WARD 6 BALLPARK DISTRICT PERFORMANCE BASED PARKING DECEMBER 2009 REPORT

Executive Summary

The Metropolitan Washington, DC region is one of the country's fastest growing areas and as a result of this rapid growth the residents of the District of Columbia suffer from severe traffic congestion that causes additional air pollution endangering citizen's health in a region that is designated as a "non-attainment" area for ozone and particulates. Additionally, residential communities and business districts throughout Washington, DC face increasingly complex mobility challenges as the District of Columbia government agencies, non profit organizations and metropolitan planning organizations plan for the region's future.

The Washington Nationals Ballpark is a special traffic generator in Ward 6

While Washington, DC continues to retain a large share of the region's jobs, the region itself continues to decentralize, creating longer commutes, increased peak period congestion, while exacerbating already poor air quality. As a result of these transportation pressures the District's major surface transportation arteries are nearing their capacity. All of these factors lead to one conclusion; funding to maintain the existing transportation system in the nation's capital, let alone expand the system to meet increased demand, is severely constrained.

The District Department of Transportation (DDOT) is working to solve these mobility problems before they constrain growth in the city and region. One of the newest transportation tools DDOT is using to diminish congestion concerns is performance based parking. DDOT, through the Mayor's office and the DC Council began implementation of the *Performance Parking Pilot Zone Emergency Act of 2008* in the Ward 6 Ballpark District in March 2008.

This report provides an update on each of the following:

Status	
✓	Initial pilot zone modifications and changes to established parking fees
✓	Presentation of data collected on curbside parking occupancy
✓	Presentation of data on parking turnover rates
✓	Ward 6 Visitor Pass Program
✓	Statistics on use of pay-by-phone technology
✓	Total revenue from the pilot zone and an itemization of expenditures for meter procurement, maintenance and non-auto transportation improvements and recommendations for initiatives to improve curbside parking efficiency
✓	Proposed pilot zone modifications for fiscal year 2010

Below is a summary of the Ballpark District pilot zone findings:

Ballpark District Pilot Zone Curbside Occupancy Rate

- 18 of the blocks have an occupancy rate below 85% on game days
- 10 of the blocks have an occupancy rate at or above 85% on game days
- 20 of the blocks have an occupancy rate below 85% on non game days
- 8 of the blocks have an occupancy rate at or above 85% on non game days

Ballpark District Pilot Zone Turnover Rate

- The average game day turnover in the Ballpark District pilot zone on all blocks is two hours and eighteen minutes
- The average game day turnover on multi space meter (MSM) blocks is one hour and fifty four minutes
- The average game day turnover on residential blocks is two hours and fifty two minutes
- The average non game day turnover in the Ballpark District pilot zone on all blocks is one hour and fifty four minutes
- The average non game day turnover on MSM blocks is one hour and forty three minutes
- The average non game day turnover on residential blocks is one hour and fifty nine minutes

Vehicle Data within Ballpark District Pilot Zone

- Over 30,000 vehicles were observed in the pilot zone during data collection
- 44% of these vehicles were registered in the District of Columbia on game days
- 32% were registered in 'other jurisdictions' on game days
- 14% were registered in the State of Maryland on game days
- 11% were registered in the Commonwealth of Virginia
- 48% of these vehicles were registered in the District of Columbia on non game days
- 29% were registered in 'other jurisdictions' on non game days
- 13% were registered in the State of Maryland on non game days
- 10% were registered in the Commonwealth of Virginia on non game days

Ballpark District Pilot Zone Revenue Collections

- DDOT began meter collections in the Ballpark District in March 2008.
- From March 2008 through October 2009 the department has collected a total of $1,444,046.71 in revenues.
- $288,809.34 of revenues collected is dedicated to non automotive transportation improvements within the Ballpark District pilot zone.
- At the request of Council member Wells DDOT established an Advisory Committee and this body is assisting the department in determining how these revenues are spent.

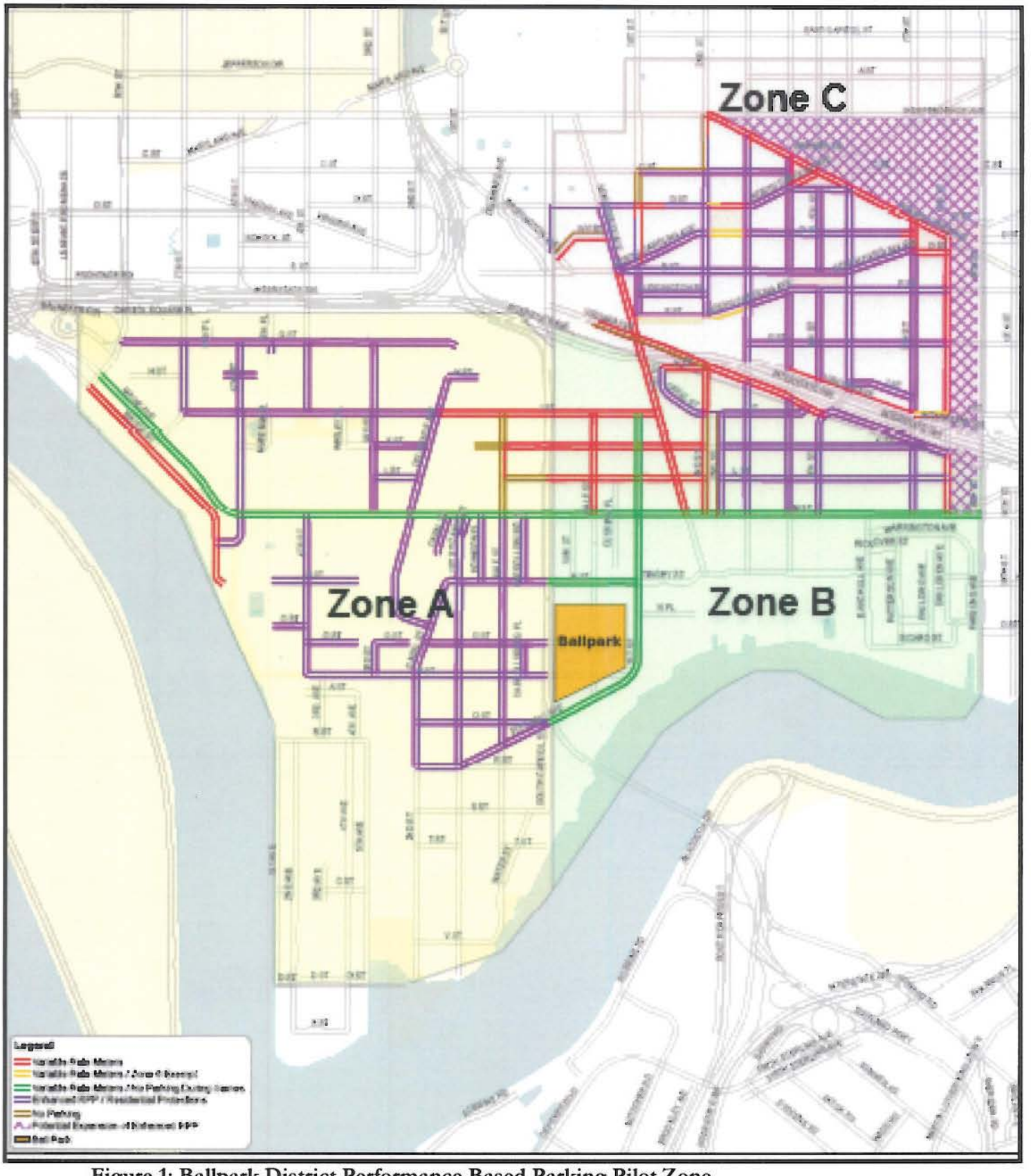

Figure 1: Ballpark District Performance Based Parking Pilot Zone

Introduction: Performance Based Parking: An Innovative Parking Policy Approach

Pay to Park Signage is prominent Throughout the Ballpark District

The District of Columbia is not alone in implementing aggressive parking policies designed to decrease congestion, improve the quality of life and reduce pressure on the existing transportation system. Several large urban jurisdictions have begun the process of identifying the myriad of uses in the public right of way which is a limited and increasingly valuable area of municipal real estate. Such right of way is distinctly finite and its use for parking directly competes with its use for bike lanes, automobile travel lanes, sidewalks or landscaping. These are all important elements of the public streetscape. When cities limit or forego these elements in order to simply provide curbside parking, that parking should be utilized to its highest possible purpose to benefit the overall community.

Municipalities throughout the United States are implementing performance based parking policies designed to decrease congestion, improve on street parking availability and protect existing land uses. For example, in 2007, Seattle, Washington implemented a similar program in its South Lake Union neighborhood as part of its effort to remain responsive to current and anticipated development in the area.

In 2008, the city of Chicago, Illinois privatized operations and management of public parking facilities and is implementing a variable pricing system similar to the District's along with transit improvements for implementation no later than 2010. San Francisco is planning significant infrastructure improvements to support real time automated parking management, including pricing, for its parking authority. This growing interest in curbside management in every region of the country is attributable to increasing concerns about traffic congestion and parking issues, coupled with technology advances that make parking revenue and management systems more comprehensive.

DDOT's goals for variable pricing curbside parking are set within the context of clear policy objectives and a comprehensive management program. Generally, parking demand does not distribute evenly throughout an area. Given the scarcity of public right of way and the high costs of parking construction, cities have an obligation and an opportunity to manage public parking to best achieve clearly delineated purposes. Intuitively, demand is highest for the most convenient parking which tends to be located nearest to major activity centers. These may be commercial, residential, institutional, and recreational or there may be a blend of activities. Through performance based parking DDOT seeks to distribute demand to underutilized areas and is guided by three principles as articulated by Donald Shoup.

- **Principle #1:** ***People don't come to traffic generating areas to park.*** People are attracted to communities such as the Ballpark District as places to work, live, shop, dine, and play, and parking is simply a means of access. The demand for parking is *derived* from the demand for these other activities.
- **Principle #2:** ***Cities don't provide parking in order to store cars.*** Like roadways, transit service, sidewalks, and other transportation facilities, public parking is an infrastructure investment in one of the critical links in the transportation/land use connection. The District provides parking to support the development and viability of adjacent land uses such as retail and housing.

- **Principle #3:** ***Parking does not live alone.*** Parking resides in a complex and dynamic universe of transportation, access and land use alternatives. The demand for parking is certainly affected by the price for parking; but demand is also impacted by cost, convenience, and availability of other modes as well as development patterns that support trip combining and pedestrian accessibility.

One of the most important objectives of the District's program is to reduce time stays, thereby increasing parking turnover. DDOT considers parking pricing and time limits as fundamental implementations tool for identified time stay restrictions.

DDOT contracted with the Metropolitan Washington Council of Governments (COG) staff from the National Capital Region Transportation Planning Board (TPB) to determine the impact of performance-based parking on the residential, mixed use and commercial corridors within the Ballpark District in southwest and southeast Washington, DC. The COG analysis includes curbside usage and the length of time analysis for vehicles parked in both un-metered curbside parking spaces as well as on street metered spaces. Many of the metered parking spaces, particularly along the mixed use and commercial corridors, have residential parking permit exemptions; therefore, if a resident of Ward 6 parks along this curbside they do not have to pay for parking. See Figure 1 for a map of the Ballpark District area.

Data collection for the project was conducted on a series of weekdays and weekends during the fourth quarter of fiscal year 2009 along blocks with both free and pay parking.

DDOT installed 138 MSMs in the Ballpark District

1. Initial Pilot Zone Modifications and Changes to Established Parking Fees

DDOT began implementation of performance based parking in the Ballpark District in March 2008. Below is the timeline for the initial pilot zone operations and modifications that came as a result of feedback from community stakeholders including residents, businesses and non profit organizations.

- **March 26, 2008:** DDOT began operations with MSMs in the Ward 6 Ballpark District.
- **March 29, 2008:** DDOT began implementation of the Traffic Operations and Parking Plan (TOPP) and Transportation Management Plan (TMP) with the exhibition game between the Baltimore Orioles vs. the Washington Nationals.
- **June 2008:** DDOT began modifying Ward 6 MSM hours of operation and signage based on feedback from a May 2008 public meeting.
- **ANC 6D:** Based on community feedback DDOT stopped placing 'Emergency No Parking' signs along M Street, SW on Washington Nationals game days. Instead, DDOT and DPW currently manages this traffic by enforcing an additional hour to the existing weekday pm rush hour restriction.

- **ANC 6B:** DDOT changed the hours of operation and signage along Pennsylvania Avenue, SE, 8th Street, SE (Barracks Row) as well as the 700 blocks of I and D Streets, SE. Presently, the residential parking restrictions are in effect from 7am to 9:30pm Monday through Saturday and there are no residential restrictions enforced on Sundays. Conversely, in ANC 6D residential parking restrictions are enforced 7am to midnight Monday through Sunday. In ANC 6B DDOT stopped variable pricing and altered the rate structure so that all meters in the 200-300 blocks of Pennsylvania Avenue are in service Monday through Friday 7am to 9:30pm and on Saturday's from 7am to 3:30pm. All meters in the 600-700 blocks of Pennsylvania Avenue and Barracks Row are in service Monday through Saturday from 7am to 9:30pm.

Modified MSMs Hours and Rates Schedule

DDOT has also changed the original MSM rate structure. Initially, DDOT implemented variably priced meters in ANC 6B along Pennsylvania Avenue, SE and 8th Street, SE (Barracks Row) as well as in ANC 6D along New Jersey Avenue. However, after feedback from pilot zone stakeholders DDOT made the following changes:

MSM HOURS OF OPERATION MODIFICATIONS			**MSM RATE CHANGES**	
Monday through Saturday (Hours are Monday-Saturday unless otherwise designated)		**Sundays and Holidays**	**Non Game Days**	**Game Days**
200-300 block of Pennsylvania Ave SE	7 am – 6:30 pm (Monday-Friday) 7 am – 3:30 pm (Saturday)	**OFF**	$1.50 / hr 2-hr limit	$1.50 / hr 2-hr limit
400-700 blocks of Pennsylvania Ave SE	7 am – 9:30 pm (Monday-Saturday)	**OFF**	$1.50 / hr 2-hr limit	$1.50 / hr 2-hr limit
8th Street SE (Barracks Row)	7 am – 9:30 pm (Monday-Saturday)	**OFF**	$1.50 / hr 2-hr limit	$1.50 / hr 2-hr limit
700 block of I Street, SE and 700 block of D Street, SE	7 am – 9:30 pm (Monday-Saturday)	**OFF**	$1.50 / hr 2-hr limit	$1.50 / hr 2-hr limit
Metered Streets with game rates (mostly South of Freeway & including NJ and 1st Street SE)	7 am-9:30 pm (Monday-Saturday on **non Stadium Event game days**) 7 am – 10 pm (Monday-Sunday on **Stadium Event/game days**)	**OFF EXCEPT** During Stadium Events (game rates apply)	$1, $1.50 $1.50	$2, $8, $8, $2
RESIDENTIAL RPP HOURS OF OPERATION		**OFF**	N/A	N/A
Monday through Saturday				
7 am – 9:30 pm: this includes all enhanced RPP blocks within the Ward 6 Parking Pilot Area				

2a. Description of Curbside Parking Availability Methodology

COG collected data on behalf of DDOT within the Ballpark District pilot zone.
Over 30,000 license plates were recorded and found to be usable after data 'scrubbing' and manual reasonableness checks.

Overall, license plates were classified by state of registration as shown in Tables 1 and 2. The data was assigned to blocks in the study. For analysis purposes, blocks with conventional meters or MSMs were broken out, or in some cases aggregated with nearby blocks if the number of observed records was small. Records determined to be on un metered blocks were aggregated by zone. Parking capacities were determined with the aid of Google Earth for most blocks. Through an examination of the vehicles parked (and empty spaces), an estimate of the number of spaces for each block was made.

The parking capacities were then used as the basis for the analytical work, for home and away days, as seen in Tables 3 and 4, respectively. Consideration should also be given to the impact of U.S. Marine Corps activities which draw many visitors to 8th Street, SE on Friday evenings in the late spring and summer months when some of this data was collected.

Actual data collection for this project consisted of the use of two or three private vehicles per run outfitted with license plate reader (LPR) systems,[1] which recorded the registration plate numbers of parked vehicles in the Ballpark District pilot zone. Data collection took place from mid-morning to about 10pm during each interval with a primary focus on determining the curbside occupancy percentage and turnover rate for each curbside parking space. Each tag number observed was recorded into a computer file, along with timestamp and geographic coordinates where the tag was read.

COG used two clearly delineated structured routes; one for each quadrant within the pilot zone. Route one emphasized the southeast side of the pilot zone beginning at New Jersey Avenue, SE; while the second route emphasized the southwest side of the zone also beginning at the same New Jersey Avenue, SE starting point. Route one incorporated the commercial corridors along Pennsylvania Avenue, SE and 8th Street, SE and route two did the same for the retail corridors along M Street, SW and Water Street, SW. All collected data, for each route, was removed from the laptop units at the end of each data collection day.

Once the data was collected, it was subject to extensive processing before analysis. First, the geographic coordinates were converted from latitude and longitude to Maryland State Plane Coordinate System, and then each observed record was coded to a block within the Ballpark District zone using ARCMap Geographic Information System (GIS) software. Registration numbers that seemed illogical were removed. [2] Each tag number was manually examined for state of registration because this is not something that the LPR units are currently capable of interpreting, and when possible, the vehicle's state of registration was assigned as follows: (i)

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[1] This consists of a digital camera, a laptop computer, a video conversion unit (to convert images from the camera into a format acceptable for computer processing and a global positioning system (GPS) unit.

[2] The LPR software will, at times, recognize street signs and lettering on commercial vehicles (especially telephone numbers) as "registration plates."

D.C..; (ii) Maryland; (iii) Virginia; and (iv) other/unknown[3]. Data collected was coded to each hundred block within the study area.[4] If a record was not found to have a matching entry with the same tag number; it was marked as such, and not used to compute the curbside occupancy or turnover rates. If a record had one or more matches, the duration of time between the earliest observation and the latest observation was computed. These durations were then averaged for each block.

The primary emphasis of this data collection effort was on parked vehicles on the right side of the street during each data collection interval, but because several residential streets in the Ballpark District are one-way and allow some parking on the left curb, care was taken to survey these blocks as well on a separate data collection interval. Structured routes were also used, two for right-hand tag reading, and one for left-hand reading.

2b. Description of Curbside Parking Availability Results

Just over 30,000 license plates were recorded and found to be usable within the Ballpark District pilot zone. Overall, these were classified by state of registration as follows:

Table 1
Ward 6/Nationals Ballpark Parking Space Occupancy and Turnover Rates
States of registration (with duplicate registration numbers not removed)

	State of Registration	D.C.		Maryland		Virginia		Other and Unknown states	
	Zone								
Away Games	A	2,317	46%	780	16%	468	9%	1,453	29%
	B	405	29%	274	20%	202	15%	502	36%
	C	3,664	53%	632	9%	652	9%	1,923	28%
	Total	6,386	48%	1,686	13%	1,322	10%	3,878	29%
Home Games	A	3,162	41%	1,251	16%	870	11%	2,479	32%
	B	843	30%	553	20%	442	16%	984	35%
	C	5,141	50%	1,038	10%	991	10%	3,195	31%
	Total	9,146	44%	2,842	14%	2,303	11%	6,658	32%

Performance of parking spaces by block

The following performance metrics were adopted for this project:(i) number of tag numbers observed exactly once in any given data collection day in a specific block; (ii) duration of time that a vehicle is parked in a block; (iii) average utilization for each block that is metered; and: (iv) peak utilization for each metered block.

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[3] Staff was conservative in assigning the state of registration, since some valid series of plates overlap between the three states in the region, including especially all-numeric six-digit registration numbers, however, tags assigned to other/unknown were still used for analysis.

[4] Due to limitations imposed by accuracy of GPS equipment, it was not possible to determine which side of a street where the tag was observed.

Tag numbers observed exactly once on a block on a given day implies that the vehicle may not have been parked on the block during subsequent data collection passes.[5] For unmetered blocks only, an analysis of states of registration at the zone level was conducted for game days and non-game days - this being a possible surrogate for measuring changes in vehicles visiting the area from outside the District of Columbia. *See Table 5*

Table 2
Ward 6/Nationals Ballpark Parking Space Occupancy and Turnover Rates
States of registration (with duplicate registration numbers removed)

	State of Registration	D.C.		Maryland		Virginia		Other and Unknown states	
	Zone								
Away Games	A	1,262	38%	551	16%	368	11%	1,171	35%
	B	288	28%	187	18%	168	16%	390	38%
	C	1,955	45%	444	10%	516	12%	1,390	32%
	Total	3,505	40%	1,182	14%	1,052	12%	2,951	34%
Home Games	A	1,614	34%	756	16%	581	12%	1,855	39%
	B	504	27%	312	17%	300	16%	735	40%
	C	2,427	41%	650	11%	720	12%	2,182	36%
	Total	4,545	36%	1,718	14%	1,601	13%	4,772	38%

An average duration of parked vehicles was computed for all vehicles observed twice or more than twice in a given block. Reasons for these numbers being relatively low include vehicles leaving and arriving on each block, obstructions of the digital camera caused by double parked vehicles and other traffic, including pedestrians and bicycles. Additionally, the reader should consider that the U.S. Navy and U.S. Marine Corps installations located at or near the east end of pilot zone may influence the number of non-D.C.-registered vehicles observed there.

3. Description of Parking Turnover Rates

The block with the highest game day turnover rate is the 600 block of Pennsylvania Avenue, SE at 136%; on average each parking space in this block turned over once every one hour and fifty five minutes. Parking spaces on this block are regulated by MSM's in operation from 7:00 A.M. to 9:30, Monday through Saturday. Pennsylvania Avenue is the northern boundary of the pilot area and observations of parking behavior during Washington Nationals games indicates the majority of parking along this corridor is not based on ballpark parking patrons.

The retail block segment nearest to the ballpark with an occupancy rate at or above 85% is the 1000 through 1100 blocks of New Jersey Avenue, SE. It is noteworthy that on non game days this block segment does not have an occupancy rate at or above 85%; this difference in curbside usage indicates baseball game on street parking increases the parking demand on this block.

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[5] Though the lack of further matches could also be due to the registration plate of the vehicle being obstructed by another vehicle parked very close behind.

Below is a full list of retail streets within the pilot with an occupancy rate at or above 85% on Washington Nationals game days:

Table 2a		
Block Segment	**Occupancy Rate**	**Turnover Rate (in hours and seconds)**
1000-1100 blocks of New Jersey Avenue, SE	100%	1:09
Eastern Market Metrorail	117%	1:08
200 block of Pennsylvania Avenue, SE	133%	1:40
300 block of Pennsylvania Avenue, SE	121%	1:34
600 block of Pennsylvania Avenue, SE	136%	1:40

On non game days the 600 block of Pennsylvania Avenue, SE still has an occupancy rate over 100% at 108%; while the turnover rate is fifty eight minutes. Therefore, both on game as well as non game days the occupancy rate on this block is at full capacity. However, on days when the Nationals do not play at home curbside parking patrons stay for an hour less time. The retail block segment with the highest non game day turnover rate is the 200 block of Pennsylvania Avenue, SE at 178% and a turnover rate of one hour and fifty five minutes.

Below is a full list of retail streets within the pilot with an occupancy rate at or above 85% on non game days:

Table 2b		
Block Segment	**Occupancy Rate**	**Turnover Rate (in hours and seconds)**
Eastern Market Metrorail	117%	53 minutes
200 block of Pennsylvania Avenue, SE	178%	1:55
300 block of Pennsylvania Avenue, SE	125%	1:17
500 block of Pennsylvania Avenue, SE	135%	1:48
600 block of Pennsylvania Avenue, SE	108%	58 minutes

Table 3
Ward 6/Nationals Ballpark Parking Space Occupancy and Turnover Rates
Washington Nationals Home Game Days

Zone	Hundred block(s)	Street name	Supply of parking in block (in spaces)	Average Utilization During Monitoring Period		Maximum Utilization Observed During Monitoring Period		Average duration of parked vehicles (hours and minutes)	Duration Difference from Average Block
				Number of Vehicles	Curbside Occupancy in Per Cent	Number of Vehicles	Curbside Occupancy in Per Cent		
A		West side of South Capitol Street, north of M Street, south of I Street	138	9	7%	13	9%	3:55	+ 01:37
A	500 Through 900	Water Street, S.W.	238	96	40%	170	71%	1:38	- 00:40
A		Balance of streets in Zone A	2493	700	28%	1130	45%	2:24	+ 00:06
B	1000	2nd Street, S.E.	7	8	114%	11	157%	1:58	- 00:20
B	1100	2nd Street, S.E.	30	16	53%	41	137%	0:43	- 01:35
B		Unit Ivy Place, S.E.	18	11	61%	16	89%	2:05	- 00:13
B	1000 Through 1100	New Jersey Avenue, S.E.	36	20	56%	36	100%	1:09	- 01:09
B	800 Through 900	New Jersey Avenue, S.E.	61	8	13%	12	20%	1:14	- 01:04
B		East side of South Capitol Street north of M Street and west of New Jersey Avenue	287	9	3%	14	5%	4:00	+ 01:42
B	100	Virginia Avenue, S.E.	38	16	42%	27	71%	2:07	- 00:11
B	200 Through 700	Virginia Avenue, S.E. (south side fronting S.E. Fwy.)	110	0	N/A	0	N/A	N/A	N/A
B		Balance of streets in Zone B	661	253	38%	527	80%	2:15	- 00:03
C	400	1st Street, S.E.	32	16	50%	25	78%	3:38	+ 01:20
C	100	2nd Street, S.E.	18	8	44%	10	56%	1:06	- 01:12
C	400 Through 1100	8th Street, S.E.	145	73	50%	112	77%	1:43	- 00:35
C	100	D Street, S.E.	44	28	64%	61	139%	3:02	+ 00:44
C	200	D Street, S.E.	50	17	34%	41	82%	2:07	- 00:11
C		Eastern Market Metrorail Station	30	23	77%	35	117%	1:07	- 01:11
C	300 Through 600	I Street, S.E./Virginia Avenue, S.E. (north side fronting S.E. Fwy.)	73	0	N/A	0	N/A	N/A	N/A
C	500 Through 700	New Jersey Avenue, S.E.	89	57	64%	84	94%	1:32	- 00:46
C		North of Garfield Park	54	28	52%	43	80%	2:07	- 00:11
C	200	Pennsylvania Avenue, S.E.	18	16	89%	24	133%	1:40	- 00:38
C	300	Pennsylvania Avenue, S.E.	24	16	67%	29	121%	1:34	- 00:44
C	500	Pennsylvania Avenue, S.E.	17	10	59%	14	82%	2:15	- 00:03
C	600	Pennsylvania Avenue, S.E.	36	29	81%	49	136%	1:40	- 00:38
C		Balance of streets in Zone C	1052	609	58%	885	84%	2:15	- 00:03
							Average duration for all blocks in study area	2:18	
							Average duration for Performance Parking blocks	1:54	
							Average duration for non-Performance Parking blocks	2:52	

Table 4
Ward 6/Nationals Ballpark Parking Space Occupancy and Turnover Rates
Away Days (no baseball)

Zone	Hundred block(s)	Street name	Supply of parking in block (in spaces)	Average Utilization During Monitoring Period		Maximum Utilization Observed During Monitoring Period		Average duration of parked vehicles (hours and minutes)	Duration Difference from Average Block
				Number of Vehicles	Curbside Occupancy in Per Cent	Number of Vehicles	Curbside Occupancy in Per Cent		
A		West side of South Capitol Street, north of M Street, south of I Street	138	23	17%	41	30%	1:34	- 00:09
A	500 Through 900	Water Street, S.W.	238	83	35%	115	48%	1:54	+ 00:11
A		Balance of streets in Zone A	2493	534	21%	1177	47%	2:18	+ 00:35
B	1000	2nd Street, S.E.	7	4	57%	4	57%	2:59	+ 01:16
B	1100	2nd Street, S.E.	30	10	33%	18	60%	N/A	N/A
B		Unit Ivy Place, S.E.	18	11	61%	15	83%	2:18	+ 00:35
B	1000 Through 1100	New Jersey Avenue, S.E.	36	21	58%	36	100%	2:32	+ 00:49
B	800 Through 900	New Jersey Avenue, S.E.	61	8	13%	12	20%	1:14	- 00:29
B		East side of South Capitol Street north of M Street and west of New Jersey Avenue	287	16	6%	19	7%	0:59	- 00:44
B	100	Virginia Avenue, S.E.	38	13	34%	17	45%	3:49	+ 02:06
B	200 Through 700	Virginia Avenue, S.E. (south side fronting S.E. Fwy.)	110	0	N/A	0	N/A	N/A	N/A
B		Balance of streets in Zone B	661	203	31%	255	39%	1:27	- 00:16
C	400	1st Street, S.E.	32	18	56%	21	66%	2:13	+ 00:30
C	100	2nd Street, S.E.	18	8	44%	10	56%	1:06	- 00:37
C	400 Through 1100	8th Street, S.E.	145	61	42%	116	80%	1:18	- 00:25
C	100	D Street, S.E.	44	26	59%	40	91%	2:26	+ 00:43
C	200	D Street, S.E.	50	21	42%	41	82%	2:07	+ 00:24
C		Eastern Market Metrorail Station	30	15	50%	35	117%	0:42	- 01:01
C	300 Through 600	I Street, S.E./Virginia Avenue, S.E. (north side fronting S.E. Fwy.)	73	0	N/A	0	N/A	N/A	N/A
C	500 Through 700	New Jersey Avenue, S.E.	89	12	13%	25	28%	1:04	- 00:39
C		North of Garfield Park	54	48	89%	78	144%	1:55	+ 00:12
C	200	Pennsylvania Avenue, S.E.	18	21	117%	32	178%	1:44	+ 00:01
C	300	Pennsylvania Avenue, S.E.	24	20	83%	30	125%	1:16	- 00:27
C	500	Pennsylvania Avenue, S.E.	17	16	94%	23	135%	1:37	- 00:06
C	600	Pennsylvania Avenue, S.E.	36	24	67%	39	108%	0:47	- 00:56
C		Balance of streets in Zone C	1052	365	35%	869	83%	1:45	+ 00:02
							Average duration for all blocks in study area	1:54	
							Average duration for Performance Parking blocks	1:43	
							Average duration for Performance Parking blocks	1:59	

4. Ward 6 Visitor Parking Pass Program

One of the centerpieces of the Ballpark District performance based parking pilot zone is the Visitor Parking Pass (VPP) program. The purpose of the Visitor Parking Pass Program is to protect neighborhood parking for residents and their guests while dissuading special event visitors from attempting to park in Ward 6 communities through strict enforcement and monitoring. Through this program every household in ANCs 6B and 6D within the pilot zone boundaries receives one visitor's pass. The VPP area of enforcement corresponds to the existing pilot zone boundaries.

The current passes are valid through January 31, 2010 and any vehicle that displays a pass enjoys the same parking privileges as a Ward 6 District resident owned vehicle enrolled in the Residential Parking Permit (RPP) program.

Table 5
Ward 6/Nationals Ballpark Parking
Non-metered Parking Space Use by State of Registration

	State of Registration	D.C.	Md.	Va.	Unknown/ Other
Away Games	Zone				
	A	55%	12%	7%	27%
	B	31%	18%	14%	37%
	C	61%	6%	7%	26%
	All Zones in Aggregate	55%	10%	7%	27%
Home Games	A	52%	12%	7%	30%
	B	34%	17%	14%	35%
	C	58%	7%	6%	29%
	All Zones in Aggregate	52%	10%	8%	30%

Rows may not sum exactly due to rounding

DDOT is keenly aware of the potential for misuse of these Visitor Passes; therefore the following guidelines have been implemented to deter inappropriate uses:

- DDOT has placed a serial number on every pass.
- Each serial number is taken from the DC government's Master Address Repository or MAR. The MAR is a unique number that DC government attaches to every address in the District of Columbia.
- By clearly placing the MAR on the face of each Visitor Pass, if the pass is misused DPW will be able to determine what residence was originally issued the pass.
- DDOT has placed a security laminate with a hologram on each pass similar to the DC government employee passes.
- The laminate makes it even easier for DPW to identify valid passes and virtually eliminate counterfeits because of the time and expense needed to duplicate the holographic laminate.
- The security laminate protects against counterfeiting because when copied the hologram becomes clearly visible obscuring the pass information.
- DDOT, with the assistance of DPW, continuously monitors the pass program how they are being used by residents and their guests.

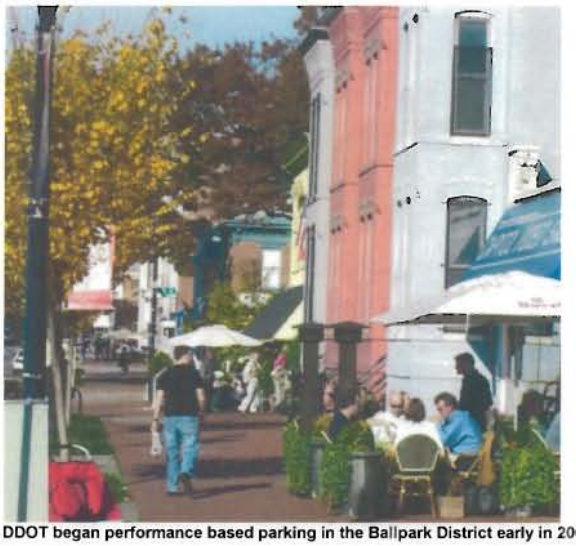
DDOT will mail 2010 VPPs to all households within the Ward 6 Performance Based Parking pilot zone in January 2010. Approximately 7,500 passes will be delivered to the Ward 6 District of Columbia households in the pilot zone. Based on community

feedback the department is prepared to implement new strategies as we continue to develop our VPP Program.

5. Statistics for Pay by Phone Technology

DDOT is set to begin piloting pay by phone operations in the District of Columbia during the second quarter of fiscal year 2010 so there are no statistics to provide at this time. The department is currently in negotiations with various contractors and comparing each firm's technological capabilities. Pay by phone will be implemented by using signage that has 'call in' numbers alerting drivers that they must pay to park on the curbside, even if no meter is present on the block. Each sign will tell the driver the zone where they will be parking.

Additionally, the signage will detail any parking restrictions on the block such as Residential Parking Permit (RPP) or rush hour restrictions and the pay by phone system will not allow parking patrons to pay for more time beyond the existing restrictions. For example, if the block restricts parking to a two hour limit, then the technology will not allow for payment beyond two hours along that street. Once the pay by phone pilot vendors are determined it is anticipated that the performance based parking pilot zones will receive implementation of this new technology to determine its feasibility throughout other areas of the District.


DDOT began performance based parking in the Ballpark District early in 2008

6. Total Revenue from Pilot Zone and Itemization of Expenditures in Pilot Zone

DDOT began performance based parking operations in the Ballpark District pilot zone in March 2008. The department expended a total capital layout of $1,035,320 at the outset of this project. *See Table 4* These funds were used to purchase one hundred thirty eight MSMs at a cost of $7,140 per meter. DDOT also spent $50,000 on new signage for the pilot zone, including 'Pay to Park' signs and new 'Resident Only' signs for the residential blocks within the zone.

On average each MSM in the zone collects $550.47 per day. It is anticipated that DDOT will pay off the capital layout within the next three months; therefore additional revenues will be available to the residents of the pilot zone for non automotive transportation improvements during FY 2010.

Through October 2009, the department has collected a total of $1,444,046.71. The performance based parking enabling legislation delineates how all of these funds must be distributed.

- MSM Repayment: 60% of revenue generated must go towards infrastructure costs until all of these funds are reimbursed to the District of Columbia.
- DDOT Operating Fund: 20% of these funds must go to the departmental Operating Fund
- Non Automotive Transportation Improvements within pilot zone: the remaining 20% of revenue must go back into the pilot zone community.

Once the initial infrastructure costs are repaid 5% of revenue generated must be used for maintenance of the MSMs and signage as well as any other associated costs. The remaining 75% must go back to the pilot zone community for non automotive transportation improvements. Figure 2 is a list of adjustments either implemented or recommended in the pilot zone.

Number of MSMs	138
Cost per Meter	$7,140
Initial MSM Investment	$985,320
Initial Signage Investment	$50,000
Initial Capital Layout	$1,035,320
Months Left To Payback	3
Average Collection Per Meter	$550.74

Collection Period		Collections	Meter Balance	20% DDOT Operating Fund	60% Meter Repayment	20% Non-Automobile Improvements
April	2008	$ 50,683.16	$1,004,910.10	$ 10,136.63	$ 30,409.90	$ 10,136.63
May	2008	$ 68,754.03	$ 963,657.69	$ 13,750.81	$ 41,252.42	$ 13,750.81
June	2008	$ 52,146.68	$ 932,369.68	$ 10,429.34	$ 31,288.01	$ 10,429.34
July	2008	$ 65,666.50	$ 892,969.78	$ 13,133.30	$ 39,399.90	$ 13,133.30
August	2008	$ 58,252.27	$ 858,018.42	$ 11,650.45	$ 34,951.36	$ 11,650.45
September	2008	$ 71,727.59	$ 814,981.86	$ 14,345.52	$ 43,036.55	$ 14,345.52
October	2008	$ 77,562.16	$ 768,444.57	$ 15,512.43	$ 46,537.30	$ 15,512.43
November	2008	$ 51,845.88	$ 737,337.04	$ 10,369.18	$ 31,107.53	$ 10,369.18
December	2008	$ 55,441.15	$ 704,072.35	$ 11,088.23	$ 33,264.69	$ 11,088.23
January	2009	$ 49,935.19	$ 674,111.23	$ 9,987.04	$ 29,961.11	$ 9,987.04
February	2009	$ 78,788.42	$ 626,838.18	$ 15,757.68	$ 47,273.05	$ 15,757.68
March	2009	$ 86,486.47	$ 574,946.30	$ 17,297.29	$ 51,891.88	$ 17,297.29
April	2009	$ 95,337.01	$ 517,744.09	$ 19,067.40	$ 57,202.21	$ 19,067.40
May	2009	$ 82,787.39	$ 468,071.66	$ 16,557.48	$ 49,672.43	$ 16,557.48
June	2009	$ 96,385.69	$ 410,240.25	$ 19,277.14	$ 57,831.41	$ 19,277.14
July	2009	$ 101,535.85	$ 349,318.74	$ 20,307.17	$ 60,921.51	$ 20,307.17
August	2009	$ 96,541.76	$ 291,393.68	$ 19,308.35	$ 57,925.06	$ 19,308.35
September	2009	$ 98,217.83	$ 232,462.98	$ 19,643.57	$ 58,930.70	$ 19,643.57
October	2009	$ 105,951.68	$ 168,891.97	$ 21,190.34	$ 63,571.01	$ 21,190.34
November	2009		$ 168,891.97			
December	2009		$ 168,891.97			
January	2010		$ 168,891.97			
February	2010		$ 168,891.97			
March	2010		$ 168,891.97			
April	2010		$ 168,891.97			
May	2010		$ 168,891.97			
June	2010		$ 168,891.97			
July	2010		$ 168,891.97			
August	2010		$ 168,891.97			
September	2010		$ 168,891.97			
Totals		**$1,444,046.71**		**$288,809.34**	**$ 866,428.03**	**$ 288,809.34**

Figure 2: Revenue Itemization Chart

7. Recommended Modifications within Pilot Zone

Over the past year DDOT has held bimonthly meetings with the Ballpark District Advisory Committee established in conjunction with the office of Council member Tommy Wells. Additionally, DDOT has hosted several public meetings since the beginning of implementation to gather feedback from stakeholders. Through this Advisory Committee and public meeting process the department has made several changes to the pilot zone over the past year, including:

- Modifying the meter rates and hours of operation along Pennsylvania Avenue and Barracks Row.
- Modifying the Residential Parking Permit (RPP) signage in ANC 6B.
- Including non profit organizations and churches in the Visitor Parking Pass (VPP) program.
- Creating a streamlined One Day Parking Pass that is distributed through Ward 6 MPD District Stations.

In November 2009, DDOT held a public meeting in the Ballpark District where the department and the Advisory Committee presented residents with recommended FY 2010 modifications to the pilot zone. *See Table 6* At the public meeting stakeholders were asked to provide feedback on our list of potential 2010 non automotive improvements. DDOT proposed modifications include:

- Use funds to connect the southeast and southwest Heritage Trails. This extended trail would include new signage, bike racks, recycling containers, and ornamental maps that describe important locations, events and citizens of southeast and southwest Washington, DC.
- Implement more pedestrian safety improvements throughout the pilot zone, including traffic calming around Greenleaf Recreation Center and signal timing improvements along Barracks Row.
- Install dynamic messaging signage throughout the pilot zone that would provide drivers, bicyclists and pedestrians with 'real time' information on bus routes, parking.
- Install District of Columbia themed bike racks throughout the pilot zone.

An example of the Pedestrian Wayfinding signage that will be installed in pilot zone

Based on the positive feedback at this meeting the department anticipates moving forward with the abovementioned improvements using revenue collected in the Ward 6 pilot zone. Additionally, the Advisory Committee, DDOT and Council member Wells's office have worked on a concept for providing one time grants to the Capitol Hill Restoration Society and the Capitol Riverfront BID for non automotive transportation related projects. Both organizations applied for funding through DDOT's Transportation Enhancement Program, however due to budget constraints this fiscal year all the viable projects could not be approved. Since these projects are in the pilot zone the Committee and community has expressed agreement in funding these projects for this year only and then using the same strategy to considering other projects in upcoming fiscal years.

Table 6 Proposed Ballpark District Pilot Zone Modifications		
Recommendation	Description	Approximate Cost
1. Move meters on Virginia Avenue, SE because these meters average less than 50% occupancy.		Completed
2. Install new traffic calming measures in high impact areas throughout pilot zone.	The first traffic calming measure will be the installation of speed humps on N Street, SW at the Greenleaf Recreation Center	No Later than Quarter 2 of Fiscal Year 2010
3. Increase meter fees within pilot zone for some areas that have occupancy rates above the 85% threshold.	These potential blocks have been identified in Tables 4 and 5 of this report	N/A
4. Install neighborhood specific bicycle racks	Initial purchase of approximately 25 bicycle racks	$5,000
5. Large wayfinding map kiosks	Initial purchase of approximately 8 maps with wayfinding signage	$32,000
6. Pedestrian wayfinding signage	Initial purchase of approximately 15 pedestrian wayfinding signs	$25,000
7. Install digital signage on commercial corridors throughout pilot zone	DDOT is working with a vendor and community stakeholders to identify locations	$15,000
8. Install park benches/amenities along pathway extensions	Initial purchase of approximately 10 benches	$5,000
9. Install 'Big Belly' recycling bins along pathway extensions	Initial lease of 10 recycling bins for one year to determine effectiveness of bins	$10,000 for one year lease; compare this to $30,000 for full purchase price
10. Installation of information kiosks, at Eastern Market Metro Station and a location to be determined in southwest	DDOT would consider providing matching funds if organizations within zone are willing to participate	$35,000 (grant CHAMPS or Capitol Hill BID)
11. Engineering Planning and Design funding for M Street SE/SW Cycle Track	These funds will be provided to the Capitol Riverfront BID for planning purposes	$50,000
12. Provide grant funding for purchase and installation of additional historic marker wayfinding signage	DDOT will provide a grant to the Capitol Hill Restoration Society to purchase more wayfinding historic markers	$70,000
13. Use pilot zone collected revenues to build out additional pedestrian and bicycle trails connecting the southwest and southeast portions of the pilot zone as well as fund non automotive transportation projects in pilot zone in FY 2010	This build out will include new customized wayfinding signage, customized bicycle racks, recycling bins, benches, and kiosks.	$247,000 (this amount is the total of line items 4 through 12)

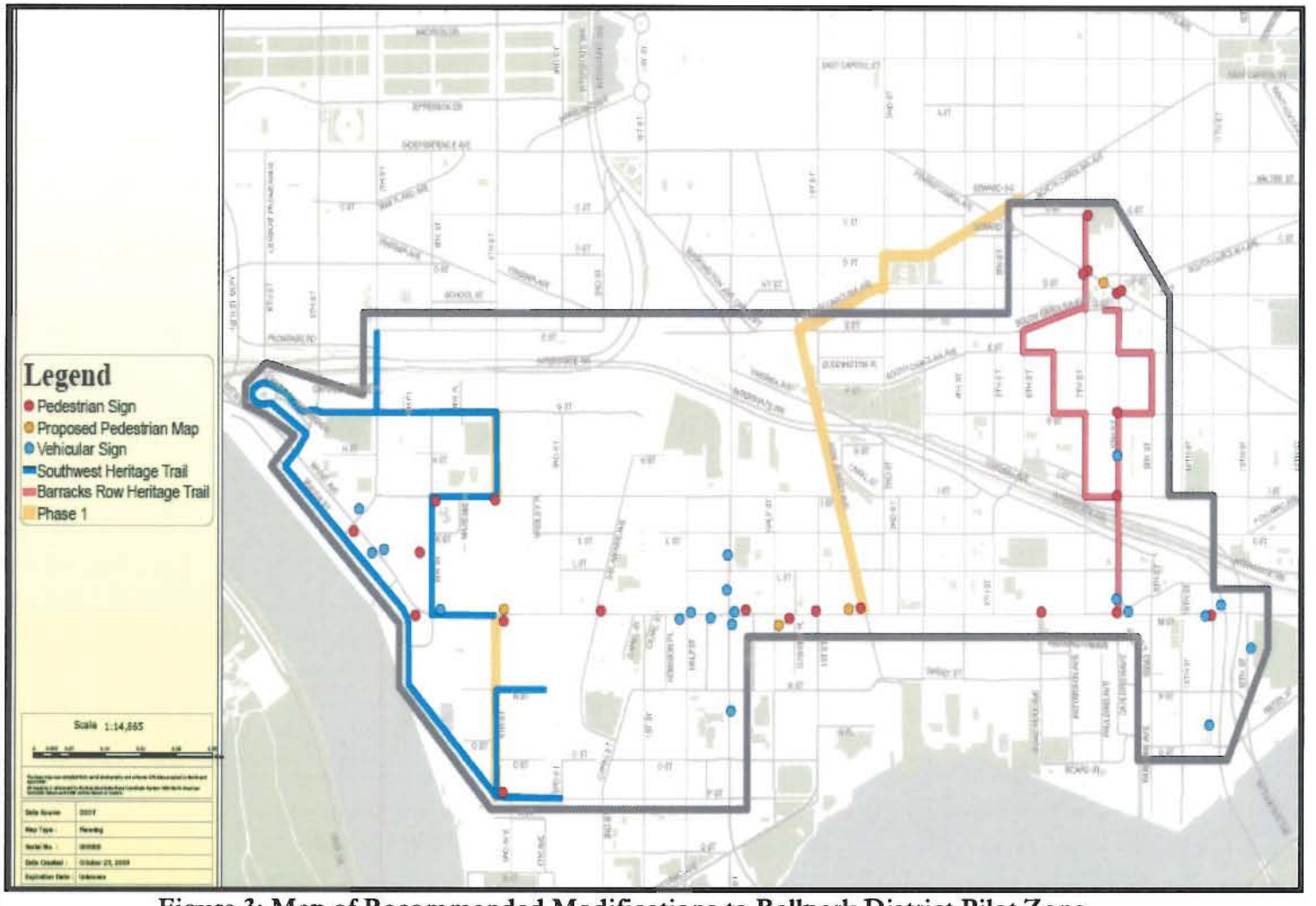


Figure 3: Map of Recommended Modifications to Ballpark District Pilot Zone

Conclusion

DDOT understands that the Ballpark District pilot zone presents special concerns due to the 43,000 seat baseball stadium in the heart of the community. Based on this consideration any parking analysis must consider the impacts of Washington Nationals vehicular traffic on the surrounding curbside parking supply. Overall, vehicles appear to occupy spaces in the study area for longer periods on days when the Washington Nationals are playing at home. However, there does not appear to be an especially large increase, in percentage terms, in non District of Columbia registered vehicles parked in non-metered spaces in the study area, especially when it is considered at the aggregate level.

There appears to be a significant amount of available parking capacity in the MSM section of New Jersey Avenue, SE between E Street and I Street. Additionally, the MSM spaces along Virginia Avenue, SE and I Street, SE that front along the Southeast Freeway appear to get no use on game days or non game days. The parking spaces along Water Street, SW, appear to get better utilization on game days than on non-game days, though spaces appear to be available at most times.

In terms of curbside parking impacts beyond Washington Nationals game days a COG report entitled, *District of Columbia Projected Job and Household Growth from 2005 – 2030*, projects substantial increases of 800,000 regional jobs and 350,000 new households between 2010 and 2030. As a result, transportation models show that congestion throughout the District will also increase substantially both in terms of its duration and the number of lane miles affected over the next two decades. Regionally, the District of Columbia is an active partner in crafting solutions for this impending onslaught of new transportation users.

Existing trip patterns reflect the District's role as the region's major employment destination. In 2000, approximately 70 percent of persons working in the District commuted in from the suburbs. Of these, according to the United States Census Bureau some 39% drove alone, 21% carpooled or vanpooled, and 40% used transit. DDOT understands that creating a safe, sustainable, efficient multi-modal transportation system that meets the access and mobility needs of District residents, the regional workforce, and visitors; supports local and regional economic prosperity; and enhances the quality of life for District residents.

Transit, walking, and bicycling must be made safe, comfortable, and convenient in order to be viable alternatives to single occupancy vehicle travel on any significant scale. Reliable transit service, secure bicycle paths and parking, and continuous sidewalk networks are essential elements of a multi modal transportation system. In the face of growing demand and diminished resources, this requires the guidance of clear policy in order to balance needs and priorities; evaluate real and perceived conditions; as well as define and implement parking management plans that are equitable and effective. Based on these premises, on street parking is the most valuable category of public parking supply.

DDOT anticipates residents, customers and visitors to the Ballpark District pilot zone will respond to performance based parking by driving to this area less during peak hours and special events. Simply put, people respond to incentives and pricing is a signal to consumers about the relative value and scarcity of parking in congested areas of the District of Columbia.

DDOT strongly believes that performance based parking will alter travel behavior by positively influencing customer mode choices as long as the department provides real choices such as increased mass transit and bicycle accessibility and walkable communities such as the southeast and southwest trail extensions. Southwest Washington, DC, Capitol Hill and the surrounding residential and commercial corridors are magnificent illustrations of mixed use urban communities with multiple retail opportunities, exciting new places to live with a pronounced transit oriented development focus.

Applied appropriately in the Ballpark District performance based parking can produce positive results in congestion reduction and mode choice behavior. By introducing a detailed goal based curbside parking management approach using new technologies, DDOT is attempting to do its part in making the Ballpark District a model urban community that jurisdictions throughout the nation will emulate.