

I. DESCRIPTION OF PROJECT

This study has been prepared on behalf of Purchase Corporate Park Associate VI to analyze the impact of their proposed office development in the Town of Harrison, NY. Purchase Corporate Park Associates VI proposes to develop the remaining portion of Parcel 'B'.

Parcel 'B' as an area of approximately 35 acres and is bounded on the north by the Manhattanville College Campus, Manhattanville Road to the south, Purchase Street (NY Route 120) to the east and College Road to the west. Regional access to the site will be via Interstate 684, the Cross Westchester Expressway (I-287), the Hutchinson River Parkway and Purchase Street as shown on Figure 1 "Site Location Map." All figures referenced in this report are located in Appendix A.

Parcel 'B' contains an existing office building, designated as Building 'A'. Purchase Corporate Park Associates proposes to develop a 81,567 gross square foot office building, designated as Building 'B', in the northwest corner of Parcel 'B.' The proposed development is shown on Drawing SP-3 "Layout & Striping Plan."

II. SCOPE OF REPORT

This study analyzes the anticipated traffic impact of the proposed development on the surrounding roadway network. In order to determine impact of the proposed development on traffic conditions in the site's vicinity, recognized traffic engineering techniques were used. As part of this study, a field inspection was made of the site and the adjoining roadway network. Manual field traffic counts were taken at the following intersections:

- Purchase Street & Manhattanville Road
- Manhattanville Road & Parcel 'B' East Driveway
- Manhattanville Road & Parcel 'B' West Driveway
- Manhattanville Road & College Road

- College Road & Parcel 'C' Driveway
- Manhattanville Road & I-684 Northbound Ramps
- Manhattanville Road & I-684 Southbound Ramps
- Purchase Street & Mastercard Driveway/Hutchinson River Parkway Southbound Off-Ramp
- Purchase Street & Hutchinson River Parkway Southbound On-Ramp
- Purchase Street & Hutchinson River Parkway Northbound Ramps
- Purchase Street & Anderson Hill Road

III. FIELD RECONNAISSANCE WORK

Representatives of John Meyer Consulting prepared field surveys of the roadways in the site's vicinity. The reconnaissance work included an inventory of the existing roadways, lane widths, pavement types, curbing, shoulders, horizontal and vertical alignments, speed limits and traffic control devices. The inventory was utilized primarily in computing the intersection capacity analyses.

Manual field traffic counts were taken at the previously described intersections on April 26, 2006. The counts were conducted from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM, the hours typically associated with peak weekday traffic volumes. The existing traffic volumes were reviewed to determine the peak hours, of which the Peak AM Hour occurs between 8:00 and 9:00 AM and the Peak PM Hour between 5:00 and 6:00 PM. The existing volumes are shown on Figures 2 and 3 as the 2006 Existing Volumes.

IV. EXISTING ROADWAY NETWORK

Parcel B is in a prime location for access to regional roadways such as I-684, I-287 and the Hutchinson River Parkway. The proposed site driveway will be off of College Road which provides two travel lanes in each direction from its intersection with Manhattanville Road. Manhattanville Road provides two travel lanes in the eastern direction from the I-684 Southbound Ramps to the East Mastercard Driveway, at which point the two lanes converge into one lane which continues to Purchase Street. There is one travel lane in the western direction from Purchase Street to the East Parcel 'B' Driveway at which point two lanes are provided to the intersection with the I-684 Southbound Ramps. Purchase Street generally provides one travel lane in each direction except for exclusive left turn lanes at its intersection with Anderson Hill Road, Manhattanville Road and the Hutchinson River Parkway Ramps. All intersections along Manhattanville Road and College Road are currently unsignalized.

V. FUTURE TRAFFIC CONDITIONS

Traffic volumes are expected to increase along the area roadways regardless of whether the proposed Parcel B office building is redeveloped. In order to account for general increases in traffic volumes, the 2006 Existing Volumes were increased by an annual growth rate of 2% to the 2008 Build Year and the resulting volumes are identified as 2008 General Growth Volumes. A 2% general growth rate is a standard and generally conservative growth rate for Westchester County. While 1% is occasionally used, the 2% rate is appropriate for a conservative analysis. In addition, the 2008 Build Year traffic volumes were conservatively assumed to include 100% occupancy of the existing building (Building A) on Parcel B, even though the building is currently not fully occupied. According to Pat Cleary, the Town's Planning Consultant, there are no other pending or proposed projects in the study area that will be completed in the 2008 Build Year. Accordingly, both the 2008 General Growth Volumes and the assumed 100% occupancy volume for Building A were added to the 2006 Existing Volumes, and the resulting volumes are identified

as 2008 No Build Volumes, which is representative of future conditions without the specific volumes associated with the proposed development.

VI. SITE GENERATED VOLUMES

The anticipated traffic generation of the proposed development has projected based on information published in Trip Generation 7th Edition published by the Institute of Transportation Engineers (ITE) for a General Office use. The publication provides traffic generating characteristics for a wide variety of development types based on studies conducted by traffic engineers for similar developments throughout the country. Table 1, “Site Generated Volumes, “ presents the traffic volumes utilized in this study.

TABLE 1
SITE GENERATED VOLUMES

LAND USE	CONDITION		PEAK AM HOUR			PEAK PM HOUR		
	CODE	GROSS S.F.	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
General Office Building	710	81,567	140	19	159	29	141	170

VII. ANTICIPATED ORIGIN AND DESTINATION DISTRIBUTIONS

The origin and destination distribution patterns anticipated for the proposed Parcel ‘B’ development are based on the existing distribution percentages determined from the counts conducted at the Parcel ‘B’ East and West driveways, the site’s location and the adjoining roadway network. The anticipated distribution percentages are illustrated on Figure 10.

VIII. COMBINED VOLUMES

The Peak AM and Peak PM site generated traffic volumes were distributed along the roadway network in accordance with the origin and destination percentages. The resulting volumes are

depicted on Figures 11 and 12. The site generated volumes were then added to the 2008 No-Build Volumes, resulting in the 2008 Build Volumes, shown on Figures 13 and 14. The combined volumes are representative of volumes anticipated upon completion of the proposed development.

IX. INTERSECTION CAPACITY ANALYSES

Capacity analyses were computed for the peak highway hours for the intersections in the study area based upon the methodologies presented in the 2000 Highway Capacity Manual. Tables 2 and 3 summarize the operations of the intersections for the Peak AM Highway Hour and Peak PM Highway Hour, respectively (see appendix 'B').

The levels of service for unsignalized intersections are determined for those movements which must yield the right-of-way to one or more other movements. Levels of service range from A thru F, with A representing the shortest delays. Level of Service F is associated with vehicles which have a delay longer than 50 seconds per vehicle. The level of service criteria for unsignalized intersections is characterized by shorter delays for the various levels of service as compared to signalized intersections.

The level of service for signalized intersections is defined in terms of total delay, which includes deceleration delay, queue move-up time, stops delay and final acceleration delay. As with unsignalized intersections, levels of service range between Level of Service A thru F, with Level of Service A representing the shortest delays. Level of Service F is associated with vehicles delayed in excess of 80 seconds. It is not uncommon for a Level of Service E to exist even though there is sufficient capacity for a movement. An example of this perceived paradox is a vehicle along a side street which must wait during a long signal cycle for a green indication, after which ample green time is provided for the vehicle to enter the intersection.

X. FINDINGS AND CONCLUSION

A. FINDINGS

All of the intersections analyzed for the 2008 Build Volumes will operate at acceptable levels of service except for the following:

1. Purchase Street & Manhattanville Road

The eastbound Manhattanville Road approach currently operates at Level of Service (LOS) F under existing conditions. For this reason and the fact that the intersection previously met warrants for traffic control signals, the applicant is proposing to construct a traffic signal as well as separate right and left turn lanes for the Manhattanville Road approach to Purchase Street. The intersection will operate at LOS B for the 2008 Build Volumes during the Peak AM and Peak PM highway hours.

2. Purchase Street and Anderson Hill Road

The capacity analyses indicate that the overall intersection currently operates at LOS F during the Peak PM Hour. The relatively low volume of site generated traffic anticipated at the intersection is minimal when compared to the overall volume at the intersection and delays are not projected to increase significantly with additional vehicles.

B. CONCLUSION

It is the professional opinion of John Meyer Consulting that the proposed development will not significantly impact traffic conditions in the study area. The proposed improvements

to the Purchase Street and Manhattanville Road intersection by the applicant will significantly improve the traffic operations at the intersection.

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