DESMAN
ASSOCIATES

Final Report

Bethesda Parking Demand Study
Assessment of Existing and Future Conditions

Submitted To:

Montgomery County Government,
DOT-Division of Parking Management

DESMAN
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Executive Summary

DESMAN Associates has been retained by the Montgomery County Department of Transportation to assess current and future public parking supply and demand conditions within the Bethesda Parking Lot District (PLD). Given knowledge of the relationship between current parking activity and land use activity, the analysis presents a projection of future parking supply and demand to determine relative surplus or deficit conditions. In short, is the supply of publicly available spaces in downtown Bethesda sufficient to meet current and future needs?

Assessment of Existing Supply and Utilization

There are 7,506 on- and County owned/operated off-street parking spaces in the PLD, of which 5,790 spaces (77%) are located within parking structures, 896 (12%) are located within surface lots and 820 spaces (11%) are on-street spaces. Of the 820 on-street parking spaces 98% are available to short-term parkers (less than 2 hours).

There are approximately 20,590 private owned/operated parking spaces within the PLD. Out of that total, 7,698 are available to the general public for a fee. All other spaces are restricted for private use only and are unavailable to the general public. The focus of this study is on the use and availability of publicly available spaces which include County owned and privately owned facilities.

Hourly parking occupancy surveys of publicly available off-street and on-street parking spaces were conducted from 8 AM to 9 PM on a weekday and 12 PM to 10 PM on a Saturday. Overall, the publicly available parking system experiences peak utilization at 1:00 PM on weekday when 73% of the spaces are occupied. Peak utilization occurs at 8:00 PM on Saturday when 60% of the spaces are occupied.

Based on these surveys, the PLD has a practical surplus of 1,267 spaces on a weekday and 2,261 spaces on a Saturday. Note that although the system-wide analysis identified a practical surplus of parking, certain parking facilities and curbside spaces do experience a parking deficit during the peak hour. However, significant parking surpluses do exist in adjacent blocks.

Assessment of Future Supply and Demand Conditions

In order to create an accurate estimate of future parking needs, the analysis projects the weekday and Saturday peak parking need for all of the noted future developments. Development information was provided by the National Capital Park and Planning Commission.

Although nearly all future development projects would satisfy their parking needs by providing sufficient onsite parking, some projects would generate unmet demand. It is presumed that this unmet demand would be satisfied by the publicly available spaces in adjacent blocks.

With the exception of a mixed use development initiative on Block 46 – Lot 31 which is programmed to provide 920 publicly available parking spaces, its is assumed that any other development based parking surplus is restricted to property tenants and is unavailable to the general public.

Given these calculations and assumptions, it is anticipated that with future development the Bethesda PLD will maintain a practical surplus of 2,185 parking spaces during the peak period on a weekday and a surplus of 7,612 spaces during the peak Saturday period.

Note that as in the case of the current condition, parking deficits in individual blocks will exist but these deficits should be satisfied by publicly available parking surpluses in adjacent blocks. Naturally, this assumes that parking patrons will be willing to walk one or two blocks from their parking facility to their ultimate destination.

SECTION 1

Introduction

DESMAN Associates has been retained by the Montgomery County Department of Transportation to perform a Parking Demand Assessment Study of the Bethesda Parking Lot District (PLD). The goals of the study are to document the existing parking conditions in Bethesda, assess the impact of future development, and determine if the current parking system is under or over-built.

To achieve the goals of the Study, the project methodology has been designed to be completed in the following three Phases:

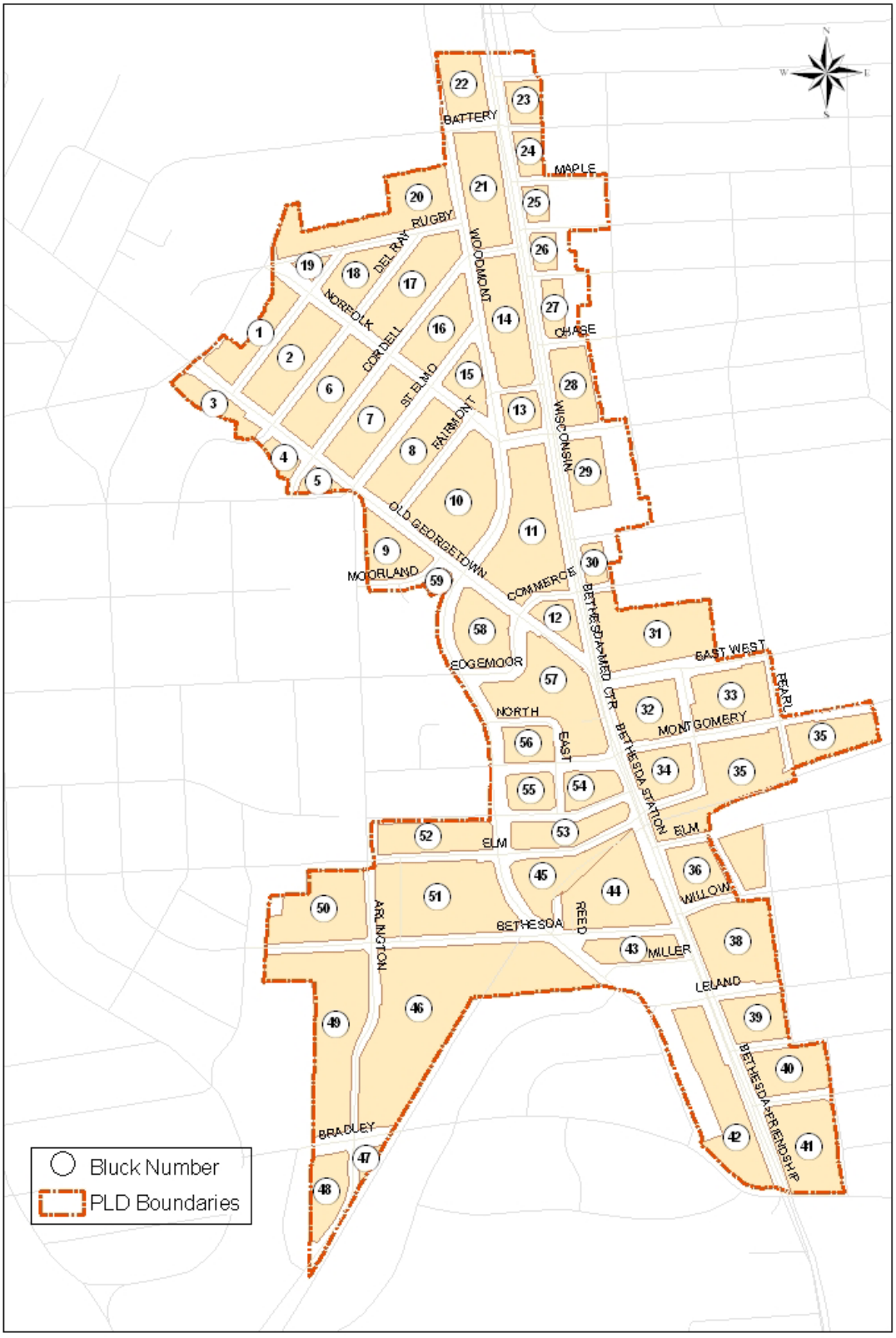
- Phase I – Assessment of Existing Conditions
- Phase II – Existing Land Use (GIS) Analysis
- Phase III – Development Impact Analysis

Note that given the volume of data collected and disseminated for this effort, all background information/spreadsheets are included in a separate Technical Appendix. Please refer to the Appendix for detailed information.

Study Area

The Department of Parking Management currently employs a sector and block coding system for the blocks located within the PLD. Exhibit A illustrates the PLD boundaries and the existing sector and block coding system.

Exhibit A: Study Area Boundary and Block Groups



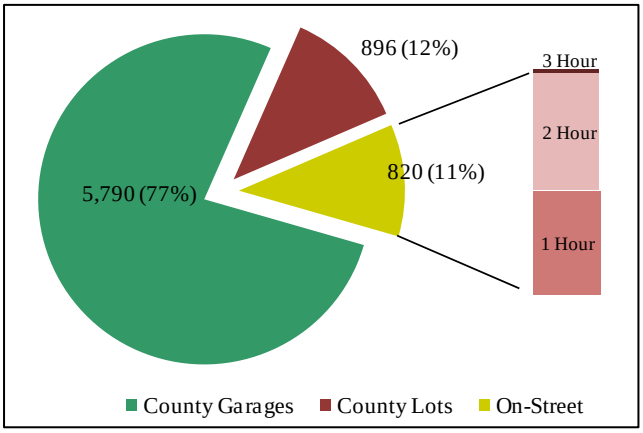
SECTION 2

PHASE I: EXISTING PARKING CONDITIONS

Parking Supply

Public parking supply in the PLD consists of publicly available off-street and on-street spaces. Exhibit B on page 6 identifies the location of the off-street public parking facilities located within the PLD boundaries. Overall, there are 7,506 on-street and County owned and operated off-street parking spaces in the PLD. Figure 1 presents the breakdown of County owned parking inventory. The Bethesda PLD includes 6,686 public off-street parking spaces of which 5,790 (86%) are contained in 8 public parking structures and 896 (14%) which are located in 9 surface parking lots. There are a total of 820 on-street parking spaces within the PLD which equates to 11% of the total supply of public parking. Of that total 378 (46%) spaces are dedicated to 1-hour parking, 430 (53%) spaces to 2-hour parking and 12 (1%) spaces to 3-hour parking.

Figure 1: County Owned parking inventory



In addition to the inventory of public parking spaces, DESMAN also inventoried the supply of privately owned parking facilities. There are approximately 20,593 private spaces within the PLD. It should be noted that the vast majority of privately owned parking spaces are not available to the general public. Out of 20,593 privately owned parking spaces, 7,698 are available to the general public for a fee. Figure 2 illustrates the breakdown inventory of all parking spaces in the Bethesda PLD. Given this restriction of access, the first phase of this Study will focus on assessing the existing and future conditions of only publicly-available parking spaces.

Note that given the restricted access nature of many privately owned parking spaces the inventory of spaces relied to a certain degree on CoStar data, web-based research, and/or conversations with property managers.

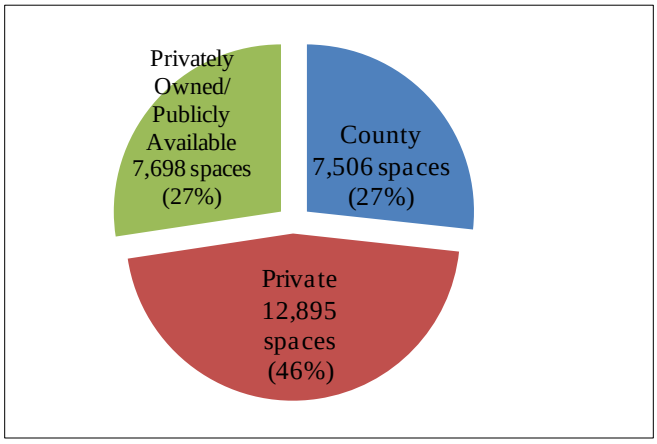


Figure 2: County Owned parking Inventory

Exhibit B: Location of Publicly Available Off-Street Facilities

Parking Utilization

DESMAN conducted hourly parking utilization and turnover and duration of stay surveys in all County parking facilities and curbside areas within the Bethesda PLD during the course of a typical weekday on Tuesday November 9, 2010 between 8 AM and 8 PM and on a typical Saturday on November 6, 2010 between 12 PM and 10 PM.

The peak utilization of the County's off-street public facilities occurred at 1:00 PM on the weekday at which time 4,884 (73%) of the 6,686 publicly-available parking spaces were occupied. On Saturday, off-street County utilization peaked at 8:00 PM when 3,871 (58%) of the 6,686 publicly-available spaces were occupied. Peak utilization of on-street spaces occurred at 12:00 PM on the weekday and 1:00 PM on the Saturday when 642 (78%) and 627 (76%) of the 825 spaces were occupied, respectively. Figures 3 and 4 illustrate the weekday and Saturday parking occupancy in county facilities.

Figure 3: Weekday Occupancy in County Facilities at 1:00 PM

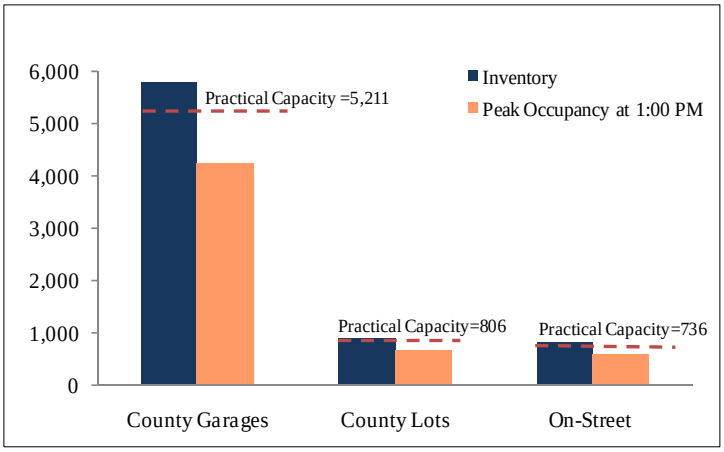
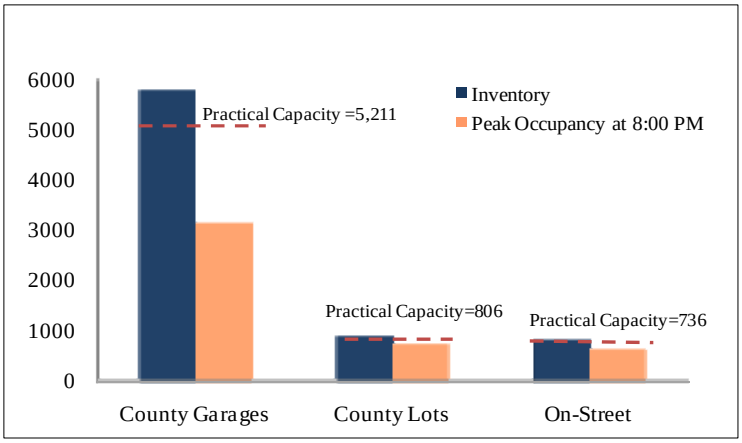


Figure 4: Saturday Occupancy in County Facilities at 8:00 PM



Exhibits C1 and C2 on page 8 and page 9 summarize the utilization of public on- and off-street spaces observed during the weekday and Saturday survey periods. System-wide, public parking utilization peaked at 1:00 PM on the weekday and 8:00 PM on the Saturday when 5,486 (73%) and 4,492 (60%) of the 7,511 spaces, respectively, were occupied. Refer to the Appendix for the detailed occupancy of parking spaces within the Bethesda PLD

Exhibit C1: Weekday Peak Hour Surplus/Deficit of County-Owned, Publicly-Available Garages and On-Street Spaces by Block at 1:00 PM

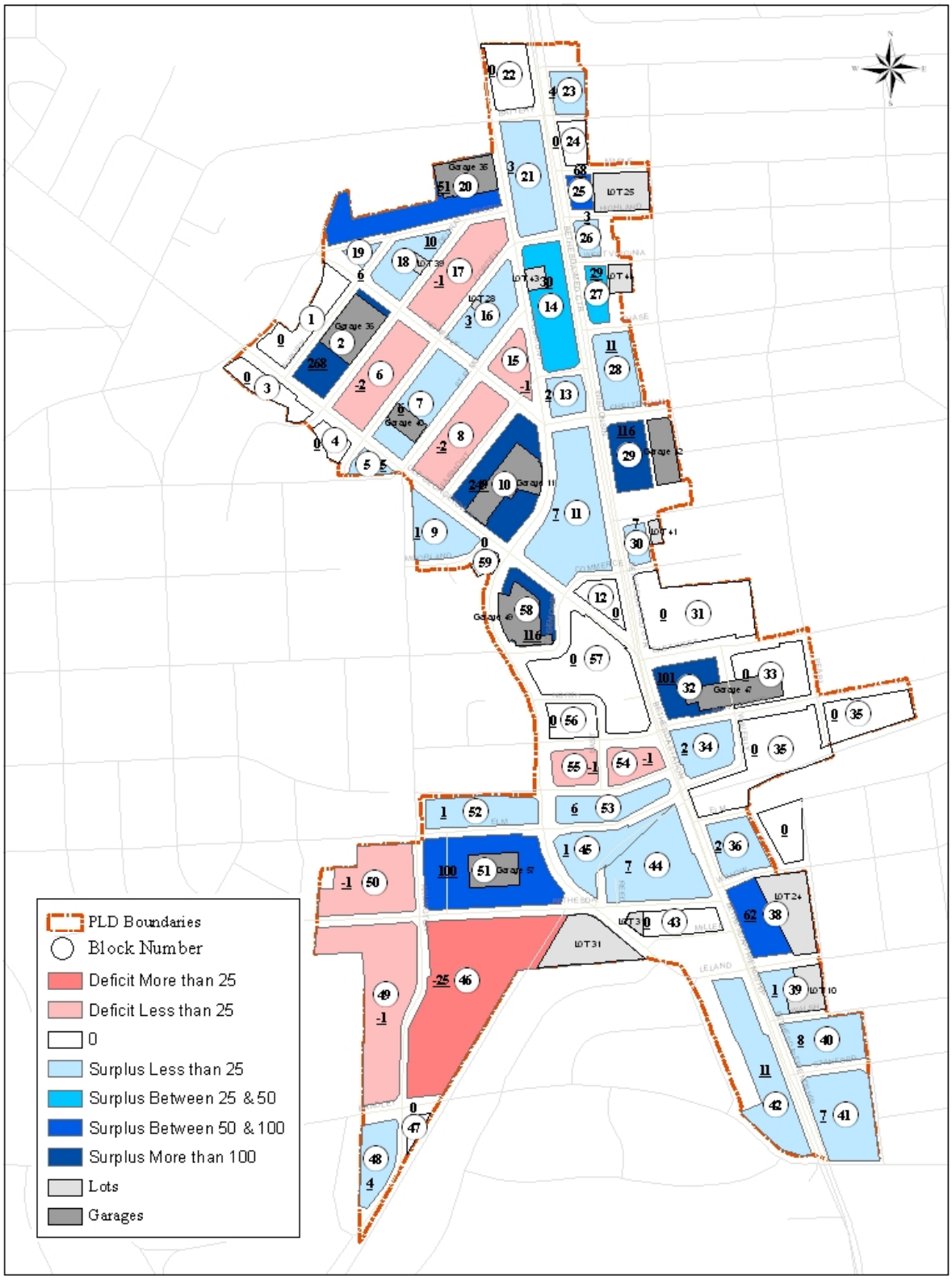
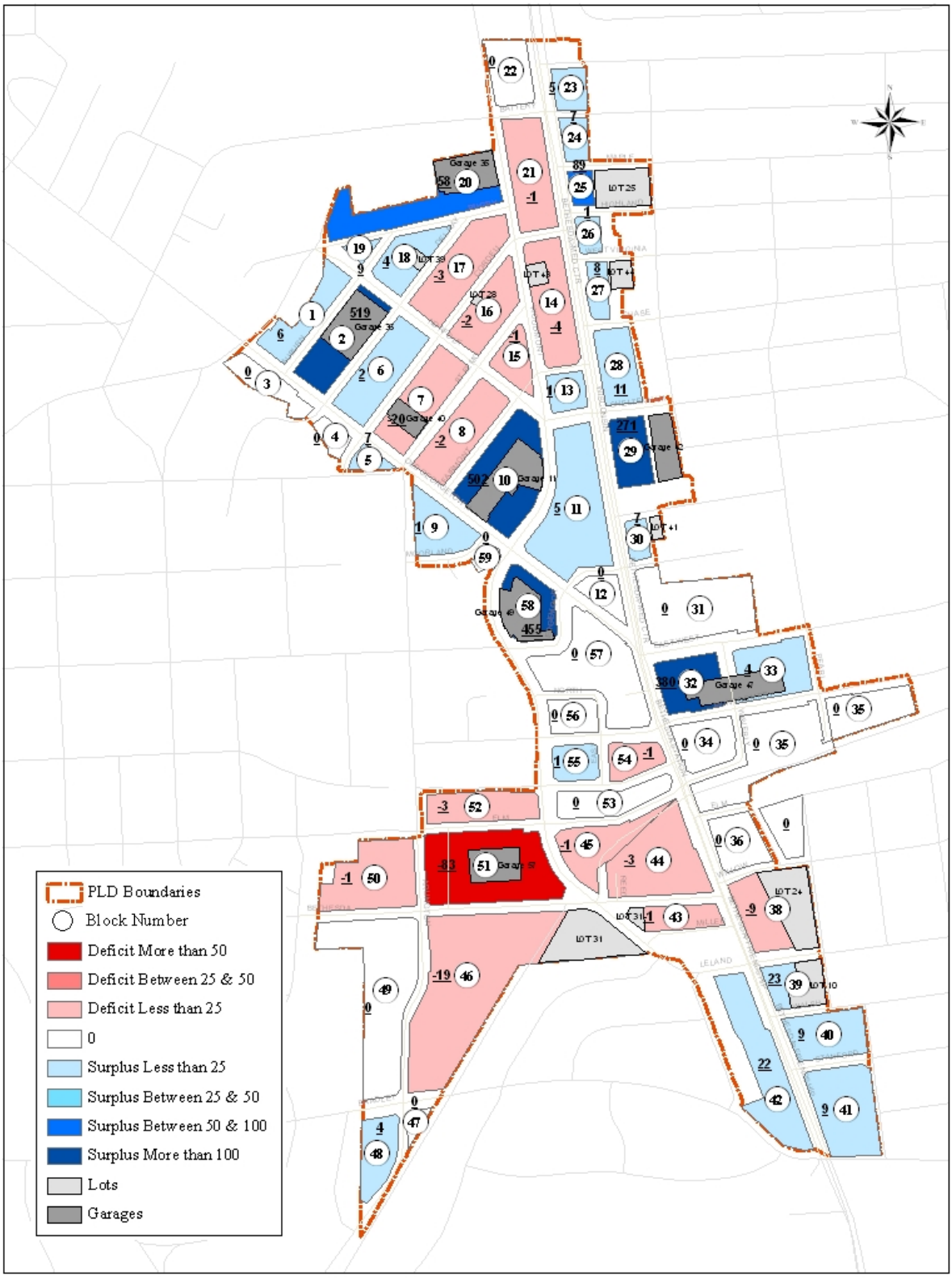


Exhibit C2: Saturday Peak Hour Surplus/Deficit of County-Owned, Publicly-Available Garages and On-street Spaces by Block at 8:00 PM



Parking Surplus/Deficit in County Garages

In order to accurately assess the stress on the parking system in relation to parking utilization, the concept of practical capacity needs to be discussed. The level of utilization within a facility, block or study area may reach a level where potential parkers become frustrated when trying to locate an available space and therefore perceive the facility as full. This is particularly problematic for drivers who wish to remain parked only for a short period of time (shoppers, dinners, etc). For the purpose of this study, a practical capacity factor of 90% was used to analyze the parking conditions in the PLD. Therefore, if a 100-space parking lot has 95 parked vehicles during the peak hour, then a practical deficit of 5 spaces would exist.

DESMAN calculated the peak system-wide practical surpluses/deficits by block on the weekday and Saturday, respectively. Overall, the numbers indicate that, on weekdays, there is a practical surplus of 134 on-street and 1,133 publicly available off-street spaces (a total surplus of 1,267 spaces). On Saturdays the PLD experiences a practical surplus of 115 on-street and 2,146 Off-street spaces (a total surplus of 2,261 spaces). Exhibits C1 and C2 further illustrate the current surplus deficit conditions by color coding based on the amount of surplus or deficit within each block. Varying shades of blue indicates that the block is experiencing a parking surplus of some magnitude while shades of red indicated a range of parking deficits.

Though the data suggests that the Bethesda PLD has an overall surplus of publicly owned/operated parking spaces on a weekday and Saturday there are those blocks and facilities that are experiencing practical parking deficits. For example, on-street spaces in several blocks north and west of Woodmont Avenue exhibited high rates of utilization on both a weekday and Saturday and, thus, practical deficits have been identified. However, given the small number of on-street spaces in these blocks the actually numerical deficits are rather small. More significant public parking deficits are found in the area commonly known as Bethesda Row on both a weekday and Saturday. For example, Block 51, which includes the County's Garage 57, and the adjacent blocks all exhibited parking deficits during the peak period on Saturday.

Parking Surplus/Deficit in Privately-Owned but Publicly-Available Facilities

Apart from the County garages, some privately-owned facilities are also open to the general public. Of the 20,593 privately owned parking facilities, approximately 7,698 (37%) are available to the general public (for a fee). DESMAN calculated the peak practical surplus/deficit of parking in those garages. Based on field observations, parking occupancy was at 73% of capacity during the peak period of utilization at 1:00 PM on a weekday and 17% during the 8:00 PM peak hour on a Saturday. The only exception to the low privately owned but publicly available garage occupancy on Saturday was the garage in Block 51 in which the peak occupancy rate was 75%. Figures 5 and 6 present the weekday and Saturday peak occupancy of County garages as well as privately-owned but publicly available faculties.

Figure 5: Weekday Peak Occupancy of County Garages & Privately-Owned but Publicly Available Facilities

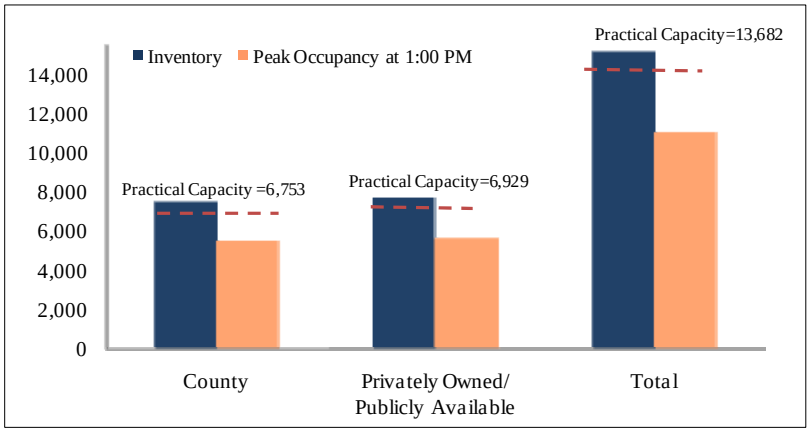
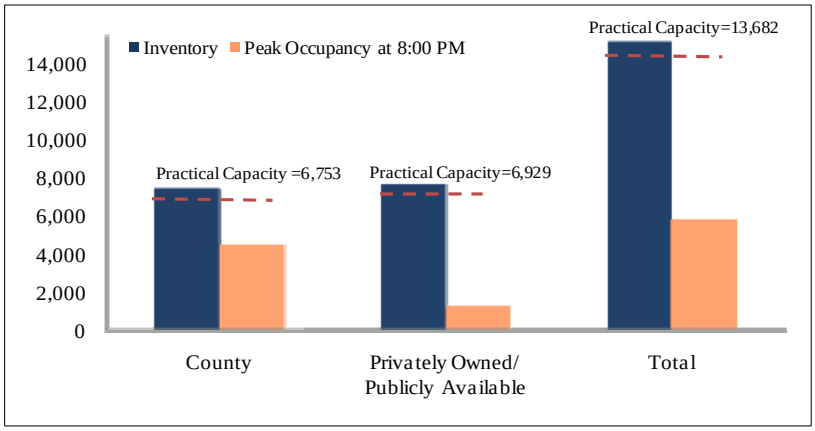


Figure 6: Saturday Peak Occupancy of County Garages & Privately-Owned but Publicly Available Facilities



In order to calculate the system wide surplus/deficit of all publicly-available facilities in the study area, the supply and utilization figures for privately owned but publicly available parking facilities were added to the weekday and Saturday peak surplus/deficit of parking in the County facilities. Exhibits D1 and D2 on page 12 and 13 revisits the weekday and Saturday peak surplus/deficit condition for County and privately owned but publicly available facilities

Exhibit D1: Weekday Peak Hour Surplus/Deficit of On- and Off-street Publicly-Available (County & Private) Spaces by Block at 1:00 PM

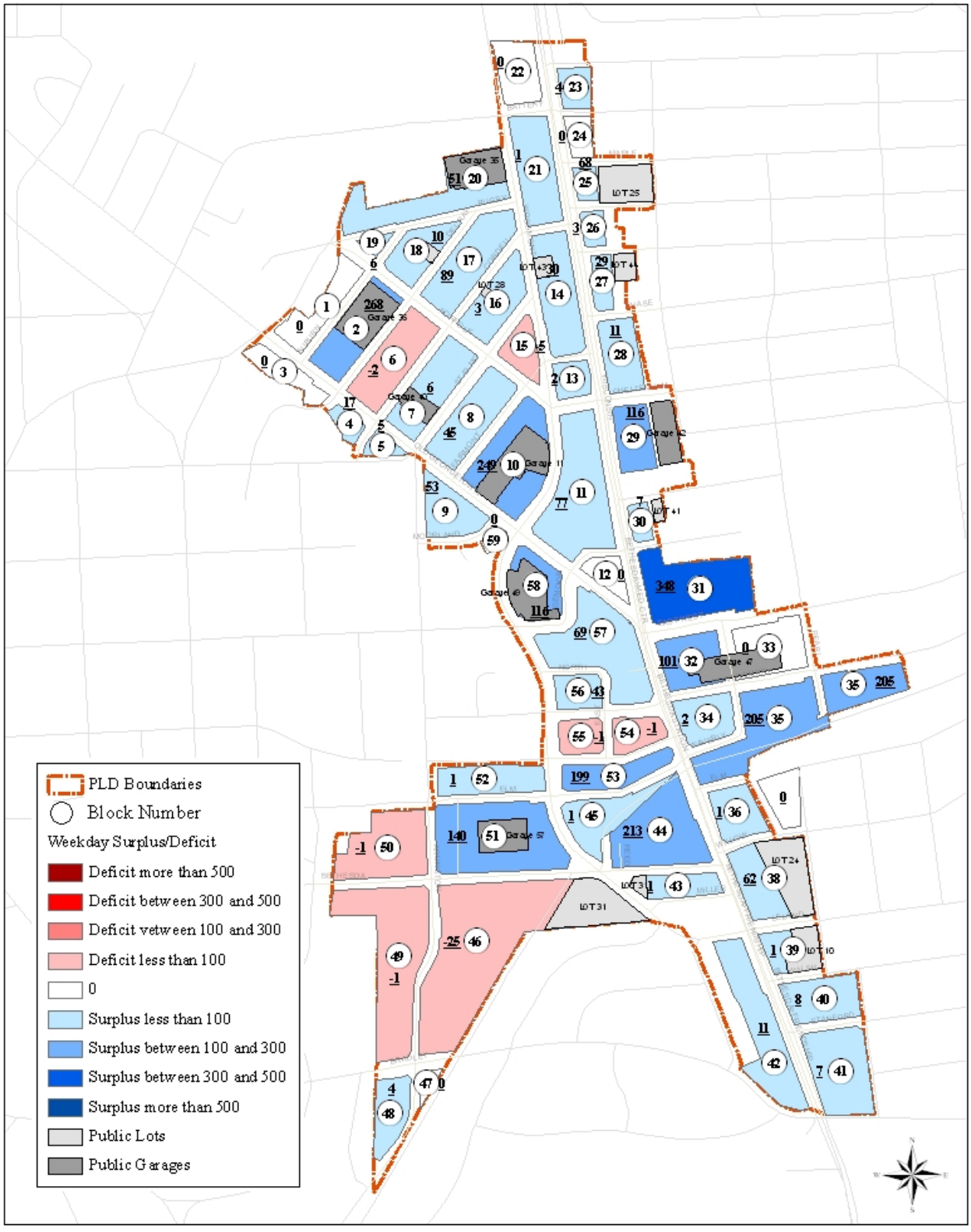
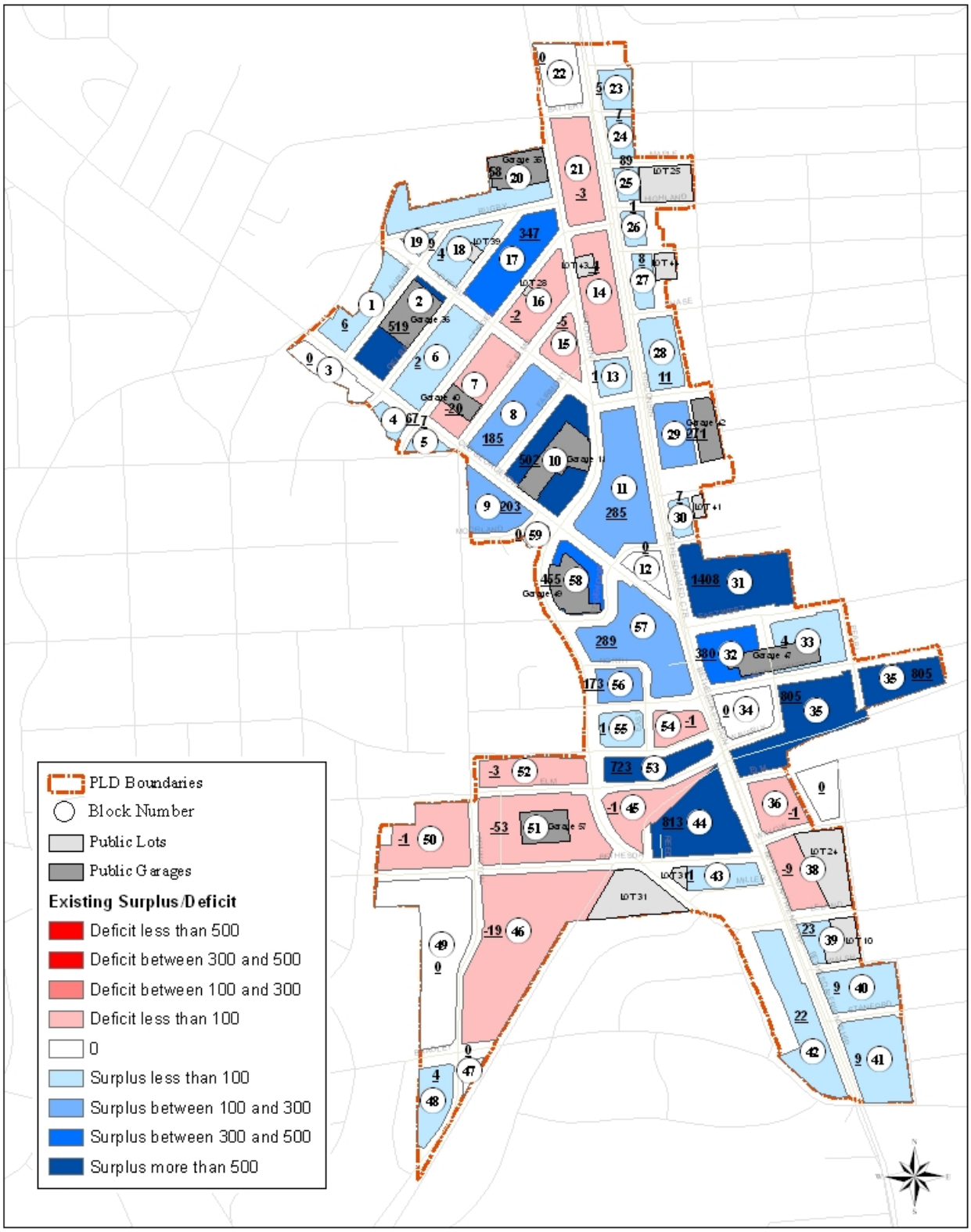


Exhibit D2: Saturday Peak Hour Surplus/Deficit of On- and Off-street Publicly-Available(County & Private) Spaces by Block at 8:00 PM



When the supply of privately owned but publicly available parking spaces are included in the analysis of current public parking surplus or deficit conditions some significant changes materialize. By comparing Exhibit C1 and D1 (weekday conditions), large publicly available parking surpluses appear and are concentrated in blocks just east of the Bethesda Row and east of Wisconsin Avenue (see Exhibit E1). On a Saturday (see Exhibit E2) surpluses in those block increase and additional publicly available surpluses appear in Blocks 44 and 53 which are just across Woodmont Avenue from Bethesda Row.

The privately owned but publicly available facilities associated with these surpluses are integrated within large and relatively recent office/mix used developments. It would appear that these developers chose to or were encourage to over-build parking for their purposes. As a result, surpluses exist and, particularly on a Saturday when office occupancy is low, are significant. It should be noted that though significant surpluses exist on Saturday in blocks that are one or two blocks from Bethesda Row, the County does not charge a fee to park in Lot 31, Garage 57, or any of its other off-street facilities. Therefore, it may be unrealistic to assume that patrons to the shops and restaurants in this area would be willing to utilize those privately owned publicly available garages that charge a fee on Saturday.

Exhibit E1: Weekday Peak Hour Surplus/Deficit of All Publicly Available Facilities

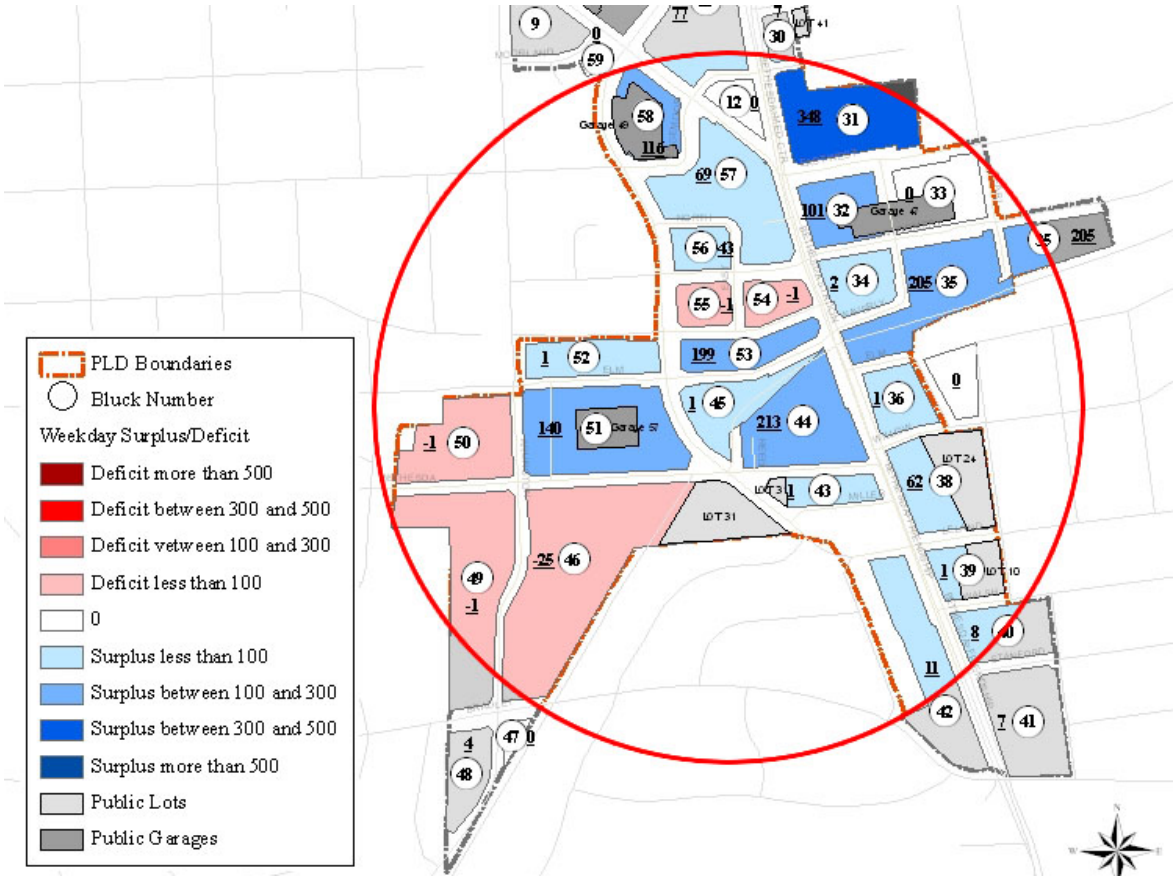
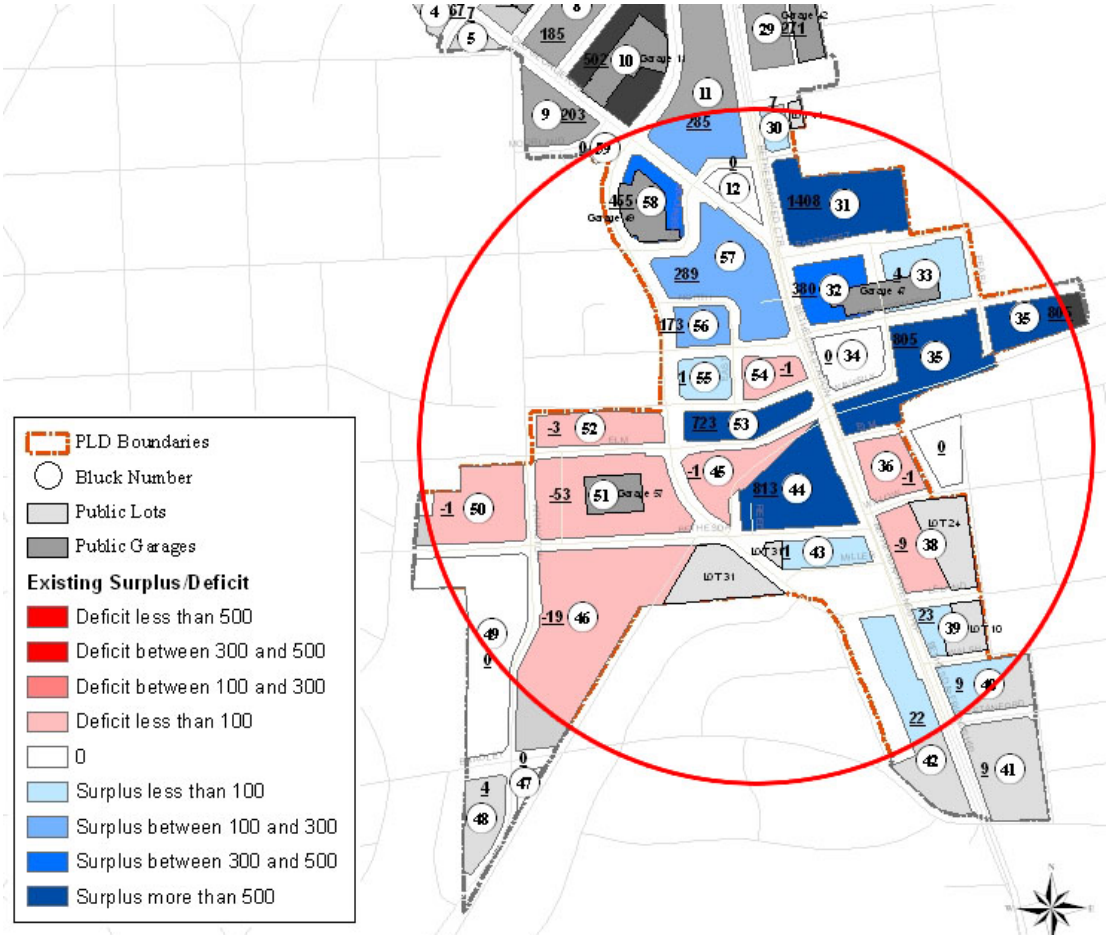


Exhibit E2: Saturday Peak Hour Surplus/Deficit of All Publicly Available Facilities



Parking Turnover and Duration of Stay

In addition to the public parking utilization surveys, DESMAN also completed a license plate survey to monitor the length of time each vehicle occupied a single public parking space and to determine how many vehicles utilized a specific parking space throughout the course of the day. The results of the turnover survey by block are summarized in Appendix tables. During the weekday survey period, 8,360 vehicles utilized the 6,686 off-street spaces and 3,277 vehicles utilized the 820 on-street spaces. This equates to a turnover ratio of 1.55 vehicles per space per day and a duration of stay of 4.5 hours for the off-street spaces and a turnover ratio of 3.7 vehicles per space per day and a duration of stay of 1.4 hours for on-street spaces. During the Saturday survey period, 10,412 vehicles used the 6,686 available off-street spaces (1.56 turns per day) with an average length of stay of 2.9 hours. The average length of stay and turnover ratio for on-street spaces on Saturday were 1.5 hours and 4.7 turns, respectively.

SECTION 3

PHASE II – EXISTING LAND USE ANALYSIS

Field surveys of parking utilization and turnover cannot, by themselves, determine whether the PLD has an over abundance or shortage of available parking spaces. The need for parking is generated by occupied and vibrant office, retail, restaurant, and residential buildings and without an understanding of land use activity an analysis of parking need is incomplete. The following section presents a comprehensive existing and future land use-based modeling of parking demand using parking demand ratios that are unique to Bethesda.

Land Use Based Modeling of Parking Demand

In order to determine the existing land use-based parking demand, the concept of parking demand factors needs to be introduced. Land use-based parking demand factors or ratios are per-unit measures of peak hour parking generation. By applying these factors to the density of various land uses (office, retail, residential, etc.), the weekday and Saturday parking activity associated with those developments can be estimated. Tables 2a and 2b on page 17 show current weekday and Saturday peak parking demand factors that are believed to be relevant in Bethesda. For example, during a typical weekday peak period, for each 1,000 SF of occupied restaurant space nearly 4.32 parking spaces would be needed to satisfy the parking demand generated by this land use. Similarly, on a Saturday, 7.81 parking spaces would be needed to satisfy the parking demand generated by various restaurants within the PLD.

As illustrated on Table 2a and 2b these ratios are well below those currently published by the Urban Land Institute (ULI) and the Institute of Transportation Engineers (ITE). DESMAN's research suggests that the ratios published by ULI and ITE are derived from suburban dominated, auto dependant case studies. Bethesda is a complex mix of different land use activities and is supported by significant public transit infrastructure (Metrorail, Metro Bus, County shuttle, bike lanes, etc.). Proximity and ease of access to public transportation, shared use, and parking "synergy", defined as the relationship between land uses that result in visiting multiple land uses on the same trip, result in a lower parking demand ratio.

For a detailed square footage breakdown of each land use category by block as provided by the County through its CoStar commercial real estate database refer to the Appendix. The dominant land uses within the Bethesda PLD are office, retail and restaurant.

By applying these demand ratios to the land use mix within the PLD on a weekday and during the peak period of utilization at 1:00PM, it is estimated that there is a demand for 19,450 parking spaces associated with all uses within the PLD boundaries. Similarly, on a Saturday when office parking demand is low, the total land use-based parking demand equates to 7,874 spaces during the peak hour at 8 PM.

While Tables 2a and 2b illustrate peak parking ratios for various land uses, these ratios alone cannot be used to calculate the parking demand during the non-peak hours. Applying hourly adjustment factors to the peak parking ratios can illustrate the demand for parking by time of the day. This is particularly important since some land uses might have a different peak hour of activity than others. For instance, Theaters or Health Clubs may have a higher demand for parking during the evening hours when offices are mostly closed.

Table 2a: Existing Weekday Land Use-Based Parking Ratios

Land Use Category	ULI Demand Dependent Ratio (1)	Auto Use (2)	Synergy (3)	Auto Base - Auto Dependent Ratio
Retail (per 1,000 sq. ft. GFA)	3.50	80%	60%	**1.12**
Hotel (per Room)	1.20	70%	0%	**0.84**
Office (per 1,000 sq. ft. GFA)	3.50	60%	0%	**2.10**
Movie Theater (Per Seat)	0.33	75%	10%	**0.22**
Restaurant (per 1,000 sq. ft. GFA)	12.00	80%	55%	**4.32**
Church (per 1,000 sq. ft. GFA)	0.00	100%	0%	**0.00**
Residential (Per Dwelling)	1.50	74%	0%	**1.11**
Institutional (per 1,000 sq. ft. GFA)	1.20	90%	0%	**1.08**
Light Industrial (per 1,000 sq. ft. GFA)	0.75	100%	0%	**0.75**
Health Club	7.00	95%	10%	**5.99**

(1) Base Ratios were derived from ULI "Shared Parking"(2nd Edition) and ITE "Parking Generation" (3rd Edition)
(2) Percentage of people who would drive to their destination
(3) Percentage of people who would already be parking in association with other uses
(4) Vehicles per 1,000 sq. ft. GFA

Table 2b: Existing Saturday Land Use-Based Parking Ratios

Land Use Category	ULI Demand Dependent Ratio (1)	Auto Use (2)	Synergy (3)	Auto Base - Auto Dependent Ratio
Retail (per 1,000 sq. ft. GFA)	3.5	90%	40%	**1.89**
Hotel (per Room)	1.2	70%	0%	**0.84**
Office (per 1,000 sq. ft. GFA)	0.4	90%	0%	**0.36**
Movie Theater (Per Seat)	0.33	95%	10%	**0.28**
Restaurant (per 1,000 sq. ft. GFA)	12.00	90%	32%	**7.34**
Church (per 1,000 sq. ft. GFA) (5)	7.81	100%	0%	**7.81**
Residential (Per Dwelling)	1.5	74%	0%	**1.11**
Institutional (per 1,000 sq. ft. GFA)	1.2	95%	0%	**1.14**
Light Industrial (per 1,000 sq. ft. GFA)	0.75	100%	0%	**0.75**
Health Club	6.75	100%	0%	**6.75**

(1) Base Ratios were derived from ULI "Shared Parking"(2nd Edition) and ITE "Parking Generation" (3rd Edition)
(2) Percentage of people who would drive to their destination
(3) Percentage of people who would already be parking in association with other uses
(4) Vehicles per 1,000 sq. ft. GFA
(5) Parking Generarion- 3rd edition

Tables 3a and 3b illustrate the hourly parking demand ratios on weekdays and Saturdays based on the recommended time of day factors published by the Urban Land Institute.

Table 3a: Respective Weekday Hourly Parking Demand Ratios by Land Use

Hour of Day	Office	Retail	Restaurant	Residential	Theater	Hotel	Light Industrial	Health Club	Post Office
6:00 AM	0.06	0.00	0.00	1.11	0.00	0.80	0.02	4.19	0.00
7:00 AM	0.21	0.00	0.00	0.99	0.00	0.76	0.23	2.39	0.00
8:00 AM	0.84	0.00	0.00	0.67	0.00	0.67	0.49	2.39	0.00
9:00 AM	1.47	0.02	0.09	0.56	0.00	0.55	0.64	2.99	0.76
10:00 AM	2.10	0.11	0.43	0.58	0.00	0.50	0.71	2.99	0.86
11:00 AM	2.10	0.73	2.42	0.58	0.00	0.50	0.75	4.19	0.54
12:00 Noon	2.06	1.08	4.15	0.56	0.06	0.46	0.72	4.67	0.97
1:00 PM	**2.06**	**1.12**	**4.32**	**0.56**	**0.09**	**0.50**	**0.71**	**5.09**	**1.08**
2:00 PM	2.10	0.67	2.59	0.44	0.09	0.50	0.68	3.59	0.59
3:00 PM	2.08	0.34	0.65	0.44	0.09	0.42	0.68	1.80	0.54
4:00 PM	1.79	0.50	0.65	0.67	0.09	0.42	0.68	3.29	0.86
5:00 PM	1.26	0.73	2.81	0.89	0.11	0.59	0.38	5.39	1.08
6:00 PM	0.63	0.78	4.32	1.00	0.17	0.63	0.19	5.99	0.00
7:00 PM	0.42	0.73	4.32	1.07	0.21	0.66	0.08	5.99	0.00
8:00 PM	0.32	0.73	4.32	1.09	0.22	0.74	0.05	5.75	0.00
9:00 PM	0.06	0.67	2.81	1.10	0.22	0.74	0.02	4.49	0.00
10:00 PM	0.02	0.22	2.38	1.11	0.19	0.76	0.01	2.09	0.00
11:00 PM	0.00	0.11	2.16	1.11	0.10	0.84	0.00	0.60	0.00
12:00 Midnight	0.00	0.00	1.08	1.11	0.02	0.84	0.00	0.00	0.00

Table 3b: Respective Saturday Hourly Parking Demand Ratios by Land Use

Hour of Day	Office	Retail	Restaurant	Residential	Theater	Hotel	Light Industrial	Health Club	Post Office
6:00 AM	0.00	0.02	0.73	1.11	0.00	0.80	0.00	5.40	0.00
7:00 AM	0.05	0.09	1.84	1.00	0.00	0.76	0.15	3.04	0.00
8:00 AM	0.16	0.19	3.30	0.94	0.00	0.67	0.30	2.36	0.29
9:00 AM	0.23	0.57	3.30	0.89	0.00	0.59	0.45	3.38	0.46
10:00 AM	0.29	0.95	3.67	0.89	0.01	0.50	0.68	2.36	0.86
11:00 AM	0.36	1.23	4.04	0.89	0.01	0.50	0.75	3.38	1.03
12:00 Noon	0.23	1.32	4.41	0.56	0.03	0.42	0.60	3.38	1.14
1:00 PM	0.13	1.70	5.14	0.56	0.10	0.42	0.38	2.03	1.14
2:00 PM	0.07	1.89	4.41	0.67	0.14	0.50	0.30	1.69	0.00
3:00 PM	0.05	1.70	3.67	0.78	0.14	0.50	0.30	1.69	0.00
4:00 PM	0.04	1.61	2.57	0.83	0.16	0.55	0.15	3.71	0.00
5:00 PM	0.02	1.23	2.94	0.83	0.17	0.59	0.04	6.75	0.00
6:00 PM	0.00	1.13	4.77	0.89	0.17	0.59	0.04	6.08	0.00
7:00 PM	0.00	0.95	6.68	0.89	0.25	0.63	0.00	4.39	0.00
8:00 PM	**0.00**	**0.85**	**7.34**	**1.03**	**0.28**	**0.76**	**0.00**	**2.70**	**0.00**
9:00 PM	0.00	0.57	7.34	1.10	0.28	0.82	0.00	1.82	0.00
10:00 PM	0.00	0.38	6.24	1.11	0.28	0.82	0.00	0.34	0.00
11:00 PM	0.00	0.19	5.14	1.11	0.23	0.84	0.00	0.07	0.00
12:00 Midnight	0.00	0.00	0.73	1.11	0.14	0.84	0.00	0.00	0.00

In order to validate the appropriateness and accuracy of the recommended ratios referenced in Tables 2a and 2b, the volume and pattern of parking demand generated by the land use-based analysis were compared to the volume and pattern of occupancy data recorded during the weekday and Saturday field surveys. This occupancy data includes all parking facilities and their peak use (public, private but publicly available, and private/restricted). Figures 7a and 8a exhibit the weekday and Saturday land use-based parking demand and Figures 7b and 8b illustrate the weekday and Saturday parking demand based on field surveys.

The land used-based graphs for both the weekday and Saturday look similar to the occupancy graphs generated through field surveys. The small difference between the surveyed peak weekday occupancy and the land use-based parking demand on a weekday reflects the Metrorail commuter parking demand that occurs in the County's Garage 49 and Garage 47.

Figure 7a: Weekday Land Use-Based Parking Demand of Public & Private Facilities

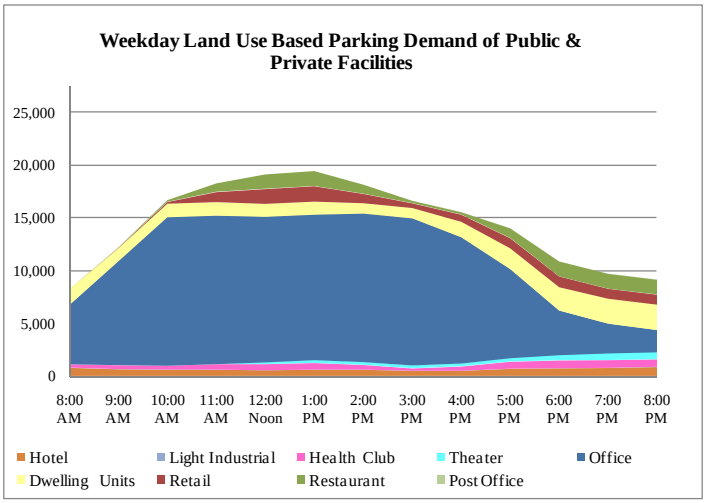


Figure 7b: Weekday Occupancy of Public & Private facilities Based on Field Surveys

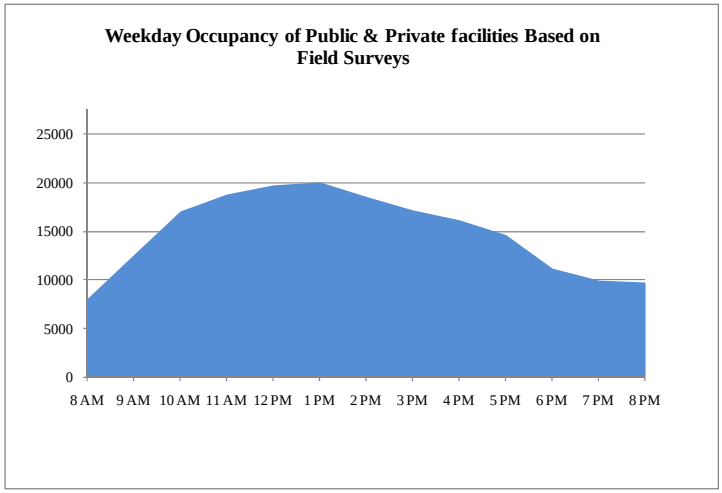


Figure 8b: Saturday Land Use-Based Parking Demand of Public & Private Facilities

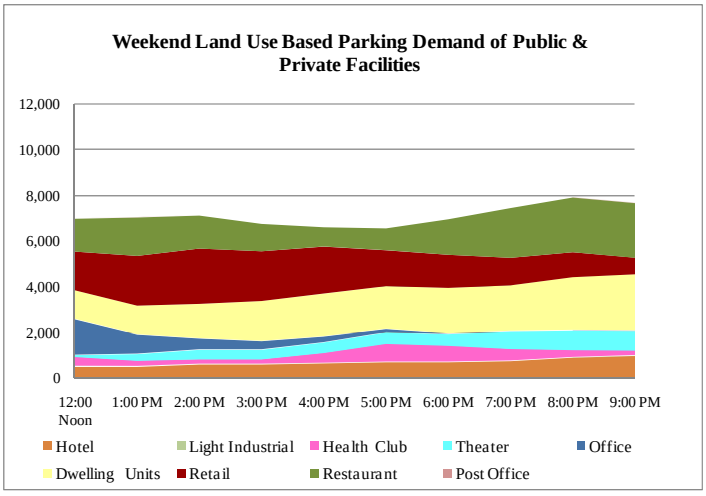
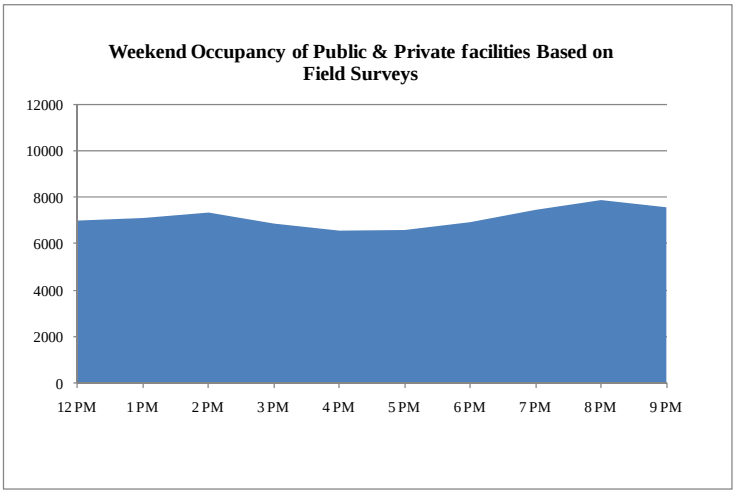


Figure 8b: Saturday Occupancy of Public & Private facilities Based on Field Surveys



Future Land Used-Based Modeling of Parking Demand

Future development and redevelopment projects will have an impact on the demand for and availability of parking in Bethesda In an attempt to quantify possible future changes in the supply of and demand for parking, the Maryland National Capital Park and Planning Commission (MNCPPC) was asked to provide data regarding any known, proposed and/or potential development within the Bethesda PLD. The information provided included the location, size, and proposed uses of the projects as well as the number of available parking spaces within each development. Table 4 and Exhibit F present the future development information and location of such developments by block.

Table 4: Future, Known, Proposed and Potential Developments as Provided by MNCPP-C

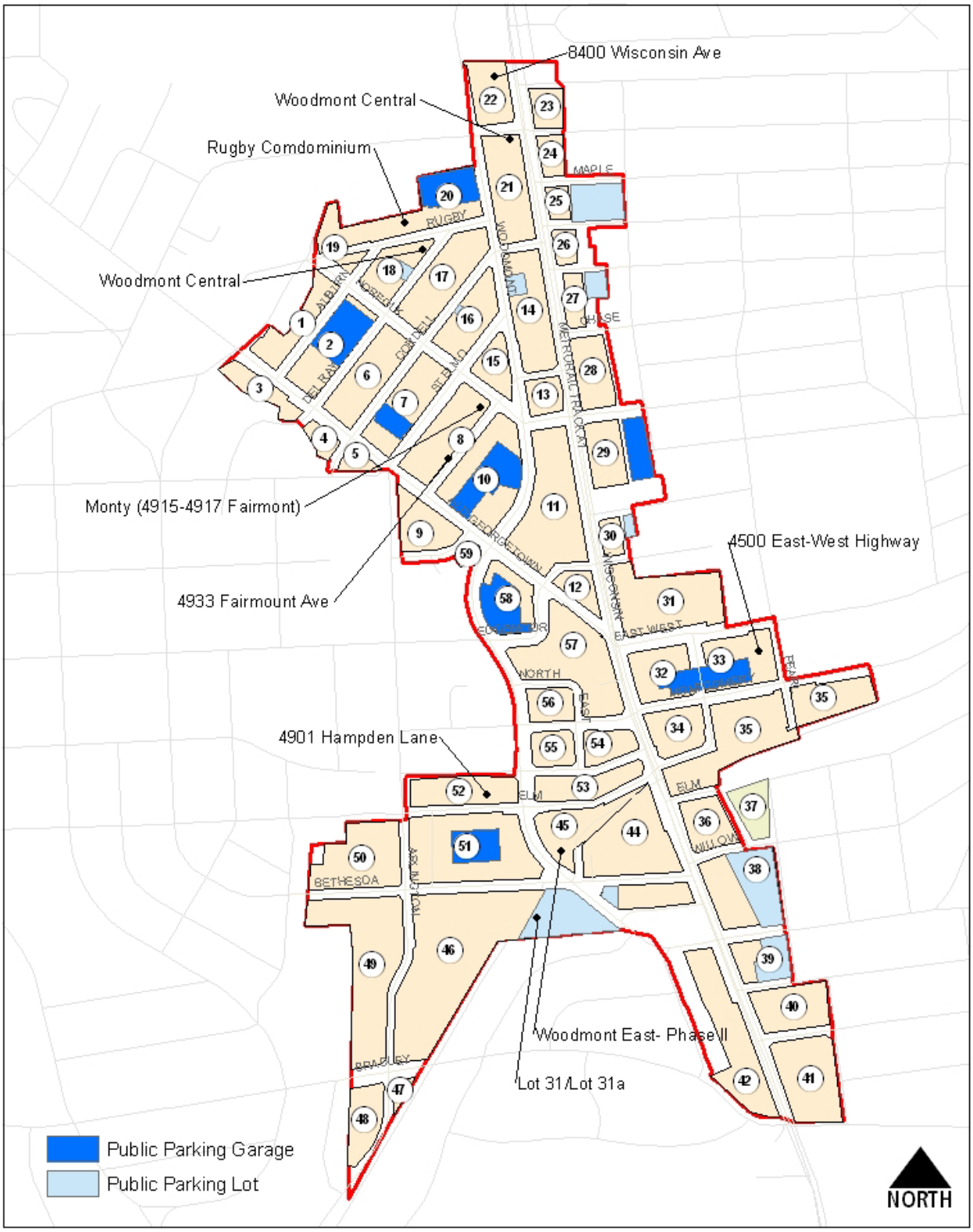
		Dispaced				New			
Block Number	**Address**	**Retail**	**Office**	**Restaurant**	**Parking Spaces**	**Multi- Family**	**Office**	**Retail**	**Parking Spaces**
8	Monty (4915-4917 Fairmont)	11,400				200			243
8	4933 Fairmount Ave	1,667	3,333		10	0	1,578		0
18	Woodmont Central (phase 1B & 2)	7,920	14,397		8	456			886
20	Rugby Condominium					60			70
21	Woodmont Central (Phase 1A)	4,071					81,107	19,556	0
22	8400 Wisconsin Avenue					200			285
33	4500 East West Highway			2,664	70	0	223,300	13,300	350
45	Woodmont East Phase II					207	286,879	37,136	94
46	Lot 31/Lot 31a (1)				285	250		40,000	1,150
52	4901 Hampden Lane					64			90
Total		**25,058**	**17,730**	**2,664**	**373**	**1,437**	**592,864**	**109,992**	**3,168**

(1) 920 of 1150 spaces are available for public use

Disclaimer
The Planning Department's Center for Research and Information Services, in June 2010, began a project to automate its pipeline of development activity. As part of this project, staff also started a record-by-record review, verification, correction, and update of all preliminary plans and site plans approved since 1985 in each Master Plan area. This effort continues and an end-date is targeted for March 31st 2011 at which time a new report will be posted to the Department website.
Note: the above table is subject to change should updated information become available

The Pipeline represents net of Planning Board approval and completed construction.
Data on parking spaces comes from the project data table found in the Approved Signature Set.
All plan documents for a specific Planning Board approved development may be accessed online at the Development Activity Information Center.
http://www.montgomeryplanning.org/development/daic/index.shtm

Exhibit F: Future, Known, Proposed and Potential Developments with Bethesda PLD



Estimate of Future Unmet Development Demand by Land Use by Block

In order to create an accurate estimate of future parking needs, the analysis projects the weekday and Saturday peak parking need for all of the noted future developments. To calculate the total future parking demand in the study area, the peak weekday and Saturday parking demand ratios found in Tables 2a and 2b (see page 16) were applied to the future development data presented in page 19. Tables 5a and 5b below present the weekday and Saturday demand associated with displaced land uses and the parking demand generated by future development activities. These tables also present the current demand which will be lost to new development. For example, the displacement of 11,400 SF of retail use in block 8 by the Monty development project (a 200 unit condominium) would displace the need for 13 parking spaces and generate an additional demand for 111 parking spaces on a weekday.

Table 5a: Future Weekday Demand Associated with Known, Proposed and Potential Developments

		Dispaced				New				
Block Number	Address	Retail	Office	Restaurant	Total	Multi Family	Office	Retail	Total	Total
8	Monty (4915-4917 Fairmont)	13	0		**13**	111			**111**	**98**
8	4933 Fairmount Ave	2	7		**9**	0	3		**3**	**-6**
18	Woodmont Central	9	30		**39**	253			**253**	**214**
20	Rugby Condominium	0			**0**	33			**33**	**33**
21	Woodmont Central	5			**5**	0	167	22	**189**	**184**
22	8400 Wisconsin Avenue				**0**	111			**111**	**111**
33	4500 East West Highway			12	**12**	0	460	15	**475**	**463**
45	Woodmont East Phase II				**0**	115	590	42	**747**	**747**
46	Lot 31/Lot 31a				**0**	139		45	**184**	**184**
52	4901 Hampden Lane				**0**	36			**36**	**36**
Total		**29**	**37**	**12**	**78**	**798**	**1,220**	**124**	**2,142**	**2,064**

Table 5b: Future Saturday Demand Associated with known, Proposed and potential developments

		Dispaced				New				
Block Number	Address	Retail	Office	Restaurant	Total	Multi Family	Office	Retail	Total	Total
8	Monty (4915-4917 Fairmont)	10	0		**10**	206			**206**	**196**
8	4933 Fairmount Ave	1	0		**1**	0	0		**0**	**-1**
18	Woodmont Central	7	0		**7**	471	0		**471**	**464**
20	Rugby Condominium	0	0		**0**	62	0		**62**	**62**
21	Woodmont Central	3	0		**3**	0	0	17	**17**	**14**
22	8400 Wisconsin Avenue	0	0		**0**	206	0	0	**206**	**206**
33	4500 East West Highway	0	0	20	**20**	0	0	11	**11**	**-9**
45	Woodmont East Phase II				**0**	214	0	32	**246**	**246**
46	Lot 31/Lot 31a				**0**	214		32	**246**	**246**
52	4901 Hampden Lane				**0**	258			**258**	**258**
Total		**21**	**0**	**20**	**41**	**1,631**	**0**	**92**	**1,723**	**1,682**

Tables 6a and 6b illustrate the weekday and Saturday unmet development demand associated with each development by block. As these tables indicate, the proposed future parking supply created by and for some of these future development projects will not be sufficient to meet their total future demand. For instance, the development plan for block 33, 4500 East-West Highway displaces 70 parking spaces and creates 350 new parking spaces. This equates to a net gain of 280 parking spaces within that block. However, using the recommended parking ratios the parking demand to be generated by this project equates to 463 spaces. Considering a practical capacity of 90% (252 spaces), the unmet demand that this project is anticipated to generate in Block 33 would be 211 spaces (280 spaces times .90% minus 463 spaces).

Table 6a: Future Weekday Surplus/Deficit Associated with Known, Proposed and Potential Developments

	Demand [1]			Supply [2]			Net New Practical	Net New Practical
Block Number	New A	Displaced B	Net New C=A-B	New D	Displaced E	Net New F=D-E	Capacity G= F*0.95	Surplus/ Deficit
8	114	22	92	243	10	233	210	**118**
18	253	39	214	886	8	878	790	**576**
20	33	0	33	70	0	70	63	**30**
21	189	5	184	0	0	0	0	**-184**
22	111	0	111	285	0	285	257	**146**
33	475	12	463	350	70	280	252	**-211**
45	747	0	747	94	0	94	85	**-662**
46	184	0	184	1,150	285	865	779	**595**
52	36	0	36	90	0	90	81	**45**

(1) Demand is calculated based on applying the existing land use based parking demand ratios to the land use information provided by the Mary Land National Capital Park and Planning Commission (MNCPP-C)

(2) Supply was provided by the MNCPP-C

Table 6b: Future Saturday Surplus/Deficit Associated with Known, Proposed and Potential Developments

	Demand [1]			Supply [2]			Net New Practical	Net New Practical
Block Number	New A	Displaced B	Net New C=A-B	New D	Displaced E	Net New F=D-E	Capacity G= F*0.95	Surplus/ Deficit
8	206	11	195	243	10	233	210	**15**
18	471	7	464	886	8	878	790	**326**
20	62	0	62	70	0	70	63	**1**
21	17	3	14	0	0	0	0	**-14**
22	206	0	206	285	0	285	257	**51**
33	11	20	-9	350	70	280	252	**261**
45	246	0	246	94	0	94	85	**-161**
46	246	0	246	1,150	285	865	779	**533**
52	258	0	258	90	0	90	81	**-177**

(1) Demand is calculated based on applying the existing land use based parking demand ratios to the land use information provided by the Mary Land National Capital Park and Planning Commission (MNCPP-C)

(2) Supply was provided by the MNCPP-C

Estimate of Future Demand by Land Use and by Block

In order to create an accurate estimate of future parking surplus/deficit conditions, the final analysis layers the unmet development demand calculated in Tables 6a and 6b onto the existing practical peak parking surplus/deficit for all publicly-available garages (Appendix tables illustrate the block by block layering of unmet development demand). Please note that since parking spaces designated to any of the future development projects are reserved for specific uses, the analysis assumes that they will not be shared with other land uses and/or the general public. As such, the surplus of parking supply that a new development creates was not counted on to satisfy deficits created by another development. For example, based on calculations in Table 6a, once the future development in Block 8 is completed there will be a surplus of 118 parking spaces in that block since the Monty development appears to be providing a parking surplus. However, those parking spaces will be dedicated to tenants/employees of that development and couldn't be used by the general public. The only exception is the development project in Block 46 which provides 230 private and 920 publicly-available parking spaces.

Under this scenario, a peak weekday surplus of 2,185 parking spaces would remain.

Current weekday surplus of 1,267 spaces in County facilities + current weekday surplus of 1,380 spaces in privately-owned, publicly-available garages - absorption based deficit of 462 space

Similarly, on Saturday, the study area would experience a surplus of 7,612 spaces.

Current weekday surplus of 2,261 spaces in County facilities + current weekday surplus of 5,170 spaces in privately owned/publicly available garages + absorption based surplus of 181 spaces

Figures 9 and 10 illustrate the weekday and Saturday existing and future peak supply and demand conditions.

Figure 9: Existing & Future Weekday Peak Supply and Demand

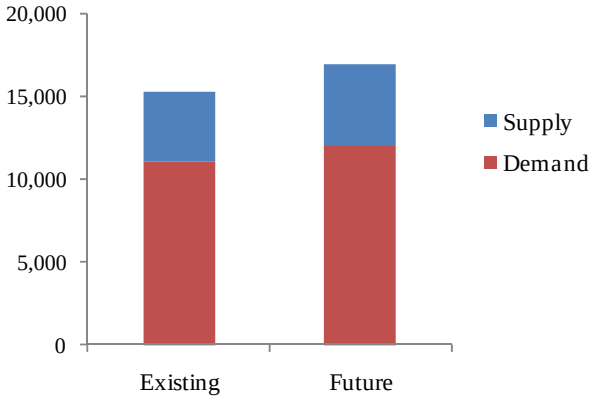
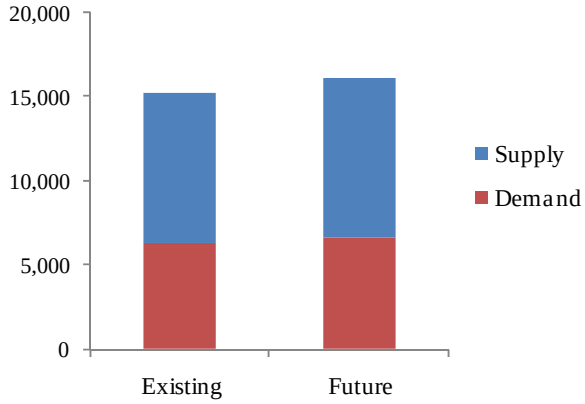


Figure 10: Existing & Future Saturday Peak Supply and Demand



Exhibits G1 and G2 on page 26 and 27 illustrate the future peak practical surplus/deficit conditions anticipated in the study area. Based on the analysis, there will be a system-wide surplus of parking within the PLD in the near future. However, despite the system-wide surplus, a deficit of parking will still exist in some blocks on both weekdays and Saturdays. The weekday deficit is particularly due to the fact that

developments in some blocks, namely Blocks 21, 35 and 45, do not provide sufficient parking spaces to satisfy their anticipated parking demand. These shortfalls could be easily satisfied by the surplus of parking spaces in public garages (as is the case in the development in Block 35) and by privately-owned but publicly-available garages in adjacent blocks if parking were to be shared. The future peak parking deficit on Saturdays will be concentrated in the Bethesda Row area where Blocks 45, 52 and 53 will all experience a parking deficit. However, as noted previously, this deficit could be absorbed by the 920 publicly-available parking spaces in Block 46.

It appears that the current inventory of County owned parking facilities is sufficient to meet current and future parking demand. While it is acknowledged that certain city blocks do and will continue to experience parking shortages during peak weekday and Saturday periods, there is sufficient parking capacity in nearby facilities to meet this need. This assumes that parking patrons will be willing to walk one or two blocks from high demand areas to areas with surplus parking. If privately owned but publicly available parking facilities are included in this analysis then weekday and Saturday surpluses would increase significantly.

Exhibit G1: Future Weekday Peak Hour Surplus/Deficit of All On- and Off-street Publicly-Available Spaces by Block

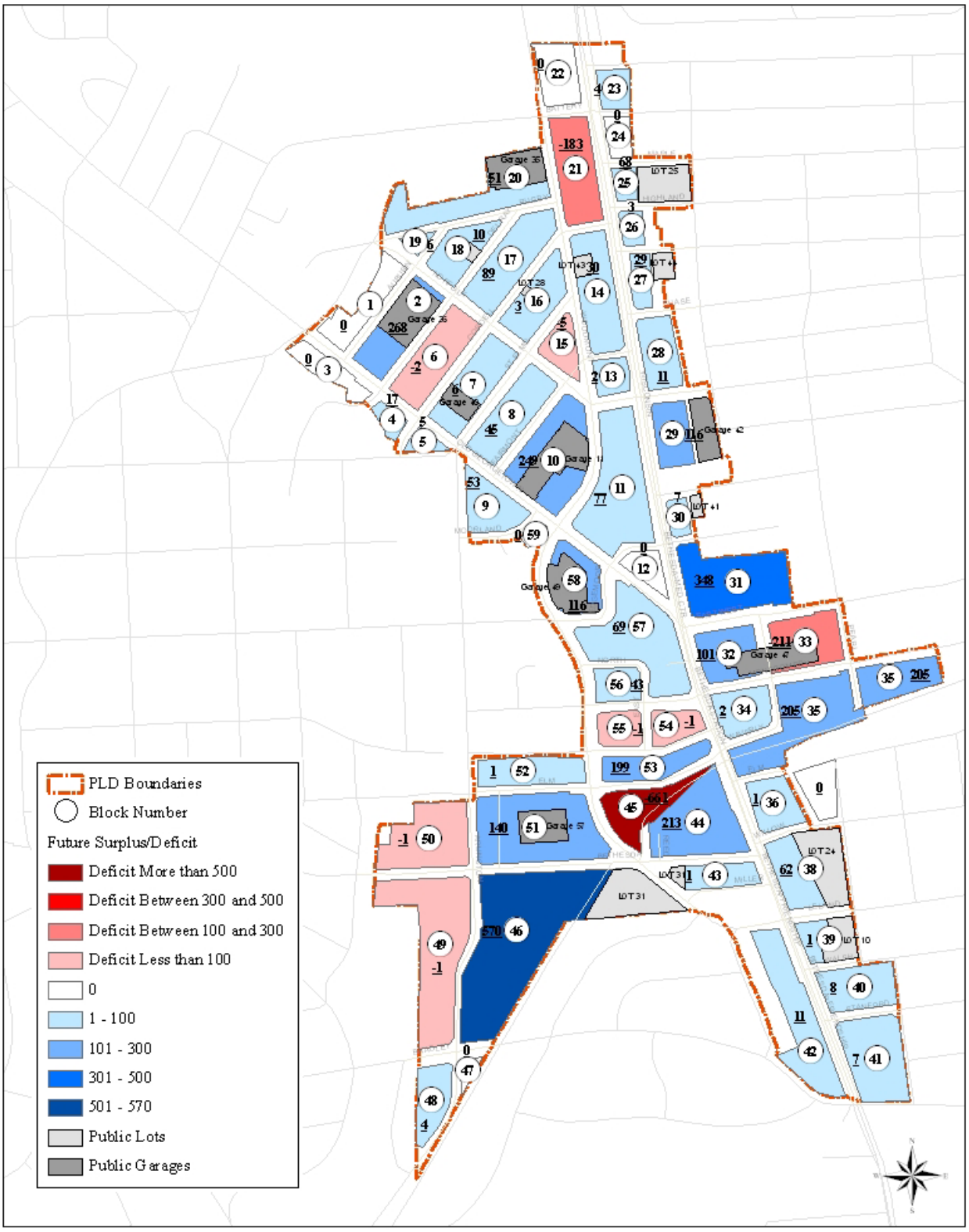


Exhibit G2: Future Saturday Peak Hour Surplus/Deficit of All On- and Off-street Publicly-Available Spaces by Block