



Photo: Stonebridge Carras

PLD Study Update

Montgomery County DOT – Division of Parking Management



June 2016

Table of Contents

	Page
Background	1
Parking Lot Districts	1
The 2011 Study.....	3
This Update Document.....	3
Program Update Progress	4
Implementation of Study Recommendations	4
Other Areas of Progress	7
Pending Program Updates	9
Updated Context	11
Key Zoning Changes.....	11
Current Development Context	11
Key Challenges	11
Updated Recommendations	13
Focus Curb Management on Performance.....	13
Formalize Off-Street Expansion Policy.....	16
Program Coordination and Structure	17

Table of Figures

	Page
Figure 1 PLD Short-Term and Long-Term Utilization Rates	1
Figure 2 2015 PLD Budgeted Revenues	2
Figure 3 Share Total Revenue	2
Figure 4 2011 & 2016 Occupancy Survey Measures	7
Figure 5 Parking Lot Redevelopment Projects	8
Figure 6 Capital Bikeshare Station Map for Silver Spring Area.....	9
Figure 7 Proposed Development in PLDs	11
Figure 8 Priced Loading Zone in Seattle.....	15
Figure 9 Rendering of a Mobility Hub	19

BACKGROUND

PARKING LOT DISTRICTS

The Montgomery County Department of Transportation’s Division of Parking Management (DPM) maintains the County’s Parking Lot District (PLD) program. The core of this program is the provision and management of public parking in three of the County’s largest central business districts — Bethesda, Silver Spring, and Wheaton — as well as in the Montgomery Hills community. This inventory, including all on-street parking spaces and prominent off-street facilities in each PLD, provides a shared pool of parking spaces that are managed to serve the diverse parking and economic-development needs of each area, while also supporting broader County and community growth, transportation, and sustainability goals.

The PLD program provides a viable alternative to on-site parking for development in its four communities, which has allowed these districts to emerge as highly walkable, bike-friendly, and transit-accessible centers — models for smart growth in suburban Washington, DC and exemplars of the kinds of “live, work, play” districts that are attracting significant increases in residential and commercial demand. In recognition of this connection between balanced mobility and growth, the DPM and its partners have emphasized mobility improvements as a key parking management strategy, one that brings with it significant co-benefits that keep PLD areas attractive places to live, work, and visit.

Parking Management

DPM uses strategic management practices, including pricing and non-drive-alone mobility investments, to manage demand for parking in its PLDs. This helps maintain balanced transportation environments, support the County’s sustainable-growth and transportation objectives, and enhance the walkable, bike-friendly, transit-accessible character of these areas. Management thus must strike a balance in providing a sufficient parking supply to facilitate growth needs, while emphasizing the driving-alternatives that increasingly attract new residents, businesses, and visitors.

To monitor this balance, MCDOT regularly conducts utilization surveys of its on-and off-street resources, to track the alignment of supplies with parking demand. Recent peak-hour utilization data is summarized for each PLD below.

Figure 1 PLD Short-Term and Long-Term Utilization Rates

Space Type	Average Peak-Hour Utilization Levels				
	Bethesda	Montgomery Hills	Silver Spring	Wheaton	All
Short-Term	66%	21%	42%	42%	57%
Long-Term	72%	26%	61%	44%	64%
Both	71%	24%	60%	43%	63%

Funding

Each PLD has its own “enterprise” fund within the County’s general fund. In addition to revenues from an Ad Valorem property tax, each enterprise fund also receives all public parking revenue collected within its PLD boundaries — from on-street meters, off-street facilities, parking permit sales, parking fines, etc.

Revenue

Figure 2 2015 PLD Budgeted Revenues

Source	Bethesda	Montgomery Hills	Silver Spring	Wheaton	All
Taxes	\$2,629,800	\$82,800	\$7,808,400	\$480,800	\$11,001,800
Charges for Services	\$13,989,700	\$52,000	\$10,550,000	\$925,200	\$25,516,900
Fines and Forfeitures	\$4,829,000	\$25,000	\$2,256,300	\$546,000	\$7,656,300
Miscellaneous	\$346,800	\$0	\$13,500	\$500	\$360,800
All	\$21,795,300	\$159,800	\$20,628,200	\$1,952,500	\$44,535,800

Figure 3 Share Total Revenue

Source	Bethesda	Montgomery Hills	Silver Spring	Wheaton	All
Taxes	12.1%	51.8%	37.9%	24.6%	24.7%
Charges for Services	64.2%	32.5%	51.1%	47.4%	57.3%
Fines and Forfeitures	22.2%	15.6%	10.9%	28.0%	17.2%
Miscellaneous	1.6%	0.0%	0.1%	0.0%	0.8%

Parking Funded

The primary purpose of PLD enterprise funds is to acquire, build, restore, improve, pay debt-service on and/or operate parking facilities. Over the past 10 years, MCDOT has built 1,130 new parking spaces, including 1,018 new spaces in Bethesda and 112 new spaces in Silver Spring, though redevelopment and reconfiguration of some facilities have reduced the total number of spaces in Silver Spring. In FY2015, \$5.7 million in PLD revenue was budgeted for capital projects.

Non-Parking Investments Funded

Beyond parking investments and program administration, PLD funds can be used to finance mixed-use development projects within PLDs. PLD funds are also used to support additional County programs that provide and promote transit services, alternative mode benefits, and lighting and streetscape improvements. In 2015, \$13.4 million in PLD revenues were re-directed into other County programs, including:

- Urban Districts — Sidewalks, lighting, etc., in Bethesda, Silver Spring, and Wheaton;
- Transportation Management Districts — carpooling and transit benefits in Bethesda and Silver Spring; and

- The Montgomery County Mass Transit Fund.

THE 2011 STUDY

In 2010, the DPM initiated a study of opportunities to update, improve, and expand the benefits of the PLD program. At the time, the program had been in operation for nearly 60 years, and was widely considered to have served its original objectives remarkably well. The focus of the study was to assess how this program should evolve to meet current needs, including the potential to expand the program into emerging growth areas, and the need to ensure that the program remains a model of parking management innovation for Montgomery County, the Washington, DC region, and beyond.

THIS UPDATE DOCUMENT

This document provides an overview of the progress that has been made in updating the PLD program since the 2011 Study was concluded. This is followed by a summary of key context changes affecting continued program changes. Finally, a set of updated recommendations are presented to guide the continued evolution of the PLD program.

PROGRAM UPDATE PROGRESS

In the years subsequent to the 2011 report, MCDOT has embarked upon a series of successful implementation efforts, introducing several important innovations including digital parking meters, occupancy sensor systems, demand-based pricing adjustments, expanded real-time information systems, more and better bike parking, and coordination with complementary County programs. Below is a summary of these efforts.

IMPLEMENTATION OF STUDY RECOMMENDATIONS

At the time of the study, four key challenges faced the program as its directors sought to maintain its effectiveness within a rapidly evolving transportation environment.

1. Facilitating the reduction or elimination of minimum parking requirements in PLDs;
2. Restructuring PLD funding to reduce its dependence upon revenues triggered by parking requirements;
3. Accommodating the expanding urbanization number of mixed-use, urban centers throughout Montgomery County; and
4. Identifying best practices for program changes from among the growing number of innovative parking district management programs across the United States.

Below is an overview of PLD program changes made, based on 2011 Study recommendations, to address these challenges.

Adjust the Program's Revenue Base

At the time of the study, roughly 40% of the PLD program's funding came from an Ad Valorem (property-value) Tax, which was adjusted based on the proportion of a property's parking requirement was met via on-site parking. This allowed development to more fully build-out their development sites, relying upon PLD parking resources to meet their parking needs. It also provided funding for the PLD to maintain these parking resources, and ensure that those most reliant upon these parking options paid for a higher proportion of their costs. This allowed cities like Bethesda and Silver Spring to become walkable, transit-oriented regional urban centers, as the majority of developers choose to minimize or eliminate on-site parking and pay to fund public parking instead.

This system, however, provided a significant barrier to reducing or eliminating minimum parking requirements within PLD areas, since such a change would dramatically reduce the Ad Valorem Tax obligation of area property owners. The County's long-standing interest in "right sizing" these requirements, particularly in walkable, transit-oriented urban centers, underscored the need to adjust the PLD funding structure to ensure the program's long-term financial viability.

Today, the Ad Valorem Tax has been eliminated as a funding source for the PLD program, which facilitated significant reductions in the County's parking requirements in its urban centers. A co-benefit of this change is that it has addressed a quirk in the County's "Charter Limit" which resulted in significantly lower Ad Valorem tax revenue in Bethesda, which had put that PLD in financial hardship.

The loss of the tax revenue has been offset, in part, by reducing the amount of money that is transferred from PLD revenue to the County's Mass Transit fund. And, an important source of

increased program revenue was created by a shift toward performance-based pricing in PLD areas, which seeks more consistent availability among all parking options, by pricing them according to their relative market demand.

Emphasize Pricing to Maintain Space Availability

The County has transitioned away from adjusting its parking rates based on short-term vs. long-term parking locations, to a demand-based structure. New “maximum” rates for each PLD create flexibility in setting prices based on the demand for parking at each location. Reflecting consistent consumer preference patterns, rates are now tiered so that the highest rates are charged for on-street parking, mid-range rates are charged for parking lots, and the lowest rates are charged at garages.

Taking this approach a step further, DPM recently initiated demand-responsive pricing that varies rates among its Bethesda garages to shift demand from at-capacity garages to underused garages nearby. The rate at three at-capacity garages in the Bethesda PLD was raised, from \$0.80 per hour to \$1.00 per hour, to incentivize drivers to use other garages in the area.

Improve Revenue Tracking

The County now tracks revenue at the individual facility level.

Update Meter Technology

The County has converted all of the on-street meters in Silver Spring and most of the on-street meters in Bethesda to “smart” (computerized and interactive) meters with occupancy sensors, and similar updates to Wheaton’s on-street meters are pending. Smart meters will also be installed in surface parking lots with fewer than 34 spaces, as they are too small for Pay-by-Space or Pay-on-Foot machines to be cost-effective.

Parking users can now pay by phone as well, either by dialing a phone number and entering the meter number, or by via a smartphone app¹. Both services charge the user via a credit card connected to the phone, and charge a \$0.35 convenience fee. The app is available for use at 12,000 parking meters in the Bethesda, Silver Spring, Wheaton, and Montgomery Hills PLDs, as well as in North Bethesda.

Update Off-Street Technology

The County has been installing Pay-by-Space or Pay-on-Foot systems in each of its garages, based on the configuration and demand patterns of each garage. At smaller garages with a large proportion of repeat customers, Pay-by-Space systems are being installed, while larger garages in mixed-use districts with a high proportion of new customers and long queues are receiving Pay-by-Foot machines. Some facilities, such as Garage 57 in Bethesda, have retained single-space meters due to high vehicle turnover which could create unacceptably long queues while exiting.

Expand Curbside Pricing to Manage Demand Beyond PLDs

DPM is introducing parking meters outside of the four PLDs to better manage curbside access in high-demand centers. In 2013, the County installed on-street parking meters in the Greater Shady

¹ <http://mc.mobile-now.us/>

Grove Transportation Management District, and followed in 2015 with the installation of parking meters in the Friendship Heights Transportation Management District. This is in addition to the North Bethesda Transportation Management District, which already has on-street parking meters.

Invest in Real-Time Information Systems

PLDs now have four parking facilities (over 4,000 spaces total) with real-time availability tracking and information systems. The live data is published to a website², with open data providing third-party app developers Park Me³ and Parkopedia⁴ to transmit this real-time information via smart phones.

Promote Mobility as Parking Management Strategy

In 2014, Maryland established the Bicycle and Pedestrian Priority Areas (BiPPA) program, which are areas designated by each county or city where pedestrian and bicycle traffic are given priority. BiPPAs are areas where the County intends to provide additional pedestrian and bicycle facilities, such as new or expanded sidewalks and bike lanes, that may conflict with on-street parking. Montgomery County has designated 30 BiPPAs, four of which coincide with Parking Lot Districts in Bethesda, Silver Spring, Wheaton, and Montgomery Hills.

Additional BiPPAs cover areas where MCDOT provides metered street parking, such as Friendship Heights, Grosvenor, and White Flint. Currently, the County is studying new bike facilities in the Silver Spring, Grosvenor, and Wheaton BiPPAs, while construction on a new protected bike lane on Spring and Cedar streets in the Silver Spring PLD is slated to begin in summer 2016.

Expand Bike Parking

New bike racks are being installed at all County parking facilities that currently do not have existing bike parking.

Expand Car-Share Access

DPM has expanded car-share parking in its parking facilities, including garages, lots, and on-street spaces in the Bethesda, Silver Spring, and Wheaton PLDs, as well as the Friendship Heights and North Bethesda. As of 2016, the County holds 55 spaces for car-sharing vehicles.

Expand Electric Vehicle Charging Stations

The County has installed vehicle charging stations at twelve locations, each of which is able to charge two vehicles. New parking facilities are pre-wired for additional electric vehicle charging stations, while older facilities have to be retrofitted. The County plans to add two more EV stations within the coming year.

² <https://data.montgomerycountymd.gov/>

³ <http://mc.mobile-now.us/>

⁴ <http://en.parkopedia.com/parking/silverspring>

OTHER AREAS OF PROGRESS

Changes made to update and improve the PLD program, beyond the recommendations identified in the 2011 study, are described below.

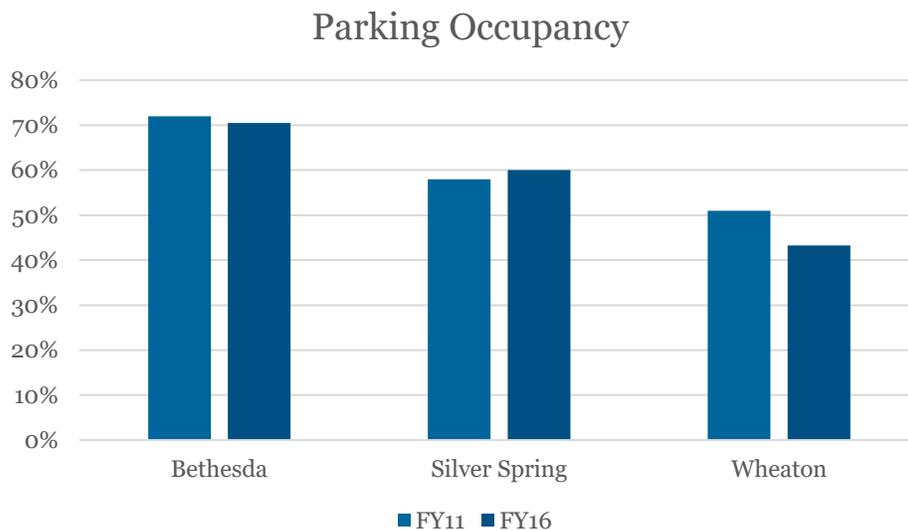
Use of Public Valet to Expand Curbside Effective-Capacities

Since 2012, MCDOT has operated two valet parking operations in downtown Bethesda at high-demand locations. In key areas, metered parking spaces are restricted to valet parking between 5pm and 11pm to facilitate valet stations. These valet locations use off-street parking to store customer vehicles, allowing the spaces used for the valet stations to be “turned over” several times an hour.

Redevelopment of PLD Facilities to Promote Smart Growth

Excess parking capacities in all PLD areas, and growing demand for residential, commercial, and office space in these areas has accelerated DPM activity in redeveloping many of its off-street facilities. Parking Demand in these areas peaked in the 1980s, when the Red Line was still under construction and the County’s Ride On bus network was smaller than it is today. At the time of the 2011 Study, DPM data indicated that utilization of public parking spaces peaked at 51% in the Wheaton PLD, at 58% in the Silver Spring PLD, and at 72% in the Bethesda PLD. Since then, additional spaces have opened in Bethesda, while Silver Spring’s inventory is slightly lower. In both PLDs, parking occupancy rates have remained roughly unchanged. In Wheaton, by contrast, the number of spaces have remained the same, but peak occupancy has dropped to 43%.

Figure 4 2011 & 2016 Occupancy Survey Measures



At the same time, the demand for additional housing, commercial space, and public amenities in the PLD areas has increased. In recent years, DPM has partnered with private developers to redevelop some of its public parking facilities in order to spark the revitalization of town centers and accommodate demand for new land use capacities.

The extent to which redevelopments include replacement of public parking is dependent upon local supply and demand conditions. Two pending projects will not replace any public parking spaces. In all cases, a key objective is increasing the presence of vital land uses that help activate sidewalks and the public realm in PLD areas. Below is a table of recent and ongoing redevelopment projects at Montgomery County parking facilities, along with the change in number of parking spaces.

Figure 5 Parking Lot Redevelopment Projects

PLD	Facility	Original Public Parking Spaces	Current/Proposed Public Parking Spaces	Change in Public Parking Spaces
Bethesda	Garage 31	279	960	+681
	Garage 35	519	400	-119
	Lot 43	39	0	-39
Silver Spring	Lot 2	220	0	-220
	Lot 3	154	154 (proposed)	0
	Garage 16	58	170	+112
	Garage 21	583	0 (proposed)	-583
	Lot 20	41	0 (proposed)	-41
Wheaton	Lot 13	164	400 (proposed)	+236
Combined		2,057	2,084	27

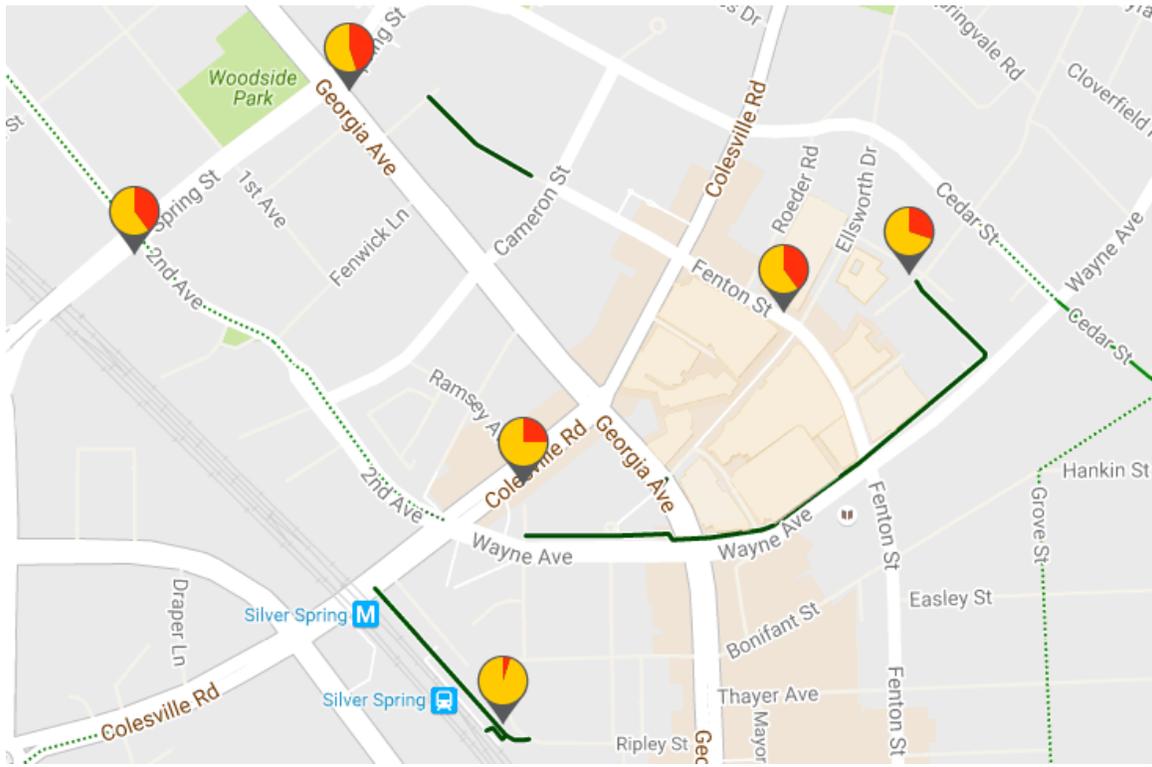
Source: <https://www.montgomerycountymd.gov/DOT-Parking/Resources/Files/ParkingGarageList.pdf>

A detailed overview of these projects, including the Garage 31 project (The Flats at Bethesda Avenue) which has been praised as a model of joint-development achieving multimodal and sustainable-growth objectives, is provided as an **appendix** to this document.

Bike-Share Access

Montgomery County has partnered with Capital Bikeshare, the region’s bike-sharing system, to bring bike-share to its urban centers, including the Bethesda and Silver Spring PLDs. The stations are located near Metro stations, in major activity centers, and in nearby residential areas.

Figure 6 Capital Bikeshare Station Map for Silver Spring Area



PENDING PROGRAM UPDATES

Revenue Tracking

DPM is exploring options for facility-level cost accounting, to complement facility-level revenue tracking. This will help better inform future decisions to upgrade, maintain, or redevelop PLD facilities.

Program Expansion Plan

DPM has expanded the inventory of on-street parking meters it manages outside PLD areas, to help improve parking availability in North Bethesda, Shady Grove, and Friendship Heights. A formal program-expansion plan is still in development.

Program Coordination

The Bethesda Downtown Sector Plan is currently being revised and one of the recommendations is to align its PLD boundaries with those of its Transportation Management District and Urban District. DPM is working with the Maryland-National Capital Park and Planning Commission to align the boundaries, once the commission approves the plan.

Oversight of the Transportation Management District (TMD) program has also migrated to the County's Department of Transportation, facilitating closer coordination with DPM. And, in 2011, the County began collecting TMD fees in the Greater Shady Grove area, which is outside a PLD

but does have DPM-managed metered parking, on-street. This will provide some opportunity to coordinate between programs in this emerging development district.

Merging Silver Spring and Montgomery Hills PLDs

The County is planning to merge the Silver Spring and Montgomery Hills PLDs. Chapter 60 of the County Code is being rewritten to incorporate Montgomery Hills into the Silver Spring PLD, which will need to be approved by the County Executive and County Council. If approved, the change could be implemented by FY 2018.

UPDATED CONTEXT

KEY ZONING CHANGES

The 2011 Plan was coordinated with a Countywide re-zoning effort. This effort was completed in 2014, reducing minimum parking requirements in most zones, particularly in PLDs and other mixed-use zones. The updated code also provides a fee alternative to meeting these requirements, providing a new source of revenue for the PLD program in lieu of revenue from Ad Valorem Tax payments. The code also introduces maximum parking requirements for certain uses in PLDs and other areas.⁵

CURRENT DEVELOPMENT CONTEXT

Since the 2011 Plan, the County has passed new sector plans for the Wheaton central business district, which overlaps with the Wheaton PLD, and initiated sector planning for downtown Bethesda, which overlaps with the Bethesda PLD. Both plans identify these PLDs as locations for intense, transit-oriented development with reduced parking requirements as per the County’s zoning rewrite.

The development community has responded positively to the zoning rewrite and sector plans, with development applications responding directly to the new, lower parking requirements. There are over 6,700 housing units and 2.4 million square feet of commercial space currently proposed and in the development/approval process for PLD areas.

Figure 7 Proposed Development in PLDs

PLD	Housing Units	Commercial Space (Square Feet)
Bethesda	729	922,049
Montgomery Hills	0	0
Silver Spring	5,630	1,501,041
Wheaton	365	0

KEY CHALLENGES

The most significant challenges facing efforts to continue PLD program updates, including updates recommended in the 2011 Study, and those presented at the conclusion of this document, are outlined below.

⁵ <http://montgomeryplanning.org/development/zoning/documents/ParkingComparisonTableFINAL9.8.14.pdf>

Policymaker Support for Pricing Adjustments

Rate increases are, invariably, controversial, and more often than not require approval from elected officials, who are reluctant to be associated with rate increases. Like much of the general public, these officials often assume parking rates should be based on budget needs, or be kept low to incentivize trips to commercial areas. County Council approval remains necessary to realize many rate-change needs and opportunities, limiting the capacity of DPM to respond to evolving supply and availability conditions in pursuit of optimal levels of access. Continued outreach to officials and key stakeholders in PLD areas will be critical to developing a broader understanding of the role and effectiveness of setting rates based on demand and supply conditions, and in pursuit of improved access to public parking options.

Legal Issues in Merging Programs

PLDs, TMDs, and Urban Districts each have different legal structures, which may make combining them complicated. PLDs are based on covenants, whereas Urban Districts are set by the zoning code and taxing districts, and TMDs are established by the County Council. Creating a new entity to handle all three responsibilities would require a new legal arrangement.

Coordination

The biggest challenge facing the PLD program in the future will be unifying the PLD, TMD, and Urban District programs. The benefits of the TMD program may be limited without further coordination with the PLD program, particularly in areas with no overlapping PLD boundaries, such as Friendship Heights, North Bethesda, and Shady Grove.

Communication and Promotion

Despite the surplus of parking supply in each PLD, perceptions of supply scarcity remain common in most. Deploying effective pricing strategies to improve availability conditions in high-demand locations, will require better general understanding of the benefits of such pricing approaches. This is particularly important in emerging urban centers like North Bethesda and Shady Grove, where metered parking was only recently introduced.

UPDATED RECOMMENDATIONS

Five years after the original study was complete, significant progress has been made to implement its key recommendations, build upon key principles for an updated program, and optimize the role of parking management in service to greater community, economic development, and transportation goals. Continued implementation will increasingly be shaped by additional years of change, and as land use, mobility, and parking conditions continue to evolve. The following, therefore, focuses on revisiting those recommendations that remain most relevant and viable, providing updates on their implementation status, and then identifying new recommendations to respond to the current context, emerging best practices, and lessons learned over the last five years.

FOCUS CURB MANAGEMENT ON PERFORMANCE

The curbside is some of the most valuable space in a community and, at the same time, one of the most contested spaces. Multiple user groups compete for curbside space, and performance-based curbside management is the key to ensuring that all users have access. This requires a close watch on occupancy and turnover, and seeking opportunities to shift demand during busy periods to other facilities or other times.

Expand Public Valet Program

Since MCDOT first piloted this strategy, it has become an increasingly popular best practice for providing a greater range of high-convenience parking options in urban commercial centers. The success achieved in Montgomery County makes a case for increased investment to provide similar benefits in more PLD areas. To this end, MCDOT is seeking changes to State laws to streamline the process of contracting for valet operations, a common component of most public valet programs.

Consider New Occupancy-Monitoring Approaches

An emerging approach to monitoring curbside occupancy/availability is to use meter transaction data to estimate curbside occupancies. This offers a similarly robust “stream” of data as sensor systems, without the cost and complications of dedicated technology. It allows parking managers to “measure” occupancy from any previous date, at any particular time; a distinct advantage over relying on manual field surveys. This approach is also not without challenges, but has shown to be reliably accurate, at a fraction of the cost of maintaining a sensor-based system. Enhancing this approach with occasional manual surveys can help by continually “calibrating” the calculations of the transaction-data approach.

Formalize a Performance-Based Enforcement Approach

Management efforts depend upon compliance to be effective. But, in most cities, those who implement curbside regulations, restrictions, and pricing have minimal involvement in their enforcement. Many cities are beginning to address this barrier in effort to more closely align enforcement efforts and performance objectives with curbside management aims.

The primary objective of performance-based enforcement strategies is to increase compliance with curbside regulations, restrictions, and pricing. In some cases, the primary barrier to better compliance is that parking violations are a low priority for those in charge of enforcement. In

other cases, while enforcement may be vigorous, performance measures, including ticket quotas and revenue targets, are in conflict with management aims.

In cities where the biggest challenge to increasing compliance is insufficient attention from those who manage enforcement, change has focused on shifting enforcement to another party. Typically, this means shifting control from the police department to some other party. If the primary issue is a misalignment of enforcement objectives, this can be addressed directly, regardless of who controls enforcement.

Non-Police Enforcement

Several cities have shifted parking enforcement from police departments to other city or quasi-public agencies whose staff can focus their full attention on improving compliance. England decriminalized parking violations to allow its municipal police forces to focus on higher priorities, and to allow its city governments to create parking enforcement approaches that prioritize curbside performance objectives. Taking a different tack, many European cities contract enforcement out to private companies, allowing them to link compensation levels to compliance measures. The City of Stockholm, for example, includes requirements to monitor compliance rates, and to achieve minimum compliance levels, in its contracts with private enforcement providers. Stockholm adjusts compensation levels according to results.

Performance-Based Fine Rates

To mitigate recidivist parking regulation abuse, while avoiding harsh penalties for isolated (and often unintentional) violations, some cities have begun to use incremental fine schedules. First-time violations incur a modest fine, or even a “courtesy ticket” with no fine, while fines are multiplied for repeat offenses. This is an example of focusing on the potential for enforcement to increase compliance, even if that comes at the cost of reduced ticket revenue.

Explore Pricing Options for Curbside Loading

The effectiveness of performance-based pricing for parking has raised interest in pricing strategies to improve availability conditions within high-demand curbside loading zones. Implementation approaches primarily vary in terms of the media used for metering and payments. Commercial vehicle meters are perhaps the most common approach to this, but many cities use a permit system to accommodate the high-frequency access needs of freight companies. Some cities, like Washington DC, use permits but also provide meters and/or pay by phone options for non-permit-holders.

Figure 8 Priced Loading Zone in Seattle



Vary Regulations to Balance Loading and Short-term Parking Needs

An emerging best practice is the use of variable regulations that set aside the same prime commercial street blocks for loading in the mornings, and then for metered parking from late morning to evening. This provides generously proportioned loading zones on high-convenience blocks for carriers, as an incentive to shift as much loading activity as possible to this period when customer parking demand is low to modest. An added benefit of this approach is that it makes it more difficult for local employees and merchants to use these spaces for their own parking, as most will need to find available parking before the shift from loading to parking happens.

Case Study: Morning Loading Zones

Philadelphia, PA

The City has taken several measures to address parking and congestion problems related to commercial vehicle deliveries. The City's Parking Authority (PPA) created block-long commercial loading zones on key commercial streets from 6AM to 10AM. This provides a uniquely high level of access and convenience for deliveries at times when short-term parking demand is modest, and can be accommodated on side streets. After 10 AM, when short-term parking demand begins to peak, these regulations are reversed – the high-capacity/high-convenience blocks are reserved for short-term parking, and loading zones are shifted to side streets.

Variable Regulations Incentivize AM Loading in Philadelphia



Photo: <http://thephiladelphiacitizen.com/>

The primary objective of this strategy was to decrease congestion by encouraging more deliveries to be made before the midday traffic peak. According to PPA representatives, the program has achieved significant success in this. The City's implementation strategy including significant outreach to stakeholders to identify the benefit of sacrificing some hours of short-term parking for much more efficient and timely goods delivery. Administrator determines that the primary public use will be for commercial or residential uses.

FORMALIZE OFF-STREET EXPANSION POLICY

Montgomery County's downtowns are well-served by a system of off-street parking facilities, which remove parking pressure from the curbside and create opportunities for shared parking. However, land in urban areas is limited, making off-street parking facilities very valuable. As

shifts in demographics and travel patterns and demographic reshape the county's downtowns, creating a formal policy for maintaining and expanding off-street parking must be a priority.

Build Upon Joint-Development Success of Flats at Bethesda

The Flats at Bethesda project has garnered significant praise as both a model of public parking supply expansion, and the innovative combination of land uses and mobility connections created on-site. The result is more public parking at less cost in a high-demand area, less accessory parking than a comparable private-sector-only project would have included, and a multimodal hub that includes one of the regions first "park and pedal" destinations for DC-based commuters.

Prepare for Increased Uncertainty

There is a nearly-unprecedented level of "disruption" affecting the current state of urban mobility, and much of it suggests a potentially precipitous decline in parking demand for private autos. On-demand commercial mobility services like those provided by ride-sourcing companies Uber and Lyft, and "micro-transit" services like the one operating within the Washington, DC region (Bridj), are changing mobility in many ways — most of which are reducing drive-alone commute rates and the need/usefulness of owning a personal vehicle. Some experts are predicting⁶ that, when such services are combined, as is expected within the next five years⁷, with driverless-vehicle technology, parking demand in many cities may plummet by as much as 90%.

One of the best ways to prepare for this uncertainty is to shift away from private/accessory parking facilities toward shared/public parking facilities. Should a sharp decline in parking demand occur, shared facilities are much better positioned to maintain their value, by supporting new growth and development. By comparison, facilities designed to serve an accessory role to a particular building or development, may not be able to evolve into a similar role as on-site parking needs fall away. In this regard, Montgomery County's PLD communities are well-positioned to be able to adjust to the coming changes.

Similarly, the County will be well positioned to influence the design of parking facilities so that they are maximally flexible in the roles they may serve over the next 10, 20, or 30 years. Having direct control over these facilities as they are designed and built may become an even greater advantage than it is today, allowing designs to respond more quickly than is possible through a process involving code updates for private development.

PROGRAM COORDINATION AND STRUCTURE

Parking management goes much further than cars. As new transportation options emerge, travelers may be more likely to use more than one travel mode to complete their trip, or to "park once" in a PLDs and use other modes to move around the district. This makes parking facilities an important transfer point, even for users who aren't driving and parking there. Coordination between the PLDs and other transportation providers is a significant opportunity to adapt the County's parking facilities to changes in mobility.

Accommodate New Mobility Options

The PLD program is perfectly positioned to accommodate several emerging forms of urban mobility that continue to expand the range of alternatives to personal-auto mobility. To the extent

⁶ <http://cleantechnica.com/2016/04/11/the-huge-impact-driverless-cars-will-have-on-parking-urban-landscapes/>

⁷ http://www.driverless-future.com/?page_id=384

that bike-share, one-way car-share, sourced-ride and other similar services thrive within PLD communities, area residents will feel less compelled to own cars and commuters will find fewer obstacles to transit or rideshare commuting. This could free up significantly more parking for short-term customers, and extend the capacity of existing parking facilities to foster continued growth and economic expansion.

This will be particularly important in PLD communities with limited opportunities for cost-effective supply expansion. It can also significantly reduce the amount of “replacement” parking necessary when PLD surface lots are developed into mixed-use projects. Options to explore for facilitating the expansion and impact of these services include the following.

- Coordination with Capital Bikeshare to identify strategies for PLD expansion
- Curbside accommodation of car-sharing vehicles
- Exploring options for sourced-ride services (Uber/Lyft, Via, and Bridj) to complement County Transit services.

Develop Key Garages as Mobility Hubs

A transformative means of accommodating these new mobility services is to develop one or more key PLD garages as Mobility Hubs.⁸ These hubs can take many forms, but ideally would combine the following.

- One-stop centers for information to plan single trips and commutes, with multiple calculators to assess cost, health, time, and environmental impact of each.
- Places to purchase transit fare, secure memberships and reservations for shared cars and bikes, and hire a sourced-ride vehicle (Uber/Lyft)
- Cash-based payment options for those lacking bank accounts and/or credit cards
- Concierge services for those uncomfortable with digital reservation/payment options

By placing such hubs within parking facilities, this approach can dramatically increase awareness of these non-driving options among current drive-alone commuters, and can remind local residents that owning a car may not be as necessary or cost-effective as it once was. For those already using these services, the combination of intermodal connectivity and digital and/or concierge-based information makes these options that much more accessible and viable.

As a long-term strategy, such a transformation, building upon the 2011 recommendation to expand the PLD mission to focus on mobility as a complement to parking, may prove vital to the PLD program. With the predicted convergence of the new mobility options mentioned above and driverless-vehicle technology, experts are beginning to predict a dramatic drop in parking demand for personal vehicles⁹, and the obsolescence of the parking garage as we know it today.¹⁰

⁸ https://www.pdfFiller.com/en/project/80215285.htm?f_hash=82e2ad&reload=true

⁹ <http://www.motherjones.com/environment/2016/01/future-parking-self-driving-cars>

¹⁰ <http://www.arrowstreet.com/2016/03/the-self-driving-car-could-eliminate-the-parking-garage/>

Figure 9 Rendering of a Mobility Hub



Image Source: Multi Mobility, Sophia von Berg, 2014.