4600 WISCONSIN AVENUE
TRAFFIC IMPACT STUDY
WASHINGTON, D.C.

Prepared for:
4600 Brandywine Associates

Prepared by:
Wells & Associates, LLC

June 21, 2003

ZONING COMMISSION
District of Columbia
CASE NO.03-27
EXHIBIT NO.7I

4600 WISCONSIN AVENUE
TRAFFIC IMPACT STUDY
WASHINGTON, D.C.

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B. Existing Levels of Service
C. Background Future Levels of Service
D. Existing Site Trip Assignments
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INTRODUCTION

This report presents the results of a traffic impact study of the proposed re-development of 4600 Wisconsin Avenue. The subject site is bounded on the east by Wisconsin Avenue, the south by Brandywine Street, and on the west by a public alley, in the northwest section of Washington, D.C., as shown on Figure 1.

A mix of residential and commercial uses is located within the Wisconsin Avenue corridor. A billiards establishment and a dry cleaners currently occupy the site, which is bounded by retail and office uses. Residential neighborhoods are located west of the site.

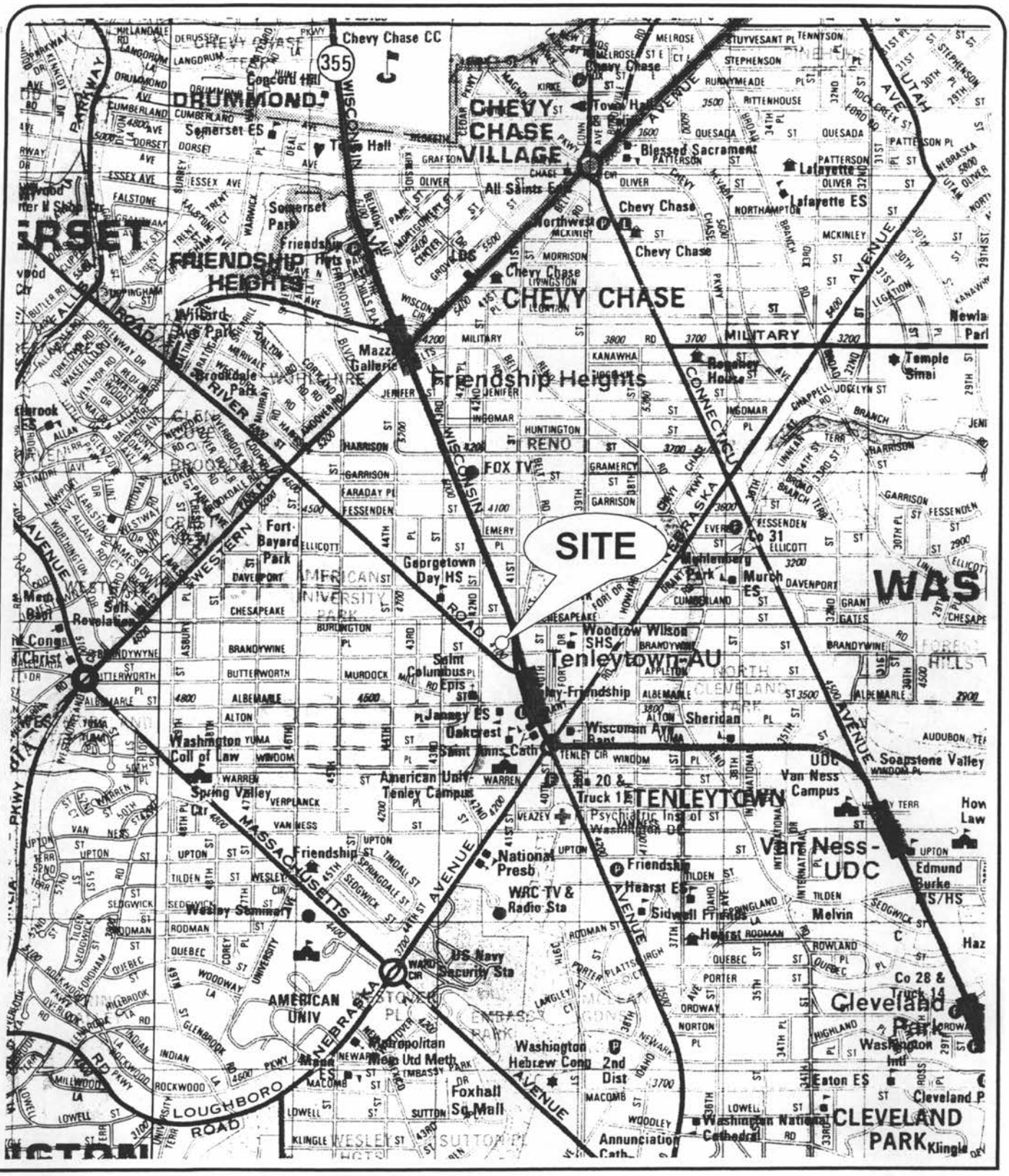
4600 Brandywine Associates proposes to raze the existing buildings and re-develop the property with approximately 43 apartments and approximately 4,500 S.F. of ground-level commercial uses (the "Project"), as shown on Figure 2. Access is proposed via a driveway off of Brandywine Street.

The intent of this study is to evaluate the transportation system adjacent to the Project and isolate its impacts. It is recognized that the property currently generates vehicle trips on the roadways and at the intersections surrounding the site that would be "replaced" by the new trips generated by 4600 Wisconsin Avenue. Since this existing traffic must rely on curb parking, a destination, or location (such as a dedicated parking lot) to quantify these trips is not available. While these existing vehicle trips have been estimated for comparison purposes, they have not been deducted from the road network. Therefore, the actual net affect of 4600 Wisconsin Avenue would be less than reported in this traffic study.

For purposes of this traffic analysis, this development was assumed to be completely built and occupied by 2005.

Tasks undertaken in this study included the following:

1. Review of development plans prepared for the subject property.



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Figure 1
Site Location

North
Schematic

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4600 Wisconsin Avenue
Washington, D.C.

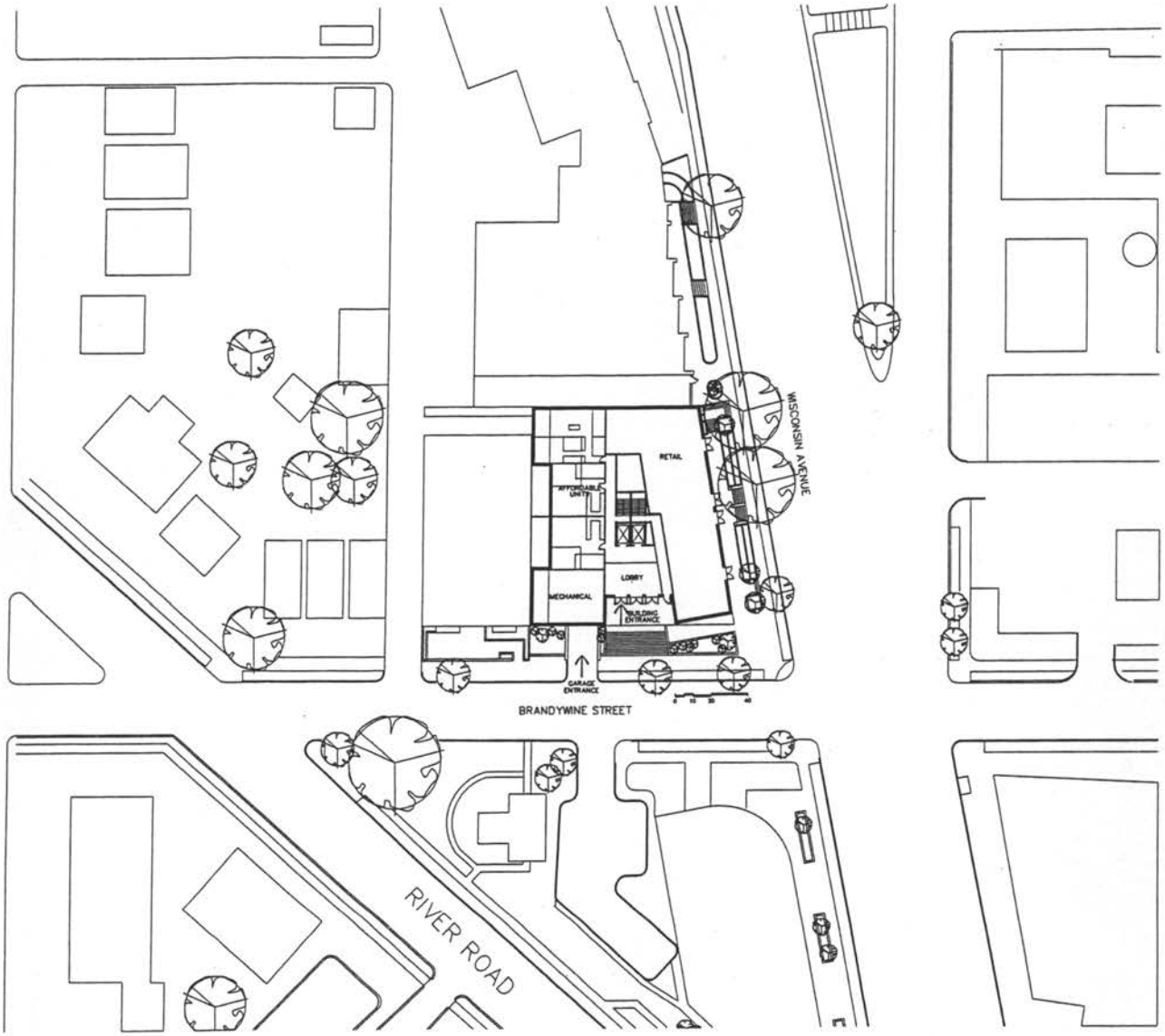


Figure 2
Proposed Site Plan

North
Schematic

2. A field reconnaissance of existing roadway and intersection geometrics, traffic controls, traffic signal phasings/timings, and speed limits.

3. Agreement with the District Division of Transportation (DDOT) staff regarding the transportation study scope.

4. Counts of existing weekday and Saturday peak period vehicular and pedestrian traffic at all existing site driveways and six (6) off-site intersections.

5. Analysis of existing levels of service at these intersections.

6. A forecast of background traffic volumes without the 4600 Wisconsin Avenue project for 2005.

7. A calculation of background levels of service at key intersections based on background traffic forecasts, existing traffic controls, and existing intersection geometrics.

8. Estimation of the number of peak hour vehicle trips currently generated by the existing land uses occupying the site.

9. Identification of peak hour vehicle trips based on the development potential of the property based on current zoning.

10. Estimation of the number of AM and PM peak hour vehicle trips that would be generated by the proposed project based on the proposed development program, Institute of Transportation Engineers (ITE) trip generation rates and estimates of non-auto mode splits.

11. A trip generation comparison of existing, potential, and proposed development programs.

12. Development of total future traffic forecasts for 2005.

13. Determination of total future levels of service at key intersections based on total future traffic forecasts, existing traffic controls, and existing intersection geometrics.

Sources of data for this analysis included traffic counts conducted by Wells & Associates, IBG Partners, the Institute of Transportation Engineers (ITE), the District Department of Transportation (DDOT), the Washington Metropolitan Area Transit Authority (WMATA), traffic impact studies prepared for other nearby properties, and 4800 Wisconsin Associates, LLC, and Cunningham and Quill Architects.

The conclusions of this traffic impact study are as follows:

1. *The proposed development program for 4600 Wisconsin Avenue would have minimal impact to the overall transportation infrastructure. It would generate slightly more vehicle trips during the AM peak hour than the existing uses. However, the proposed program would generate fewer trips during the PM peak hour and on Saturday, reducing the overall impact to the road network.*

2. *Since traffic generated by the existing uses must rely on curb parking, it is difficult to accurately deduct these trips from the existing road network. Therefore, the new trips have been added to the road network in order to provide a conservative estimate that results in delays that are higher than would actually be realized.*

3. *All of the study intersections currently operate at an acceptable level of service (LOS) "D" or better during both the AM and PM peak hours on weekdays and Saturday, with the exception of the eastbound turning movements at the Wisconsin Avenue/Chesapeake Street intersection that operates at LOS "E" on Saturday.*

4. *Other projects approved or planned in the immediate area and general background traffic growth will affect some turning movements at the intersections adjacent to the site, increasing delays to unacceptable levels for some*

individual turning movements or approaches during peak hours.

5. *4600 Brandywine Associates proposes to raze the existing buildings and re-develop the property with 43 apartments and 4,500 S.F. of ground-level commercial uses that would generate 25 weekday AM peak hour trips, 58 weekday PM peak hour trips, and 76 Saturday mid-day peak hour trips. However, comparing these trips to those currently being generated by existing uses indicates that proposed development would generate fewer trips during the PM and Saturday peak hours, lessening the burden on the road network.*

6. *These trips would have minimal impact on public streets. Nearly all traffic movements, overall levels of service, v/c ratios, and delays would remain similar to background conditions with full development of the site. These estimates are conservative and assume that traffic would increase with the site development.*

7. *The proposed project provides adequate off-street parking based on District of Columbia requirements. Although loading is not required, the developers of the site are investigating designating a loading zone in front of the building to accommodate anticipated typical on-street loading activities, such as UPS or FedEx deliveries.*

BACKGROUND DATA

The traffic impact study prepared for 4600 Wisconsin Avenue by Wells & Associates was used as the basis for this traffic study. This report should be referenced for additional information.

Study Scope

The scope of this traffic study was identified based on the previously mentioned traffic report and in consultation with DDOT staff (Refer to Appendix A). This study includes the following intersections:

1. Wisconsin Avenue/Chesapeake Street.
2. Wisconsin Avenue/Brandywine Street.
3. Wisconsin Avenue/River Road.
4. Brandywine Street/Public Alley.
5. Brandywine Street/River Road.
6. Chesapeake Street/Public Alley.

Consistent with previous studies, weekday and Saturday peak hour traffic conditions were analyzed.

Ambient background traffic growth was established at one percent per year compounded.

Congestion Standard

Level of service (LOS) "D" is considered the minimum acceptable level of service in urban areas such as Washington, D.C. However, there are many areas within an urban region for which LOS "E" (saturated flow or full capacity) is accepted for short periods of time, such as during peak commuter periods.

Public Road Network

Wisconsin Avenue and River Road provide regional access to 4600 Wisconsin Avenue. Chesapeake and Brandywine Streets provide local access.

Wisconsin Avenue is a principle arterial that provides three travel lanes in each direction. The curb lane is used as a travel lane during the evening peak hour.

River Road is a minor arterial that provides a single travel lane in each direction. Both the Brandywine Street and Wisconsin Avenue intersections on River Road operate under stop control.

Chesapeake Street is a local street that provides a single travel lane in each direction with curb parking on both sides.

Brandywine Street is a local street that provides one-way travel westbound between Wisconsin Avenue and River Road. Brandywine Street is one-way eastbound west of the River Road intersection.

The public alley adjacent to the property is approximately 20 feet in width and provides two-way travel between Chesapeake Street and Brandywine Street.

Existing intersection lane use and traffic control at key intersections in the site vicinity are shown on Figure 3.

Pictures captured within the site vicinity are shown in Appendix B.

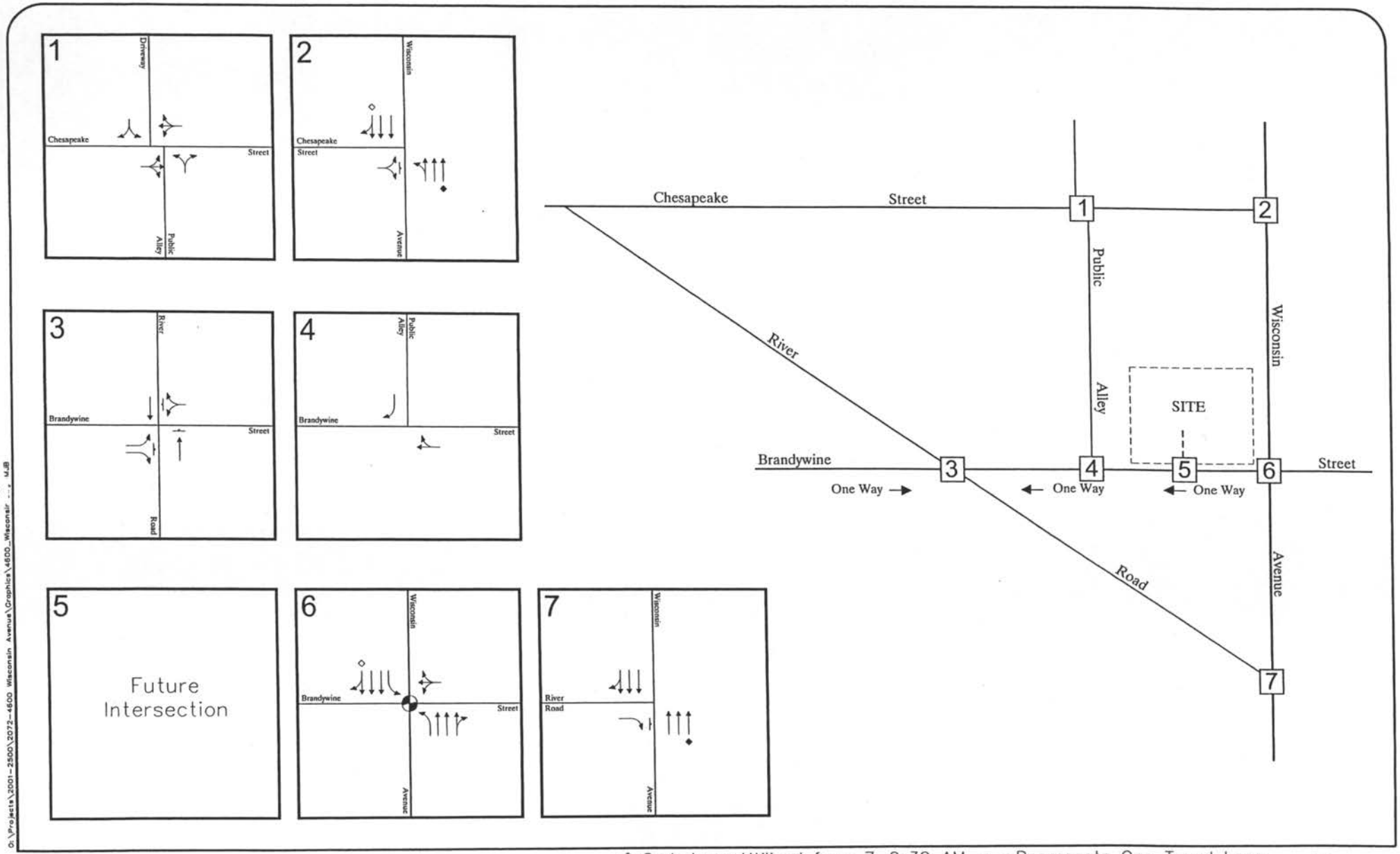


Figure 3
Intersection Lane Use and Traffic Control

◇ Curb Lane Utilized from 7–9:30 AM
◆ Curb Lane Utilized from 4–6:30 PM
← Represents One Travel Lane
⊗ Signalized Intersection
— Stop Sign
▲ Bus Stop

North
Schematic

4600 Wisconsin Avenue
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Public Transportation

The subject site is served by seven (7) Metrobus lines that operate on Wisconsin Avenue, and by Metrorail.

Metrobus lines are:

1. 30: Pennsylvania Avenue Line
2. 32: Pennsylvania Avenue Line
3. 34: Pennsylvania Avenue Line
4. 35: Pennsylvania Avenue Line
5. 36: Pennsylvania Avenue Line
6. B11: Bethesda Reverse Commute Line
7. N2: Massachusetts Avenue Line

Three hundred eighty four (384) bus trips are made on these lines on weekdays.

The Tenleytown-AU Metro station is located one block (or approximately 1,000 feet) to the south on Wisconsin Avenue at Albemarle Street. This station is served by the Red Line, which extends from the Shady Grove station in Montgomery County, Maryland, through the District of Columbia, to the Glenmont station in Montgomery County. Riders can transfer to the Blue and Orange Lines at Metro Center or the Yellow or Green Lines at Gallery Place-Chinatown station.

A summary of the bus route information is contained in Appendix C.

Site Access Concept

Access to the site is proposed via a single driveway on Brandywine Street, approximately 300 feet west of the Wisconsin Avenue intersection. This driveway will serve 45 below-grade parking spaces on two levels for residents of the building.

The main residential lobby will be located on Brandywine Street.

Patrons of the existing billiards facility and cleaners utilize curb parking on Wisconsin Avenue and Brandywine Street. Additional parking is provided from the public alley. As mentioned previously, this traffic was not deducted from the road network in order to provide a conservative estimate. However, it is understood that this traffic would be replaced by the new trips generated by the 4600 Wisconsin Avenue project.

Existing Traffic Counts

Off-Site Intersection Vehicular Traffic. Wells & Associates conducted vehicular and pedestrian traffic counts on Tuesday, December 12, 2002, Wednesday, December 18, 2002 and Thursday, February 13, 2003 from 7:00 to 10:00 AM, and 4:00 to 7:00 PM, as well as Saturday, December 14, 2002 and Saturday, March 8, 2003 from 10:00 AM to 2:00 PM, at the following intersections:

1. Wisconsin Avenue/Chesapeake Street.
2. Wisconsin Avenue/Brandywine Street.
3. Wisconsin Avenue/River Road.
4. Brandywine Street/Public Alley.
5. Brandywine Street/River Road.
6. Chesapeake Street/Public Alley.

Since some of the traffic counts used in this study were extracted from the 4800 Wisconsin Avenue document mentioned previously, the volumes were adjusted in a conservative manner to reflect the updated counts.

The results are included in Appendix D and summarized on Figure 4.

The AM peak hour generally occurred at 8:00 to 9:00 AM, and the PM peak hour generally occurred at 5:30 to 6:30 PM during the weekday. The Saturday mid-day peak generally occurred at 12:30 to 1:30 PM.

Figure 4 indicates that Wisconsin Avenue, south of Brandywine Street, presently carries 2,590 vehicles (with a 60 percent/40 percent southbound/northbound directional split) during the AM peak hour, and 2,260 vehicles (with a 37 percent/63 percent

southbound/northbound directional split) during the PM peak hour. On Saturday, Wisconsin Avenue carries 2,238 vehicles (with a 43 percent/57 percent southbound/northbound directional split) during the peak hour.

Brandywine Street carries more modest traffic volumes, only 246 trips in the AM peak hour, 472 trips in the PM peak hour, and 281 trips in the Saturday peak hour, west of Wisconsin Avenue.

Pedestrian Traffic. Wells & Associates conducted pedestrian counts at all study intersections on Tuesday, December 10, 2002, Wednesday, December 18, 2002 and Thursday, February 13, 2003 from 7:00 to 10:00 AM, and 4:00 to 7:00 PM. as well as Saturday, December 14, 2002 and Saturday, March 8, 2003, from 10:00 AM to 2:00 PM. These counts were incorporated in the intersection capacity analysis using the Synchro, Version 5.1.

Pipeline Projects

The traffic impacts of eight projects that have received approvals (or are expected to receive approvals) but have not yet been developed were taken into explicit account in this study:

1. 4800 Wisconsin Avenue (Martens Volvo/Volkswagen).
2. 4501 Western Avenue (Washington Clinic).
3. Georgetown Day School expansion.
4. 4500 Wisconsin Avenue (Sears Building).
5. WMATA Northwest Bus Garage.
6. Wisconsin Place (Hecht's).
7. Friendship Commons (Geico).
8. Chevy Chase Center.

The Martens Volvo/Volkswagen auto dealership will be razed and re-developed with 191 apartments and 3,424 S.F. of ground-level commercial uses. The existing Washington Clinic at 4501 Western Avenue will be developed with a day care center of 3,000 square feet (GSF) and 125 condominiums. Georgetown Day School proposes to add 15 students and 14 full time faculty and staff. The existing Sears building at 4500 Wisconsin Avenue will be developed with 80,000 square feet (GSF) of retail space and 185

apartments. The WMATA Northwest Bus Garage is planned to contain 540 apartments and 90,000 S.F. of retail space. Wisconsin Place is planned to consist of mix of office, retail, and residential uses. Friendship Commons is planned to contain 295,243 S.F. of office, 300 apartments, and 200 hundred townhouses. Chevy Chase Center will consist of office and retail space.

The location of these other developments is shown on Figure 5.

Background Traffic Growth

Background traffic growth was estimated at one (1) percent per year compounded for three (3) years between 2002 and 2005. This growth rate was applied to the through movements on all studied intersections as well as those movements used to exit the City. Background traffic growth takes into account traffic that may be generated by other projects approved but not yet constructed in the District of Columbia and Montgomery County, Maryland, and general regional traffic growth.

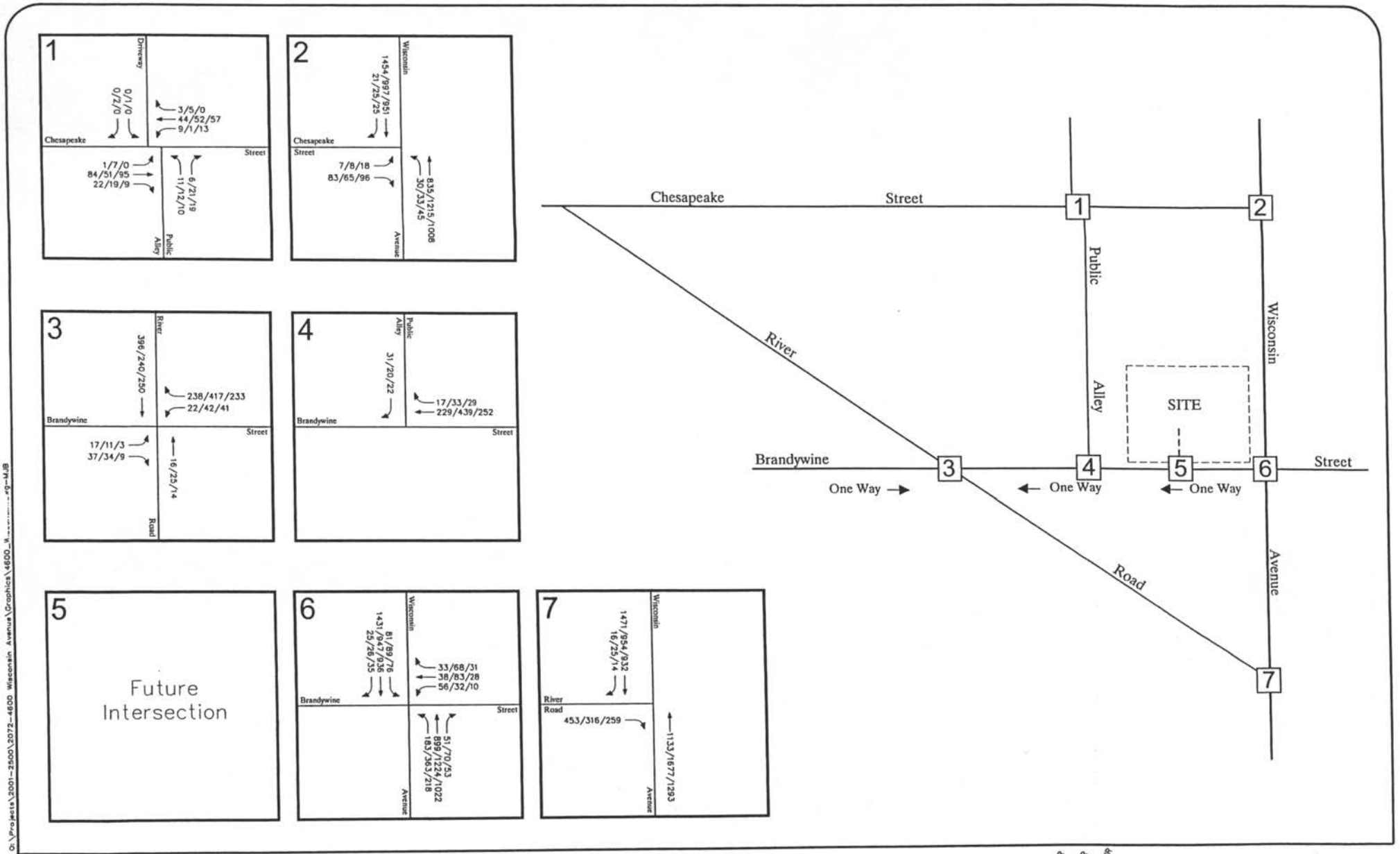
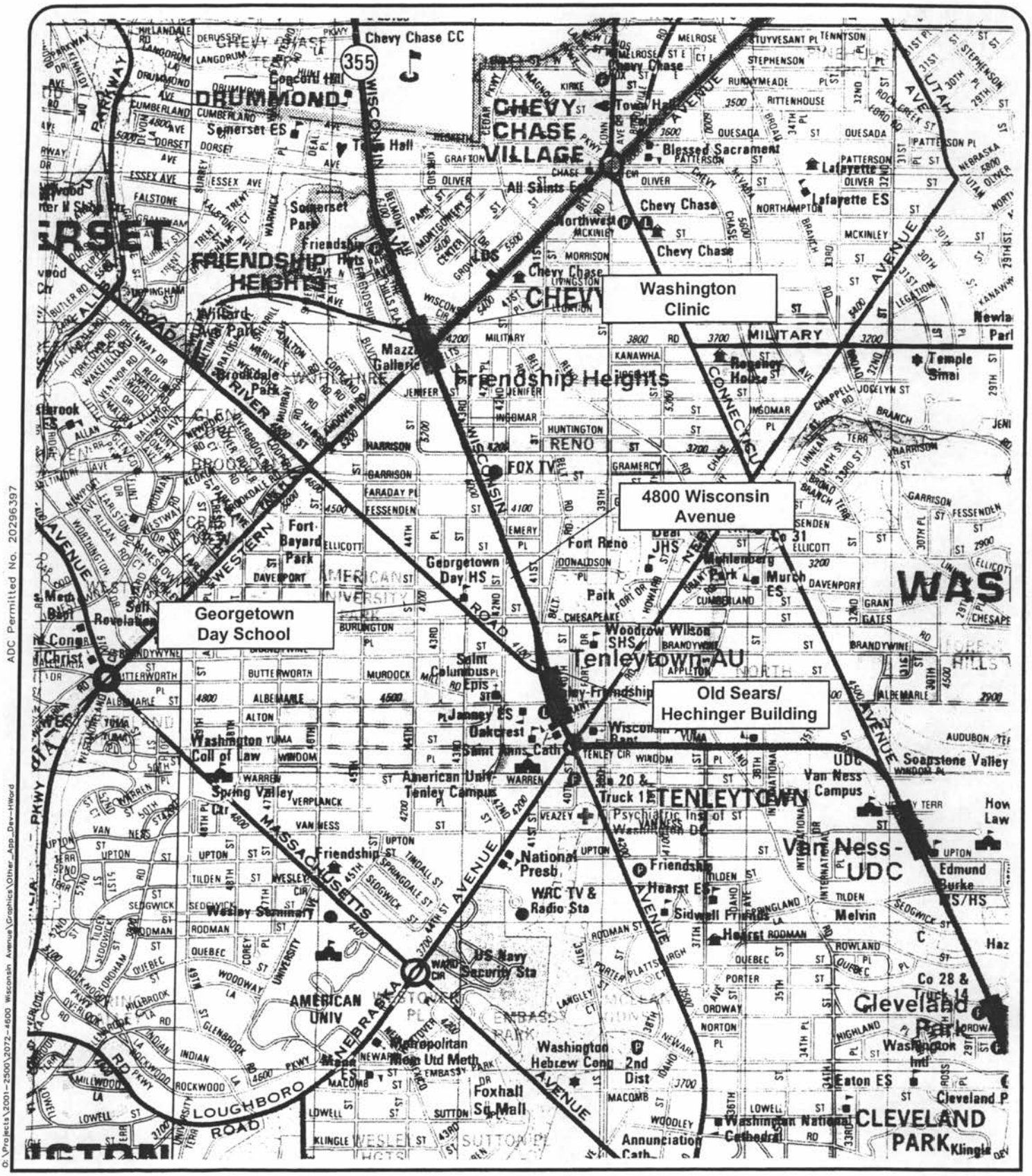


Figure 4
Existing Vehicular Traffic Counts

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Figure 5
Location of Other Developments

North
Schematic

ANALYSIS

Existing Levels of Service

Existing peak hour levels of service were estimated at the six (6) key intersections in the study area based on the existing lane usage and traffic control shown on Figure 3, existing vehicular traffic counts shown on Figure 4, existing pedestrian counts, existing traffic signal timings, and the 2000 Highway Capacity Manual (HCM) methodology using the Synchro version 5.1 software. The results are presented in Appendix E and summarized in Table 1.

Table 1 indicates the following:

1. The stop sign controlled eastbound approach from Chesapeake Street to Wisconsin Avenue operates at an acceptable level of service (LOS) during the AM and PM peak hours, and at LOS "E" on Saturday.

2. All of the turning movements at the Brandywine Street/River Road intersection currently operate at acceptable levels of service during all peak periods.

3. The signalized Wisconsin Avenue/Brandywine Street intersection currently operates at an overall acceptable level of service during all peak hours.

4. The unsignalized eastbound and westbound turning movements from River Road to Wisconsin Avenue operate at acceptable levels of service during the AM and PM peak hours, and on Saturday.

5. The turning movements to and from the public alley to Chesapeake Street and Brandywine Street currently operate at acceptable levels of service.

Pipeline Traffic

As shown in Table 2, the eight pipeline projects included in this study are forecasted to generate a total of 2,472 weekday AM peak hour trips, 3,256 weekday PM peak hour trips, and 3,678 Saturday mid-day peak hour trips, according to the traffic impact studies prepared for these projects. The pipeline traffic assignments shown on Figure 5 also were prepared based on these studies.

Background Traffic Forecasts

Background peak hour traffic forecasts were estimated based on existing traffic counts shown on Figure 4, existing pedestrian counts, pipeline project traffic shown on Figure 6, and background traffic growth. These estimates include the traffic currently being generated by the land uses at 4600 Wisconsin Avenue. The 2005 background traffic forecasts are shown on Figure 7.

Table 1
4600 Wisconsin Avenue
Intersection Levels of Service Summary (1) (2)

Location	Operating Condition	Intersection Approach	Levels of Service								
			Existing Conditions			Background Future Conditions			Total Future Conditions		
			AM Peak	PM Peak	Saturday	AM Peak	PM Peak	Saturday	AM Peak	PM Peak	Saturday
1. Chesapeake Street / Alley	Unsignalized	EBLTR WBLTR NBL NBR SBL SBR	A [0.1] A [1.3] A [9.9] A [8.9] A [0.0] A [0.0]	A [0.7] A [0.1] A [9.6] A [8.8] A [9.8] A [8.6]	A [0.0] A [1.5] B [10.2] A [9.1] A [0.0] A [0.0]	A [0.1] A [1.1] B [10.0] A [9.0] A [0.0] A [0.0]	A [0.6] A [0.1] A [9.8] A [8.8] A [10.0] A [8.7]	A [0.0] A [1.3] B [10.5] A [9.2] A [0.0] A [0.0]	A [0.1] A [1.1] B [10.0] A [9.0] A [0.0] A [0.0]	A [0.6] A [0.1] A [9.9] A [8.9] B [10.1] A [8.7]	A [0.0] A [1.2] B [10.6] A [9.2] A [0.0] A [0.0]
2. Wisconsin Avenue / Chesapeake Street	Unsignalized	EBLR NBL	C [24.9] A [2.9]	C [20.8] A [2.2]	E [36.0] A [2.5]	E [38.3] A [4.0]	D [33.0] A [3.9]	F [115.8] A [3.8]	E [45.6] A [4.2]	E [38.3] A [4.4]	F [154.5] A [4.4]
3. Brandywine Street / River Road	Unsignalized	EBL EBR WBL WBR SBT NBT	D [26.1] A [9.0] B [14.5] C [15.4] A [0.0] A [0.0]	D [27.1] B [10.1] B [11.9] B [11.3] A [0.0] A [0.0]	C [16.5] B [10.2] B [11.6] A [9.7] A [0.0] A [0.0]	C [21.5] B [12.4] C [15.3] A [9.7] A [0.0] A [0.0]	D [29.9] B [10.3] B [12.2] B [11.6] A [0.0] A [0.0]	C [17.5] B [10.3] B [11.9] A [9.8] A [0.0] A [0.0]	C [21.8] B [12.4] C [15.5] A [9.7] A [0.0] A [0.0]	D [30.4] B [10.3] B [12.3] B [11.7] A [0.0] A [0.0]	C [17.8] B [10.3] B [12.0] A [9.9] A [0.0] A [0.0]
4. Brandywine Street / Alley	Unsignalized	SBR	B [10.3]	B [12.3]	B [10.6]	B [10.3]	B [12.6]	B [10.8]	B [10.4]	B [12.3]	B [10.8]
5. Brandywine Street / Site Entrance	Unsignalized	SBR WBTR	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	A [7.0] A [8.8]	A [7.6] B [13.5]	A [7.1] A [9.4]
6. Wisconsin Avenue / Brandywine Street	Signalized	WB NB SB Overall	D (35.8) C (20.1) B (16.5) B (18.8)	D (41.2) B (18.5) D (35.3) C (26.1)	C (34.0) B (19.3) B (17.7) B (19.0)	D (36.0) C (22.5) B (17.4) C (20.3)	D (41.6) C (23.6) D (48.5) C (34.0)	C (34.2) C (23.4) C (20.1) C (22.2)	D (36.0) C (22.7) B (17.4) C (20.4)	D (41.6) C (24.8) D (51.8) D (35.9)	C (34.2) C (24.5) C (20.5) C (23.0)
7. Wisconsin Avenue / River Road	Unsignalized	EBR SBTR	C [21.9] A [0.0]	C [16.0] A [0.0]	C [17.2] A [0.0]	C [21.8] A [0.0]	C [15.3] A [0.0]	B [13.9] A [0.0]	C [22.4] A [0.0]	B [14.8] A [0.0]	C [22.2] A [0.0]

Notes: (1) Intersection analyses based on Synchro software.
(2) Numbers in brackets/parantheses represent average delays in seconds per vehicle.

Table 2
4800 Wisconsin Avenue
Background Development Trip Generation Analysis

	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Old Hechinger/Sears Site (1)	5	27	32	27	13	40	14	14	28
Georgetown Day High School (2)	4	2	6	2	4	6	-	-	-
Washington Clinic (2)	3	8	11	8	5	13	8	5	13
WMATA Northwest Bus Garage Redevelopment (2, 3)									
90,000 SF Retail	11	7	18	31	34	65	51	47	98
540 Apartment Units	9	51	61	50	24	74	27	20	47
New Trips	20	58	79	81	58	139	78	67	145
Wisconsin Place (Hecht's) (3, 4)									
123,812 SF Retail	40	40	80	161	161	322	521	481	1,002
40,000 SF Grocery	34	15	49	124	124	248	244	234	478
450,000 Office	574	101	675	169	506	675	70	59	129
275 Apartment Units	17	66	83	55	28	83	63	48	111
	665	222	887	509	819	1,328	898	822	1,720
Friendship Commons (Geico) (3,4)									
295,243 SF Office	694	133	827	250	559	809	49	42	91
300 Multi Family Units	27	108	135	90	45	135	72	57	128
200 Townhouse Units	18	72	90	60	30	90	56	44	100
	739	313	1,052	400	634	1,034	177	142	319
Chevy Chase Center (3,4)									
122,209 SF Office	44	40	84	170	172	342	24	21	45
191,639 SF Retail	245	43	288	72	216	288	693	639	1,332
	289	83	372	242	388	630	717	660	1,377
4800 Wisconsin Avenue (5)									
3,424 SF Retail	5	3	8	13	14	27	25	23	48
191 Apartment Units	9	50	59	49	24	73	35	35	69
Subtotal	14	53	67	62	38	100	60	58	117
Existing Trips	25	9	34	14	20	34	23	19	42
New Trips (5)	(11)	44	33	48	18	66	37	39	75
Total New Trips	1,715	757	2,472	1,318	1,939	3,256	1,928	1,750	3,677

Notes:
(1) Based on Institute of Transportation Engineers Trip Generation, 6th Edition and includes non-auto mode splits
(2) Information obtained by Traffic Impact Studies prepared by O.R.George & Associates.
(3) Obtained from the 5401 Western Avenue Traffic Impact Study, dated March 21, 2002 prepared by O.R. George & Associates, Inc.
(4) The Saturday peak hour trips were generated using ITE Trip Generation, 6th Edition.
(5) Exstracted from "4800 Wisconsin Avenue Traffic Impact Study, prepared by Wells & Associates, dated May 19, 2003. and reflects net new trips.

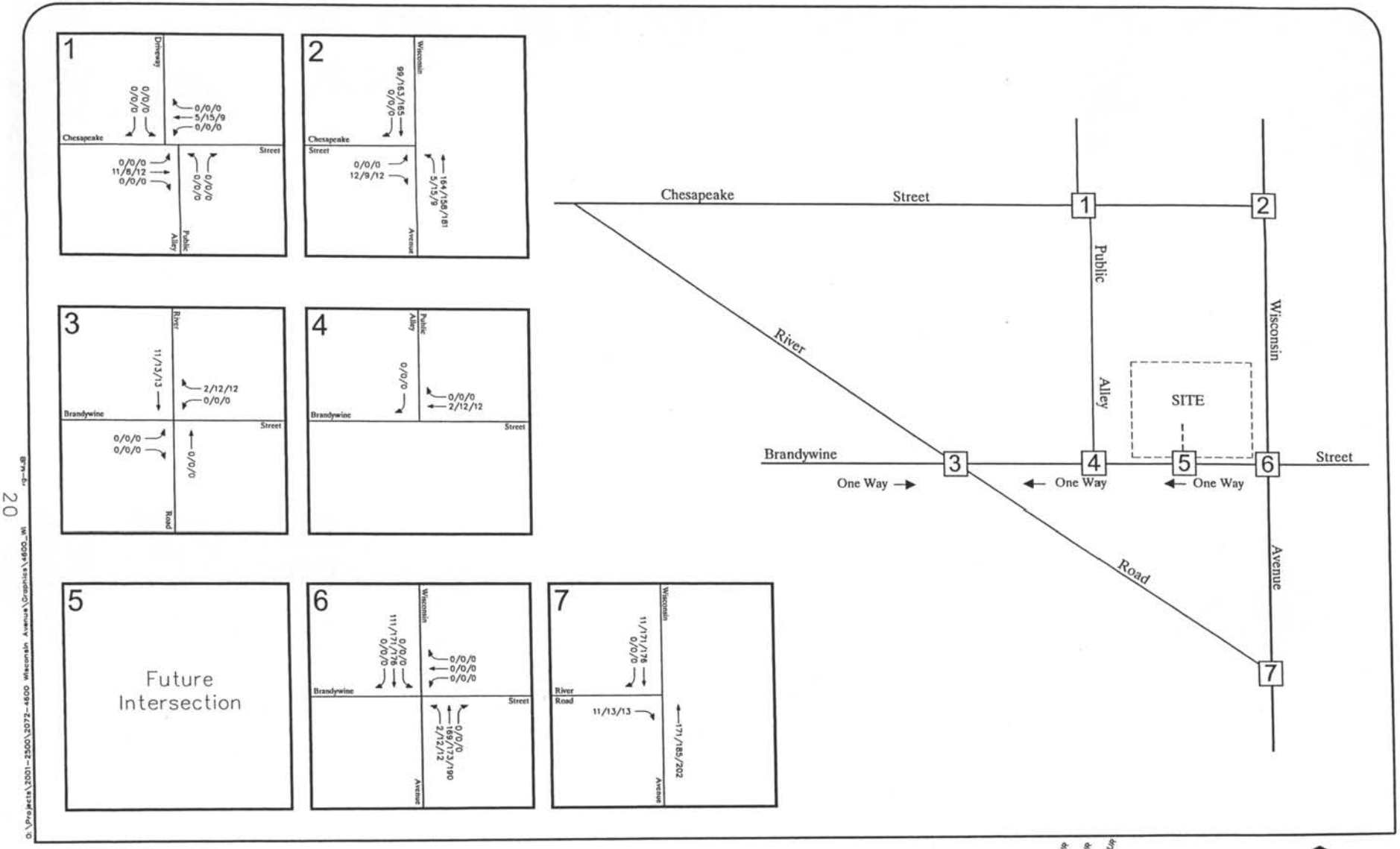


Figure 6
Pipeline Project Traffic Assignments

4600 Wisconsin Avenue
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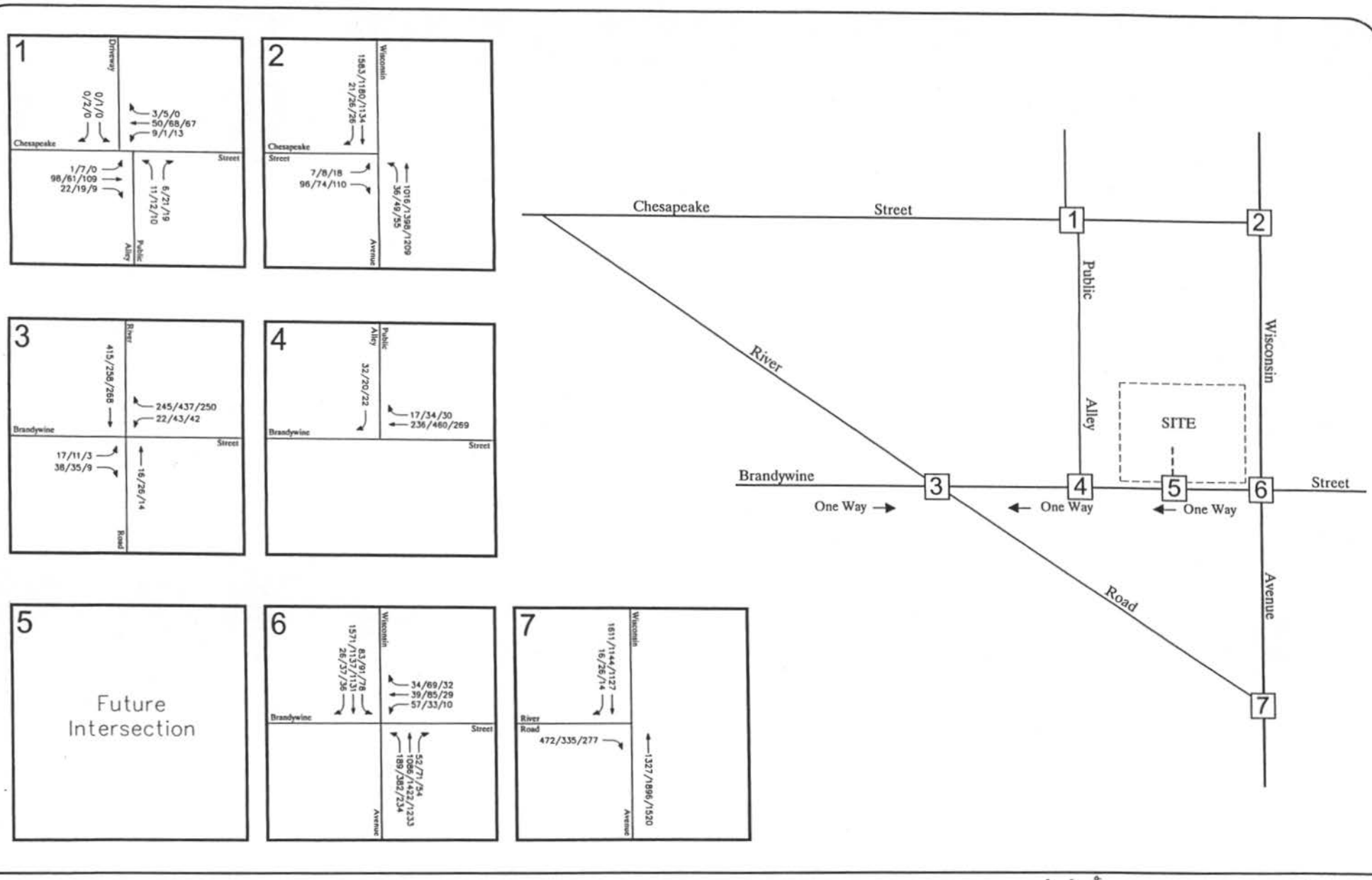


Figure 7
Background Future 2005 Peak Hour Traffic Forecasts

AM PEAK HOUR
PM PEAK HOUR
SAT PEAK HOUR
000/000/000

North
Schematic

4600 Wisconsin Avenue
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Background Future Levels of Service

Background future peak hour levels of service were estimated at the six (6) key off-site intersections in the study area for the year of project buildout (2005) based on the existing intersection lane usage and traffic control shown on Figure 3, the background traffic forecasts shown on Figure 6, and the HCM methodology. The results are presented in Appendix F and summarized in Table 1.

Table 1 indicates the following:

1. The eastbound approach from Chesapeake Street to Wisconsin Avenue would deteriorate from LOS "C" currently to LOS "E" during the AM peak hour, from LOS "C" to LOS "D" during the PM peak hour, and from LOS "E" to LOS "F" on Saturday due to pipeline traffic.

2. The Wisconsin Avenue/Brandywine Street intersection would continue to operate at an acceptable overall level of service during all peak periods. The southbound approach would operate at LOS "D" during the PM peak hour.

3. The remaining intersections would continue to operate similar to current conditions with the addition of pipeline traffic.

Site Trip Generation Analysis

The existing land uses that will be displaced by the 4600 Wisconsin Avenue project currently generate vehicle traffic that use the roadways adjacent to the site. A portion of this traffic would essentially be "replaced" by the new traffic generated by the project. These existing trips have been estimated and compared to those generated by the proposed development program and the development potential of the property for analysis purposes.

The number of peak hour trips anticipated to be generated by the existing, proposed, and potential development programs were estimated based on Institute of Transportation Engineers (ITE) trip generation rates as reported in Trip Generation, 6th Edition and experience with comparable projects located at Metrorail stations throughout the metropolitan area.

The following development programs were analyzed:

Existing Development

1. 9,494 S.F. Billiards (assumed bowling/restaurant).
2. 2,534 S.F. Cleaners (assumed retail).

Proposed Development

1. 43 Apartments.
2. 4,500 S.F. Retail.

Potential Development

1. 8 Condominiums.
2. 19,000 S.F. Retail.

The results of these analyses are summarized on Table 3. Individual trip generation calculations for each condition are contained in Appendix G.

It is estimated that the proposed development program for 4600 Wisconsin Avenue would generate 25 weekday AM peak hour vehicle-trips, 58 PM peak hour vehicle-trips, and 76 Saturday mid-day peak hour vehicle-trips. These estimates are based on the assumptions that 40 percent of all residential trips, and 60 percent of all retail trips, will be Metrorail, Metrobus, or walk trips on weekdays. Twenty (20) percent of all residential trips, and 50 percent of all retail trips, were assumed to be non-auto trips on Saturdays.

A comparison of existing versus proposed uses indicates that the proposed program would generate 18 *more* trips during the AM peak hour, nine *fewer* trips during the PM peak hour, and 59 *fewer* trips on Saturday.

Table 3
4600 Wisconsin Avenue
Trip Generation Comparison Summary

Trip Type/ Land Use	Trip Generation Summary AM Peak Hour In	Out	Total	PM Peak Hour In	Out	Total	Saturday Peak Hour In	Out	Total
Vehicle Trip Summary (Net New Trips)									
Existing Uses	5	3	7	39	35	66	81	54	135
Proposed Uses	9	17	25	32	26	58	40	37	76
Potential Uses	15	13	28	43	46	89	79	72	151
Trip Generation Comparison									
Existing vs. Proposed	4	14	18	-7	-9	-9	-41	-17	-59
Proposed vs. Potential	-6	4	-3	-11	-20	-31	-39	-35	-75

Note: Trip generation based on ITE and previous studies. Refer to Appendix G for summaries.

The proposed development program would generate *fewer* trips during all peak hours than the potential development program for the site. It would generate 3 fewer AM peak hour trips, 31 *fewer* PM peak hour trips, and 75 *fewer* trips on Saturday.

These results show that proposed development program for 4600 Wisconsin Avenue would generate slightly more trips during the AM peak hour, but fewer trips during the PM peak hour and on Saturday. The development of this project would place less burden on the transportation infrastructure during the PM and Saturday peak periods.

As mentioned previously, since traffic generated by the existing uses must rely on curb parking, it would be very difficult to accurately deduct these trips from the existing road network. Therefore, the new trips have been added to the road network in order to provide a conservative estimate.

Trip Distribution Analysis

The distribution of peak hour trips generated by 4600 Wisconsin Avenue was determined based on existing traffic counts. It is estimated that approximately 35 percent of all site-generated traffic would approach the site from the north on Wisconsin Avenue, 55 percent from the south on Wisconsin Avenue, and 10 percent from the west on Chesapeake Street and River Road. The inbound and outbound distributions are provided since Brandywine Street is restricted to one-way traffic in the vicinity of the site.

Since parking is not provided for retail customers, retail trips were assigned to Wisconsin Avenue between Chesapeake Street and Brandywine Street and were assumed to utilize curb parking spaces in this area.

Site Traffic Assignments

The site-generated traffic volumes were assigned to the public road network according to this directional distribution. The

resulting site traffic assignments are shown on Figure 8. Individual traffic assignments for inbound and outbound trips for the residential and retail components of the project are summarized in Appendix H.

Total Future Traffic Forecasts

These site traffic assignments shown on Figure 8 were added to the future background traffic volumes shown on Figure 7 to yield the total future traffic forecasts shown on Figure 9.

Total Future Levels of Service

Future peak hour levels of service with 4600 Wisconsin Avenue were estimated at the key intersections in the study area based on the lane usage and traffic controls shown on Figure 3, the total future traffic forecasts shown on Figure 9, and the HCM methodology. It is noted that these results include traffic currently being generated by the existing uses occupying the site. The results are presented in Appendix I and summarized in Table 1, and indicate the following:

1. Development of 4600 Wisconsin Avenue would have minimal impact on public streets. Table 1 indicates that nearly all traffic movements, overall levels of service, v/c ratios, and delays would remain similar to background conditions.

2. The Wisconsin Avenue/Brandywine Street intersection would continue to operate at overall acceptable level of service (LOS "D" or better) during all peak periods with the development of 4600 Wisconsin Avenue. The northbound approach would continue to operate at an unacceptable LOS "D", similar to background conditions during the PM peak hour. However, since the proposed development program generates less traffic than the current uses during this hour, the actual delay should slightly decrease.

3. The remaining intersections would continue to operate at levels of service similar to those identified under background conditions without the site development.

4. The turning movement exiting the site access drive to Brandywine Street would operate at an acceptable level of service during all of the peak hours studied.

Off-Street Parking and Loading

Off-street parking will be supplied at 4600 Wisconsin Avenue by 45 below-grade parking spaces on two levels. For the proposed C-2-B zoning, 15 off-street parking spaces are required for the residential portion of the project (or one space for every three units), with two spaces for the retail. No loading berth is required.

The number of proposed off-street parking spaces would exceed the District of Columbia requirements. Since the retail space is planned to be community based and service oriented, and the condominium owners occupy the majority of the building, the developers of the site are not providing off-street loading (nor is it required). The potential for a loading zone in front of the building to accommodate anticipated typical on-street loading activities, such as UPS or FedEx deliveries, should be investigated to accommodate these activities.

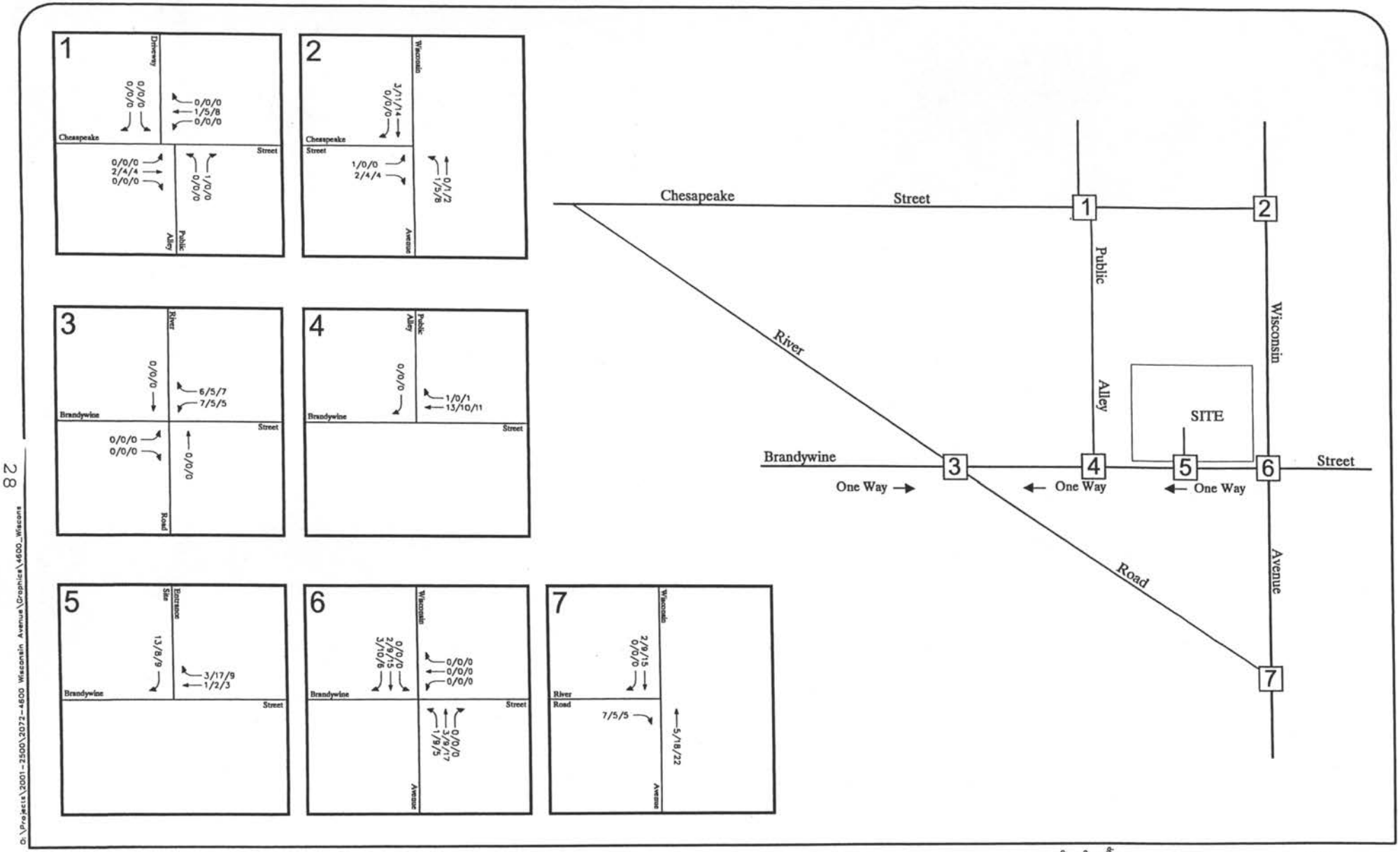


Figure 8
Site-Generated Traffic Assignments

AM PEAK HOUR
PM PEAK HOUR
SAT PEAK HOUR
000/000/000

North
Schematic

4600 Wisconsin Avenue
Washington, D.C.

WELLS & ASSOCIATES, LLC.
TRAFFIC, TRANSPORTATION, and PARKING CONSULTANTS

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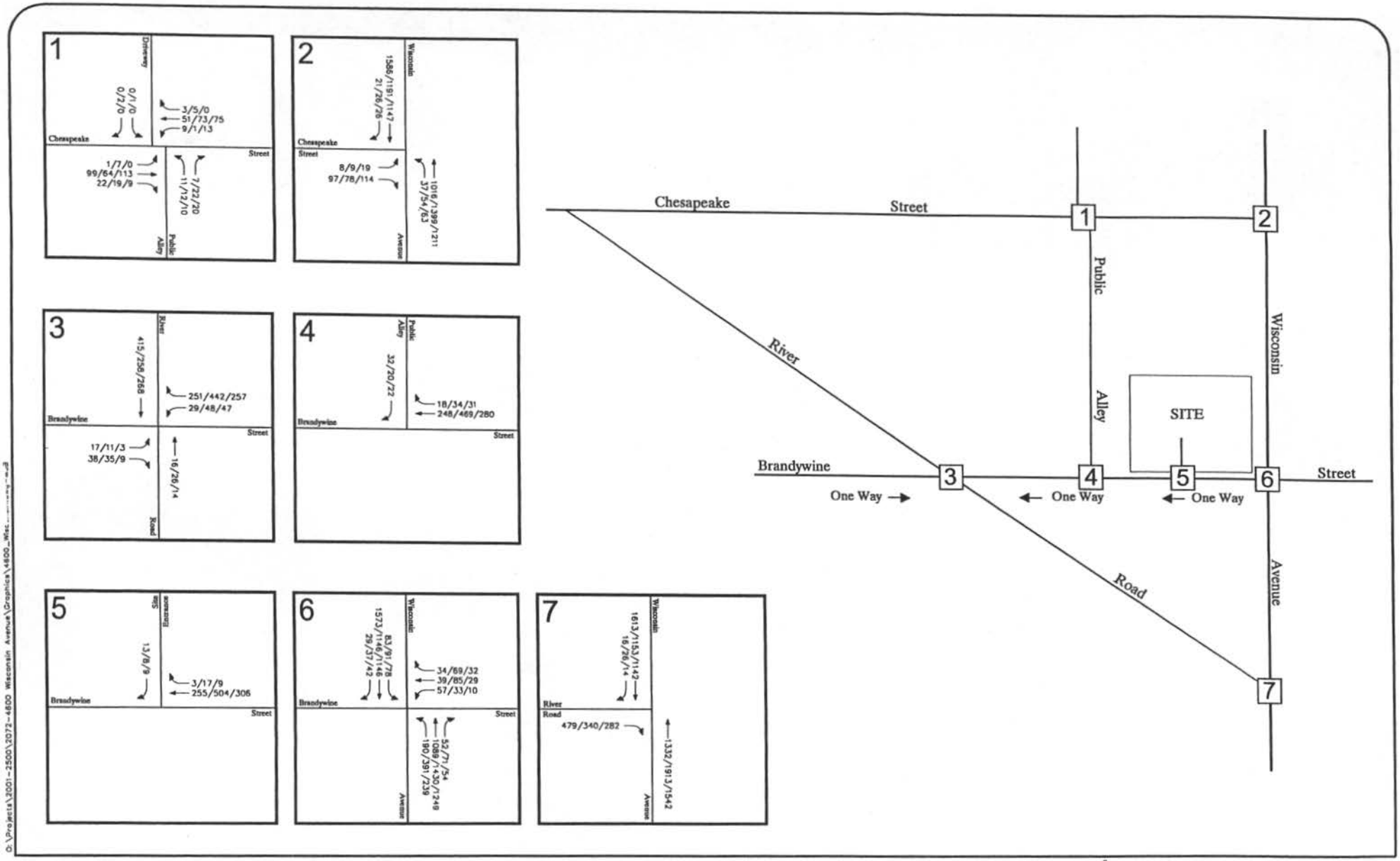


Figure 9
Total Future 2005 Peak Hour Traffic Forecasts

AM PEAK HOUR
PM PEAK HOUR
SAT PEAK HOUR
000/000/000

North
Schematic

4600 Wisconsin Avenue
Washington, D.C.

WELLS & ASSOCIATES, LLC.
TRAFFIC, TRANSPORTATION, and PARKING CONSULTANTS

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CONCLUSIONS

The conclusions of this traffic impact study are as follows:

1. The proposed development program for 4600 Wisconsin Avenue would have minimal impact to the overall transportation infrastructure. It would generate slightly more vehicle trips during the AM peak hour than the existing uses. However, the proposed program would generate fewer trips during the PM peak hour and on Saturday, reducing the overall impact to the road network.

2. Since traffic generated by the existing uses must rely on curb parking, it is difficult to accurately deduct these trips from the existing road network. Therefore, the new trips have been added to the road network in order to provide a conservative estimate that results in delays that are higher than would actually be realized.

3. All of the study intersections currently operate at an acceptable level of service (LOS) "D" or better during both the AM and PM peak hours on weekdays and Saturday, with the exception of the eastbound turning movements at the Wisconsin Avenue/Chesapeake Street intersection that operates at LOS "E" on Saturday.

4. Other projects approved or planned in the immediate area and general background traffic growth will affect some turning movements at the intersections adjacent to the site, increasing delays to unacceptable levels for some individual turning movements or approaches during peak hours.

5. 4600 Brandywine Associates proposes to raze the existing buildings and re-develop the property with 43 apartments and 4,500 S.F. of ground-level commercial uses that would generate 25 weekday AM peak hour trips, 58 weekday PM peak hour trips, and 76 Saturday mid-day peak hour trips. However, comparing these trips to those currently being generated by existing uses indicates that proposed development would generate fewer trips during the PM and

Saturday peak hours, lessening the burden on the road network.

6. These trips would have minimal impact on public streets. Nearly all traffic movements, overall levels of service, v/c ratios, and delays would remain similar to background conditions with full development of the site. These estimates are conservative and assume that traffic would increase with the site development.

7. The proposed project provides adequate off-street parking based on District of Columbia requirements. Although loading is not required, the developers of the site are investigating designating a loading zone in front of the building to accommodate anticipated typical on-street loading activities, such as UPS or FedEx deliveries.

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