

**WISCONSIN AVENUE GIANT
TRANSPORTATION IMPACT STUDY
WASHINGTON, D.C.**

RECEIVED
D.C. OFFICE OF ZONING
2008 MAY 16 PM 2:40

Prepared for:
Giant of Maryland, LLC

Prepared by:
Wells + Associates, Inc.

May 14, 2008 PUD Submission

ZONING COMMISSION
District of Columbia
CASE NO.08-15
EXHIBIT NO.3K

**WISCONSIN AVENUE GIANT
TRANSPORTATION IMPACT STUDY
WASHINGTON, D.C.**

TABLE OF CONTENTS

	<u>Page</u>
Section 1	
Introduction	I
Section 2	
Background Data	7
Project Description	7
Study Scope	10
Transportation Network.....	11
Existing Traffic Counts.....	12
Section 3	
Analysis	35
Existing Levels of Service	35
Background Traffic Growth.....	35
Background Traffic Forecasts	36
Background Future Levels of Service	36
Site Trip Generation Analysis	36
Directional Distribution	37
Site Traffic Assignments	37
Total Future Traffic Forecasts	38
Total Future Levels of Service	38
Section 4	
Conclusions	49

**WISCONSIN AVENUE GIANT
TRANSPORTATION IMPACT STUDY
WASHINGTON, D.C.**

LIST OF APPENDICES

- A. Existing Traffic Counts
- B. Existing Pedestrian Counts
- C. Existing Levels of Service
- D. Background Future Levels of Service
- E. Total Future Levels of Service

WISCONSIN AVENUE GIANT TRANSPORTATION IMPACT STUDY WASHINGTON, D.C.

LIST OF FIGURES

<u>Figure</u>	<u>Title</u>	<u>Page</u>
1-1	Site Location.....	5
1-2	Existing Conditions Plan.....	6
2-1	Parking Level 1	14
2-2	Parking Level 2	15
2-3	Ground Level Plan.....	16
2-4	SU-30 Swept Area Diagram, Inbound to North Tract Berths.....	18
2-5	SU-30 Swept Area Diagram, Outbound from North Tract Berths..	19
2-6	WB-50 Swept Area Diagram, Inbound to South Tract Berths from North	20
2-7	WB-50 Swept Area Diagram, Outbound from South Tract Berths to the North	21
2-8	WB-50 Swept Area Diagram, Inbound to South Tract Berths From the South.....	22
2-9	WB-50 Swept Area Diagram, Outbound from South Tract Berths to the South	23
2-10	Intersection Lane Use and Traffic Control.....	24
2-11	Public Transportation Facilities and Services	25
2-12	Existing Weekday AM/PM Peak Hour Vehicular Traffic Counts.....	26
2-13	Existing Saturday Mid-Day Peak Hour Vehicular Traffic Counts.....	27
2-14	Existing Link Traffic Counts Thursday, January 24, 2008.....	28
2-15	Existing Link Traffic Counts Friday, January 25, 2008.....	29
2-16	Existing Link Traffic Counts Saturday, January 26, 2008	30
2-17	Existing Weekday AM/PM Peak Hour Pedestrian Traffic Counts.....	31
2-18	Existing Saturday Mid-Day Peak Hour Pedestrian Traffic Counts.....	32
2-19	Site Driveway and Parking Occupancy Counts, Thursday, January 24, 2008	33
2-20	Site Driveway and Parking Occupancy Counts, Saturday, January 26, 2008	34

**WISCONSIN AVENUE GIANT
TRANSPORTATION IMPACT STUDY
WASHINGTON, D.C.**

**LIST OF FIGURES
(Continued)**

<u>Figure</u>	<u>Title</u>	<u>Page</u>
3-1	Background Future Peak Hour Traffic Forecasts: Weekdays	43
3-2	Background Future Peak Hour Traffic Forecasts: Saturdays	44
3-3	Site-Generated Traffic Assignments and Directional Distributions Weekdays	45
3-4	Site-Generated Traffic Assignments and Directional Distributions Saturdays	46
3-5	Total Future Peak Hour Traffic Forecasts: Weekdays	47
3-6	Total Future Peak Hour Traffic Forecasts: Saturdays	48

**WISCONSIN AVENUE GIANT
TRANSPORTATION IMPACT STUDY
WASHINGTON, D.C.**

LIST OF TABLES

<u>Table</u>	<u>Title</u>	<u>Page</u>
2-1	Parking and Loading Requirements	17
3-1	Intersection Levels of Service.....	40
3-2	Site Trip Generation Analysis.....	42

Section I INTRODUCTION

This report presents the results of a transportation impact study of Giant of Maryland, LLC's proposal to re-develop the Wisconsin Avenue Giant, which is located on Wisconsin Avenue at Newark Street in the northwest section of Washington, D.C., as shown on Figure I-1.

The subject site consists of two parcels: (1) the triangular-shaped North Parcel that is bounded on the east by Wisconsin Avenue, the west by Idaho Avenue, and the south by Newark Street and (2) the South Parcel that is located south of Newark Street between Wisconsin Avenue and Idaho Avenue (see Figure I-2).

The North Parcel, which is located in Square 1920N and zoned MW/C-1, is improved with a free-standing, 5,750 S.F. Crestar Bank, 10 retail stores (including a Starbucks) with a total of 44,000 S.F. of space, and a 45-space surface parking lot. The South Parcel, which is located in Square 1920 and split-zoned MW/C-1 and R-5-A, is improved with an obsolete 18,478 S.F. Giant supermarket, three retail stores with a total of 46,406 S.F. of space, and a 233-space surface parking lot.

Giant of Maryland, LLC proposes to raze all existing buildings on both parcels and build the following:

North Parcel:	30,439	S.F. of ground-level retail space along Wisconsin Avenue and Newark Street,
	124	Apartments on four above-grade levels.
	124	Below-grade parking spaces
	2	30-foot loading berths
South Parcel:	56,210	S.F. Giant supermarket,
	32,155	S.F. of ground-level retail space along Wisconsin Avenue and Newark Street,
	17,320	S.F. of flex/office space,
	8	Townhouses fronting on Idaho Avenue.
	14	Flats fronting on Newark Street,
	396	Below-grade parking spaces
	16	parking spaces for the townhouses
	2	55-foot loading berths
	2	30-foot loading berth
	2	Delivery spaces

For purposes of this traffic study, this development was assumed to be completely built and occupied by 2011.

Tasks undertaken in this study included the following:

1. Review Giant's proposed development plans, master plans by Street-Works, LLC, plans by Bohler Engineering, previous transportation impact studies prepared by Wells + Associates, transportation studies prepared on behalf of the District Department of Transportation (DDOT), and other background data.
2. A field reconnaissance of existing roadway and intersection geometrics, traffic controls, traffic signal phasing/timings, and speed limits.
3. Discussions with DDOT staff and Advisory Neighborhood Commission (ANC) regarding the traffic study scope.
4. Counts of existing vehicular and pedestrian traffic at 21 intersections on a typical weekday and Saturday.
5. Analysis of existing levels of service at these intersections.
6. Background future traffic volumes were forecasted for project buildout (2011).
7. Background levels of service were calculated at study intersections based on background traffic forecasts, existing traffic controls, and existing intersection geometrics.
8. The numbers of vehicle-trips currently generated by the subject property were identified based on driveway traffic counts.
9. The number of AM and PM peak hour trips that would be generated by the proposed project were estimated based on: (1) the proposed development program and (2) Institute of Transportation Engineers (ITE) trip generation rates/equations.
10. Total future traffic volumes were forecasted for 2011.
11. Total future levels of service were calculated at the study intersections based on total future traffic forecasts, existing traffic controls, and existing intersection geometrics.
12. Evaluate the ability of single-unit and tractor-trailer trucks to maneuver into and out of the truck docks on Idaho Avenue.

13. Operational improvements required to adequately accommodate site traffic were identified.

Sources of data for this analysis included traffic counts conducted by Wells + Associates, ITE, the Washington Metropolitan Area Transit Authority (WMATA), the District of Columbia, Street-Works, Bohler Engineering, and Giant of Maryland, LLC.

The conclusions of this study are as follows:

- 1. The Wisconsin Avenue Giant is situated within a connected network of arterial, collector, and local streets. It also is well served by regional bus service.***
- 2. Giant would provide sufficient parking to support the proposed residential, supermarket and other commercial uses per the D.C. Municipal Regulations, which would discourage auto travel and encourage transit use.***
- 3. Giant would provide a residential parking ratio that is consistent with auto ownership in this local neighborhood, as reported by the U.S. Census. The proposed residential parking supply would adequately accommodate this project's residential parking demand without encouraging auto travel or spillover parking into the surrounding neighborhood.***
- 4. Improvements proposed by Giant would make Newark Street a "complete street" that adequately and attractively serves all travel modes for all people.***
- 5. The proposed re-development would reduce the number of driveways on both the North and South Parcels, thus reducing vehicle/pedestrian conflicts.***
- 6. Single unit and tractor-trailer trucks can safely and efficiently maneuver into and out of the truck docks proposed on Idaho Avenue, if Idaho Avenue is converted from one-way southwest-bound to two-way operation.***
- 7. Pedestrians could more safely cross Wisconsin Avenue if the existing crosswalk at Norton Place were relocated to Idaho Avenue and a new traffic signal were installed at the Wisconsin Avenue/Idaho Avenue intersection.***
- 8. All signalized intersections in the study area presently operate at an overall acceptable level of service (LOS) "D" or better at all times, with one exception. All intersection approaches also operate at LOS "D" or better at all times, with some exceptions.***

- 9. Intersection delays will increase fractionally in the future due to background traffic growth, even without improving the Wisconsin Avenue Giant. Overall levels of service will not change at the signalized intersections, with one exception. The intersection approaches that currently operate near or at capacity will continue to do so. No additional approaches would operate near or at capacity.**
- 10. The Wisconsin Avenue Giant site, which is largely vacant, currently generates 351 weekday AM peak hour vehicle-trips, 454 weekday PM peak hour vehicle-trips, and 468 Saturday mid-day peak hour vehicle-trips.**
- 11. The proposed re-development would generate 109 (or 31 percent) more weekday AM peak hour vehicle-trips, 539 (or 119 percent) more weekday PM peak hour trips, and 550 (or 118 percent) more Saturday mid-day peak hour vehicle-trips than the existing uses.**
- 12. All signalized study intersections would operate at an acceptable LOS "D" or better with Giant's plans to re-development their Cleveland Park site if existing signal timings are optimized.**
- 13. Garage access and egress will be adequate and convenient. All garage driveways would operate at an acceptable LOS "C" or better at all times of day.**



Figure 1-1
Site Location



North

G:\PROJECTS\3501-4000\3992 CLEVELAND PARK GIANT (2008)\GRAPHICS\05-08-08 BOHLER\FIGURE 1-2 CAD.DWG

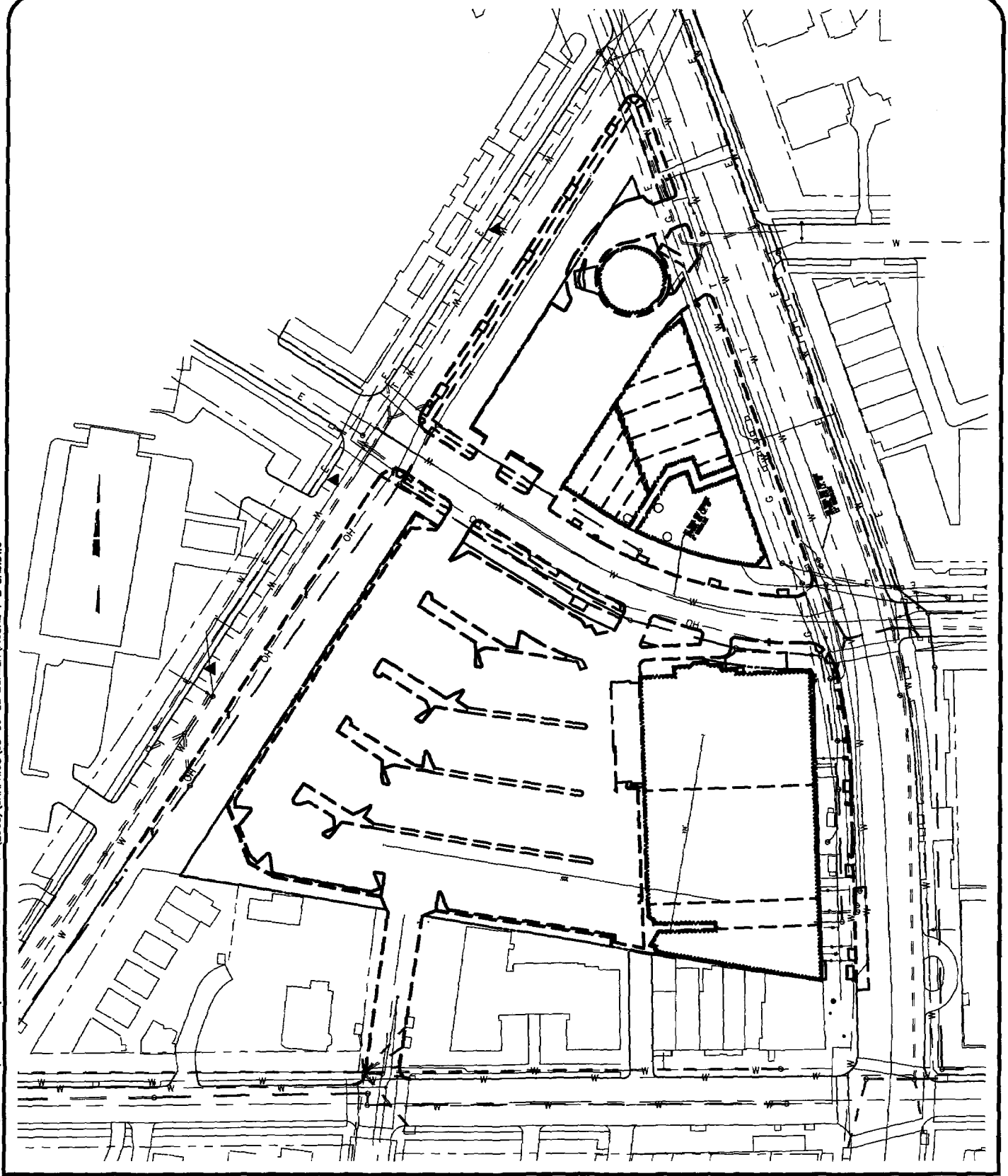


Figure 1-2
Existing Conditions Plan

Provided By:
Bohler Engineering



Section 2 BACKGROUND DATA

Project Description

Overview. The proposed project is described below in terms of the development program, parking plan, loading plan, driveways, and proposed street improvements. Parking level 2, parking level 1, and the ground-level plan are shown on Figures 2-1, 2-2, and 2-3, respectively.

Development Program. Giant proposes to raze all buildings on both parcels and build the following:

North Parcel:	30,439	S.F. of ground-level retail space along Wisconsin Avenue and Newark Street,
	124	Apartments on four above-grade levels.
	124	Below-grade parking spaces
	2	30-foot loading berths
South Parcel:	56,210	S.F. Giant supermarket,
	32,155	S.F. of ground-level retail space along Wisconsin Avenue and Newark Street,
	17,320	S.F. of flex/office space,
	8	Townhouses fronting on Idaho Avenue.
	14	Flats fronting on Newark Street,
	396	Below-grade parking spaces
	16	parking spaces for the townhouses
	2	55-foot loading berths
	2	30-foot loading berth
	2	Delivery spaces

Idaho Avenue. Giant proposes to convert Idaho Avenue between Newark and Wisconsin Avenues from one-way southwest-bound to two-way operation. This would allow trucks to enter and exit the supermarket loading area from Idaho Avenue and keep truck traffic off of Macomb Street, Newark Street, and other neighborhood streets. The curb radii at the Wisconsin Avenue/Idaho Avenue intersection would be reconstructed to permit tractor-trailer trucks and buses to make left and right turns onto and off of north- and south-bound Wisconsin Avenue.

Wisconsin Avenue Crosswalk. Pedestrian safety and convenience would be enhanced by moving the Wisconsin Avenue crosswalk from south of Norton Place to Idaho Avenue and installing a new traffic signal at the Wisconsin Avenue/Idaho Avenue intersection. This new signal also would facilitate turns onto Wisconsin Avenue from Idaho Avenue, particularly by trucks and buses.

Parking Plan. As shown on Figures 2-1 and 2-2, 124 spaces on two underground parking levels, with a single driveway to the upper level off of Newark Street, would be built on the North Parcel. Three hundred ninety six (396) parking spaces on two, four-bay, underground levels, with driveways to the upper level off of both 38th and Newark Streets, would be built on the South Parcel. The 90-degree stalls would measure 9 feet wide and 18 feet deep with 22-foot wide, two-way drive aisles. Sixteen (16) parking spaces will be provided for the townhouses, with a driveway on Idaho Avenue.

The District of Columbia Municipal Regulations require a minimum of 435 parking spaces for the proposed commercial uses and 77 parking spaces for the proposed residential units, as shown in Table 2-1. Giant proposes to provide 396 spaces, or 39 (or nine percent) **fewer** spaces than required, for the commercial uses. Giant proposes to provide 140 residential spaces, or 0.96 spaces per unit. This is 63 (or 82 percent) **more** spaces than required by the Municipal Regulations for the residential units.

The higher number of residential parking spaces is justified by the relatively high auto ownership in this neighborhood and the goal of preventing spillover parking into the adjacent residential neighborhood, a concern expressed by community members. The average auto availability in owner-occupied dwellings is 1.15 autos per household, according to the 2000 U.S. Census. The average auto availability in renter occupied dwellings is 0.86 autos per household. Together, owners and renters have, on average, 1.01 autos available per household, which is nearly identical to the proposed residential parking ratio.

Loading Plan. The Municipal Regulations require a total of seven berths and four delivery spaces. Two 30-foot loading berths are proposed on the North Parcel, and two 55-foot berths, two 30-foot berths, and two delivery spaces are proposed on the South Parcel, as shown on Figure 2-1. Trucks would access both docks from Idaho Avenue.

The 30-foot trucks would back into the North Parcel dock rear first and pull out of these berths front first. The inbound and outbound routes that a 30-foot single-unit (SU 30) truck would travel between Wisconsin Avenue (south of Newark Street) and the North Parcel berths are shown on Figures 2-4 and 2-5, respectively.

The 55-foot trucks would pull into and out of the South Parcel dock front first. Space for a service court has been created to allow on-site circulation and maneuvers. The inbound and outbound routes that a 55-foot tractor-trailer (WB-50) truck would travel between Wisconsin Avenue (north of Idaho Avenue) and the South Parcel berths are shown on Figures 2-6, 2-7, 2-8 and 2-9, respectively.

Driveways. The number of driveways on the North Parcel would be reduced by half, from the existing four driveways to the proposed two driveways. The number of driveways on the South Parcel would be reduced by one, from four to three.

Bike Racks/Lockers. Bike racks and/or lockers will be incorporated on the site.

Street Improvements. The following street improvements would be made as part of this project:

- I. Reconstruct Newark Street with:
 - b. Two 12-foot wide travel lanes and two eight-foot wide parking lanes.
 - c. Marked crosswalks at Wisconsin Avenue, the garage driveways, and Idaho Avenue,
 - d. Twenty curb parking spaces on both sides of the street.
 - e. Special paving materials,
 - f. Streetscape improvements, and
 - g. Street trees.
2. Convert Idaho Avenue between Wisconsin Avenue and Newark Street from one-way southwest-bound to two-way operation.
3. Install a new, pedestrian-activated traffic signal and a pedestrian crosswalk on the south leg of the Wisconsin Avenue/Idaho Avenue intersection.
4. Remove the uncontrolled crosswalk on the south leg of the Wisconsin Avenue/Norton Place intersection.
5. Modify the curbs in the southwest and northeast quadrants of the Wisconsin Avenue/Idaho Avenue intersection to accommodate WB-50 tractor-trailer trucks to make the turns shown on Figure 2-9.

Study Scope

This traffic study was conducted in accordance with the scoping agreement between Wells + Associates and DDOT staff and with input from members of the local ANC. This study includes the following intersections:

1. Wisconsin Avenue/Porter Street,
2. Wisconsin Avenue/Idaho Avenue,
3. Newark Street/Idaho Avenue,
4. Wisconsin Avenue/Newark Street,
5. Massachusetts Avenue/Macomb Street,
6. Massachusetts Avenue/Idaho Avenue/39th Street,
7. Macomb Street/Idaho Avenue,
8. Macomb Street/38th Street*,
9. Macomb Street/Wisconsin Avenue,
10. Porter Street/34th Street,
11. Porter Street/Connecticut Avenue,
12. Newark Street/34th Street,
13. Newark Street/Connecticut Avenue,
14. Macomb Street/34th Street,
15. Macomb Street/Connecticut Avenue,
16. Wisconsin Avenue/North Parcel Northern Driveway*,
17. Wisconsin Avenue/North Parcel Southern Driveway/Norton Place*,
18. Newark Street/North Parcel Western Driveway/South Parcel Western Driveway*,
19. Newark Street/North Parcel Eastern Driveway*,
20. Newark Street/South Parcel Middle Driveway*, and
21. Newark Street/South Parcel Eastern Driveway*.

Site driveways indicated by an asterisk (“*”).

There are no known development projects in the immediate area that are approved but not yet built (i.e., pipeline projects).

Level of service (LOS) “D” generally is considered the minimum acceptable level of service. LOS “E” is acceptable during peak hours in urban areas such as Washington, D.C.

Transportation Network

Existing Street Network. The Wisconsin Avenue Giant is located within a connected network of arterial, collector, and local streets, including:

<u>Street</u>	<u>Functional Class.</u>	<u>No. Lanes</u>	<u>ADT</u>
Wisconsin Avenue	Principal Arterial	4-5	29,500
Macomb Street	Collector	2	4,000
Massachusetts Ave.	Principal Arterial	4	19,500
Porter Street	Minor Arterial	2	2,100
34 th Street	Minor Arterial	2	16,500
Connecticut Avenue	Principal Arterial	4-6	39,000

Existing intersection lane use and traffic control at key intersections in the site vicinity are shown on Figure 2-10.

Public Transportation Facilities and Services. The subject site is served by four bus lines, which link the subject site with multiple Metro stations, as shown on Figure 2-11:

<u>Metrobus Line</u>	<u>Metro Station:</u>
1. 30, 32, 34, 35, 36: Pennsylvania Ave Line	Friendship Heights, Tenleytown-AU, Farragut West, Farragut North, Federal Triangle, Archives Navy Memorial Penn Quarter, Eastern Market, Potomac Avenue, Southern Avenue, Naylor Road
2. 96: East Capitol St.-Cardozo Line	Woodley Park-Zoo/Adams Morgan, U Street/ African-Amer. Civil War Memorial/Cardozo, Union Station, Stadium-Armory, Benning Road, Capitol Heights
3. H4: Crosstown Line	Tenleytown-AU, Cleveland Park, Columbia Heights, Brookland-CUA
4. X3: Benning Road Line	Woodley Park-Zoo/Adams Morgan, U Street/ African-Amer. Civil War Memorial/Cardozo, New York Ave-Florida Ave-Gallaudet U, Minnesota Ave, Federal Triangle

The Cleveland Park Metro station is located 0.8 airline-miles to the east on Connecticut Avenue between Ordway and Porter Street. The Tenleytown-American University (AU) Metro station is located 1.0 airline-mile to the north on Wisconsin Avenue at Albemarle Street

Bus stops are located on both sides of Newark Street, between Wisconsin Avenue and Idaho Avenue, and Wisconsin Avenue on both sides of Macomb Street, Newark Street, in the northbound direction at Norton Place and in the southbound direction at Idaho Avenue.

Existing Traffic Counts

Vehicular Traffic Counts. Existing weekday AM and PM peak period traffic counts were conducted on Thursday, January 24, and Saturday mid-day traffic counts were conducted on January 26, 2008, by Wells + Associates at the study intersections listed above. The results are included in Appendix A. The weekday AM and PM peak hour, and Saturday mid-day peak hour, counts are summarized on Figures 2-12 and 2-13, respectively.

The peak hours generally occurred at the following times:

Weekday AM Peak Hour:	7:45 to 8:45 AM,
Weekday PM Peak Hour:	5:45 to 6:45 PM, and
Saturday Mid-Day Peak Hour:	3:30 to 4:30 PM.

Link Counts. Existing peak hour vehicular traffic counts on select links in the study area are as follows:

<u>Link</u>	<u>Location</u>	<u>AM</u>	<u>PM</u>	<u>Saturday</u>
Massachusetts Avenue	S. of Macomb	1,745	1,715	934
Idaho Avenue	S. of Newark	333	248	199
Wisconsin Avenue	S. of Newark	2,656	2,399	1,964
34 th Street	S. of Newark	1,041	1,381	1,004
Connecticut Avenue	S. of Newark	3,214	2,822	1,838
Macomb Street	E. of Wisconsin	538	372	211
Newark Street	E. of Wisconsin	241	168	127
Porter Street	E. of Wisconsin	432	394	338

Twenty-four hour link traffic counts also were conducted by Wells + Associates on Thursday, January 24, 2008, Friday, January 25, 2008 and Saturday, January 26, 2008 by Wells + Associates. The results are shown in Figures 2-14, 2-15, and 2-16, respectively.

Pedestrian Traffic Counts. Existing weekday AM and PM peak period pedestrian traffic counts also were conducted on Thursday, January 24, and on Saturday, January 26, 2008, by Wells + Associates at the study intersections listed above. The results are included in Appendix B. The weekday AM and PM peak hour, and Saturday mid-day peak hour, counts are summarized on Figures 2-17 and 2-18, respectively.

Parking Occupancy Counts. Counts of the number of parking spaces occupied on the subject site were conducted at the same times as the driveway traffic counts. The results for Thursday, January 24 and Saturday, January 26, 2008 are shown on Figures 2-19 and 2-20, respectively.

The weekday commuter and Saturday mid-day peak hours and peak hour counts were as follows:

<u>Day/Time</u>	<u>Hour</u>	<u>Inbound Trips</u>	<u>Outbound Trips</u>	<u>Total Trips</u>
Weekday AM	7:45 – 8:45 AM	186	165	351
Weekday PM	5:45 – 6:45 PM	249	205	454
Saturday Mid-Day	3:30 – 4:30 PM	225	243	468

A peak of 259 parking spaces (or 92 percent of all spaces) were occupied on at 7:00 PM on Thursday, January 24. A peak of 228 parking spaces (or 81 percent of all spaces) were occupied on at 12:30 PM on Saturday, January 26.

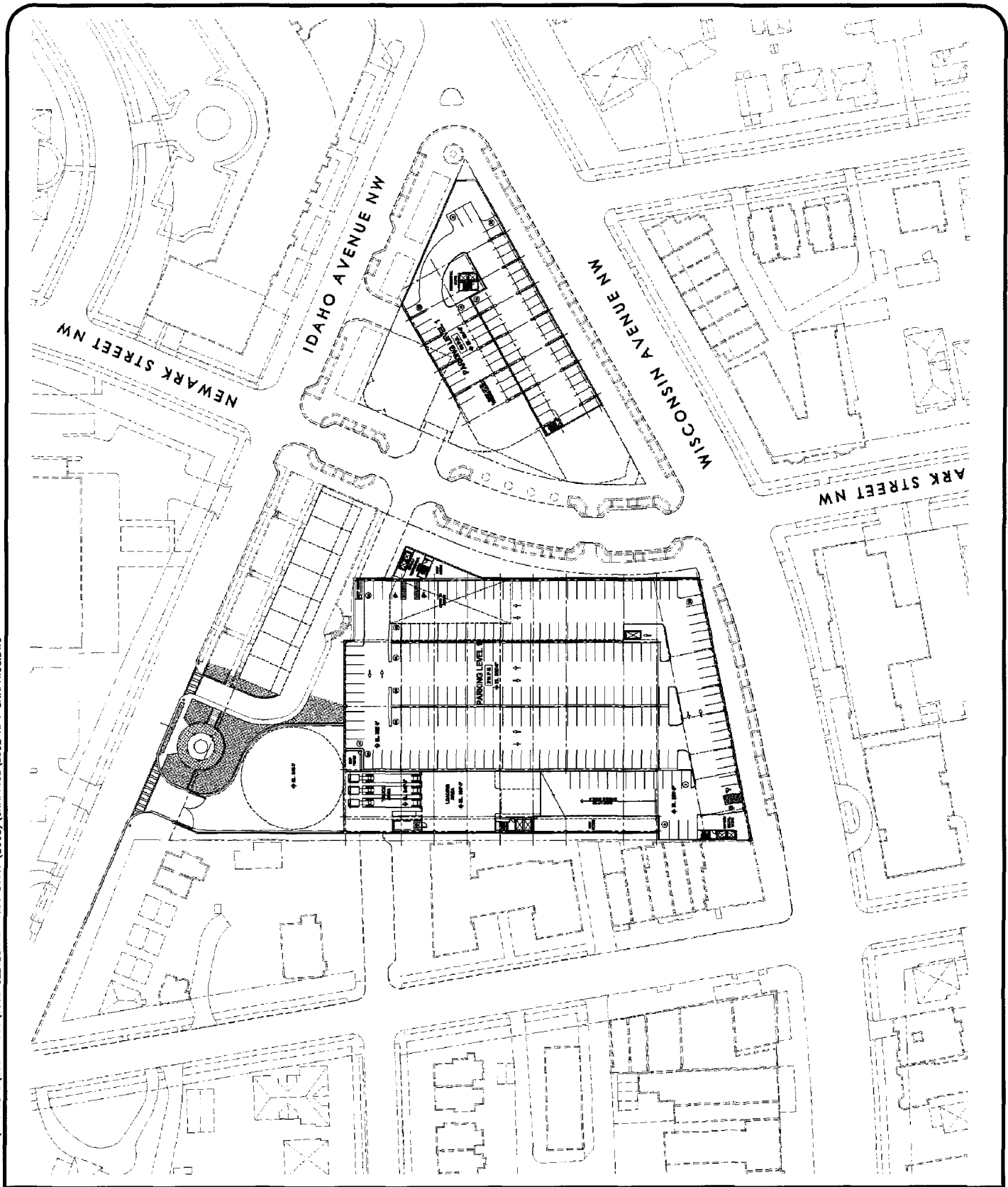


Figure 2-1
Parking Level 1



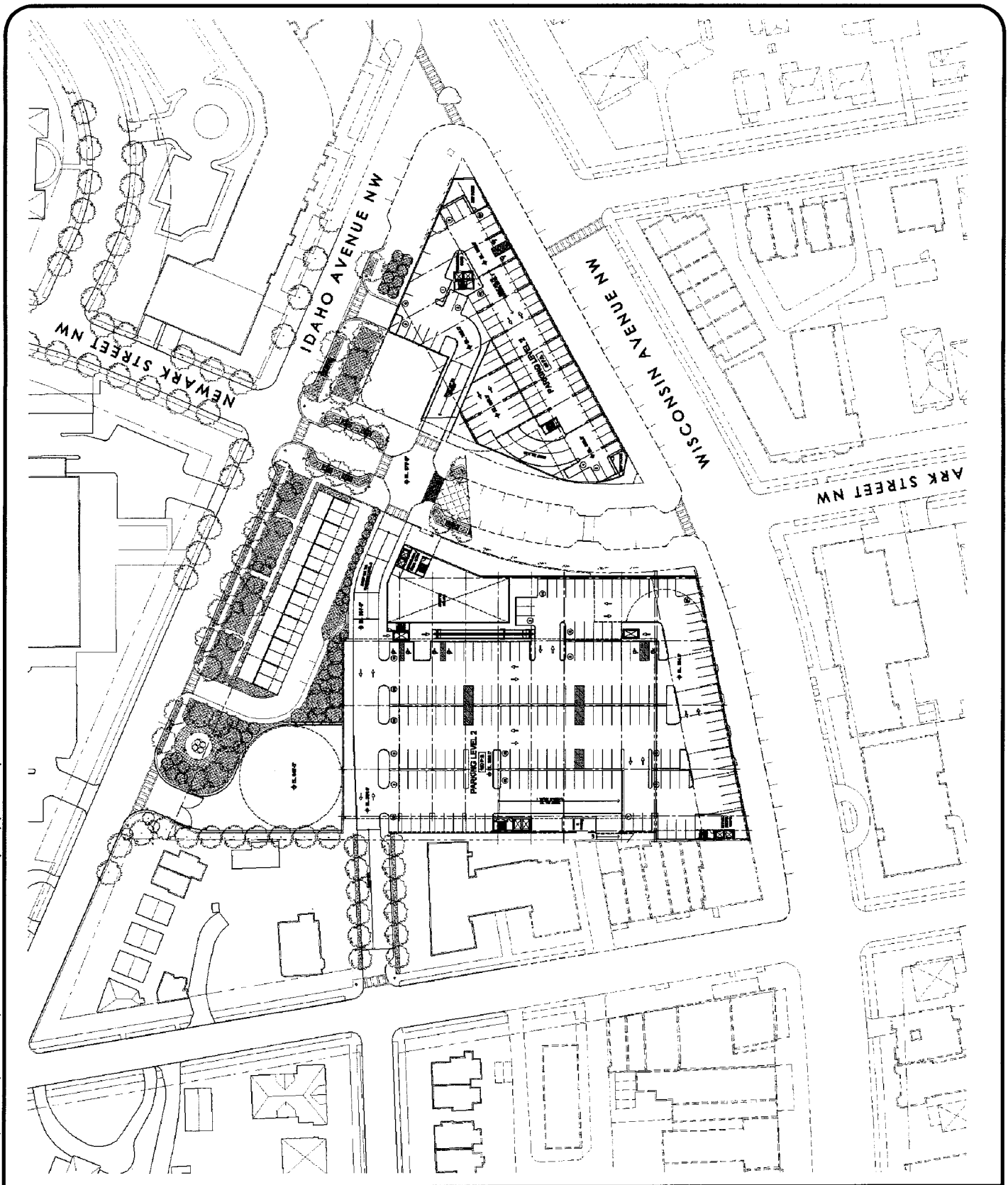


Figure 2-2
Parking Level 2



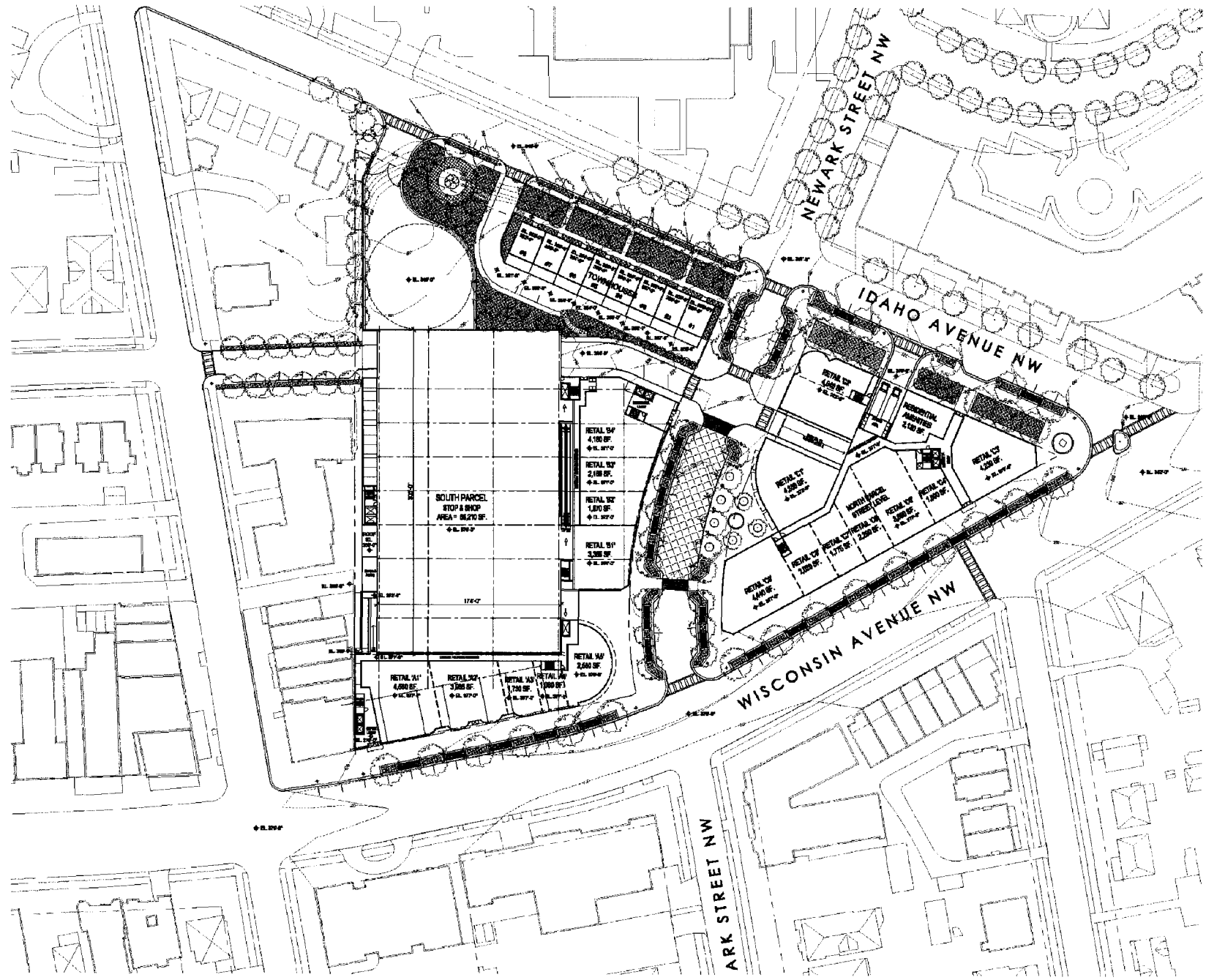


Figure 2-3
Grand Level Plan



North

Table 2-1
Parking and Loading Requirements

Requirement	Proposed Zoning (PUD Guidelines / Matter of Right)	Project Design
Parking	Total: 512 spaces - North Parcel: 155 total spaces 30,799 s.f. retail = 93 retail spaces 62 units = 62 residential spaces - South Parcel: 349 total spaces 105,685 s.f. retail = 342 retail spaces, 14 units = 7 residential spaces - Townhouse Parcel: 8 total spaces 8 townhouses = 8 spaces Requirements: - Retail: in excess of 3,000 s.f., 1 per 300 s.f. GFA and CFA - Multi-Family Dwelling: 1 per 2 dwelling units - One-Family Dwelling: 1 space per dwelling unit	Total: 536 spaces - North Parcel: 124 spaces - South Parcel: 396 spaces - Townhouse Parcel: 16 spaces
Loading	North Parcel: Retail Space (30k – 100k s.f.) 1 Berth @ 30 ft. deep 1 Berth @ 55 ft. deep 1 Platform @ 100 s.f. 1 Platform @ 200 s.f. 1 Space @ 20 ft. deep Multi-Family Dwelling (50+) 1 Berth @ 55 ft. deep 1 Platform @ 200 s.f. 1 Space @ 20 ft. deep South Parcel: Grocery Store (20k – 100k s.f.) 1 Berth @ 30 ft. deep 1 Berth @ 55 ft. deep 1 Platform @ 100 s.f. 1 Platform @ 200 s.f. 1 Space @ 20 ft. deep Retail Space (30k – 100k s.f.) 1 Berth @ 30 ft. deep 1 Berth @ 55 ft. deep 1 Platform @ 100 s.f. 1 Platform @ 200 s.f. 1 Space @ 20 ft. deep	North Parcel: 2 berths @ 30 ft. deep 2 platforms @ 100 s.f. 1 platform @ 200 s.f. South Parcel: 2 berth @ 55 ft. deep 2 berths @ 30 ft. deep 2 platforms @ 100 s.f. 2 platforms @ 200 s.f. 2 service spaces @ 20 ft. deep

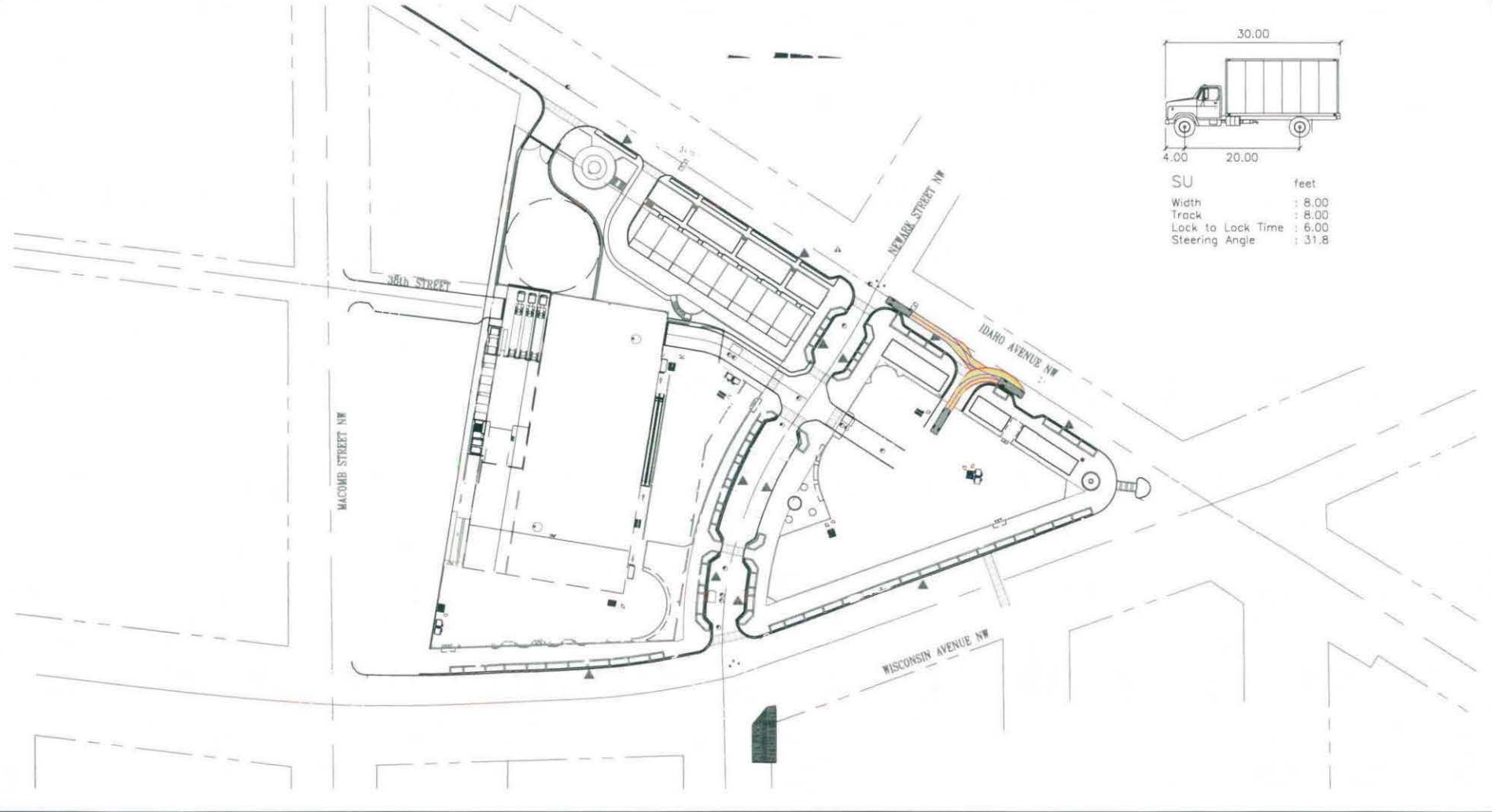


Figure 2-4
SU-30 Swept Area Diagram Inbound to North Tract Berths

— Vehicle Body
- - - Front Tire Tread
... Rear Tire Tread
→ Directional Path
— Vehicle Path

Site Plan Provided By
BOHLER



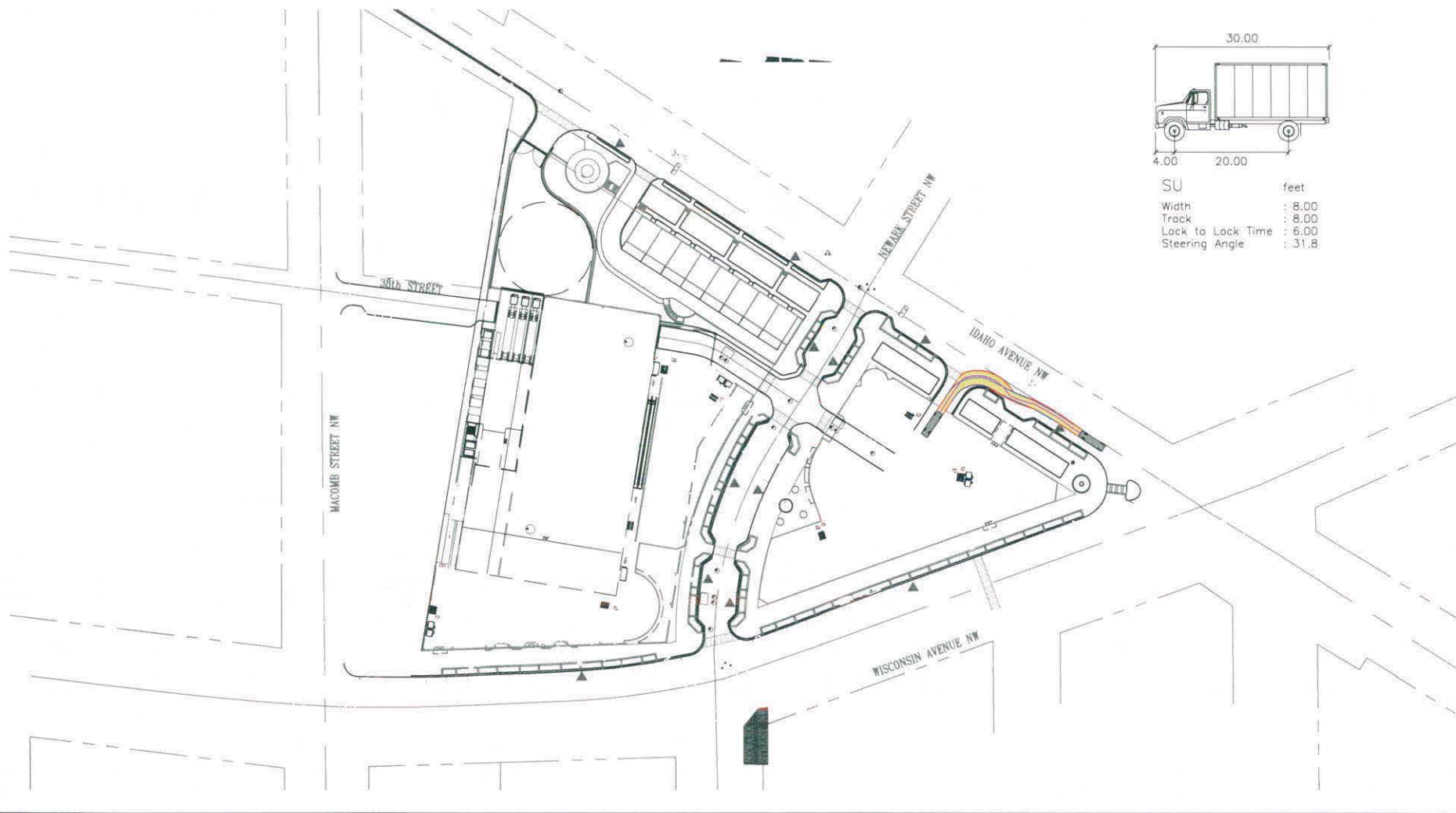


Figure 2-5
SU-30 Swept Area Diagram Outbound from North Tract Berths

- Vehicle Body
- Front Tire Tread
- Rear Tire Tread
- Directional Path
- Vehicle Path

Site Plan Provided By
BOHLER



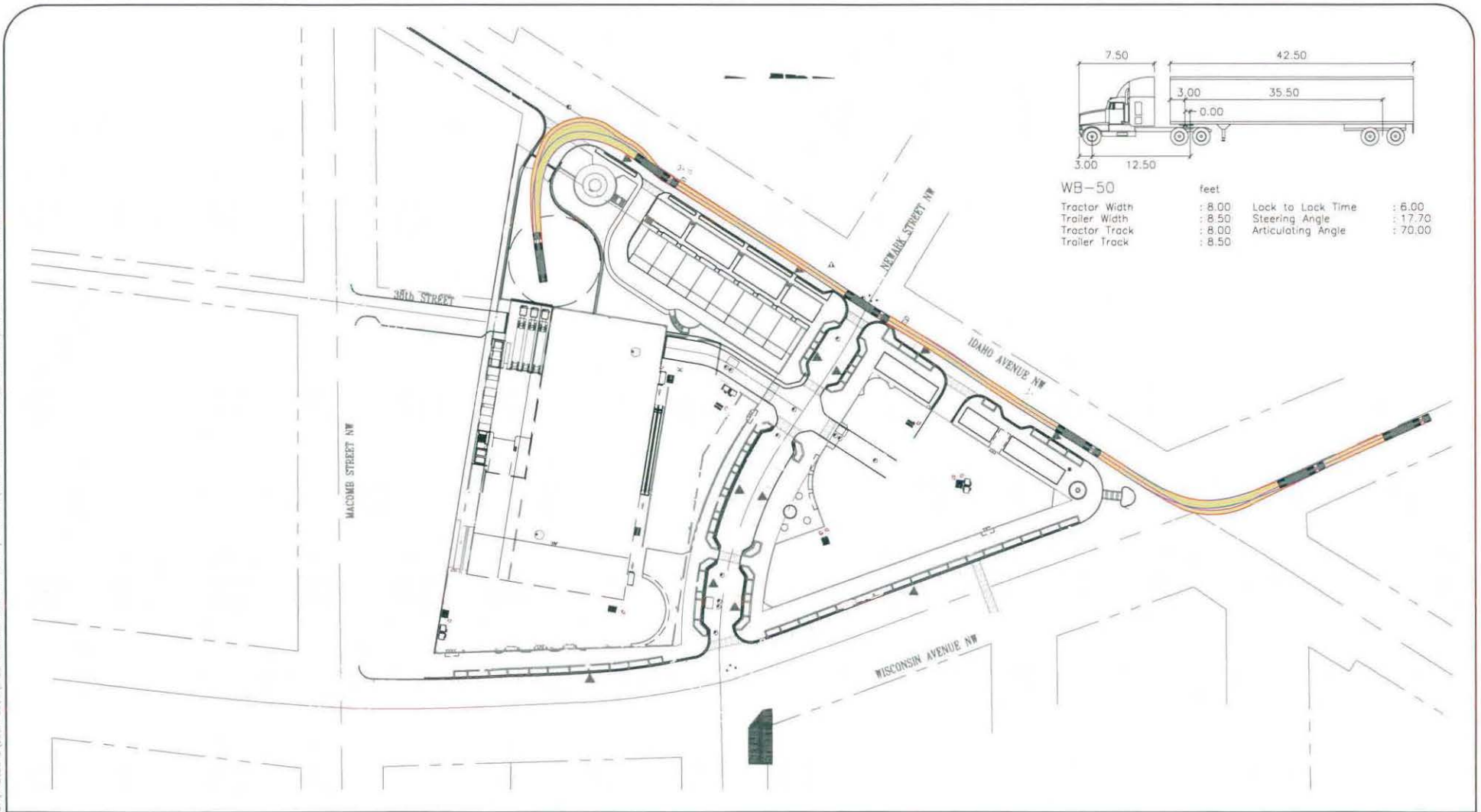


Figure 2-6
WB-50 Swept Area Diagram Inbound to South Berths from the North

Vehicle Body
Front Tire Tread
Rear Tire Tread
Directional Path
Vehicle Path

Site Plan Provided By
BOHLER



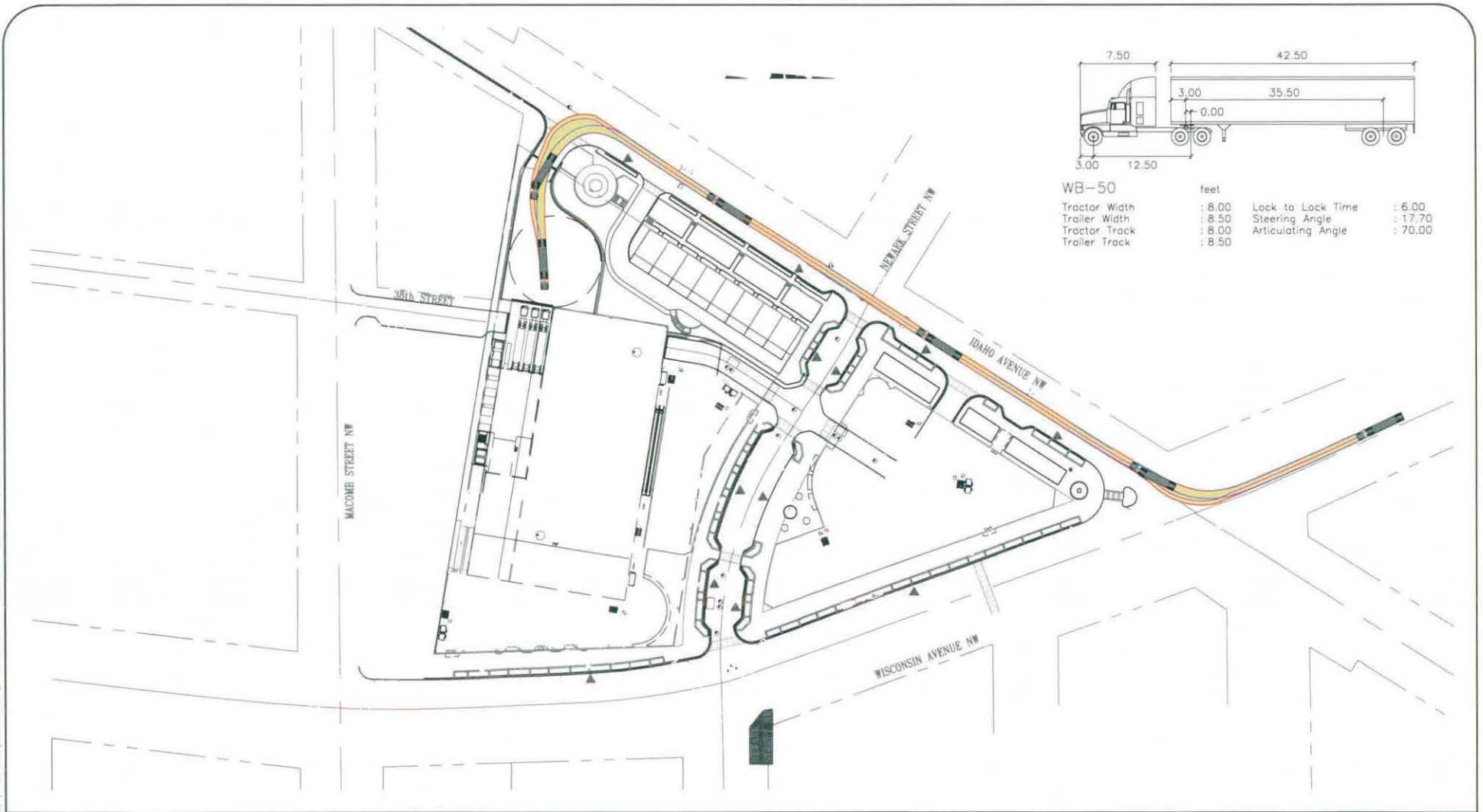


Figure 2-7
WB-50 Swept Area Diagram Outbound from South Berths to the North

Vehicle Body
Front Tire Tread
Rear Tire Tread
Directional Path
Vehicle Path

Site Plan Provided By
BOHLER



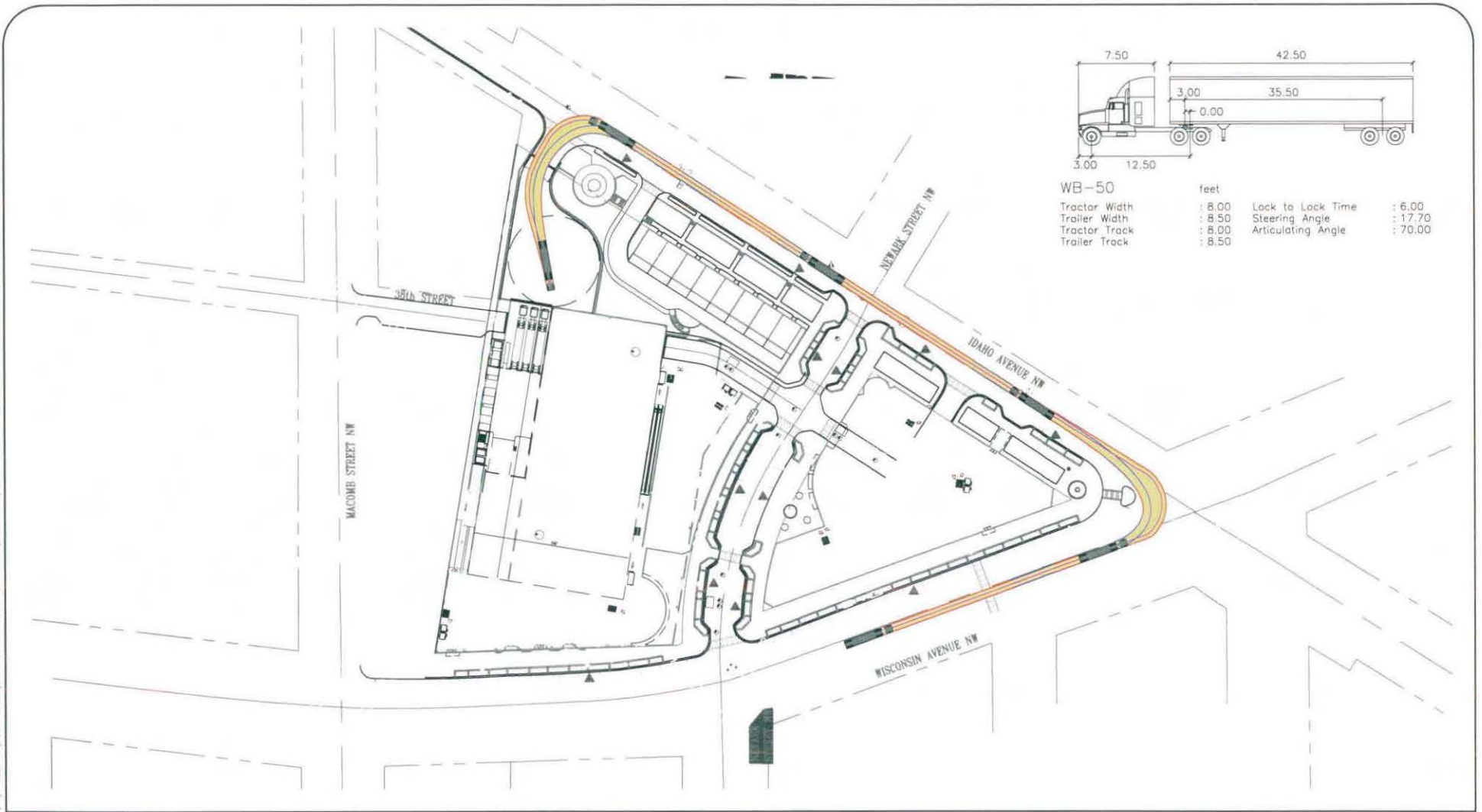


Figure 2-8
WB-50 Swept Area Diagram Inbound to South Berths from the South

- Vehicle Body
- Front Tire Tread
- Rear Tire Tread
- Directional Path
- Vehicle Path

Site Plan Provided By
BOHLER



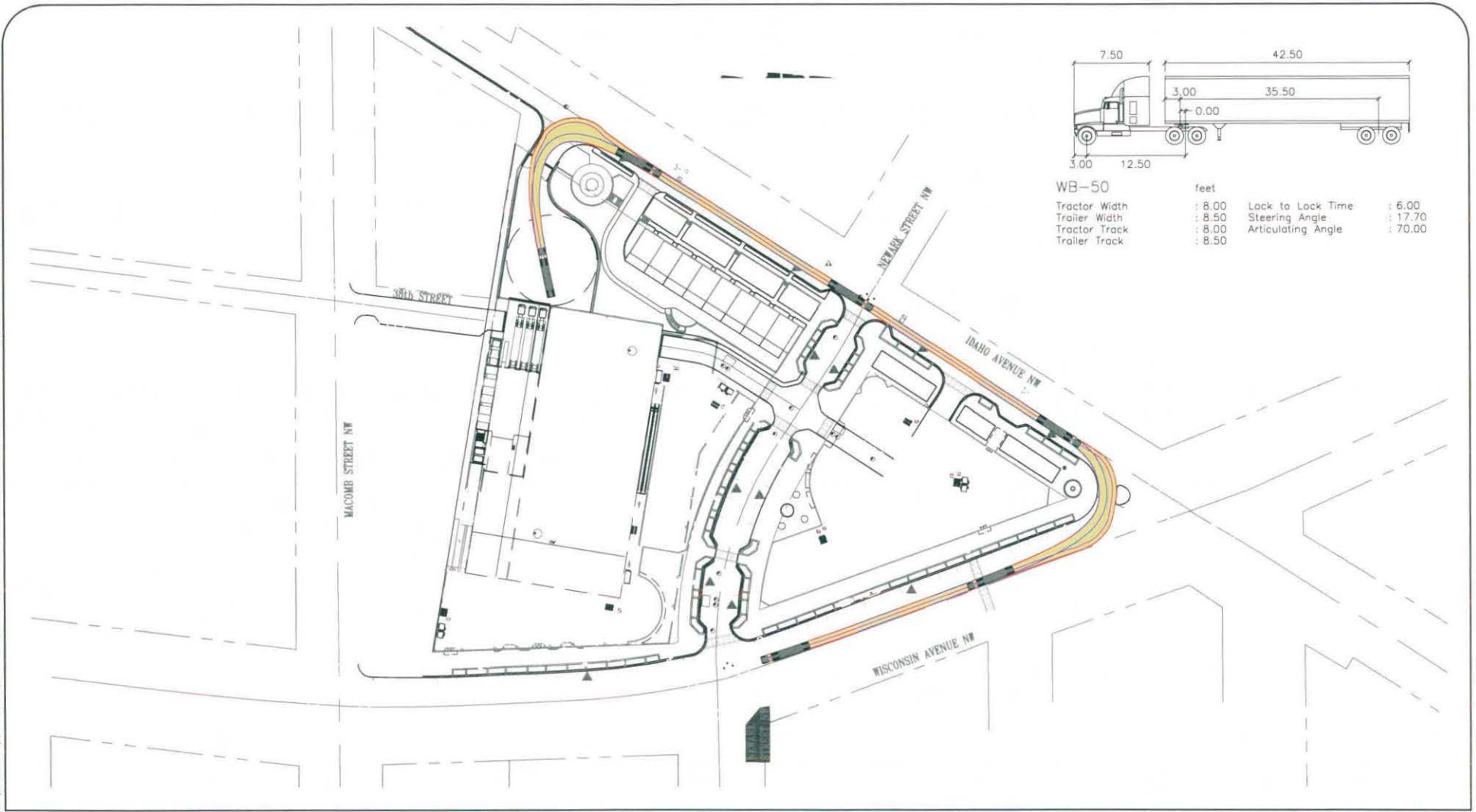


Figure 2-9
WB-50 Swept Area Diagram Outbound from South Berths to the South

Vehicle Body
Front Tire Tread
Rear Tire Tread
Directional Path
Vehicle Path

Site Plan Provided By
BOHLER



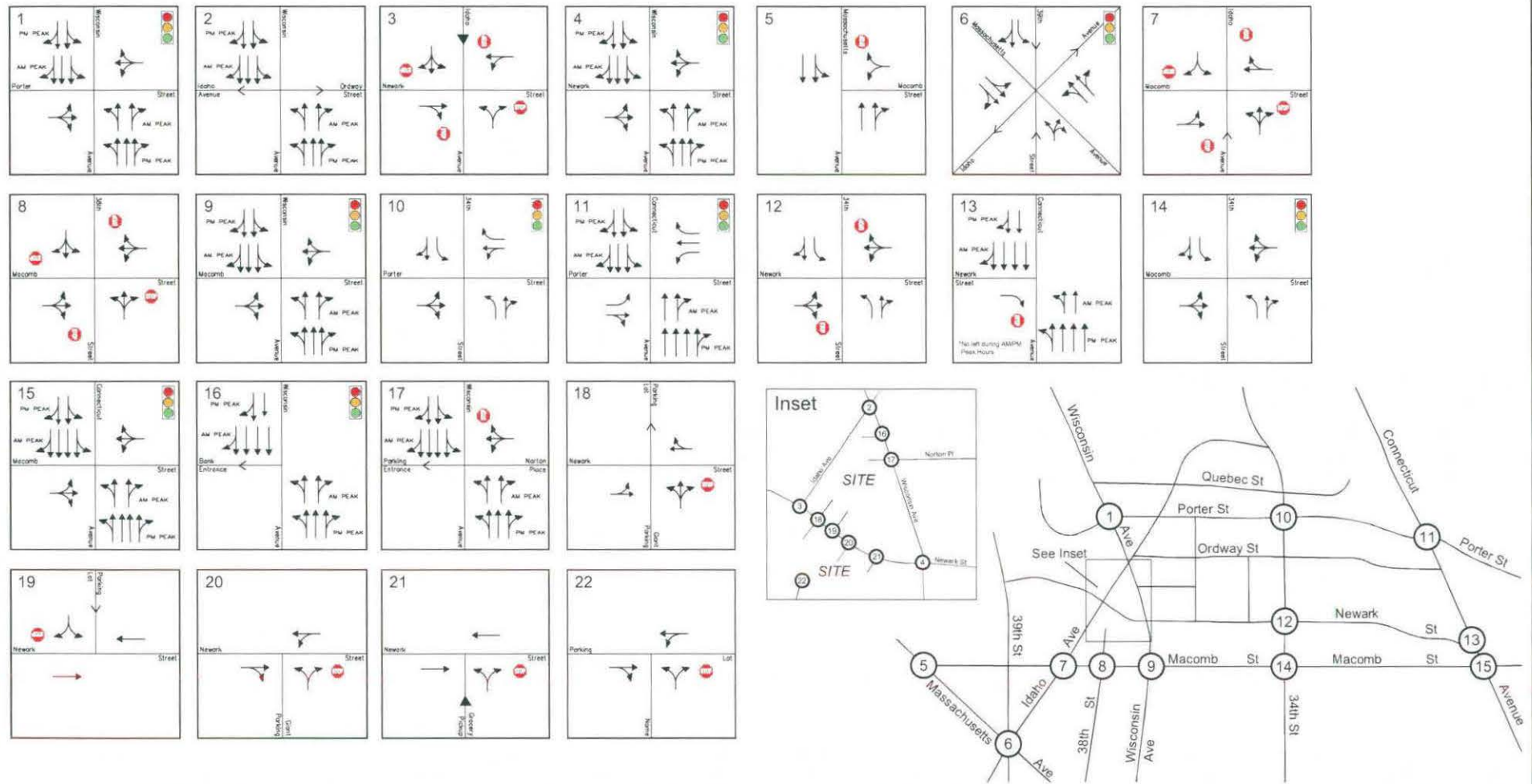


Figure 2-10
Intersection Lane Use and Traffic Control

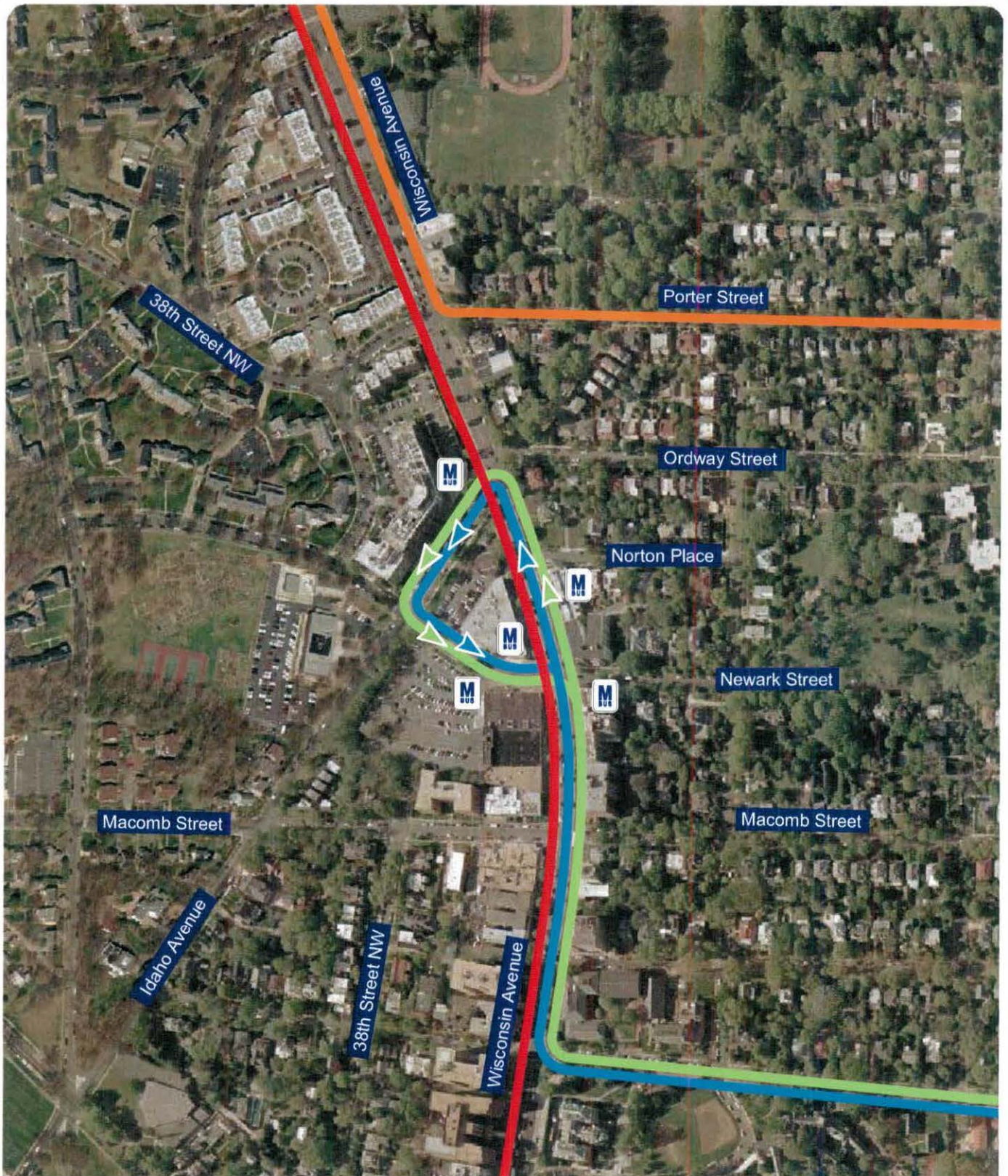


Figure 2-11
Metrobus Routes

—	H-1, H-2, & H-4	Crosstown Line
—	30, 32, 34, 35, & 36	Pennsylvania Avenue Line
—	90, 92, & 93	U Street - Garfield Avenue Line
—	X-3	Benning Road Line



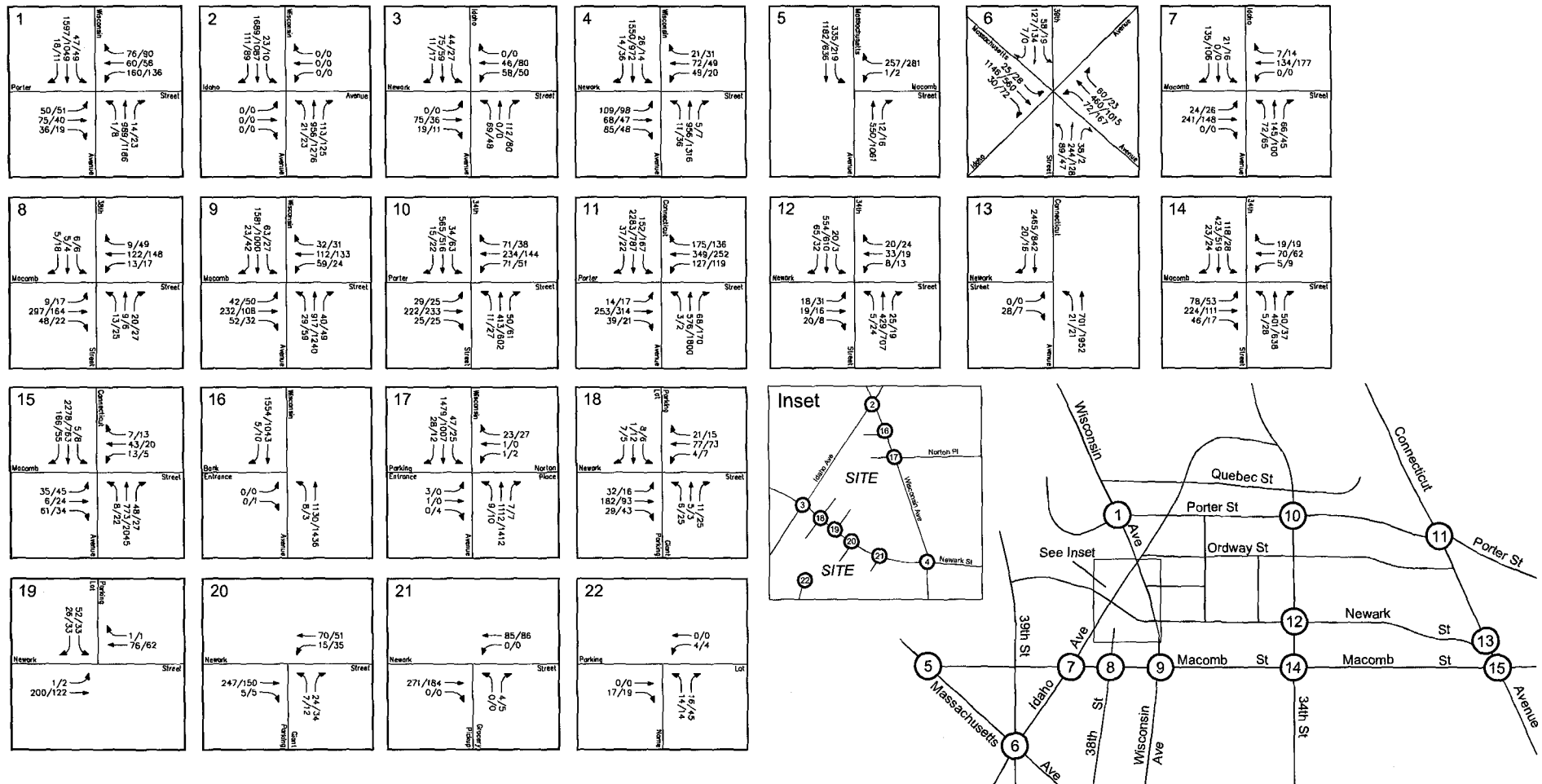


Figure 2-12
Existing Weekday Peak Hour Vehicular Traffic Counts

MI PEAK HOUR
PA PEAK HOUR
000/000



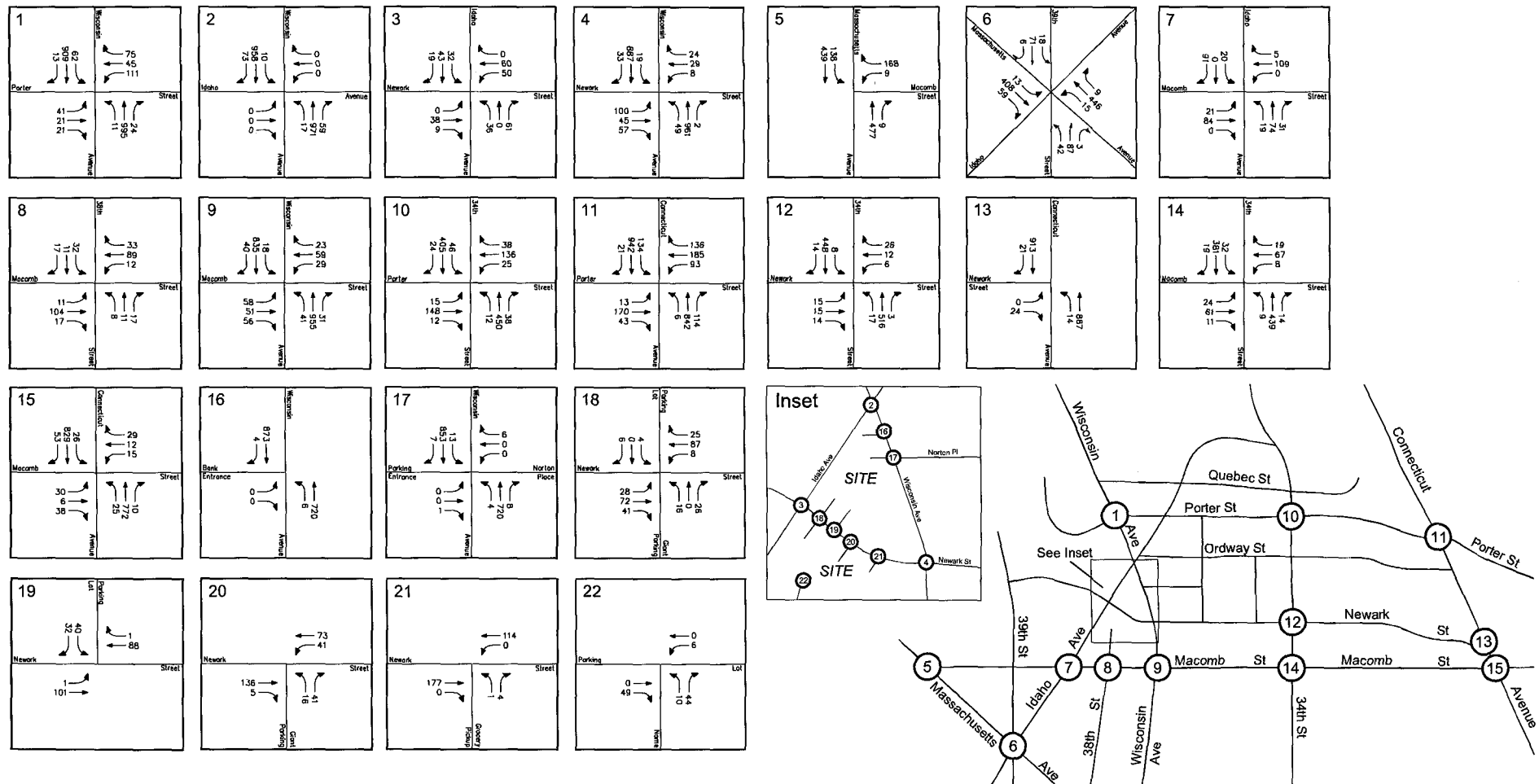
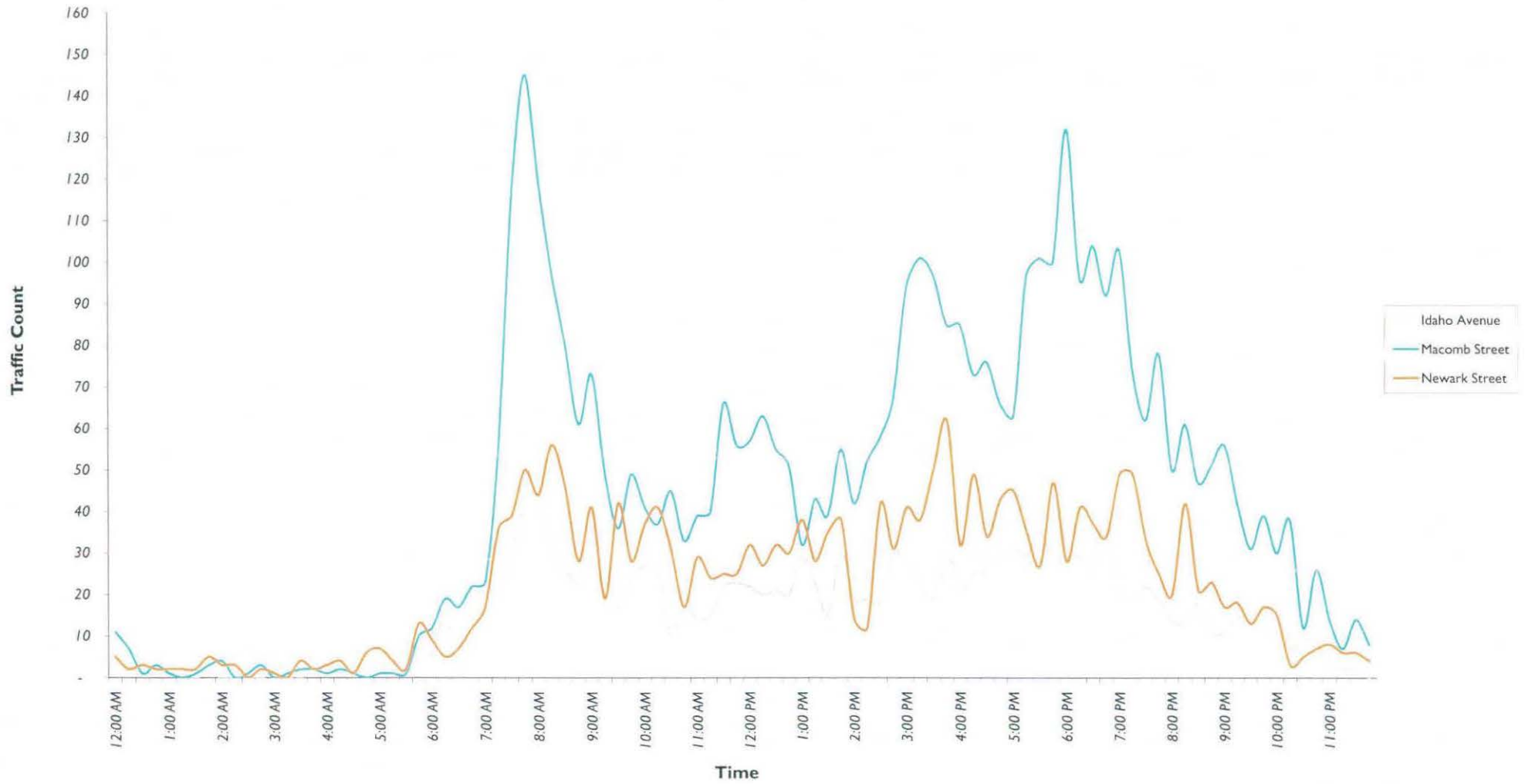


Figure 2-13
Existing Saturday Mid-Day Peak Hour Vehicular Traffic Counts

Figure 2-14
Wisconsin Avenue Giant
24 Hour Traffic Counts
Idaho Avenue, Macomb Street and Newark Street
Thursday, January 24, 2008



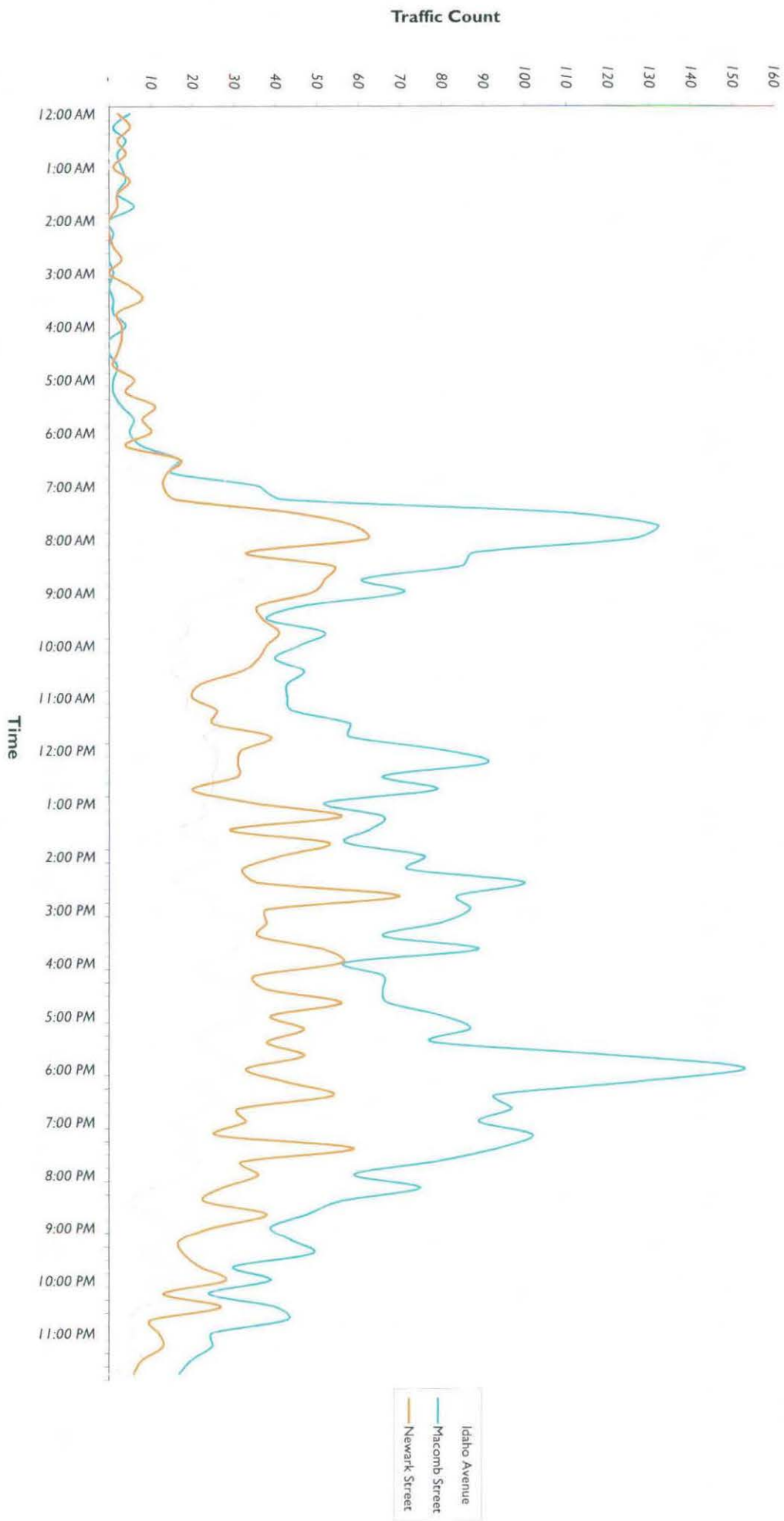
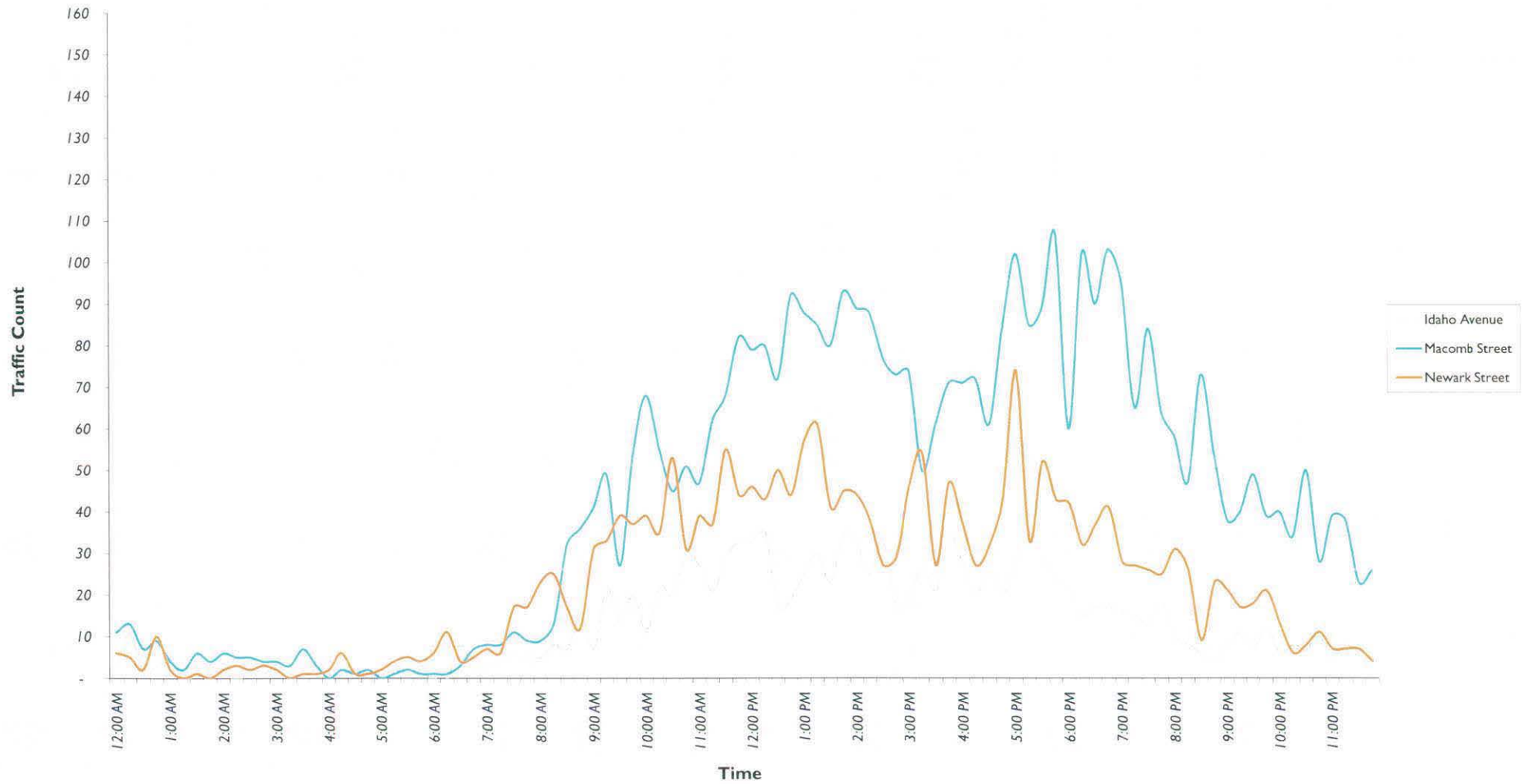


Figure 2-15
Wisconsin Avenue Giant
24 Hour Traffic Counts
Idaho Avenue, Macomb Street and Newark Street
Friday, January 25, 2008

Figure 2-16
Wisconsin Avenue Giant
24 Hour Traffic Counts
Idaho Avenue, Macomb Street and Newark Street
Saturday, January 26, 2008



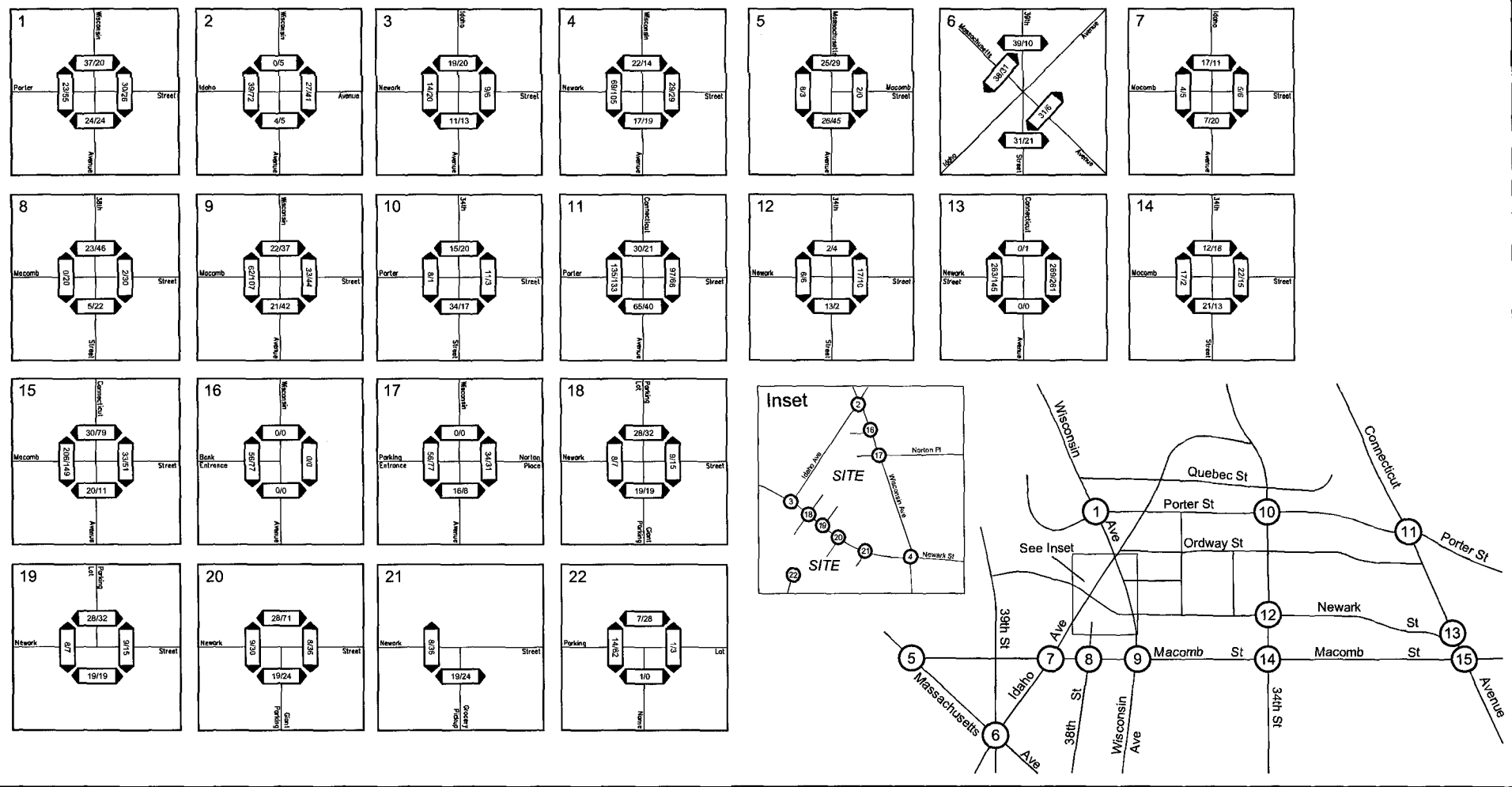


Figure 2-17
Existing Weekday Peak Hour Pedestrian Counts

AM PEAK HOUR
PM PEAK HOUR
000/000



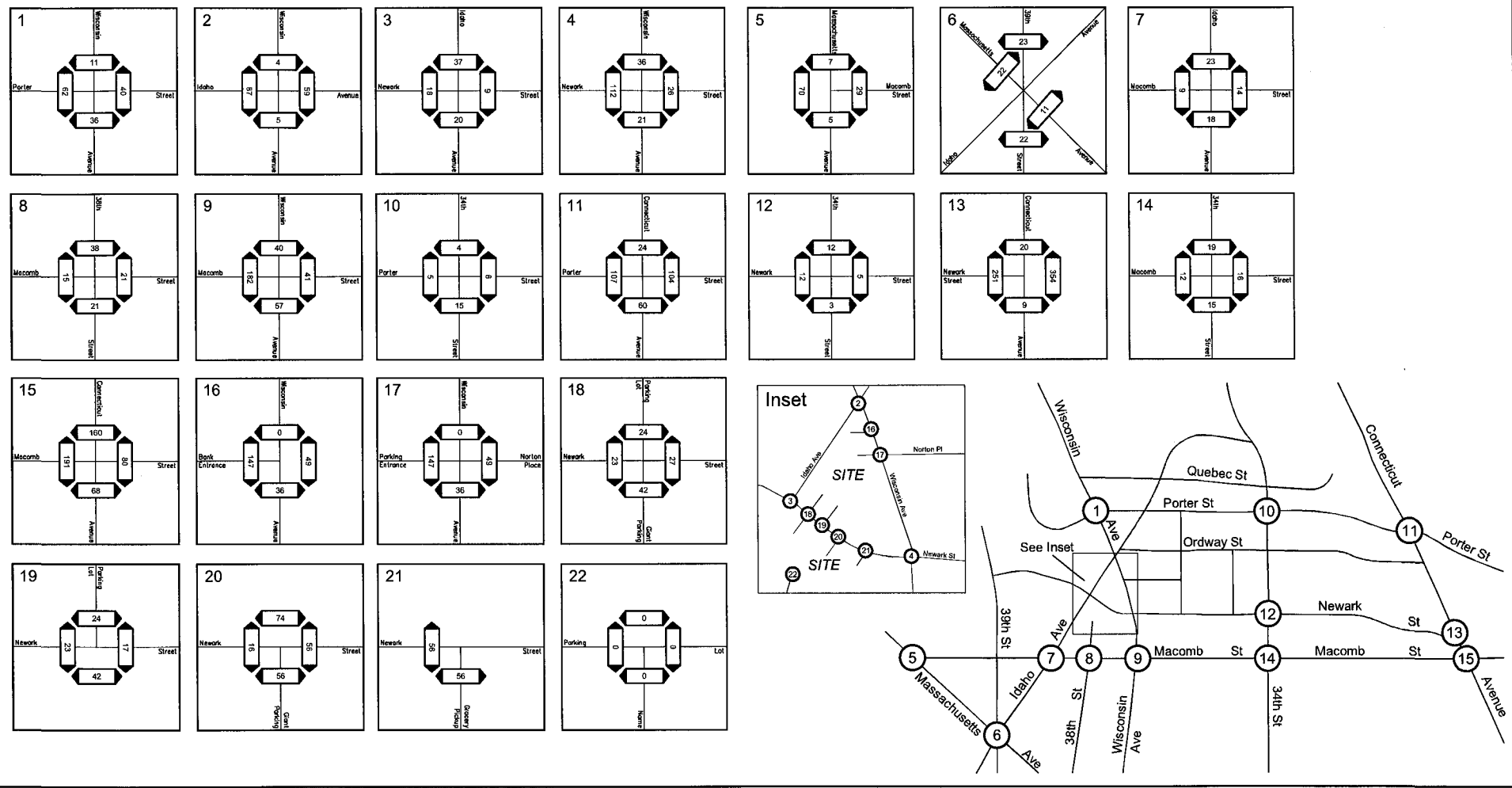


Figure 2-18
Existing Saturday Mid-Day Peak Hour Pedestrian Counts

AM PEAK HOUR
PM PEAK HOUR
000/000



Figure 2-19
Wisconsin Avenue Giant
Parking Occupancy Counts (15-Minute Intervals)
Thursday, January 24, 2008

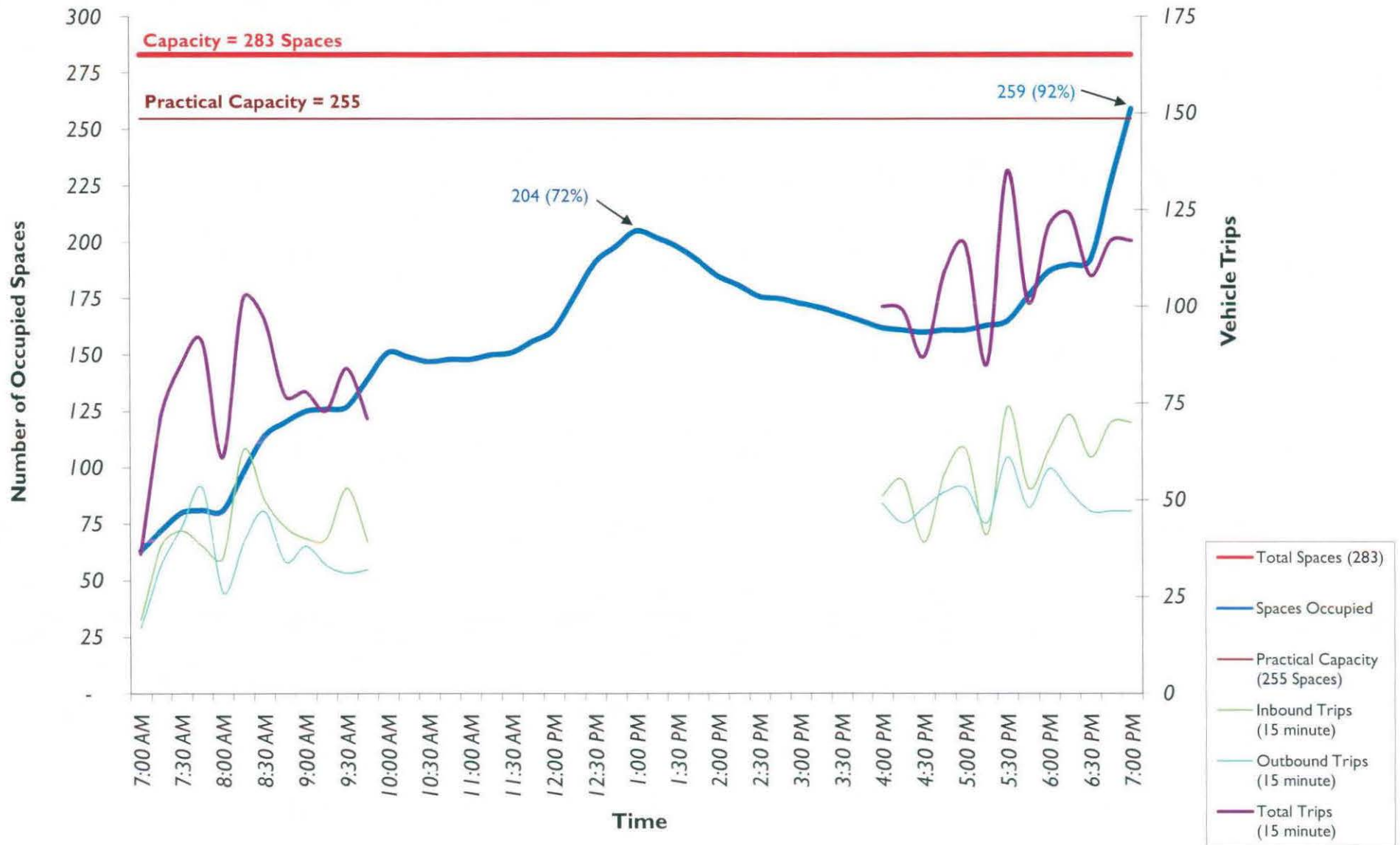
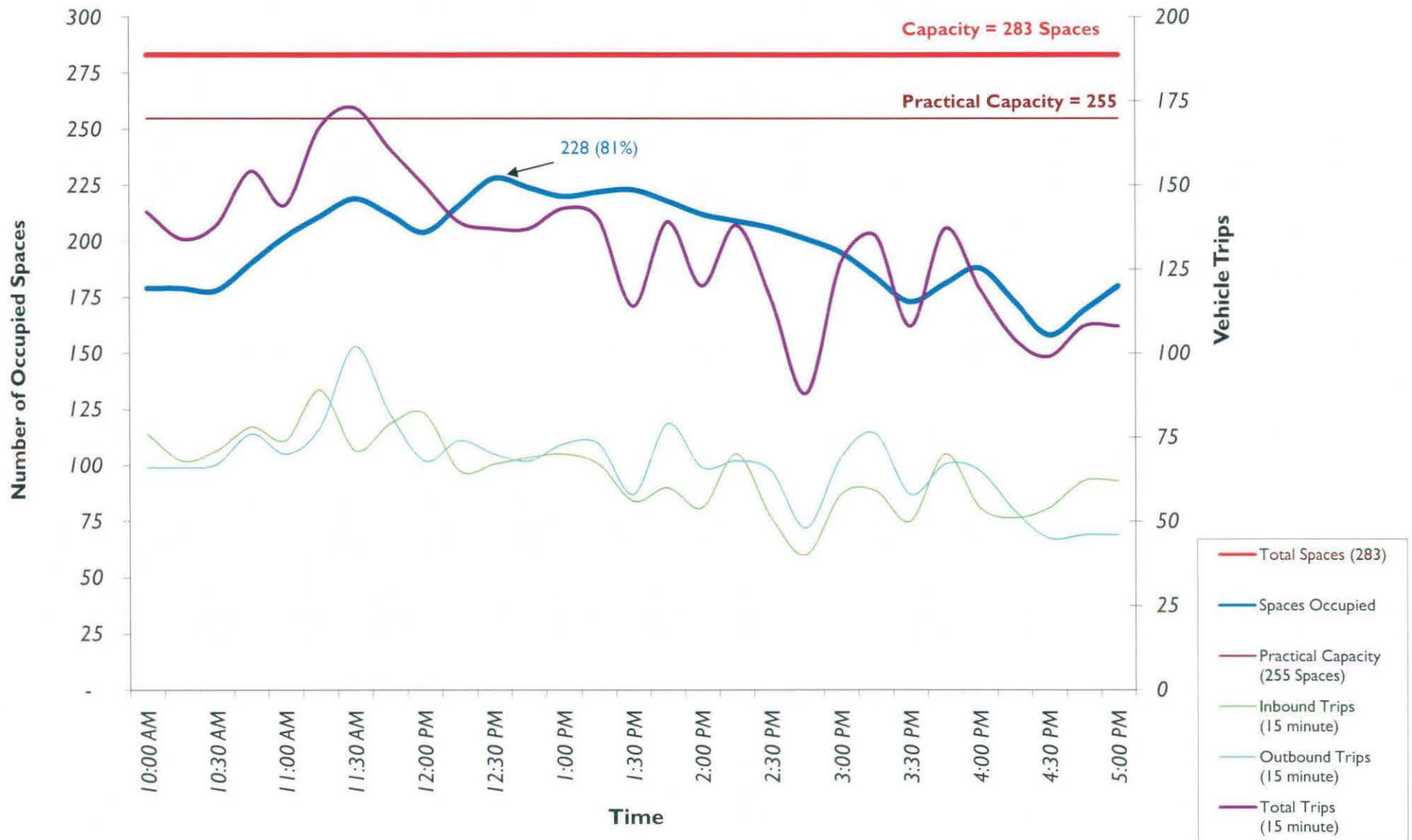


Figure 2-20
Wisconsin Avenue Giant
Parking Occupancy Counts (15-Minute Intervals)
Saturday, January 26, 2008



Section 3 ANALYSIS

Existing Levels of Service

Existing peak hour levels of service were estimated at the 21 study intersections based on the existing lane usage and traffic control shown on Figure 2-10, the existing traffic counts shown on Figures 2-12 and 2-13, the existing pedestrian traffic counts shown on Figures 2-17 and 2-18, and the Highway Capacity Manual. The results are presented in Appendix C and summarized in Table 3-1.

Table 3-1 indicates that all signalized intersections in the study area presently operate at an overall acceptable level of service (LOS) "D" or better during the weekday AM and PM peak hours and Saturday mid-day peak hour, except for the Connecticut Avenue intersection with Porter Street, which operates at LOS "E" on Saturdays.

All intersection approaches also operate at LOS "D" or better at all times, with the following exceptions:

1. Westbound Porter Street at Wisconsin Avenue (LOS "F" in AM; LOS "E" in PM).
2. Eastbound Newark Street at Wisconsin Avenue (LOS "E" in AM),
3. Northbound Idaho Avenue at Massachusetts Avenue (LOS "F" in AM),
4. Eastbound Porter Street at Connecticut Avenue (LOS "F" in AM; LOS "E" in PM; LOS "E" on Saturday)
5. Westbound Porter Street at Connecticut Avenue (LOS "F" in AM and PM):
6. Northbound Connecticut Avenue at Porter Street (LOS "E" in AM; LOS "F" on Saturday)
7. Eastbound North Tract driveway opposite Porter Street, which operates at LOS "F" during the AM peak hour.

Background Traffic Growth

Annual background traffic growth was estimated at one percent per year compounded for three years for project buildout (2011) at the Connecticut Avenue intersection and one-quarter of one percent at all other intersections. These growth rates were applied to all movements at all intersections, except at the site driveways.

Background Traffic Forecasts

Background peak hour traffic forecasts, without re-development of the Wisconsin Avenue Giant, were estimated based on existing traffic counts and background traffic growth. The background traffic forecasts on weekdays and Saturdays in 2011 are shown on Figures 3-1 and 3-2, respectively.

Background Future Levels of Service

Future peak hour levels of service, without re-development of the Wisconsin Avenue Giant, were estimated at the 21 study intersections for the year of project buildout (2011) based on the intersection lane usage and traffic control shown on Figure 2-10; the background traffic forecasts shown on Figures 3-1 and 3-2; and the Highway Capacity Manual. The results are presented in Appendix D, and are summarized in Table 3-1.

Table 3-1 indicates that intersection delays will increase fractionally due to background traffic growth. Overall levels of service will not change at the signalized intersections, except at Connecticut Avenue/Porter Street, which will operate at LOS "E" instead of LOS "D" in the weekday AM peak hour. The intersection approaches that currently operate near or at capacity at LOS "E" or "F" will continue to do so. No additional approaches would operate at LOS "E" or "F".

Site Trip Generation Analysis

Existing Site-Generated Trips. The subject site generated peak totals of 351 vehicle-trips at 7:45 to 8:45 AM and 454 vehicle-trips at 5:45 to 6:45 PM on Thursday, January 24, 2008; and 468 vehicle-trips at 3:30 to 4:30 PM on Saturday, January 26, 2008, as shown in Table 3-2.

Projected Site-Generated Trips. The numbers of trips that will be generated by the re-developed Wisconsin Avenue Giant site were estimated based on: (1) the proposed development program and (2) Institute of Transportation Engineers (ITE) trip generation rates, and (3) the assumption that nearly half (48 percent) of all residents will commute to work during peak hours by some mode other than automobile, according to the 2000 U. S. Census. This development would generate a total of 460 AM peak hour vehicle-trips, 993 weekday PM peak hour vehicle-trips, and 1,018 Saturday mid-day peak hour vehicle-trips.

Net Additional Trips. The proposed new uses would generate 109 (or 31 percent) more weekday AM peak hour vehicle-trips, 539 (or 119 percent) more weekday PM peak hour trips, and 550 (or 118 percent) more Saturday mid-day peak hour vehicle-trips, at project buildout and full occupancy, as shown in Table 3-2.

Directional Distribution

The following directional distribution of site-generated trips was derived from counts of existing traffic, previous traffic study, local knowledge, and engineering judgment:

Residential Site Traffic

<u>Direction</u>	<u>Route</u>	<u>Percent</u>
From the North	Wisconsin Avenue	38%
From the South	Idaho Avenue	7%
From the South	38 th Street	2%
From the South	Wisconsin Avenue	30%
From the West	Massachusetts Avenue	7%
From the West	Newark Street	1%
From the East	Porter Street	2%
From the East	Newark Street	10%
From the East	Macomb Street	<u>3%</u>
Total		100%

Commercial Site Traffic

<u>Direction</u>	<u>Route</u>	<u>Percent</u>
From the North	Wisconsin Avenue	36%
From the South	Idaho Avenue	5%
From the South	38 th Street	4%
From the South	Wisconsin Avenue	30%
From the West	Massachusetts Avenue	7%
From the West	Newark Street	3%
From the East	Porter Street	2%
From the East	Newark Street	6%
From the East	Macomb Street	<u>7%</u>
Total		100%

Site Traffic Assignments

These site-generated trips were assigned to the public road network according to this directional distribution. The resulting weekday and Saturday site traffic assignments are shown on Figures 3-3 and 3-4, respectively.

Opening Idaho Avenue to north-westbound traffic will better distribute eastbound traffic among Macomb Street, Newark Street, and Idaho Avenue. Some of the traffic that currently turns left from eastbound Macomb and Newark Streets onto northbound Wisconsin Avenue would turn left from Idaho Avenue instead.

Total Future Traffic Forecasts

These site traffic assignments were added to the future background traffic volumes to yield the total future traffic forecasts for weekdays and Saturdays shown on Figures 3-5 and 3-6, respectively.

Total Future Levels of Service

Future peak hour levels of service with the re-developed Wisconsin Avenue Giant were estimated at the study intersections based on the lane use and traffic controls shown on Figure 2-8; the total future traffic forecasts shown on Figures 3-5 and 3-6; and the Highway Capacity Manual. The results are presented in Appendix E and summarized in Table 3-1.

1. Table 3-1 indicates that the poor LOS forecasted during the weekday AM and PM peaks on westbound Porter Street at Wisconsin Avenue could be completely mitigated to LOS "D" by optimizing existing traffic signal timings and offsets.
2. The Wisconsin Avenue/Idaho Avenue intersection would operate at LOS "A" or "B" at all times under signal control.
3. Eastbound Newark Street at Wisconsin Avenue would operate at LOS "D" instead of LOS "E" during the AM peak hour due to the division of some eastbound Newark Street traffic to Idaho Avenue.
4. The Massachusetts Avenue/39th Street/Idaho Avenue intersection would operate at an overall LOS "C" instead of "D", and the northbound Idaho Avenue approach would operate at an acceptable LOS "D" instead of "F", if the existing signal timings are optimized.
5. The Connecticut Avenue/Porter Street intersection would operate at an acceptable LOS "C" during all peak hours instead of LOS "D" or "E", if existing signal timings are optimized.
6. The south parcel driveway located opposite Norton Place, which currently operates at LOS "F" during the weekday AM peak hour, would be eliminated.

7. Garage access and egress will be adequate and convenient. The north and south parcel garage driveway intersections with Newark Street and Macomb Street would operate at an acceptable LOS "C" or better at all times. The intersections of Newark Street and Macomb Street with Idaho Avenue and Wisconsin Avenue would in turn, operate at an acceptable LOS "D" or better at all times.

Table 3-1
Wisconsin Avenue Giant
Intersection Level of Service (1,2,3)

Intersection	Control	Approach	Existing			Background			Total Future			
			AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	
1. Porter Street & Wisconsin Avenue	SIGNAL	EB	D (37.6)	C (31.1)	C (32.2)	D (37.6)	C (31.1)	C (32.2)	D (37.6)	C (31.1)	C (32.2)	
		WB	F (139.1)	E (72.4)	D (44.4)	F (141.8)	E (73.3)	D (44.9)	F (141.2)	E (75.7)	D (47.8)	
		NB	A (6.6)	B (10.7)	A (7.7)	A (6.7)	B (10.9)	A (7.7)	A (9.8)	B (12.4)	B (13.2)	
		SB	B (11.5)	B (15.0)	B (11.1)	B (11.6)	B (15.2)	B (11.2)	B (12.1)	B (18.3)	B (13.3)	
		Overall	C (23.4)	B (19.7)	B (13.6)	C (23.7)	B (19.9)	B (13.8)	C (24.6)	C (21.7)	B (17.1)	
	IMPROVEMENT: Signal Optimization Split / Offset	SIGNAL	EB	NA	NA	NA	NA	NA	NA	C (30.2)	C (25.0)	C (22.2)
		WB	NA	NA	NA	NA	NA	NA	NA	D (53.9)	D (34.1)	D (47.9)
		NB	NA	NA	NA	NA	NA	NA	NA	B (12.5)	B (15.5)	B (13.2)
		SB	NA	NA	NA	NA	NA	NA	NA	B (17.1)	C (22.3)	B (13.3)
		Overall	NA	NA	NA	NA	NA	NA	NA	B (19.7)	C (25.4)	B (17.1)
2. Idaho Avenue / Ordway Street & Wisconsin Avenue	STOP	NBLTR	A [1.9]	A [1.4]	A [0.9]	A [1.9]	A [1.4]	A [0.9]	NA	NA	NA	
		SBTR	A [1.1]	A [0.6]	A [0.6]	A [1.1]	A [0.6]	A [0.6]	NA	NA	NA	
	IMPROVEMENT: Add Signal Allow for 2-way traffic on Idaho Avenue	SIGNAL	EB	NA	NA	NA	NA	NA	NA	D (40.9)	D (36.1)	D (36.2)
		WB	NA	NA	NA	NA	NA	NA	NA	A (5.5)	A (2.5)	B (17.6)
		SB	NA	NA	NA	NA	NA	NA	NA	B (14.6)	A (5.6)	A (9.2)
Overall	NA	NA	NA	NA	NA	NA	NA	B (12.4)	A (5.4)	B (15.6)		
3. Newark Street & Idaho Avenue	STOP	EBTR	A [8.5]	A [7.9]	A [7.7]	A [8.5]	A [7.9]	A [7.7]	A [8.6]	A [8.3]	A [8.3]	
		WBLT	A [8.9]	A [8.7]	A [8.4]	A [8.9]	A [8.7]	A [8.4]	A [8.8]	A [9.1]	A [9.3]	
		NBLTR	A [8.7]	A [8.1]	A [7.7]	A [8.8]	A [8.1]	A [7.7]	A [9.2]	A [8.8]	A [8.7]	
		SBLTR	A [8.8]	A [8.2]	A [8.0]	A [8.8]	A [8.2]	A [8.0]	A [9.3]	A [9.5]	A [9.5]	
		Overall	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4. Newark Street & Wisconsin Avenue	SIGNAL	EB	E (69.5)	D (43.0)	D (40.7)	E (73.3)	D (43.1)	D (40.9)	D (40.6)	D (51.6)	D (51.4)	
		WB	C (33.1)	C (30.3)	C (27.2)	C (33.1)	C (30.2)	C (27.2)	C (32.3)	C (30.7)	C (27.8)	
		NB	A (2.5)	C (22.0)	A (4.3)	A (2.5)	C (22.2)	A (4.3)	A (2.0)	C (22.9)	A (2.4)	
		SB	A (6.8)	A (3.9)	A (6.9)	A (6.8)	A (3.9)	A (6.9)	B (15.8)	A (2.7)	B (16.4)	
		Overall	B (12.2)	B (16.9)	A (9.4)	B (12.5)	B (17.0)	A (9.4)	B (13.8)	B (18.0)	B (14.8)	
5. Macomb Street & Massachusetts Avenue	STOP	WBLR	C [16.2]	C [19.7]	B [14.1]	C [16.3]	C [19.7]	B [14.2]	C [16.1]	C [19.2]	B [14.8]	
		NBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	
		SBLT	A [8.5]	B [10.8]	A [5.3]	A [8.6]	B [10.9]	A [5.3]	A [8.8]	B [11.5]	A [5.8]	
		Overall	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Overall	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6. Massachusetts Avenue & 39th Street / Idaho Avenue	SIGNAL	SEB	D (39.2)	C (20.3)	B (17.8)	D (40.2)	C (20.3)	B (17.9)	D (38.9)	B (20.0)	B (17.8)	
		NNWB	B (12.3)	B (7.1)	A (9.5)	B (12.4)	B (7.6)	A (9.5)	B (12.3)	B (7.3)	A (9.5)	
		NB	F (104.7)	D (43.3)	C (29.1)	F (108.4)	D (43.4)	C (29.2)	F (101.5)	D (43.5)	C (29.3)	
		SB	D (39.5)	D (40.2)	C (27.0)	D (39.6)	D (40.4)	C (27.1)	D (37.7)	D (40.9)	C (27.3)	
		Overall	D (42.8)	C (21.8)	B (16.5)	D (43.9)	C (22.1)	B (16.6)	D (41.8)	C (21.9)	B (16.7)	
	IMPROVEMENT: Signal Optimization Split / Offset	SIGNAL	EB	NA	NA	NA	NA	NA	NA	D (35.6)	B (20.0)	B (17.8)
		WB	NA	NA	NA	NA	NA	NA	NA	B (14.6)	B (7.3)	A (9.5)
		NB	NA	NA	NA	NA	NA	NA	NA	D (34.4)	D (43.3)	C (29.3)
		SB	NA	NA	NA	NA	NA	NA	NA	C (22.6)	D (40.5)	C (27.3)
		Overall	NA	NA	NA	NA	NA	NA	NA	C (33.2)	C (21.9)	B (16.7)
7. Macomb Street & Idaho Avenue	STOP	EBLTR	B [12.9]	B [10.2]	A [8.5]	B [13.0]	B [10.2]	A [8.6]	B [12.9]	B [10.3]	A [8.9]	
		WBTR	B [10.6]	B [10.3]	A [8.5]	B [10.6]	B [10.3]	A [8.5]	B [10.6]	B [10.6]	A [8.8]	
		NBLTR	B [12.9]	B [10.6]	A [8.5]	B [13.1]	B [10.6]	A [8.5]	B [12.6]	B [10.5]	A [8.6]	
		SBLTR	A [10.0]	A [8.9]	A [7.9]	A [10.0]	A [8.9]	A [7.9]	A [9.8]	A [8.8]	A [8.1]	
		Overall	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8. Macomb Street & 38th Street	STOP	EBLTR	B [10.5]	A [9.0]	A [8.1]	B [10.6]	A [9.0]	A [8.2]	NA	NA	NA	
		WBLTR	A [8.5]	A [8.9]	A [8.1]	A [8.6]	A [8.9]	A [8.1]	NA	NA	NA	
		NBLTR	A [8.2]	A [8.2]	A [7.6]	A [8.3]	A [8.2]	A [7.6]	NA	NA	NA	
		SBLTR	A [8.2]	A [7.9]	A [8.0]	A [8.2]	A [7.9]	A [8.0]	NA	NA	NA	
		Overall	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FUTURE COMMERCIAL GARAGE ACCESS Macomb Street & 38th to Commercial Garage Entrance (North Leg)	STOP	EBLTR	NA	NA	NA	NA	NA	NA	B [11.4]	B [10.6]	A [9.2]
		WBLTR	NA	NA	NA	NA	NA	NA	NA	A [9.2]	B [11.4]	A [9.6]
		NBLTR	NA	NA	NA	NA	NA	NA	NA	A [8.6]	A [9.3]	A [8.4]
		SBLTR	NA	NA	NA	NA	NA	NA	NA	A [9.0]	B [11.1]	B [10.0]
		Overall	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9. Macomb Street & Wisconsin Avenue	SIGNAL	EB	D (51.7)	D (35.7)	C (34.1)	D (52.2)	D (35.8)	C (34.1)	D (53.8)	D (49.9)	D (40.3)	
		WB	D (46.3)	C (34.5)	C (31.9)	D (46.3)	C (34.6)	C (31.9)	D (52.2)	D (36.9)	C (31.7)	
		NB	B (12.2)	B (12.0)	B (12.1)	B (12.3)	B (12.1)	B (12.1)	C (26.2)	B (17.6)	C (30.2)	
		SB	A (8.2)	C (22.0)	A (6.4)	A (8.3)	C (22.1)	A (6.4)	B (16.8)	C (20.9)	B (15.7)	
		Overall	B (16.3)	B (18.9)	B (12.4)	B (16.5)	B (19.0)	B (12.4)	C (26.0)	C (23.1)	C (25.6)	
10. Porter Street & 34th Street	SIGNAL	EB	B (10.3)	B (13.6)	B (10.4)	B (10.3)	B (13.6)	B (10.4)	B (10.9)	B (14.4)	B (10.8)	
		WB	B (13.4)	A (5.0)	B (10.1)	B (13.5)	A (4.9)	B (10.1)	B (13.8)	A (8.9)	B (10.4)	
		NB	B (16.4)	D (47.8)	B (18.3)	B (16.6)	D (50.2)	B (18.5)	B (16.6)	D (52.3)	B (18.7)	
		SB	C (28.8)	C (24.1)	B (16.2)	C (29.5)	C (24.4)	B (16.3)	C (29.2)	C (24.6)	B (16.5)	
		Overall	B (19.2)	C (29.0)	B (15.3)	B (19.5)	C (30.1)	B (15.4)	B (19.4)	C (31.1)	B (15.5)	

Notes:

¹ Based on Synchro version 6

² Numbers in brackets, [], represent control delay in seconds per vehicle for unsignalized intersections.

³ Numbers in parenthesis, (), represent control delay in seconds per vehicle for signalized intersections.

Table 3-1 continued
Wisconsin Avenue Giant
Intersection Level of Service (1,2,3)

Intersection	Control	Approach	Existing			Background			Total Future		
			AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
11. Porter Street & Connecticut Avenue	SIGNAL	EB	F (82.6)	E (61.9)	E (55.1)	F (89.0)	E (67.1)	E (56.3)	F (90.2)	E (69.1)	E (56.8)
		WB	F (173.5)	F (119.1)	D (46.0)	F (205.2)	F (141.7)	D (49.1)	F (213.5)	F (154.5)	D (52.2)
		NB	E (70.2)	B (11.1)	F (139.0)	E (78.4)	B (11.3)	F (152.9)	E (77.4)	B (11.2)	F (152.5)
		SB	B (12.6)	C (22.2)	A (9.0)	B (13.2)	C (25.8)	A (9.1)	B (13.2)	C (26.0)	A (9.1)
		Overall	D (52.7)	C (33.2)	E (64.9)	E (59.9)	D (37.6)	E (70.4)	E (61.6)	D (46.2)	E (70.5)
IMPROVEMENT: Signal Optimization Split / Offset	SIGNAL	EB	NA	NA	NA	NA	NA	NA	D (65.6)	D (88.3)	D (63.9)
		WB	NA	NA	NA	NA	NA	NA	D (64.6)	D (81.0)	D (61.9)
		NB	NA	NA	NA	NA	NA	NA	C (21.2)	E (14.1)	B (65.3)
		SB	NA	NA	NA	NA	NA	NA	C (24.6)	D (51.2)	B (64.1)
		Overall	NA	NA	NA	NA	NA	NA	C (36.5)	C (21.9)	C (24.3)
12. Newark Street & 34th Street	STOP	EBLTR	C (20.1)	D (29.4)	C (21.2)	C (20.1)	D (29.4)	C (21.2)	C (19.3)	D (27.7)	C (21.2)
		WBLTR	C (19.4)	C (22.6)	C (16.9)	C (19.5)	C (22.6)	C (16.9)	C (18.9)	C (23.4)	C (17.0)
		NBLTR	A (9.2)	A (9.4)	A (8.6)	A (9.2)	A (9.5)	A (8.6)	A (9.2)	A (9.5)	A (8.6)
		SBLTR	A (8.6)	A (9.7)	A (8.7)	A (8.6)	A (10.0)	A (8.7)	A (8.6)	B (10.0)	A (8.8)
		Overall	A (9.2)	A (9.4)	A (8.6)	A (9.2)	A (9.5)	A (8.6)	A (9.2)	A (9.5)	A (8.6)
13. Newark Street & Connecticut Avenue	STOP	EBR	B (10.5)	B (14.6)	C (17.5)	B (10.7)	B (14.8)	C (17.5)	B (11.8)	B (14.1)	C (17.7)
		NBLT	A (8.7)	A (11.3)	A (11.2)	A (9.3)	A (11.4)	A (11.2)	A (4.8)	A (11.4)	A (11.2)
		SBTR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
		Overall	A (8.7)	A (11.3)	A (11.2)	A (9.3)	A (11.4)	A (11.2)	A (4.8)	A (11.4)	A (11.2)
		Overall	A (8.7)	A (11.3)	A (11.2)	A (9.3)	A (11.4)	A (11.2)	A (4.8)	A (11.4)	A (11.2)
14. Macomb Street & 34th Street	SIGNAL	EB	B (15.0)	B (10.4)	A (8.1)	B (15.2)	B (10.4)	A (8.1)	B (15.4)	A (7.9)	A (9.1)
		WB	B (10.9)	A (9.9)	B (10.9)	B (10.9)	A (9.8)	B (10.9)	B (11.0)	B (10.4)	B (11.2)
		NB	B (14.3)	D (35.2)	B (14.2)	B (14.5)	D (36.7)	B (14.3)	B (14.3)	D (35.7)	B (14.0)
		SB	A (5.4)	C (20.5)	A (4.7)	A (5.4)	C (20.7)	A (4.8)	A (5.4)	C (21.2)	A (4.3)
		Overall	B (10.8)	C (25.4)	A (9.6)	B (10.9)	C (26.1)	A (9.7)	B (11.0)	C (25.3)	A (9.8)
15. Macomb Street & Connecticut Avenue	SIGNAL	EB	D (42.0)	C (30.5)	D (41.1)	D (42.1)	C (30.7)	D (41.2)	D (42.6)	C (29.4)	D (42.2)
		WB	D (38.1)	C (30.4)	D (39.1)	D (38.2)	C (30.4)	D (39.2)	D (38.3)	C (30.4)	D (39.3)
		NB	A (8.8)	A (9.9)	A (8.4)	A (9.0)	B (10.2)	A (8.6)	A (9.7)	B (10.5)	A (9.0)
		SB	A (4.8)	A (7.5)	A (5.5)	A (4.9)	A (7.6)	A (5.6)	B (10.3)	A (8.7)	A (7.2)
		Overall	A (7.5)	B (10.2)	A (9.2)	A (7.6)	B (10.5)	A (9.3)	B (11.7)	B (10.9)	B (10.5)
16. Sun Trust Bank Entrance & Wisconsin Avenue	STOP	EBLR	-	B (10.5)	-	-	B (10.5)	-	INTERSECTION REMOVED		
		NBLT	A (0.5)	A (0.2)	A (0.1)	A (0.6)	A (0.2)	A (0.4)			
		SBTR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)			
		Overall	A (0.5)	A (0.2)	A (0.1)	A (0.6)	A (0.2)	A (0.4)			
		Overall	A (0.5)	A (0.2)	A (0.1)	A (0.6)	A (0.2)	A (0.4)			
17. Norton Place / Parking Lot Driveway Entrance Only & Wisconsin Avenue	STOP	EBLTR	F (73.8)	B (10.7)	B (11.2)	F (73.9)	B (10.6)	B (11.2)	-	-	-
		WBLTR	C (15.3)	B (11.2)	B (10.6)	C (15.3)	B (11.2)	B (10.6)	B (10.4)	B (10.2)	B (11.0)
		NBLTR	A (0.6)	A (0.5)	A (0.2)	A (0.7)	A (0.5)	A (0.2)	A (0.0)	A (0.0)	A (0.0)
		SBLTR	A (2.4)	A (1.6)	A (0.5)	A (2.4)	A (1.6)	A (0.5)	A (2.4)	A (1.5)	A (0.6)
		Overall	A (2.4)	A (1.6)	A (0.5)	A (2.4)	A (1.6)	A (0.5)	A (2.4)	A (1.5)	A (0.6)
18. Newark Street & Giant Parking West / North Parking Entrance FUTURE GARAGE ACCESS Newark Street & Commercial (S) and Residential (N) Garage Entrance	STOP	EBLTR	A (1.2)	A (0.9)	A (1.6)	A (1.2)	A (0.9)	A (1.6)	NA	NA	NA
		WBLTR	A (0.3)	A (0.6)	A (0.6)	A (0.3)	A (0.6)	A (0.6)	NA	NA	NA
		NBLTR	B (11.2)	B (10.7)	B (10.6)	B (11.3)	B (10.7)	B (10.7)	NA	NA	NA
		SBLTR	B (11.2)	B (11.2)	-	B (11.2)	B (11.3)	-	NA	NA	NA
		Overall	A (1.2)	A (0.9)	A (1.6)	A (1.2)	A (0.9)	A (1.6)	A (0.1)	A (0.5)	A (0.3)
	STOP	EBLTR	NA	NA	NA	NA	NA	NA	A (5.5)	A (6.3)	A (5.8)
		WBLTR	NA	NA	NA	NA	NA	NA	B (12.4)	C (19.6)	C (24.5)
		NBLTR	NA	NA	NA	NA	NA	NA	B (12.8)	C (17.3)	C (18.8)
		SBLTR	NA	NA	NA	NA	NA	NA			
		Overall	NA	NA	NA	NA	NA	NA			
19. Newark Street & North Parking Exit	STOP	EBLT	A (0.0)	A (0.1)	A (7.8)	A (0.0)	A (0.1)	A (7.8)	INTERSECTION REMOVED		
		WBLR	A (0.0)	A (0.0)	A (7.8)	A (0.0)	A (0.0)	A (7.8)			
		SBLR	B (10.8)	A (9.9)	A (7.6)	B (10.9)	A (9.9)	A (7.6)			
		Overall	A (0.0)	A (0.1)	A (7.8)	A (0.0)	A (0.1)	A (7.8)			
		Overall	A (0.0)	A (0.1)	A (7.8)	A (0.0)	A (0.1)	A (7.8)			
20. Newark Street & Giant Parking East	STOP	EBTR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	INTERSECTION REMOVED		
		WBLT	A (1.5)	A (3.3)	A (3.0)	A (1.5)	A (3.3)	A (3.0)			
		NBLR	B (10.7)	B (10.4)	B (11.1)	B (10.7)	B (10.4)	B (11.1)			
		Overall	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)			
		Overall	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)			
21. Newark Street & Giant Grocery Pick-up	STOP	EBT	A (0.0)	A (0.0)	A (8.2)	A (0.0)	A (0.0)	A (8.2)	INTERSECTION REMOVED		
		WBT	A (0.0)	A (0.0)	A (7.8)	A (0.0)	A (0.0)	A (7.8)			
		NBLR	A (9.8)	A (9.3)	A (7.2)	A (9.8)	A (9.3)	A (7.2)			
		Overall	A (0.0)	A (0.0)	A (8.2)	A (0.0)	A (0.0)	A (8.2)			
		Overall	A (0.0)	A (0.0)	A (8.2)	A (0.0)	A (0.0)	A (8.2)			
22. Parking Lot & 38th Street	STOP	EBTR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	INTERSECTION REMOVED		
		WBLT	A (7.3)	A (7.3)	A (7.3)	A (7.3)	A (7.3)	A (7.3)			
		NBLR	A (8.7)	A (8.8)	A (8.7)	A (8.7)	A (8.8)	A (8.7)			
		Overall	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)			
		Overall	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)			
23. Newark Street & Future Site Driveways	STOP	WBLTR	NA	NA	NA	NA	NA	NA	A (9.3)	A (8.9)	A (9.1)
		NBLTR	NA	NA	NA	NA	NA	NA	A (0.0)	A (0.0)	A (0.0)
		SBLTR	NA	NA	NA	NA	NA	NA	A (0.0)	A (0.4)	A (0.5)
		Overall	NA	NA	NA	NA	NA	NA			
		Overall	NA	NA	NA	NA	NA	NA			

Notes:

¹ Based on as Synchro version 6

² Numbers in brackets, [], represent control delay in seconds per vehicle for unsignalized intersections.

³ Numbers in parenthesis, (), represent control delay in seconds per vehicle for signalized intersections.

Table 3-2
Wisconsin Avenue Giant
Site-Trip Generation Analysis

Land Use	Size	Units	Land Use Code	AM Peak Hour 7:45 - 8:45			PM Peak Hour 5:45 - 6:45			Saturday Peak Hour 3:30 PM - 4:30 PM		
				In	Out	Total	In	Out	Total	In	Out	Total
Observed												
Supermarket and Retail ¹	114,634	S.F.		186	165	351	249	205	454	225	243	468
				1.62	1.44	3.06	2.17	1.79	3.96	1.96	2.12	4.08
Estimated (ITE)												
Supermarket ²	18,478	S.F.	850	37	23	60	125	121	246	142	136	278
Retail ^{2,3}	96,156	S.F.	820	179	115	294	173	188	361	249	229	478
	114,634	S.F.		216	138	354	298	309	607	391	365	756
				1.88	1.21	3.09	2.60	2.69	5.30	3.41	3.19	6.59
Difference (Observed - Estimated)				-30	27	-3	-49	-104	-153	-166	-122	-288
Percent Difference				-14%	19%	-1%	-17%	-34%	-25%	-42%	-33%	-38%
Proposed (May 2008 Plan)												
Supermarket ²	56,210	S.F.	850	112	71	183	302	290	592	323	311	634
Office/Flex Space ²	17,320	S.F.	710	40	6	46	17	81	98	5	4	9
Retail ^{2,3}	62,954	S.F.	820	118	75	193	113	123	236	163	150	313
Townhome ²	8	DU's	230	0	1	1	12	6	18	12	11	23
Residential Apartments ²	138	DU's	223	7	30	37	32	17	49	20	20	39
Total				277	183	460	476	517	993	523	495	1,018
Difference (Proposed - Existing)				91	18	109	227	312	539	298	252	550
Percent Difference				49%	11%	31%	91%	152%	119%	133%	104%	118%

Notes: ¹ Traffic Counts were taken on Thursday, January 24, 2008 and Saturday, January 26, 2008.

² Based on Trip Generation, 7th Edition, Institute of Transportation Engineers.

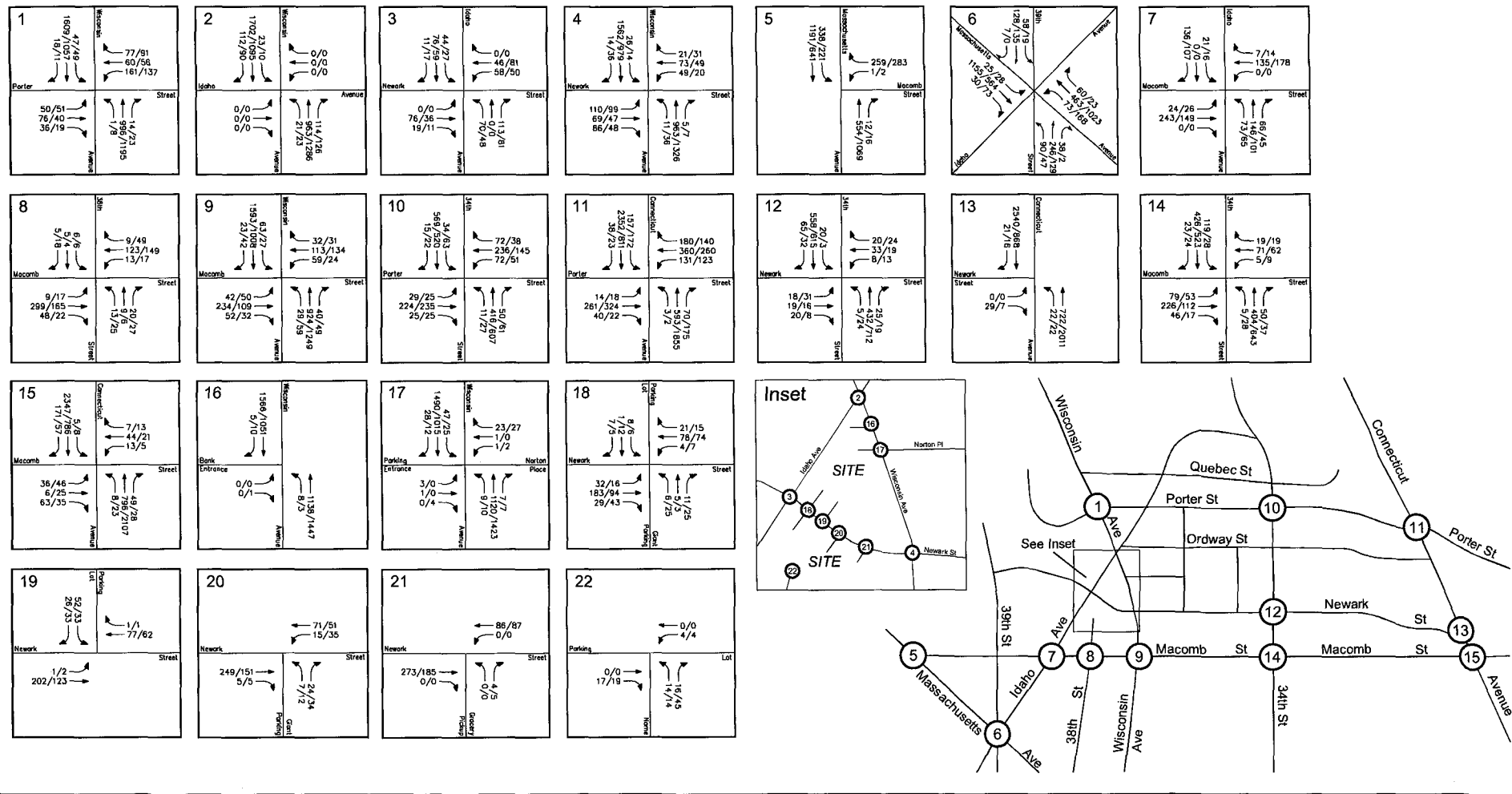


Figure 3-1
Background Traffic Forecasts: Weekday

Wisconsin Avenue Giant
Washington, D.C.

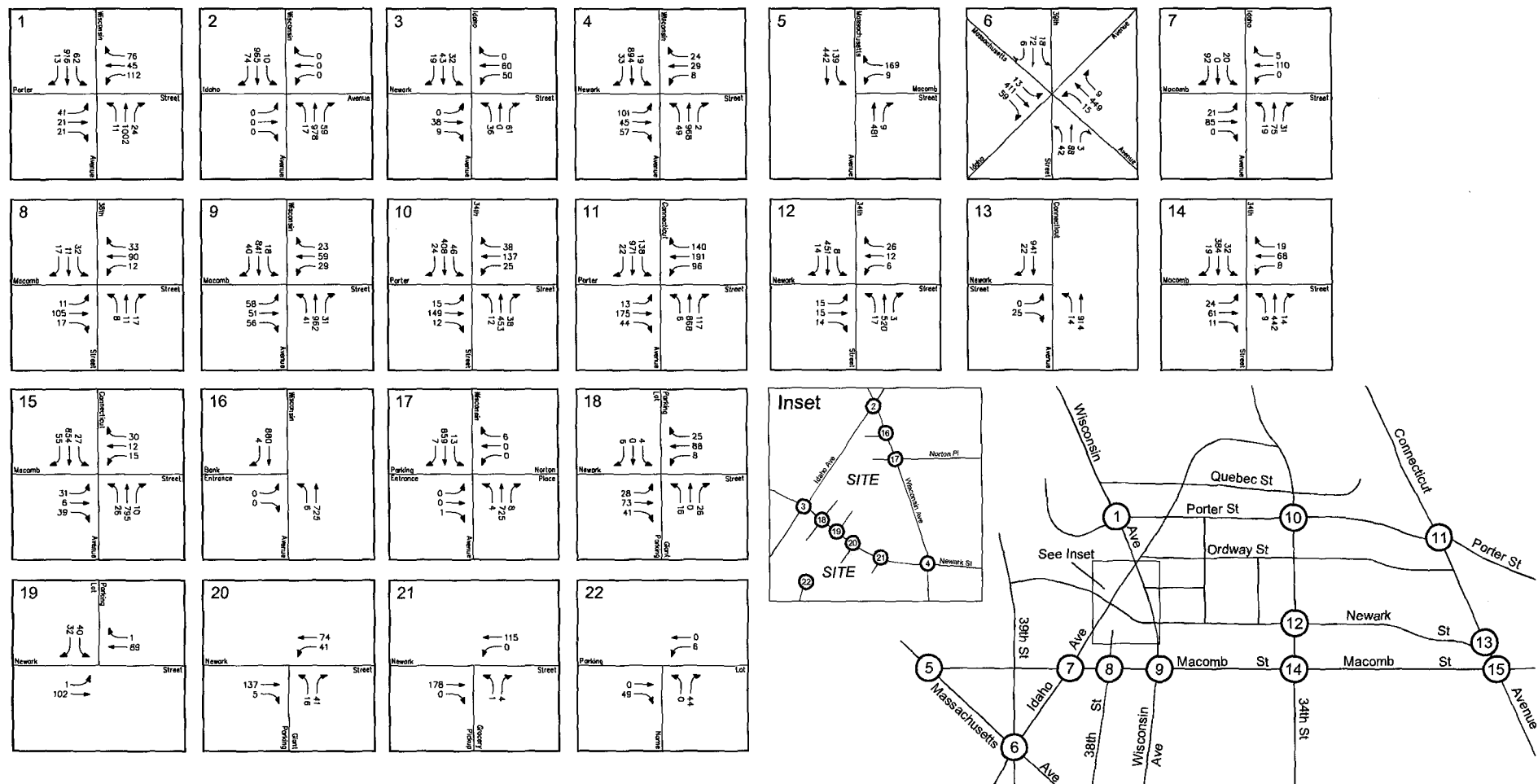


Figure 3-2
Background Traffic Forecasts: Saturday

4 AM PEAK HOUR
PM PEAK HOUR
000/000



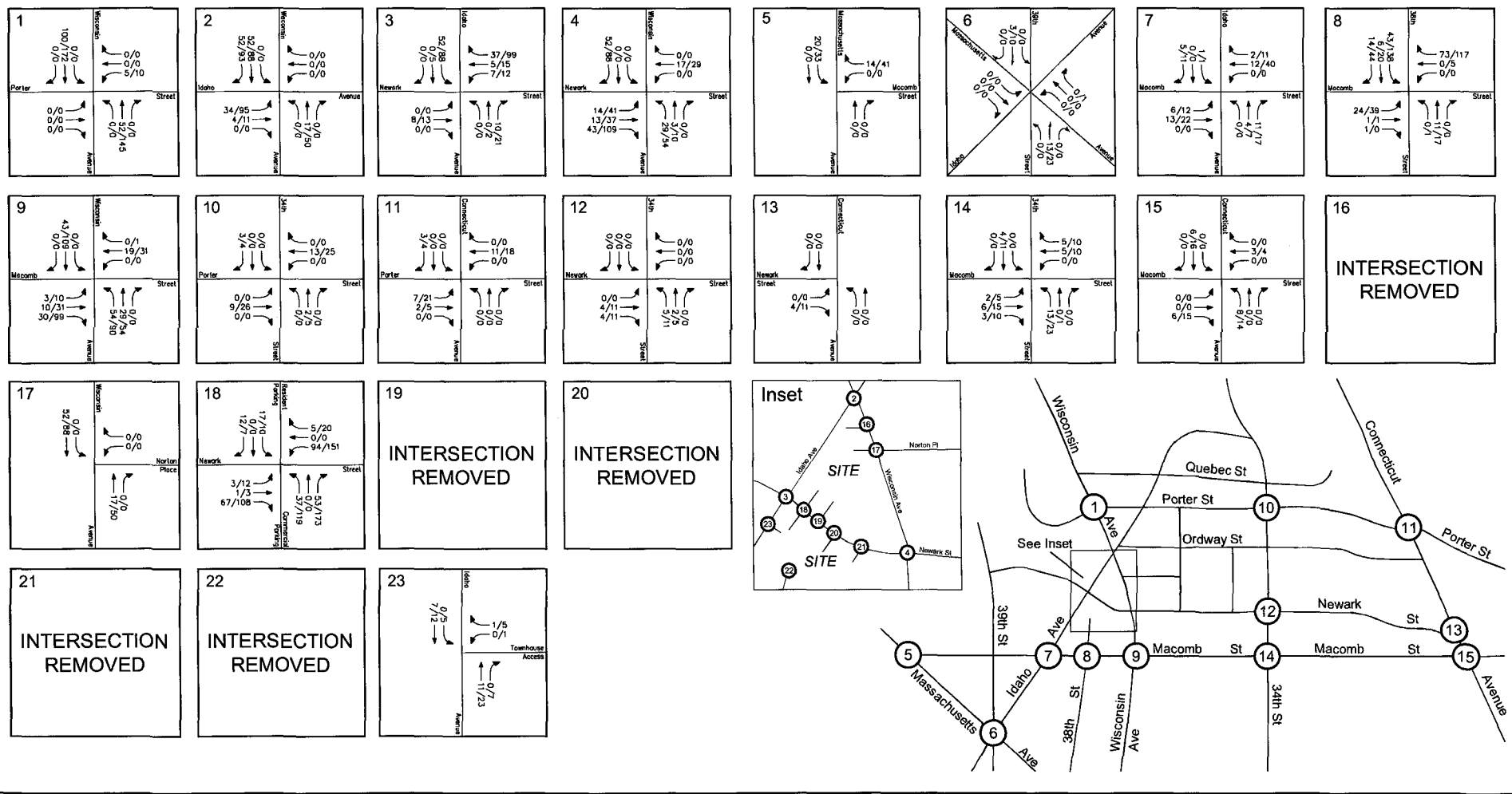


Figure 3-3
Site-Generated Traffic Assignments: Weekday



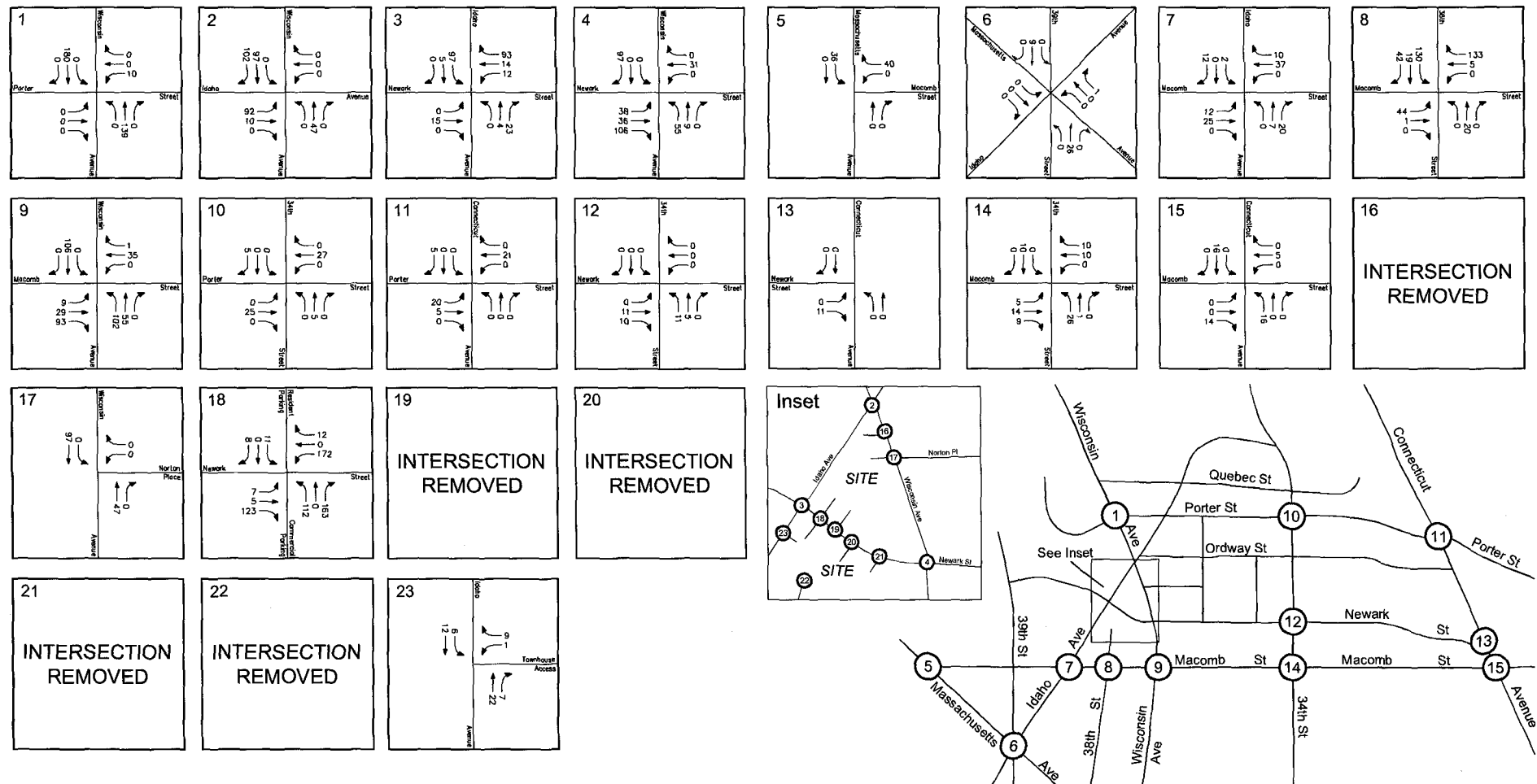


Figure 3-4
Site-Generated Traffic Assignments (Saturday)

AM PEAK HOUR
PM PEAK HOUR
000/000



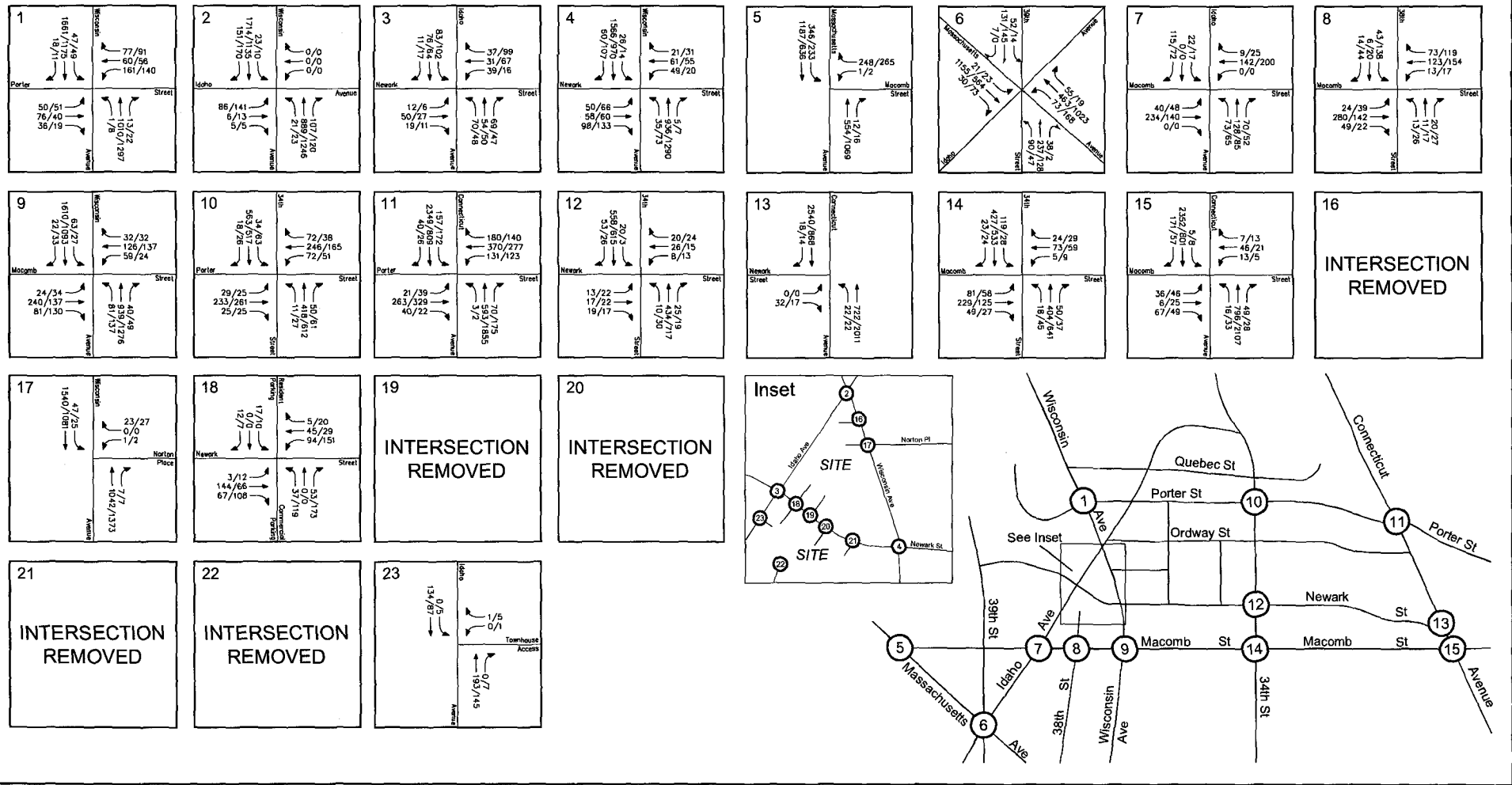


Figure 3-5
Total Future Peak Hour Traffic Forecasts: Weekday

Wisconsin Avenue Giant
Washington, D.C.

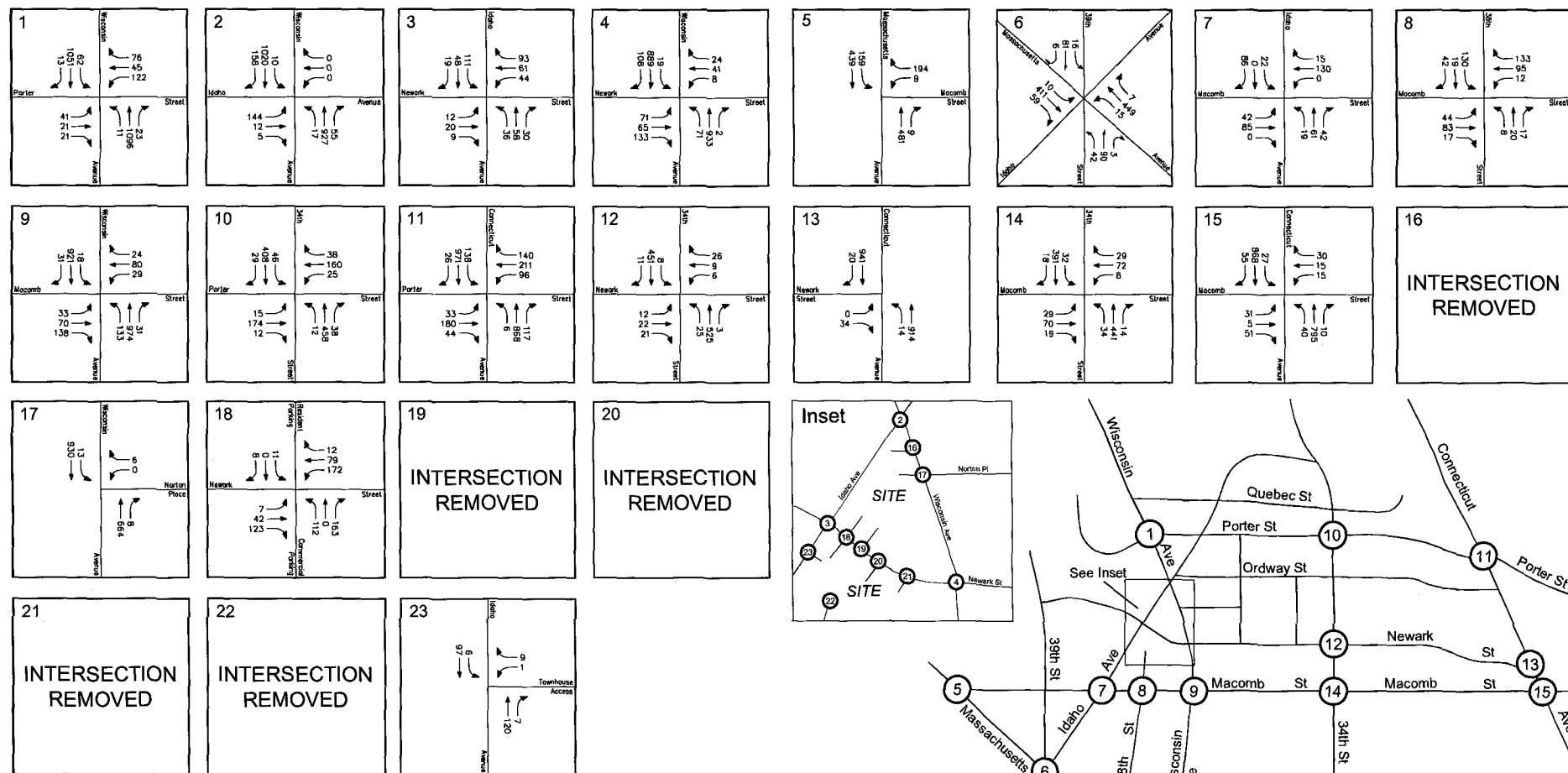


Figure 3-6
Total Future Peak Hour Traffic Forecasts: Saturday

AM PEAK HOUR
PM PEAK HOUR
000/000



Section 4

CONCLUSIONS

The conclusions of this study are as follows:

1. The Wisconsin Avenue Giant is situated within a connected network of arterial, collector, and local streets. It also is well served by regional bus service.
2. Giant would provide sufficient parking to support the proposed residential, supermarket and other commercial uses per the D.C. Municipal Regulations, which would discourage auto travel and encourage transit use.
3. Giant would provide a residential parking ratio that is consistent with auto ownership in this local neighborhood, as reported by the U.S. Census. The proposed residential parking supply would adequately accommodate this project's residential parking demand without encouraging auto travel or spillover parking into the surrounding neighborhood.
4. Improvements proposed by Giant would make Newark Street a "complete street" that adequately and attractively serves all travel modes for all people.
5. The proposed re-development would reduce the number of driveways on both the North and South Parcels, thus reducing vehicle/pedestrian conflicts.
6. Single unit and tractor-trailer trucks can safely and efficiently maneuver into and out of the truck docks proposed on Idaho Avenue, if Idaho Avenue is converted from one-way southwest-bound to two-way operation.
7. Pedestrians could more safely cross Wisconsin Avenue if the existing crosswalk at Norton Place were relocated to Idaho Avenue and a new traffic signal were installed at the Wisconsin Avenue/Idaho Avenue intersection.
8. All signalized intersections in the study area presently operate at an overall acceptable level of service (LOS) "D" or better at all times, with one exception. All intersection approaches also operate at LOS "D" or better at all times, with some exceptions.
9. Intersection delays will increase fractionally in the future due to background traffic growth, even without improving the Wisconsin Avenue Giant. Overall levels of service will not change at the signalized intersections, with one exception. The intersection approaches that currently operate near or at capacity will continue to do so. No additional approaches would operate near or at capacity.

10. The Wisconsin Avenue Giant site, which is largely vacant, currently generates 351 weekday AM peak hour vehicle-trips, 454 weekday PM peak hour vehicle-trips, and 468 Saturday mid-day peak hour vehicle-trips.
11. The proposed re-development would generate 109 (or 31 percent) more weekday AM peak hour vehicle-trips, 539 (or 119 percent) more weekday PM peak hour trips, and 550 (or 118 percent) more Saturday mid-day peak hour vehicle-trips than the existing uses.
12. All signalized study intersections would operate at an acceptable LOS "D" or better with Giant's plans to re-development their Cleveland Park site if existing signal timings are optimized.
13. Garage access and egress will be adequate and convenient. All garage driveways would operate at an acceptable LOS "C" or better at all times of day.