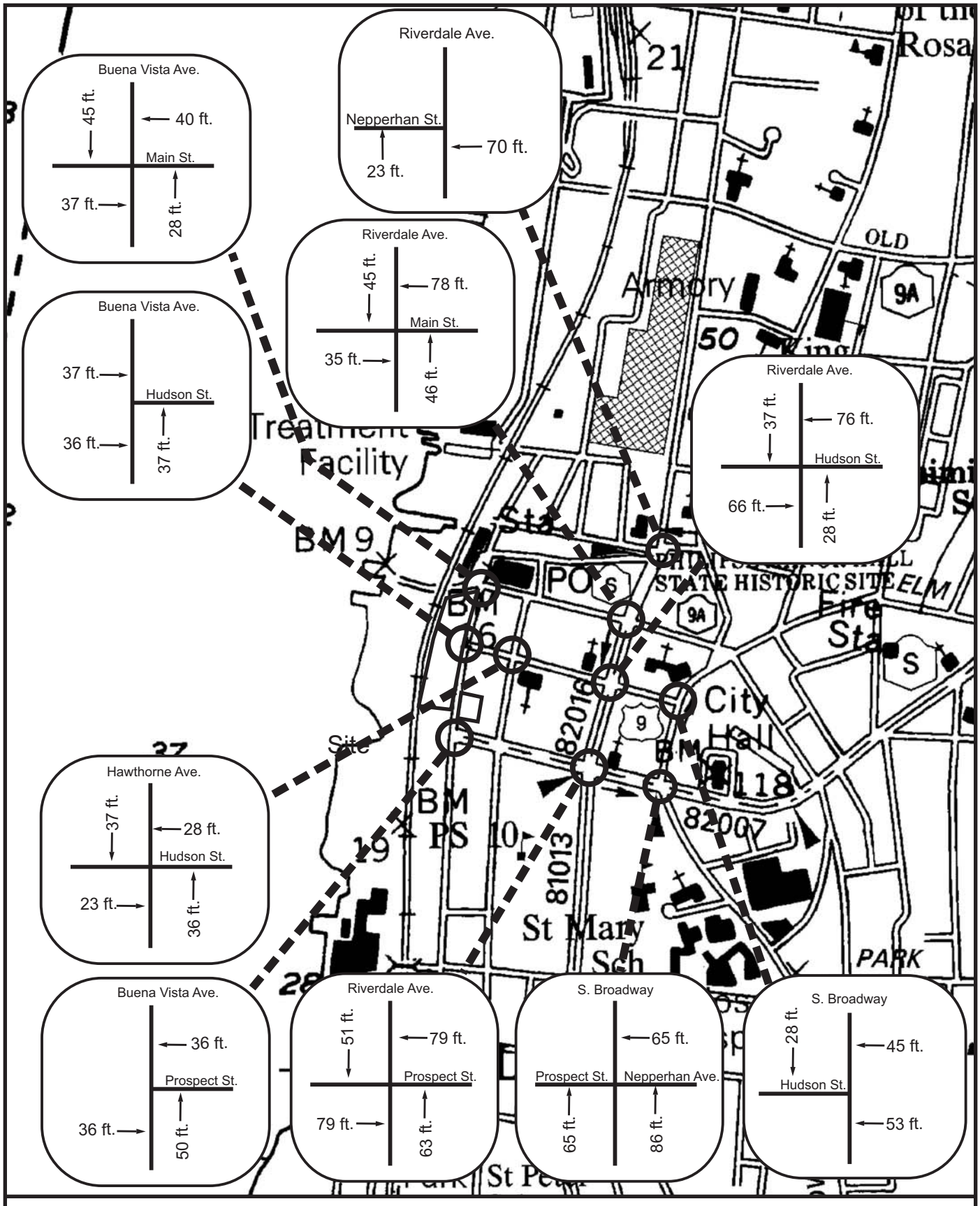

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- Intersections Studied
- # ft. Road Widths (excludes median)

Figure 3.5-3: Road Widths
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

File 09044 4/21/10
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Figure 3.5-4: Study Intersection Traffic Controls

Buena Vista Teutonia PUR

City of Yonkers, Westchester County, New York

Base Map: NYS GIS Clearinghouse, 2007 Orthoimagery

Scale: 1" = 250'

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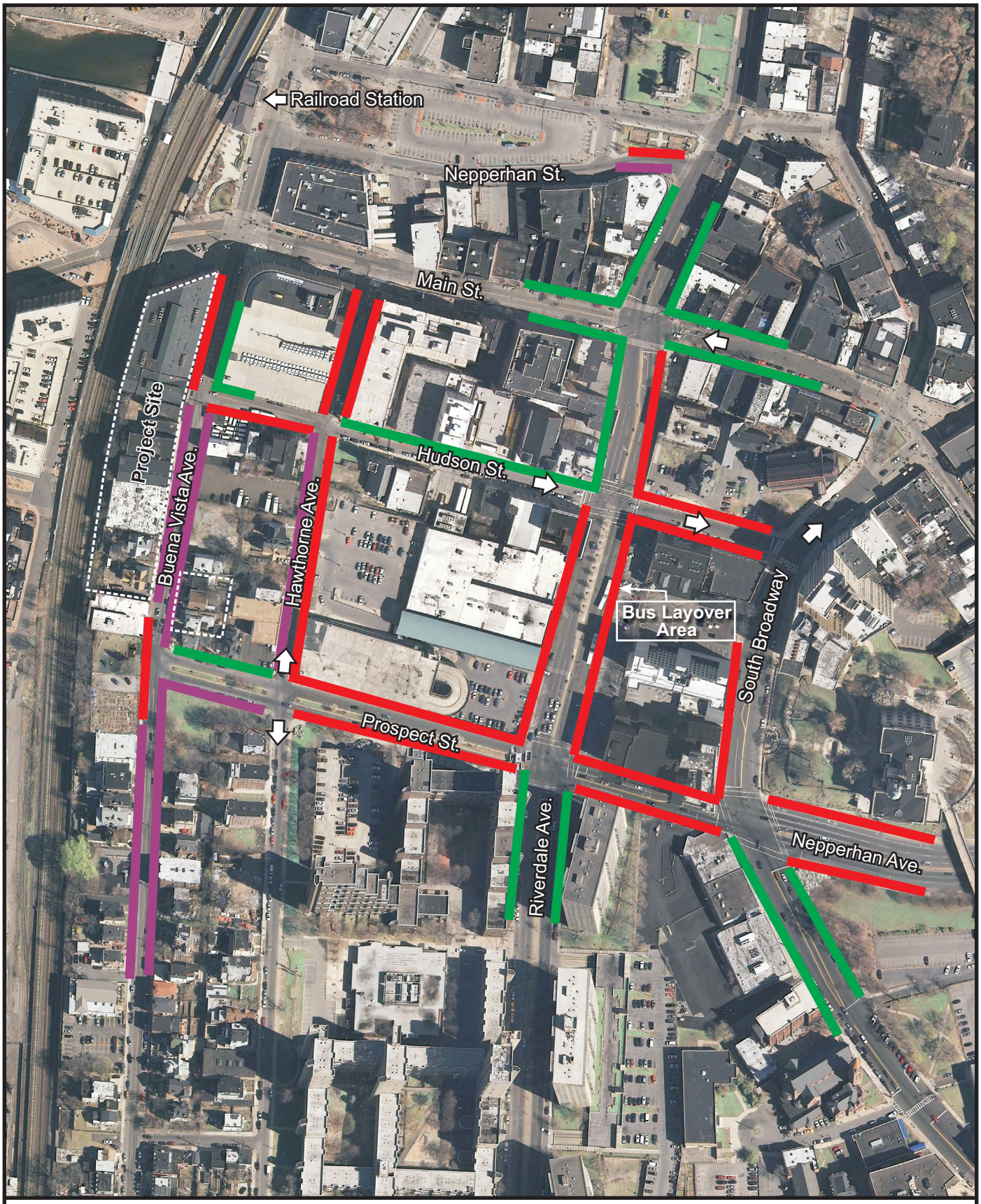

KEY

- Metered Parking
- No Parking
- No Parking Weekday 9am-11am
- One Way

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Figure 3.5-5: On Street Parking Regulations

Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS GIS Clearinghouse, 2007 Orthoimagery
Scale: 1" = 250'

File 09044 04/26/10
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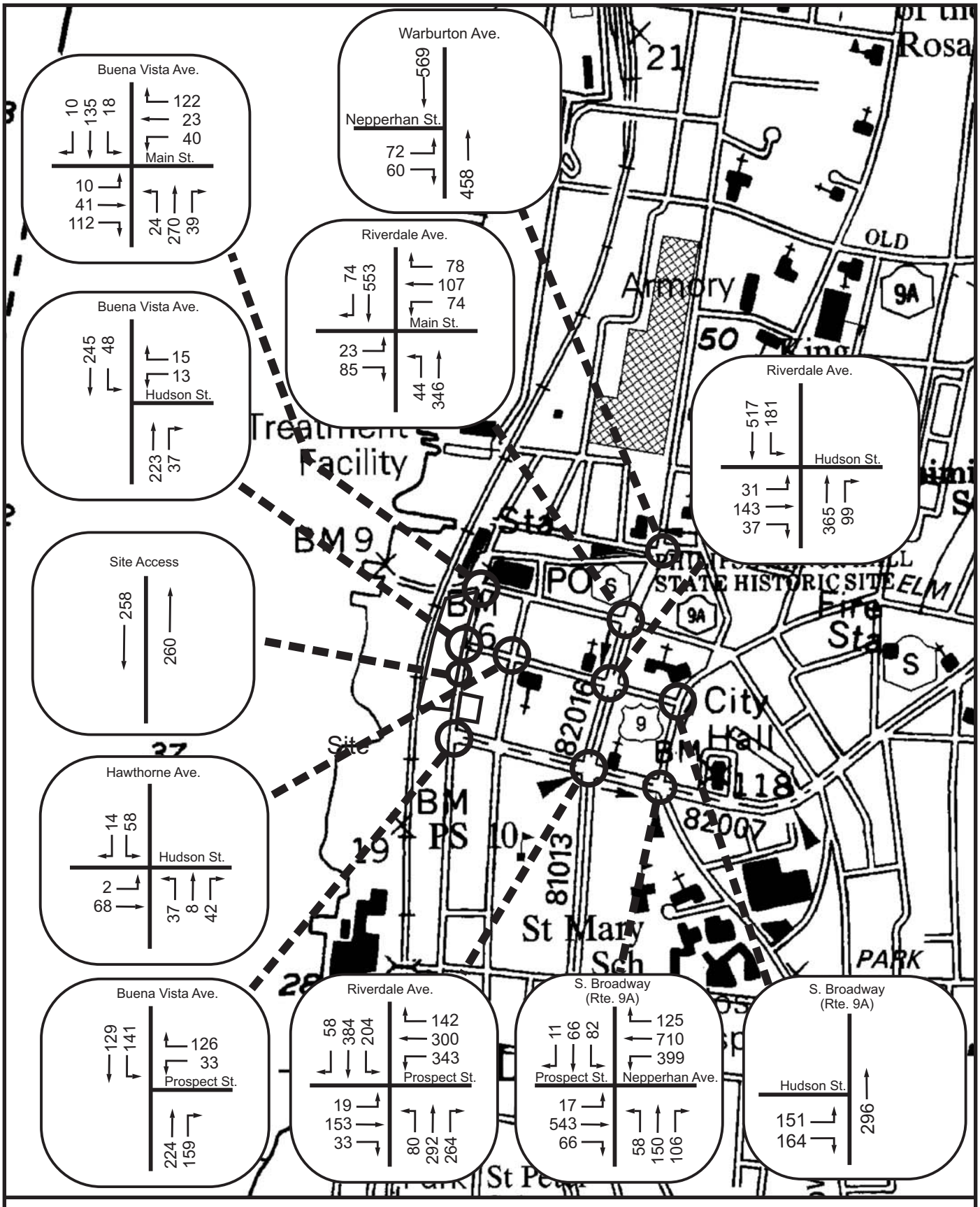

Figure 3.5-6: Existing AM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

File 09044 5/10/10
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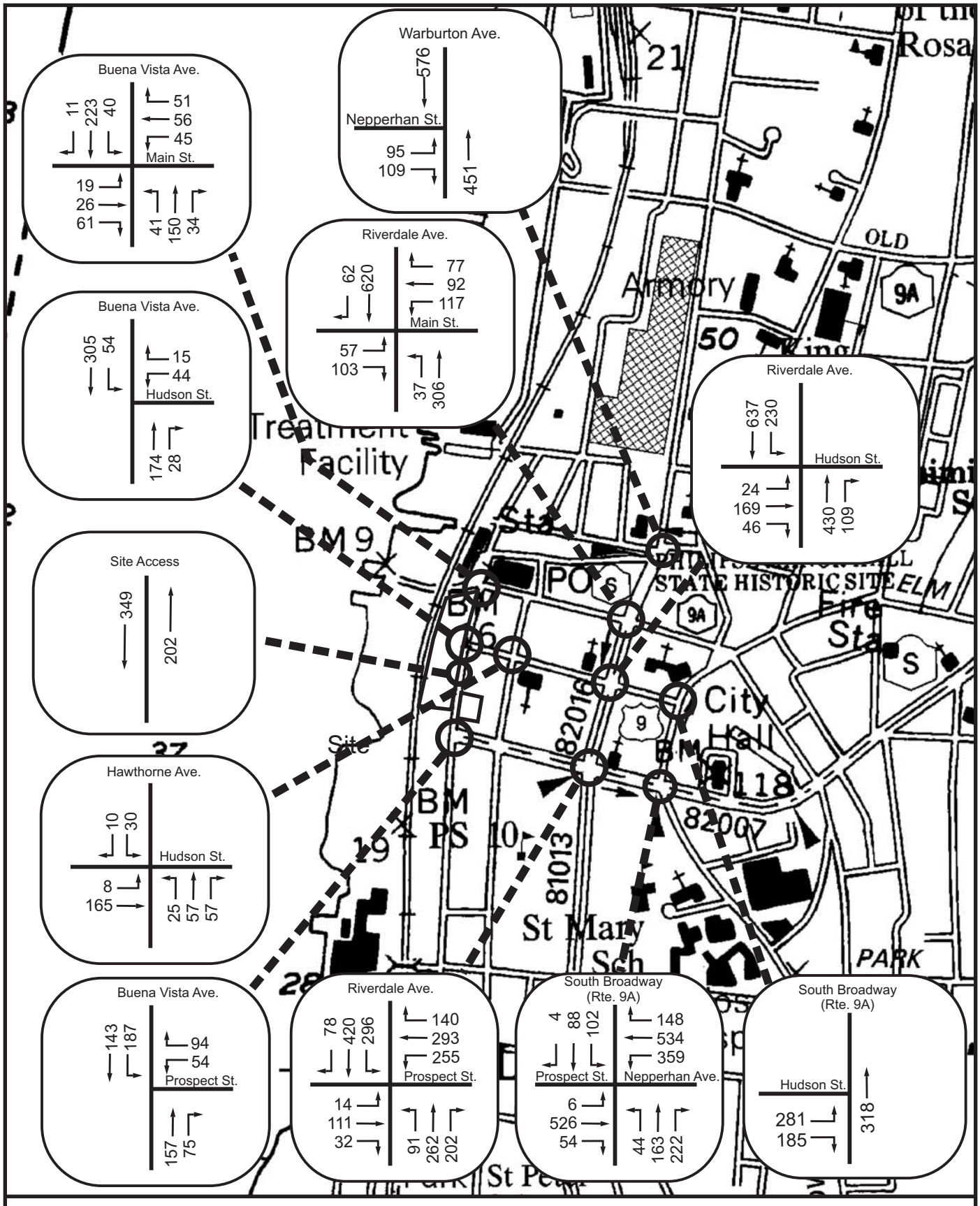

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Figure 3.5-7: Existing PM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

File 09044 4/19/10
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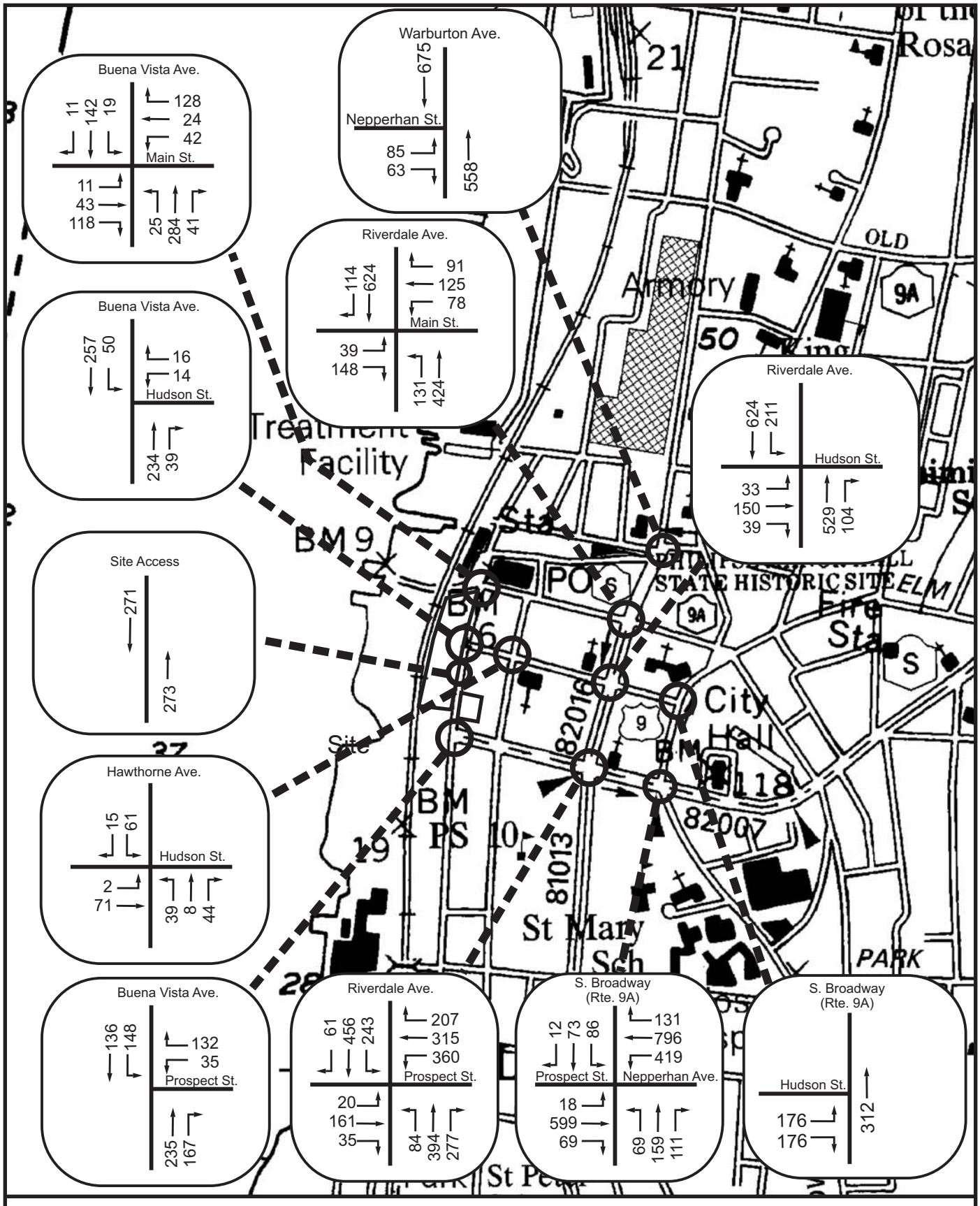

Figure 3.5-8: No Build AM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

File 09044 5/26/10
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Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

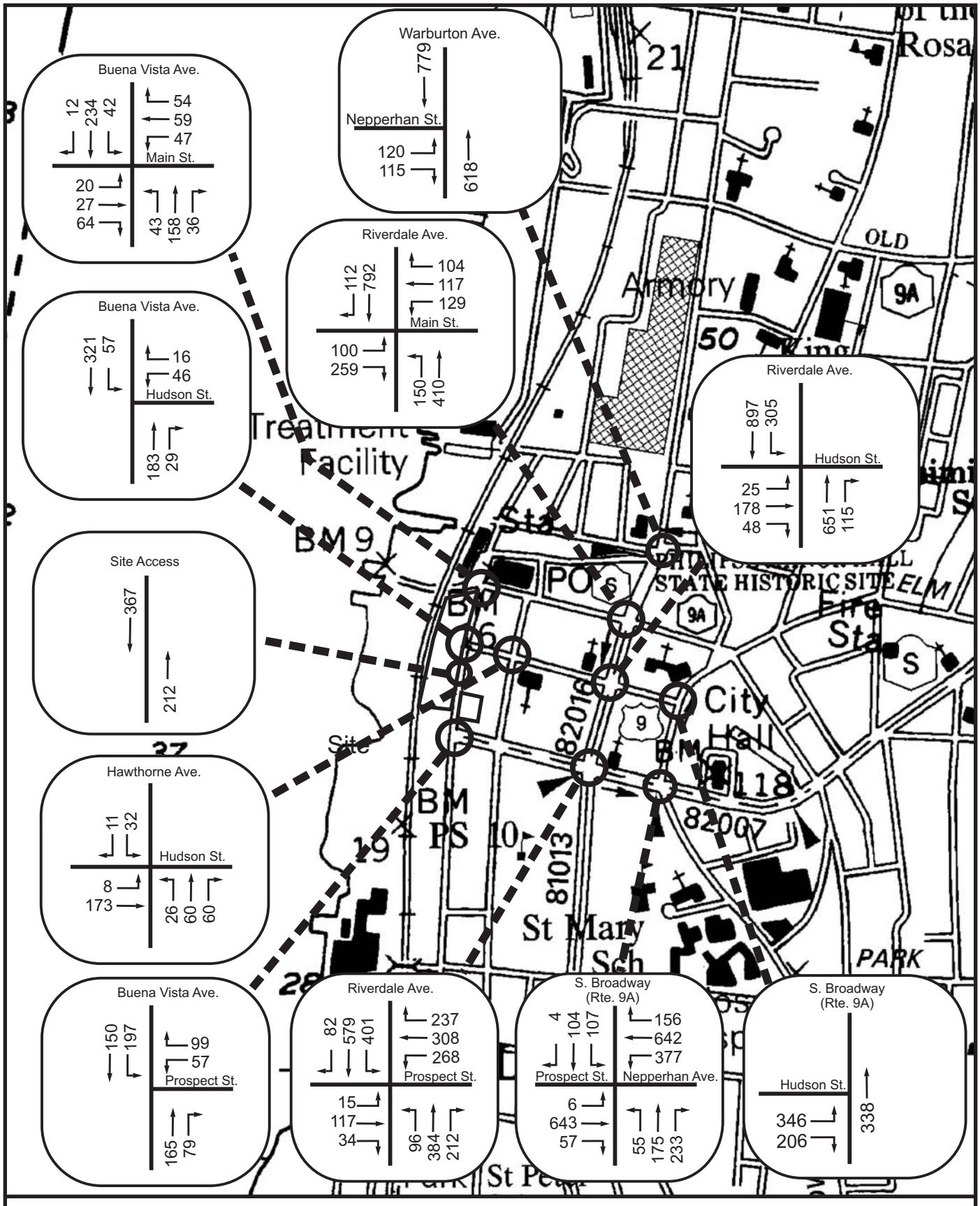

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Figure 3.5-9: No Build PM Peak Hour Traffic
Buena Vista Teutonia PUR

City of Yonkers, Westchester County, New York

Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990

Scale: 1"= 700'

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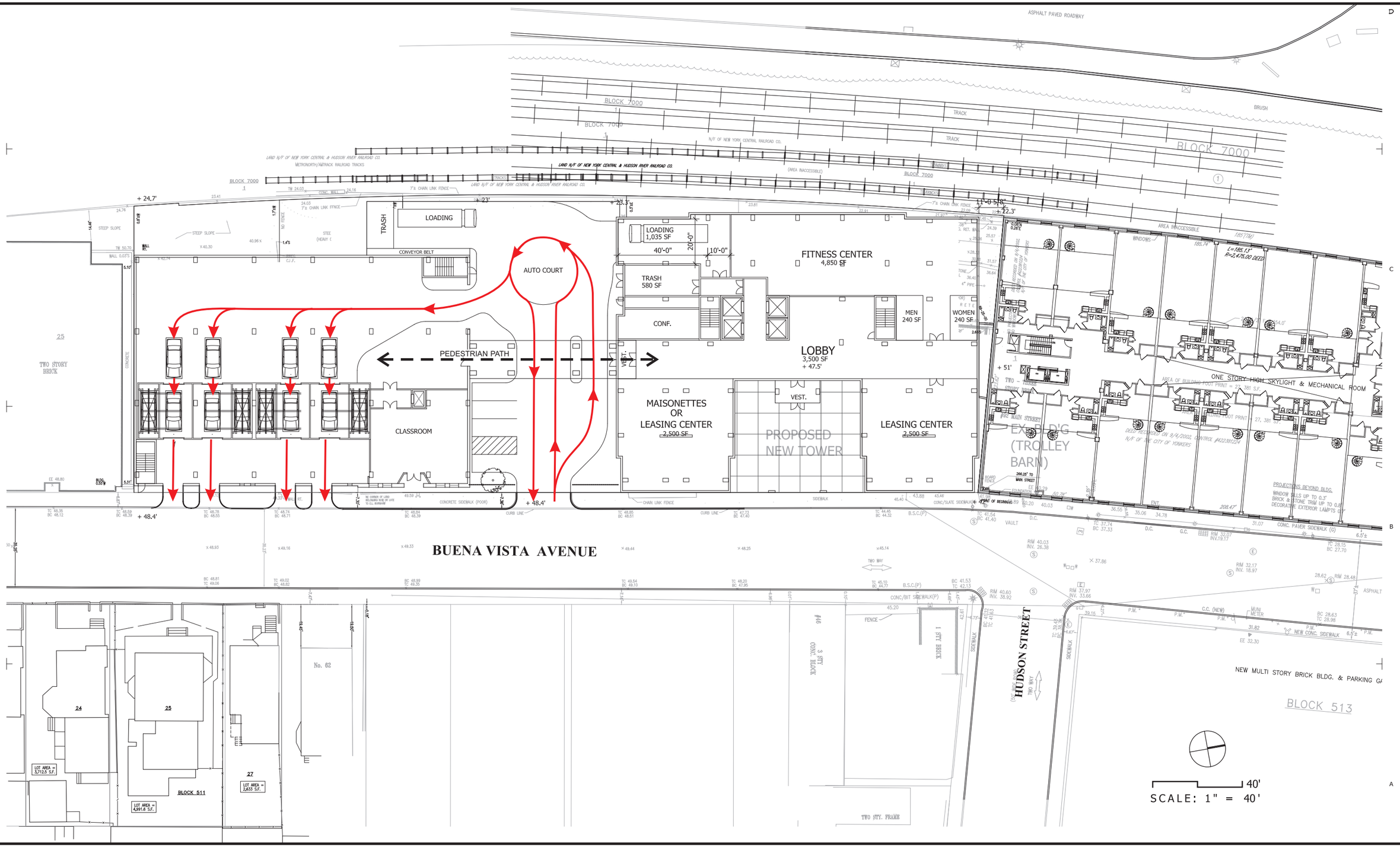
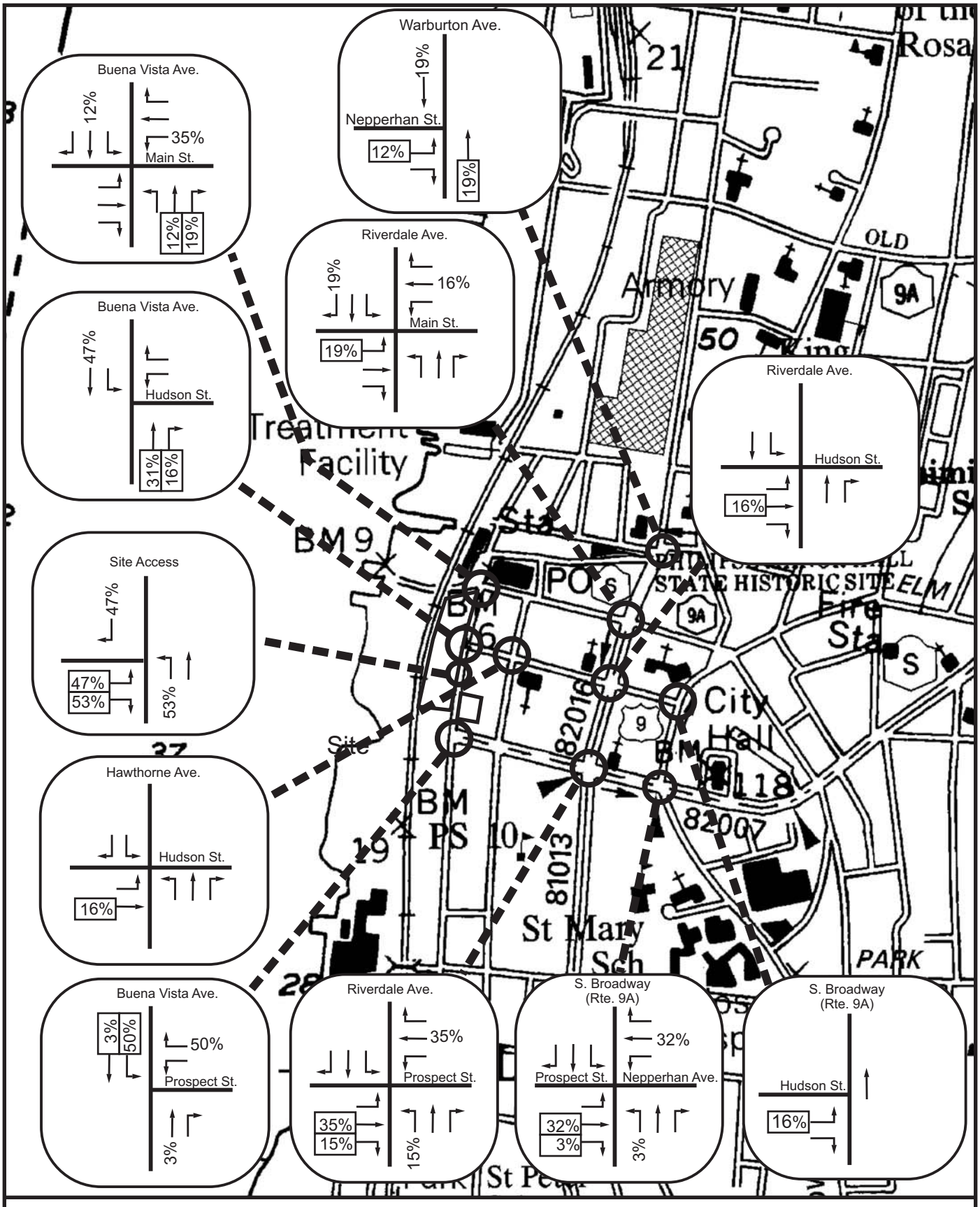


→ Internal Traffic Flow Direction

Figure 3.5-10: Site Access Plan
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Source: The Lessard Architectural Group, P.C.,BKSK Architects, LLP
Drawing Date: 10/01/06

File 09044 04/29/10
JS/09044

Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



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- Intersections Studied
- XX% Percent Outbound Traffic
- XX% Percent Inbound Traffic

Figure 3.5-11: Arrival/Departure Distribution of Site AM Peak Hour Traffic

Buena Vista Teutonia PUR

City of Yonkers, Westchester County, New York

Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990

Scale: 1"= 700'

File 09044 5/26/10
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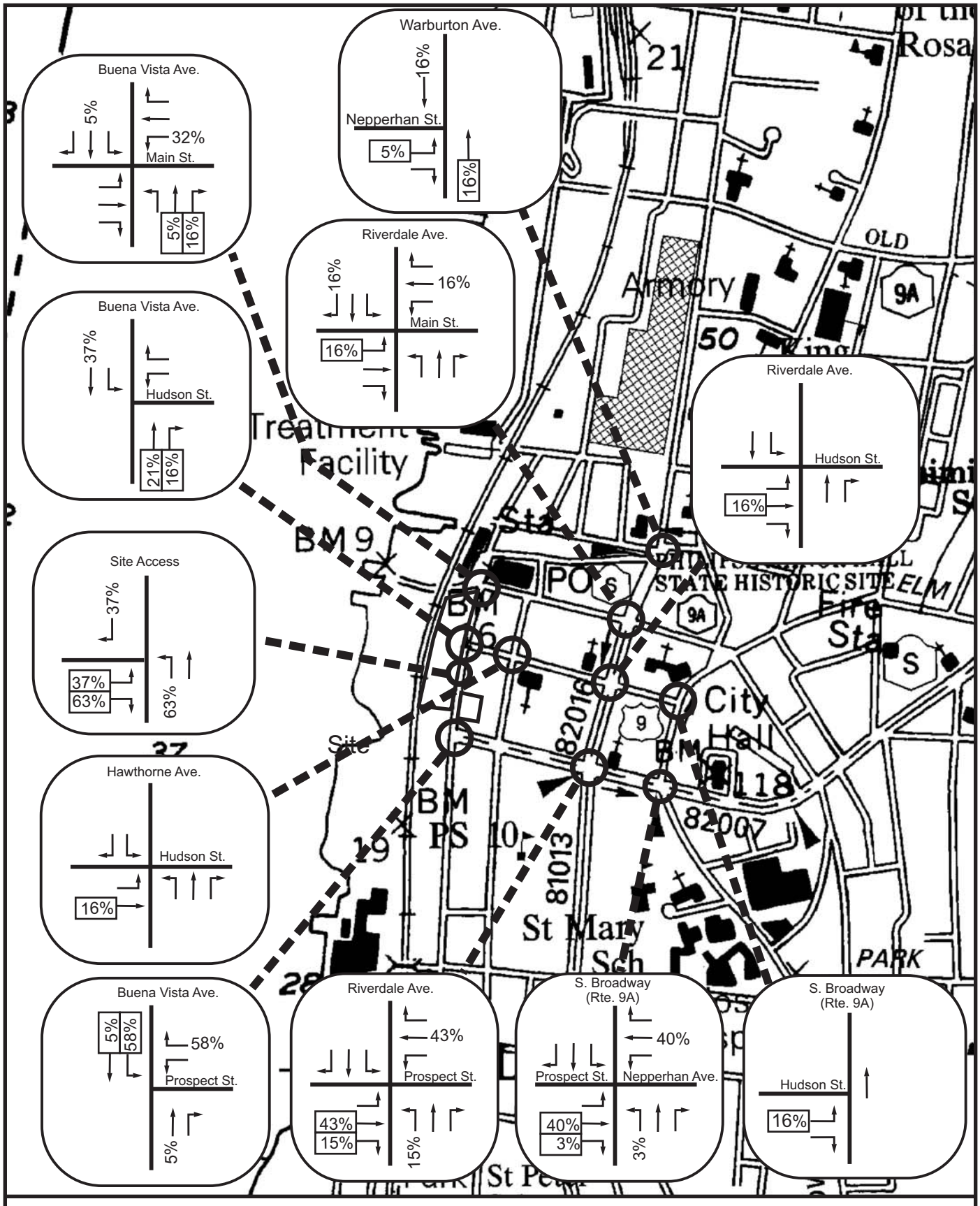

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- Intersections Studied
- XX% Percent Outbound Traffic
- XX% Percent Inbound Traffic

Figure 3.5-12: Arrival/Departure Distribution of Site PM Peak Hour Traffic

Buena Vista Teutonia PUR

City of Yonkers, Westchester County, New York

Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990

Scale: 1"= 700'

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Figure 3.5-13: Mass Transit
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York

Source: Westchester County Department of Transportation, 2002

Refer to Bee Line Bus Timetables for Schedule Information, Updated 4/20/2010

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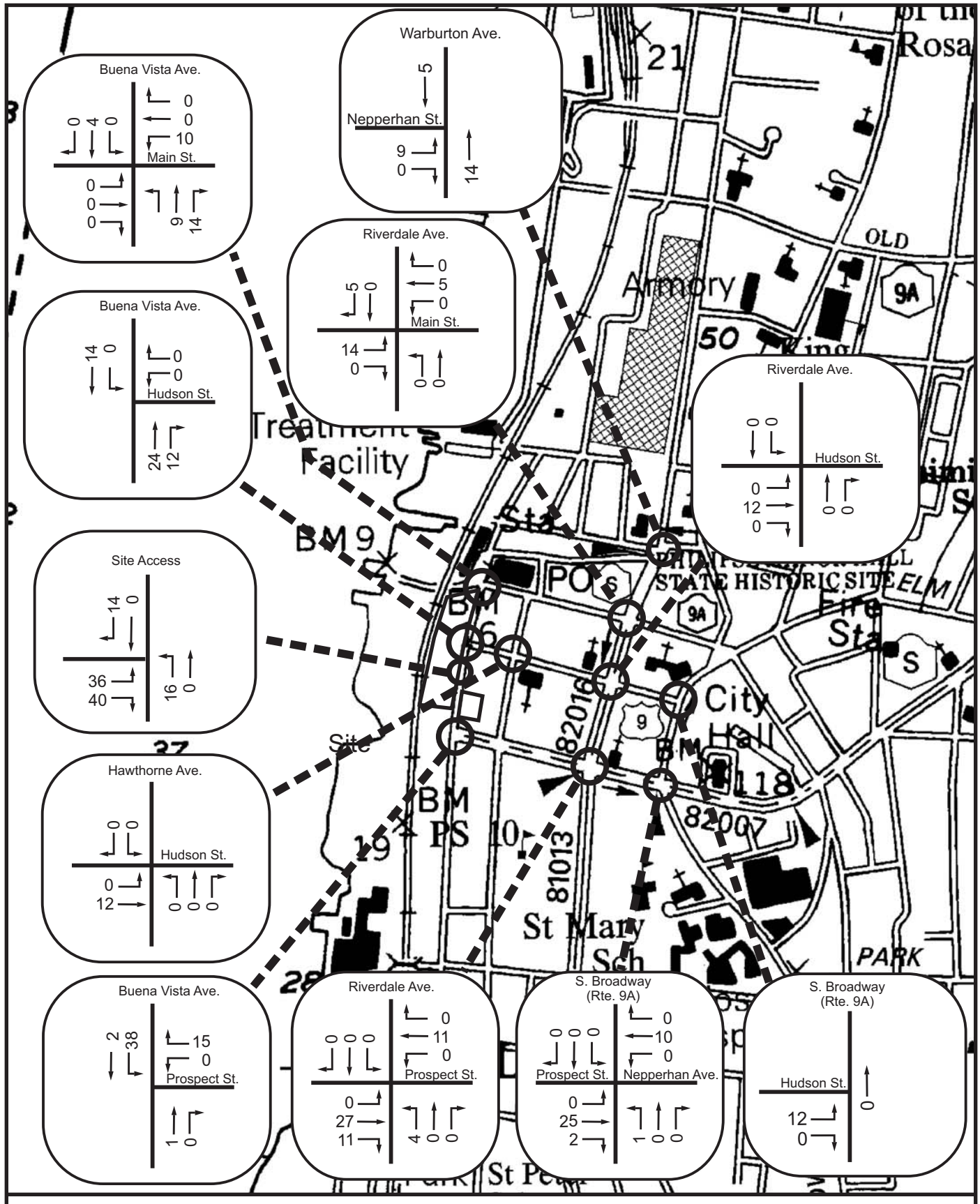

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Intersections Studied

Figure 3.5-14: Site Generated AM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York

Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990

Scale: 1"= 700'

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Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

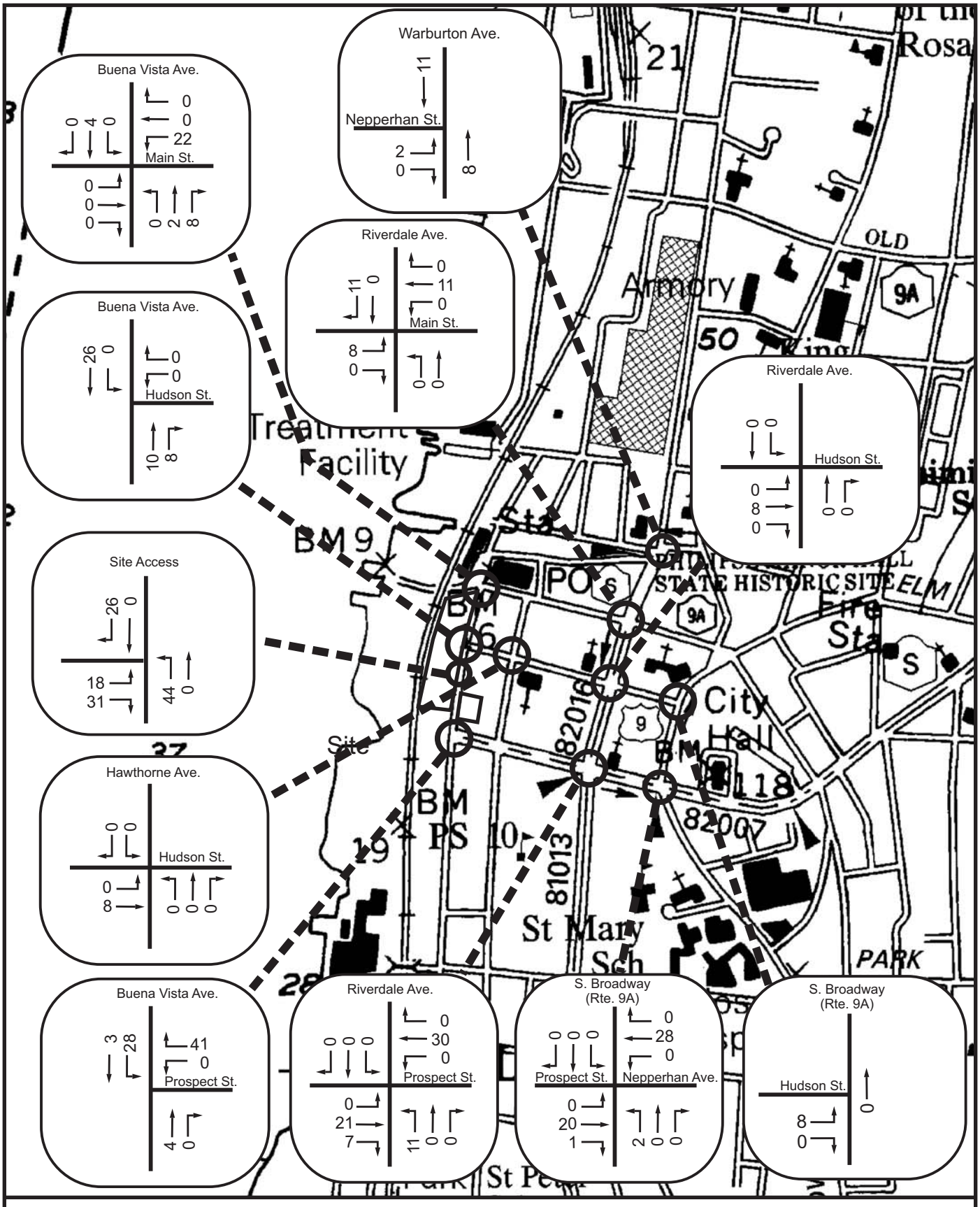

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Figure 3.5-15: Site Generated PM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

File 09044 5/26/10
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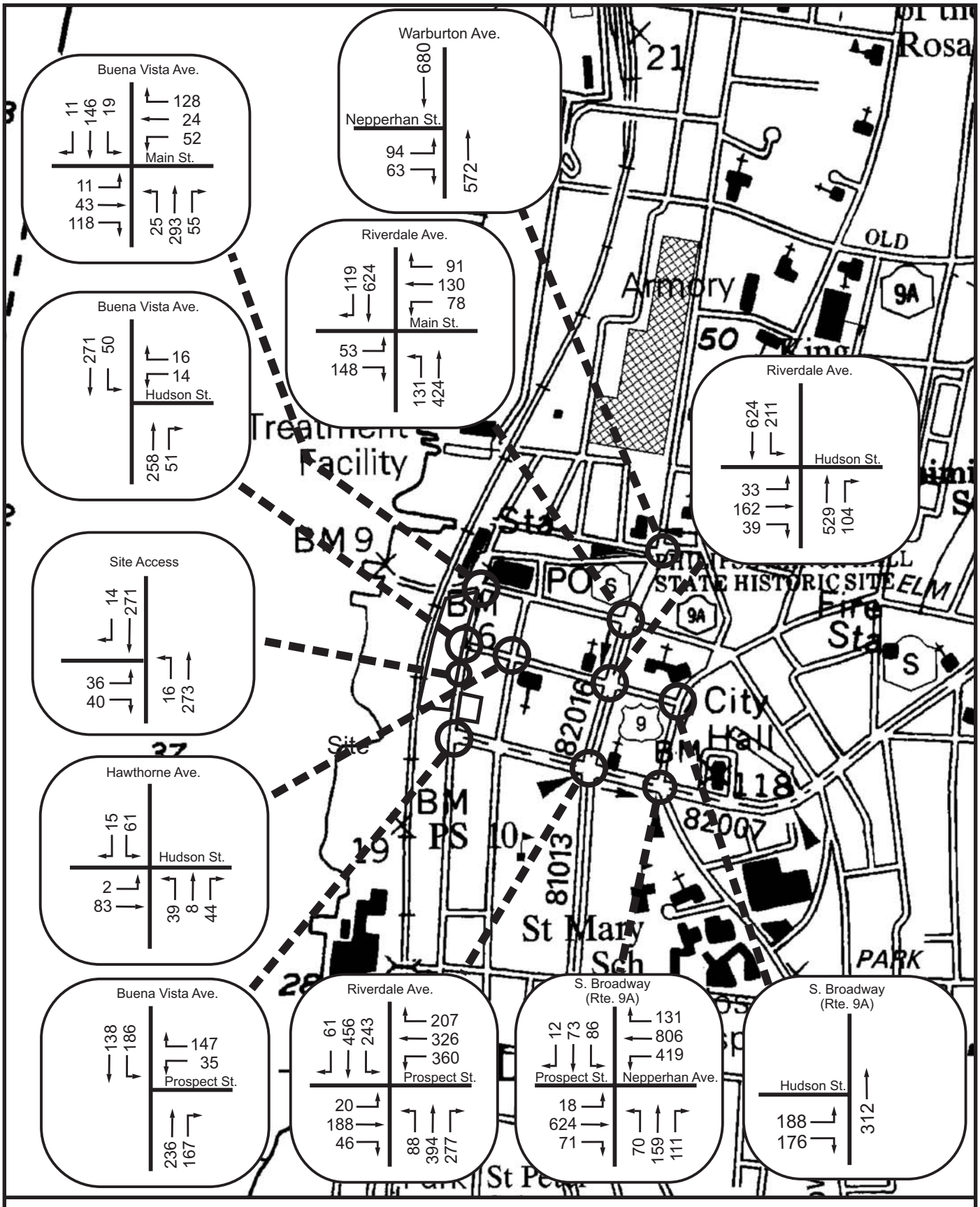

Figure 3.5-16: Build AM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

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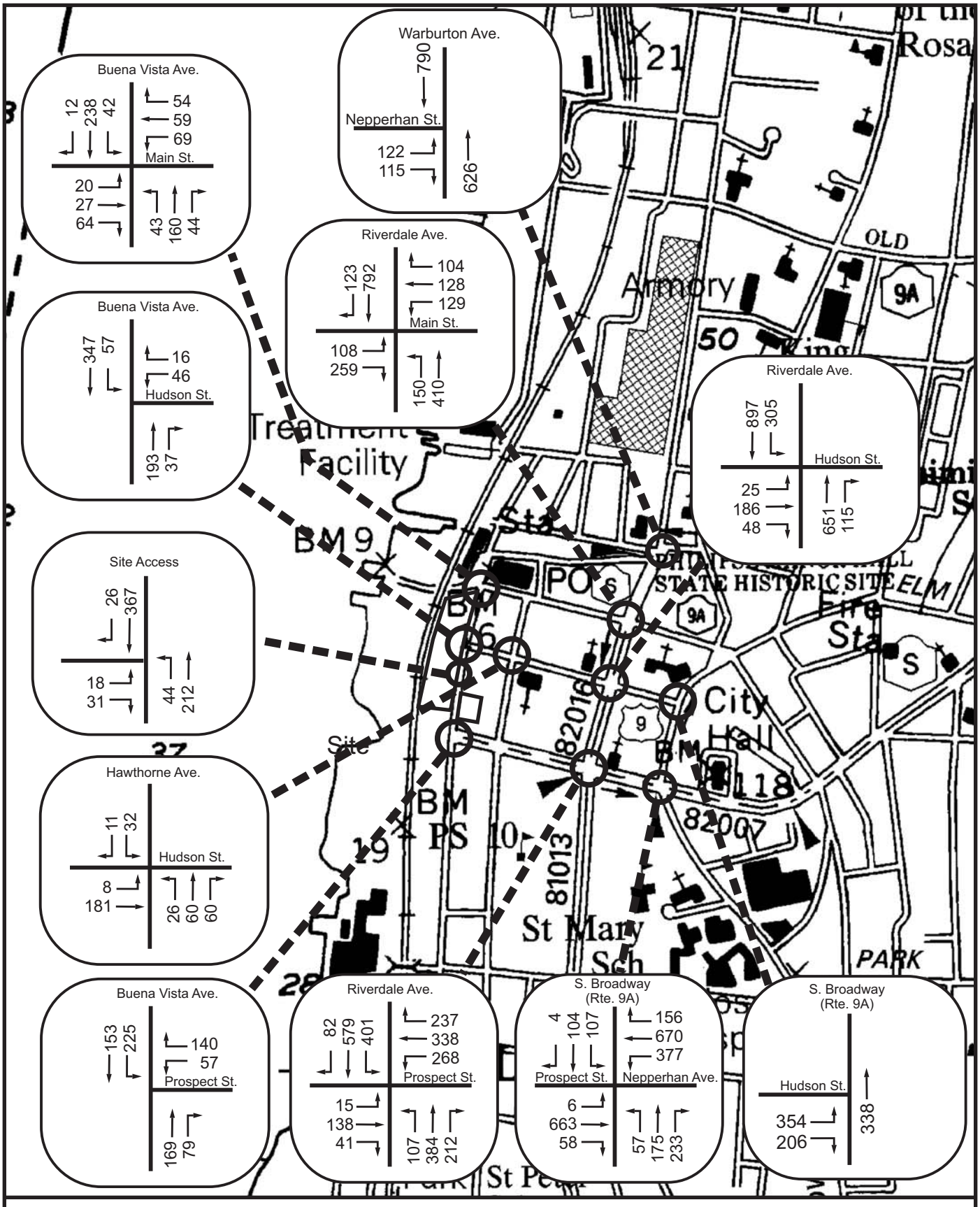

Figure 3.5-17: Build PM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

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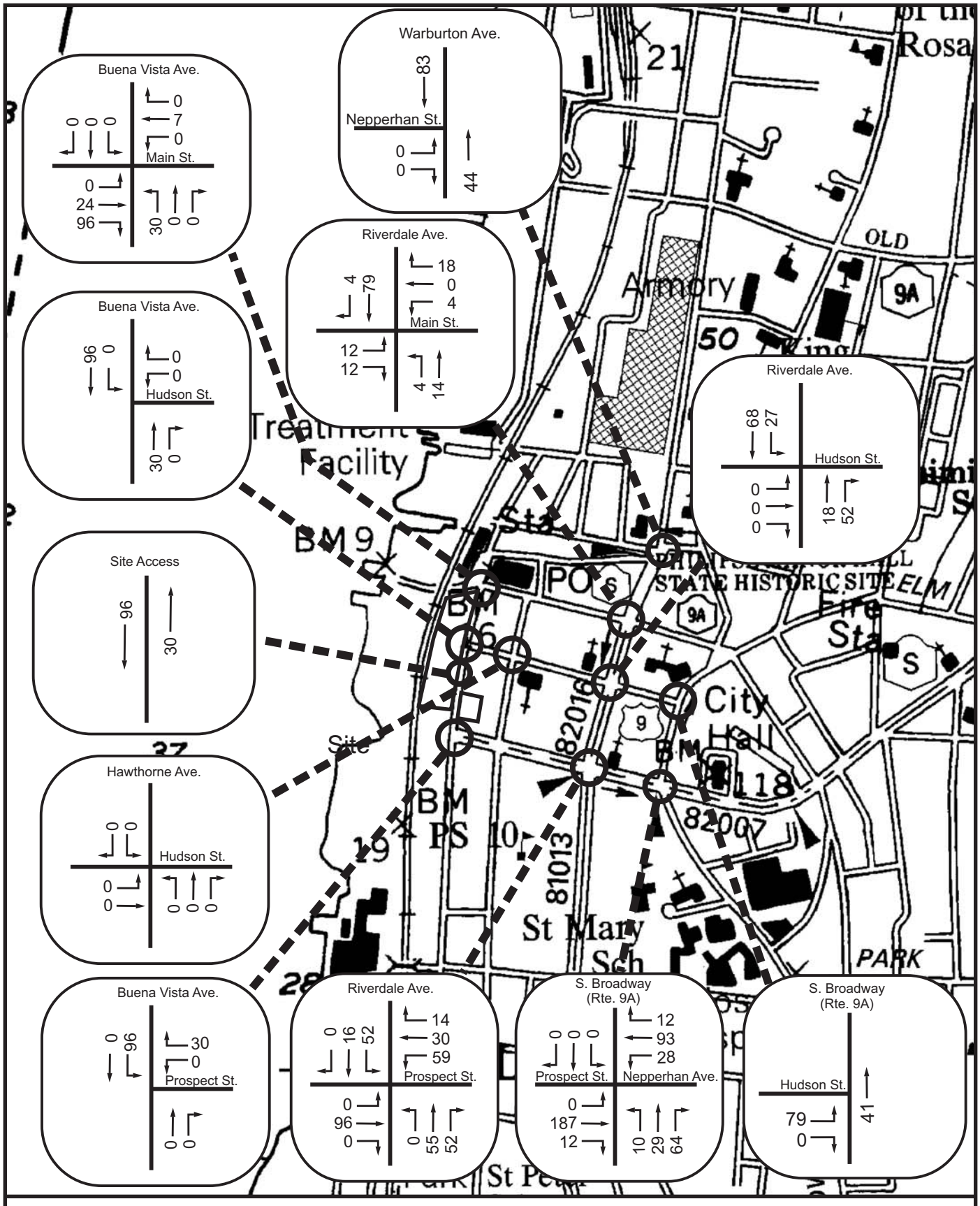

Figure 3.5-18: SFC Volumes AM Peak Hour
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Volume Source: SFC Yonkers, John Collins Engineers, P.C., 03/18/08
Scale: 1"= 700'

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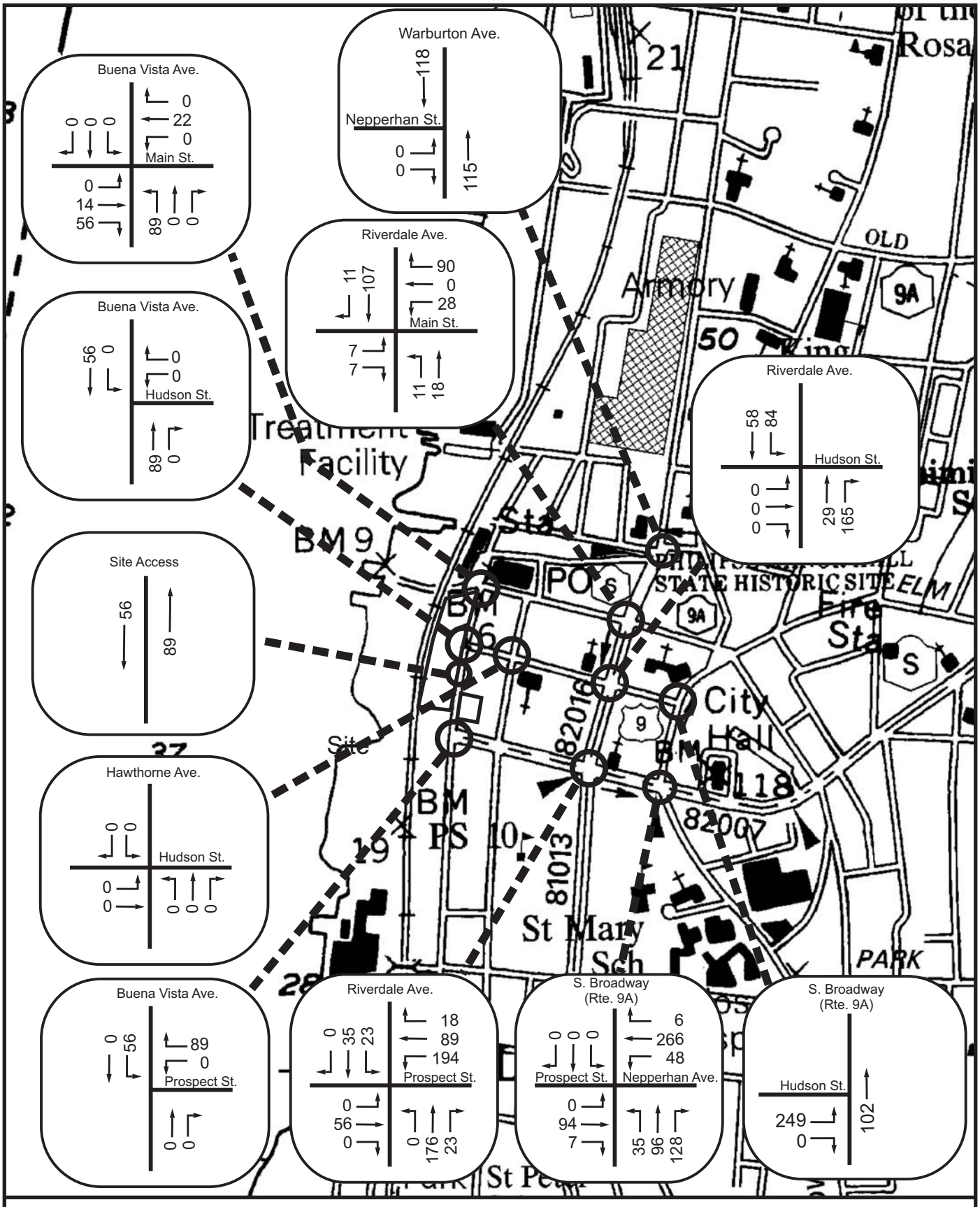

Figure 3.5-19: SFC Volumes PM Peak Hour
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Volume Source: SFC Yonkers, John Collins Engineers, P.C., 03/18/08
Scale: 1"= 700'

File 09044 4/21/10
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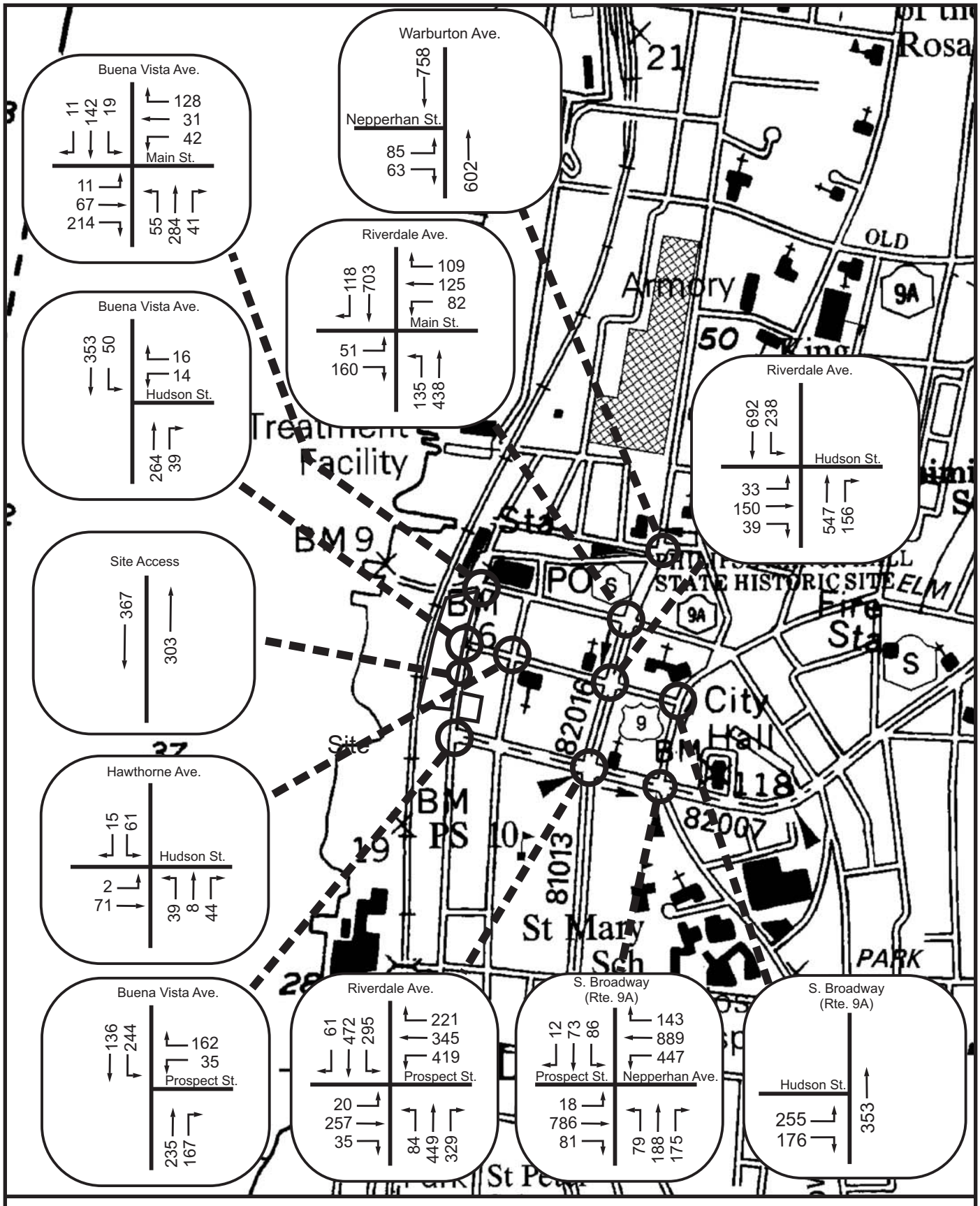
Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



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Intersections Studied

Figure 3.5-20: No Build with SFC AM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

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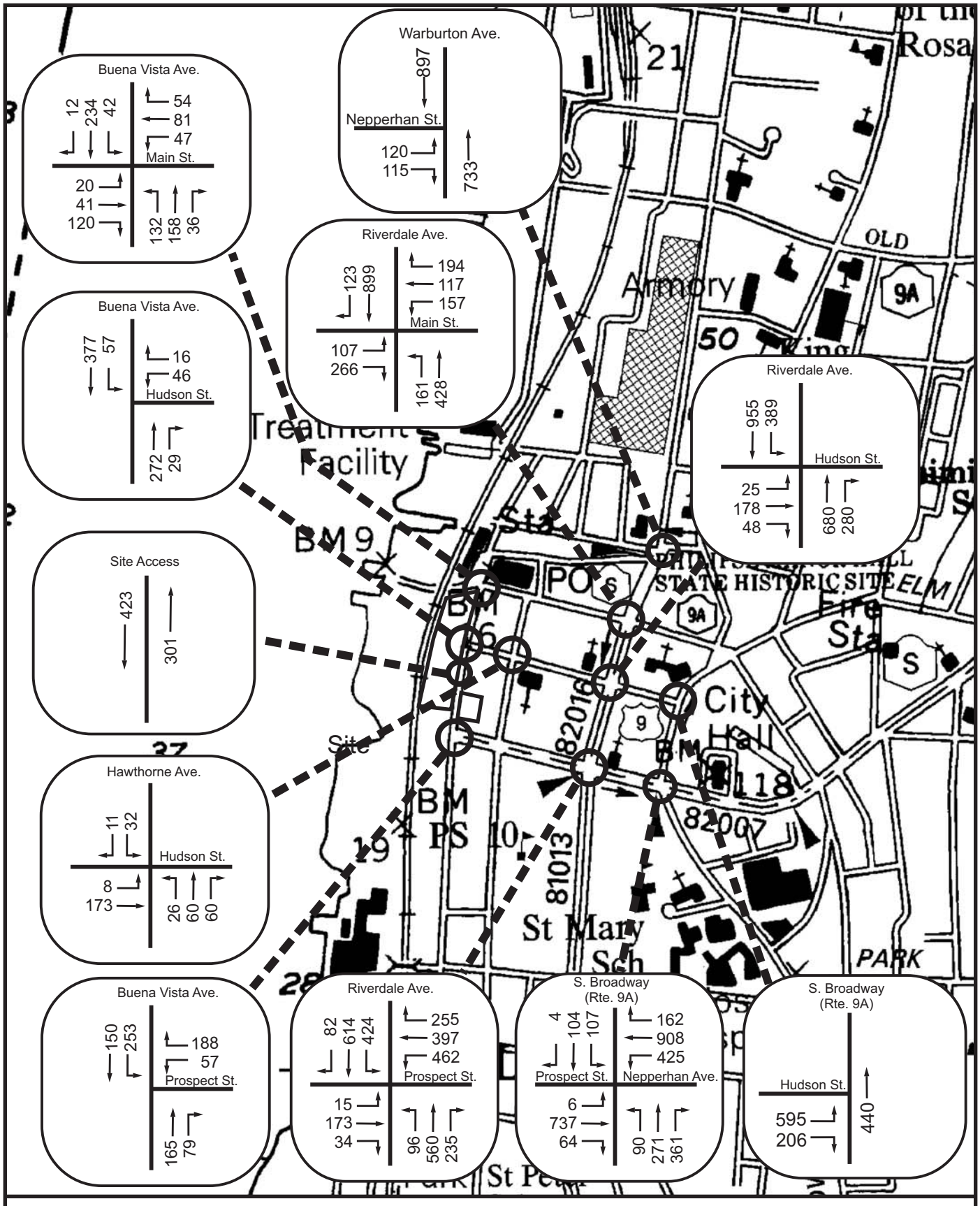

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Figure 3.5-21: No Build with SFC PM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

File 09044 4/21/10
JS:\09044

Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

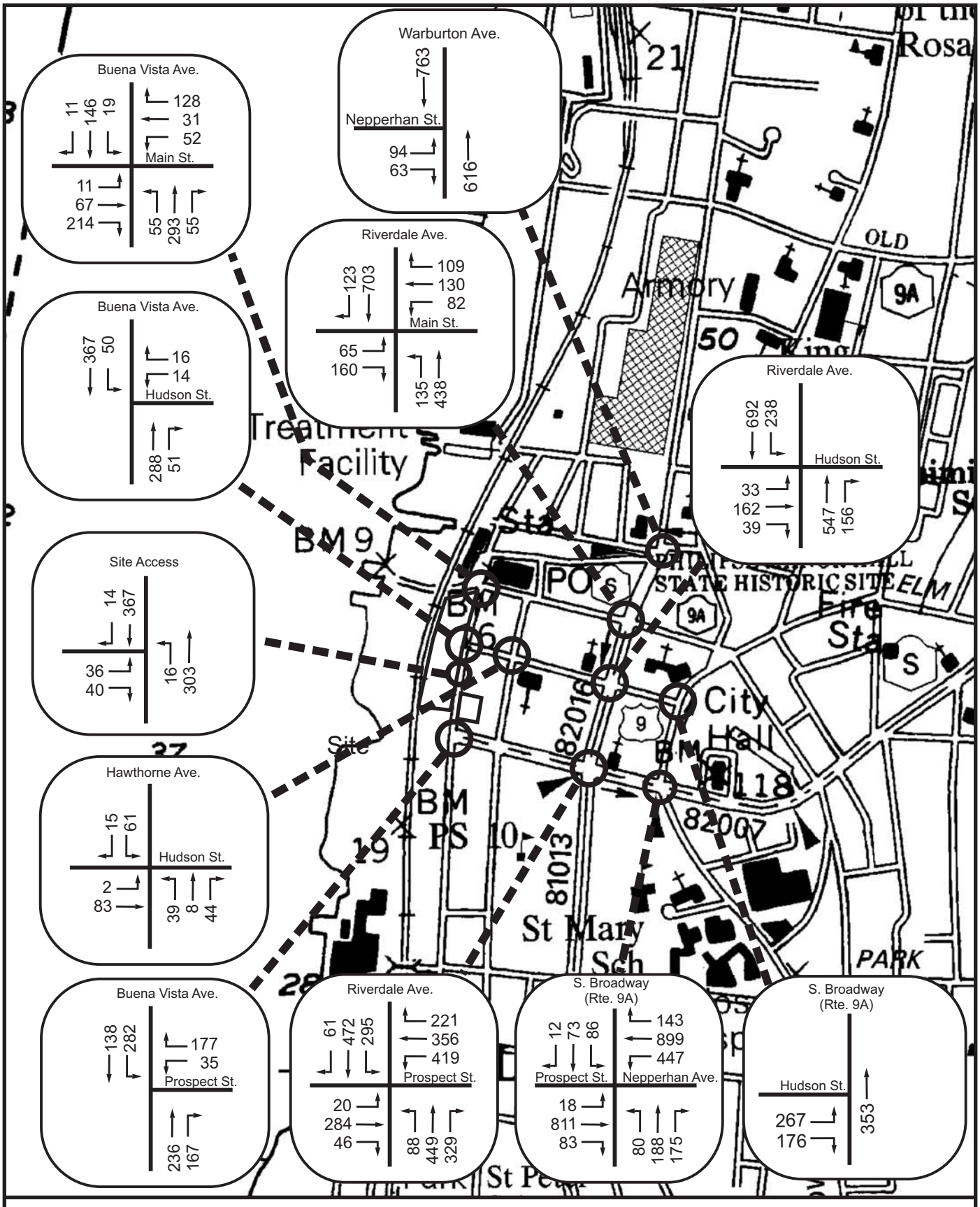

Figure 3.5-22: Build with SFC AM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

File 09044 4/21/10
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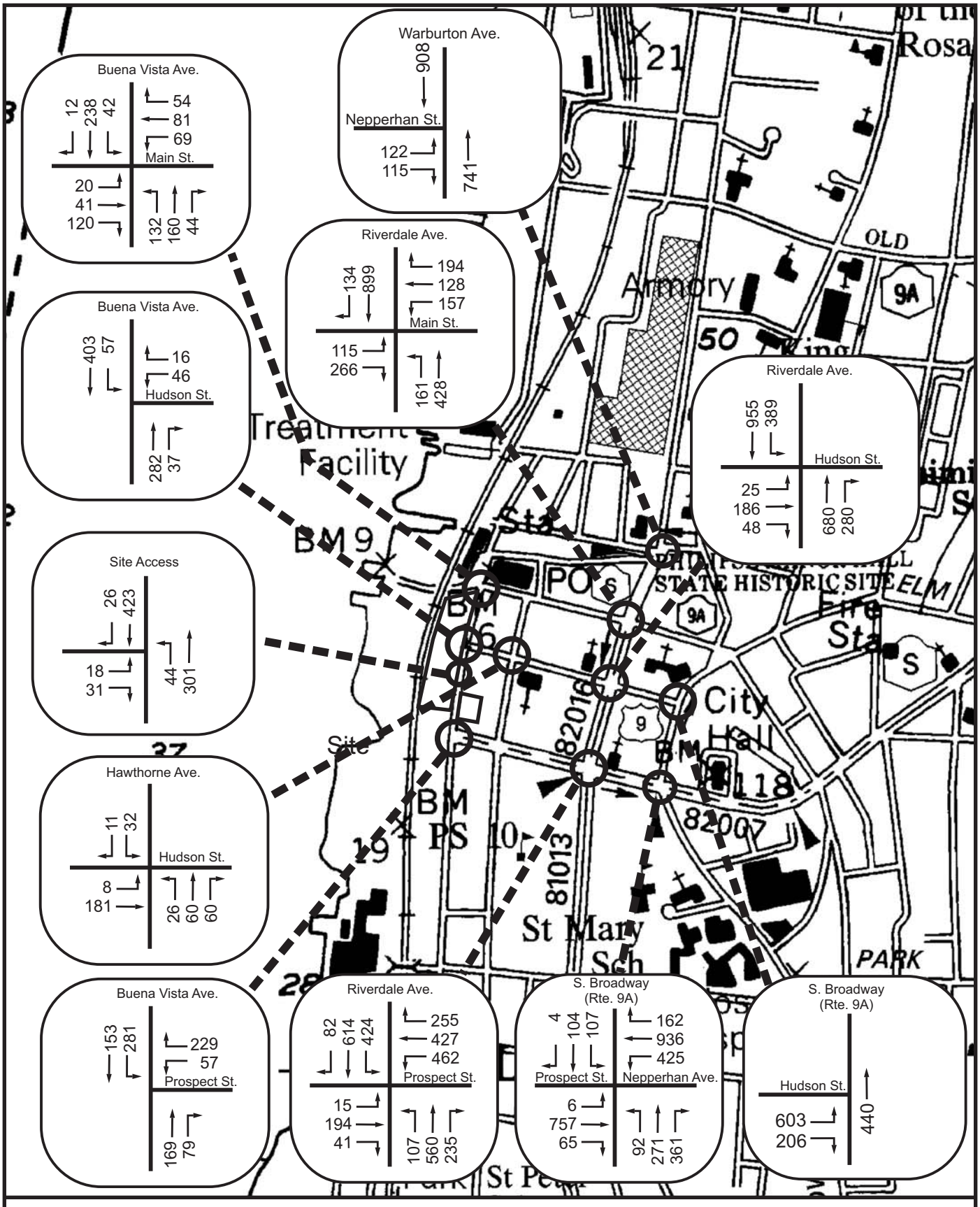

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Intersections Studied

Figure 3.5-23: Build with SFC PM Peak Hour Traffic
Buena Vista Teutonia PUR
City of Yonkers, Westchester County, New York
Base Map: NYS DOT Planimetric Map, Yonkers Quad, 1990
Scale: 1"= 700'

File 09044 4/21/10
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