PHED/T&E COMMITTEE #1
April 4, 2011

MEMORANDUM

March 31, 2011

TO: Planning, Housing, and Economic Development Committee
Transportation, Infrastructure, Energy and Environment Committee

FROM: Glenn Orlin, Deputy Council Staff Director

SUBJECT: Briefing—Parking Policies Study

In the FY10 Operating Budget the Council approved $150,000 for a consultant study to re-evaluate the parking space requirements in the Zoning Ordinance regarding commercial and mixed-use developments (especially in Metro Station Policy Areas) as well as to explore alternative models of providing for, and funding of, the construction, operation, and maintenance of public parking facilities. The study was jointly managed by Maryland-National Capital Park and Planning Commission and the Department of Transportation; the consultant they selected was Nelson\Nygaard Consulting Associates.

The study is virtually complete, and a summary report is attached. This worksession is an opportunity to review the study's findings and recommendations, and to provide feedback to the Planning Board and Executive staffs before they begin to prepare legislation to amend County Code Chapters 59 and 60, respectively. After a brief introduction, Tom Brown, Senior Planner with Nelson\Nygaard, will present the briefing. Planning staff and DOT staff will also be on hand to comment and answer questions.

Council staff comments. The consultant and staffs have comprehensively surveyed the landscape of public parking supply and cost models from around the country, and have developed a recommended new approach that has some positive features. One good recommendation is to move to market-based pricing for on-street meters and County-operated lots and garages. Currently spaces are differentially priced only by parking lot district (PLD) and by whether they have long-term or short-term meters. The proposed approach would allow for different prices within the same parking district, according to the relative demand. Allowing this would present a more complex set of choices for the parking customer, but such a pricing regime would recognize that some locations—and some types of spaces—within a district are more valued than others. For the Council resolution that establishes parking fees, this would likely mean that the Council would set fee ranges rather than single fees by district for its long- and short-term meters.

Another good recommendation is to replace the ad valorem parking district tax with a set of parking benefit charges. The funding of PLDs by the ad valorem tax hinders the expansion of current PLD programs and the establishment of new PLDs because of the property tax limitation in the Charter, which was approved in 1990 in response to the rise in the *general* property tax rate. To address this problem Council staff had recommended a Charter amendment exempting the PLD tax (and Urban District and Noise Abatement District taxes, and any other small-area ad valorem tax) from the Charter's property tax limitation, but the Council decided not to place it on the ballot. Replacing the PLD tax with a series of parking benefit charges or, alternatively, an annual excise tax based on use and square footage, would achieve the same result.

However, Council staff has concerns about the recommended approach on how to create more shared parking, especially in emerging urban areas like White Flint, Shady Grove, and the Great Seneca Science Corridor (GSSC). The approach relies upon incentives and disincentives for developers to provide either less parking, a higher proportion of shared parking (i.e., parking that can be used by the general public, not just employees and customers in a particular building), or both through varying Parking Benefit Charges.

The worry is that an incentive/disincentive regime will not produce the supply, price, and quality control of parking that will produce the mode share goals that must be met before the White Flint, Shady Grove, and GSSC areas can proceed from one stage of their master-planned development to the next. In Bethesda and Silver Spring the mode share goals of each stage have been met because the County directly controls enough of the parking market—about half—to heavily influence the price of parking: both public and private. Under the Parking Policy Study's proposed regime, none of the shared parking would be publicly owned. If shared parking spaces were not County-controlled (whether fees simple or an easement), several questions arise:

- What is the guarantee that the shared spaces would have market-based pricing? Wouldn't there be a powerful incentive for one developer to charge less than his neighbor, in order to draw retail business or office space lessees? Shouldn't the County retain sole control over the fee of shared spaces, the hours during which fee is assessed, and the duration of each meter (long- or short-term)?
- Even with the disincentives on developers against providing too much reserved parking, what is the guarantee that there still won't be too much reserved parking and/or too much shared parking? Shouldn't the Planning Board control the total supply of spaces provided by development by placing a limit on the total amount of reserved and shared parking?
- The shared parking would be correctly interpreted by the customer as public parking. But then they would reach the logical (but incorrect) conclusion that the County Department of Transportation is responsible for its operation, maintenance, and pricing, and so complaints will naturally go to DOT. Shouldn't DOT have the total control over the operation, maintenance, and revenue collection of the shared spaces? Otherwise, it will be like streetlights outages on PEPCO poles: the County gets the complaints, pass the complaints on to PEPCO, and then PEPCO addresses the problem according to its own maintenance priorities.

If shared parking is to be provided, it should be done in such a way as for the County to have total control over its supply, pricing, operation and maintenance. The County does not have to own the underlying fee-simple interest in the land for that to happen. There are at least four examples of joint tenancy of a public garage where the County has retained these controls: Garage 36 (with Imagination Stage), Garage 42 (with the Whitney Apartments), Garage 49 (with the Metropolitan Building), and Garage 58 (with NOAA). Soon there will be a fifth: Garage 31 in the Bethesda Row area. Although in each case there were extended negotiations before reaching an agreement, the outcome is that the County maintains the control it has to have to assure that the facilities are well operated and maintained, appropriately and consistently priced, and not overbuilt. Council staff recommends that as work continues to prepare changes to County Code Chapters 59 and 60, that these principles be at the heart of that work.

Finally, it should be noted that there are County-owned parcels outside the PLDs where County-owned shared parking could be built. Much of the land around the Shady Grove Metro Station is in County ownership; once the existing depots are relocated (as per the Smart Growth Initiative), the County should retain the right to construct, operate and maintain shared parking lots/garages there. The same should hold for the current PSTA site, as well as some other still County-owned parcels in the GSSC area. The Planning Board should also explore the possibility of exacting what would become County-controlled shared parking from development as conditions of site plan approval.

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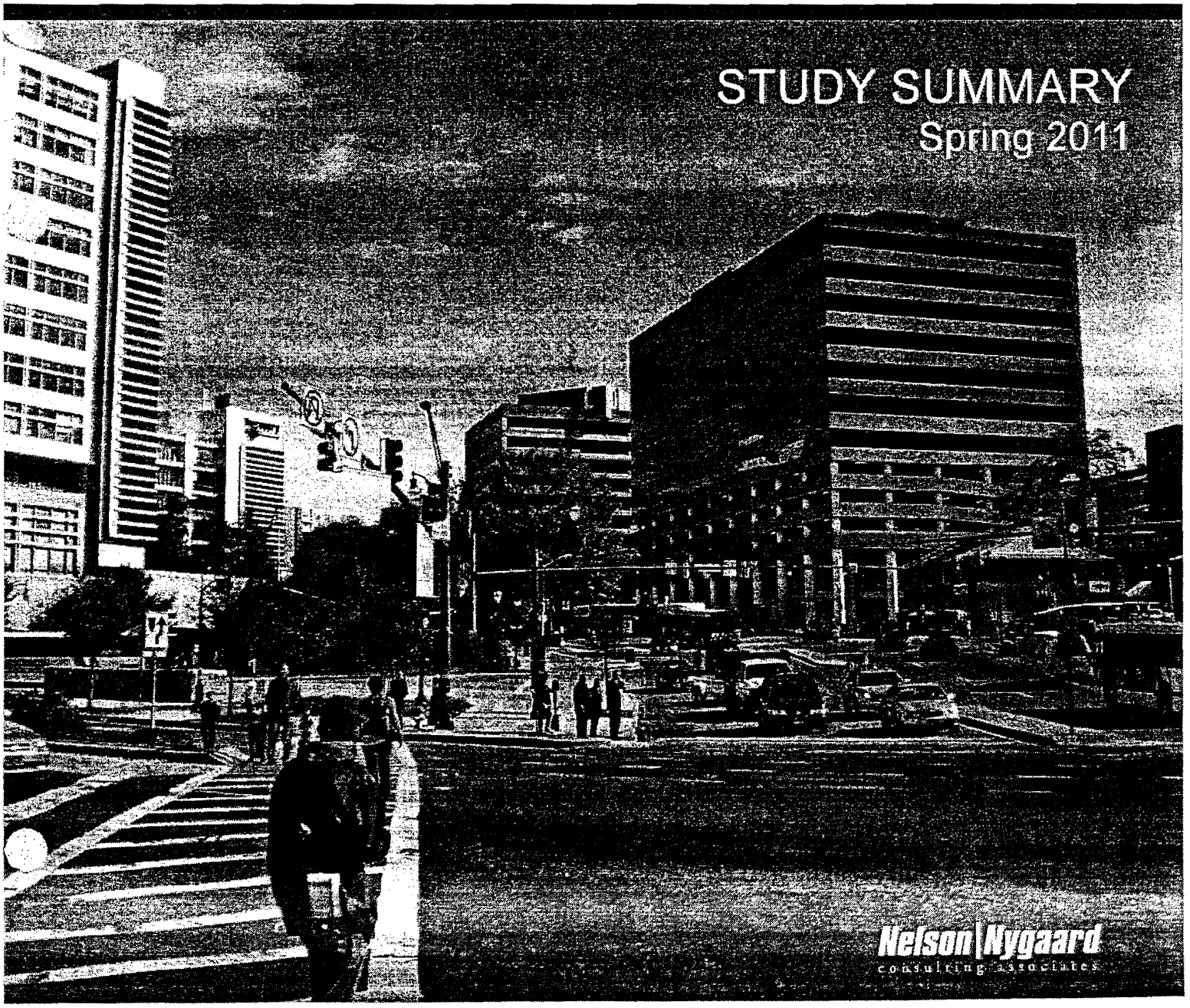
Montgomery County
Department of Transportation

THE MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING
COMMISSION

Montgomery County Parking Policy Study



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GLOSSARY OF TERMS

Accessory Parking – For the purposes of these documents, accessory parking spaces are those built on-site to support access to a specific building or complex of buildings.

Carsharing – A program in which a fleet of cars are utilized by members of car rental system, which provides members the short-term use of a car as needed, eliminating the need to own a personal vehicle.

Demand Management and Transportation Demand Management/ TDM – A set of strategies designed to influence the mode-choice, frequency, timing, route-selection, or trip-length of travel behavior to promote efficient and sustainable use of transportation resources.

Gross Floor Area/ GFA – The area within the perimeter of the outside walls of a building, frequently utilized in determining the number of parking spaces to accommodate particular uses.

In Lieu Fee – For the purposes of these documents, an in lieu fee is an amount of money a developer pays the government in the place of build a parking facility to serve his or her development.

Multi-space Meters – A device used to manage several parking spaces in a one-block area, particularly in regards to collecting any fees associated with parking in a particular space.

Off-setting Peaks- A mix of land uses, such as office with daytime workers, and restaurants with evening patrons, that creates high levels of demand for parking at different times throughout the day.

Public Parking – For the purposes of these documents, this term refers to parking that is not restricted to the tenants or visitors of any building or complex of buildings.

Reserved Parking – For the purposes of these documents, this term refers to spaces that are set aside specifically for certain users, rather than spaces that can be used by anyone.

Shared Parking – For purposes of this report, shared parking is defined as parking that is available as public parking during specified periods of time.

Unbundling – For purposes of this report, unbundling refers to the offering of parking spaces as an option that is distinct from the purchase or lease of a dwelling unit. Typically a standardized number of parking spaces are included with a home, whether rented or sold. This hides costs of owning a car for the resident, and removes an opportunity for residents to reduce their housing costs by reducing their parking needs.

Utilization (Parking) – A measure of the number of cars parked relative to the number of parking spaces.

Variable Pricing – For the purposes of this report, variable pricing means that the cost associated with a certain good or service, in this case parking, changes depending upon the location of the parking and the amount of time a person would be allowed to park in that location.

STUDY SUMMARY

INTRODUCTION

In December 2008, the Montgomery County Council's Office of Legislative Oversight (OLO) published OLO Report 2009-6, "Transportation Demand Management Implementation, Funding, and Governance". One of the key findings of the report was that the County's parking policies and practices should be revised to better align with other policies that promote travel by modes other than the single-occupant auto.

In the spring of 2009, the Montgomery County Department of Transportation (MCDOT) and the Maryland-National Capital Park and Planning Commission (M-NCPPC) contracted with Nelson\Nygaard to complete a Parking Study for the purpose of reviewing both the County's Parking Lot District program and its codified parking requirements for urban, mixed-use districts.

The purpose of the study is to propose a framework for both setting appropriate parking requirements for private development and managing parking resources. This study represents the advice of the consultant, as developed in conjunction with the sponsoring agency staffs and reflecting interviews with key stakeholders. The study recommends concepts whose implementation can only occur through formal amendments to the County Code, namely:

- Article 59-E, where parking requirements are established, and
- Chapter 60, where the County's current Parking Lot District program is established.

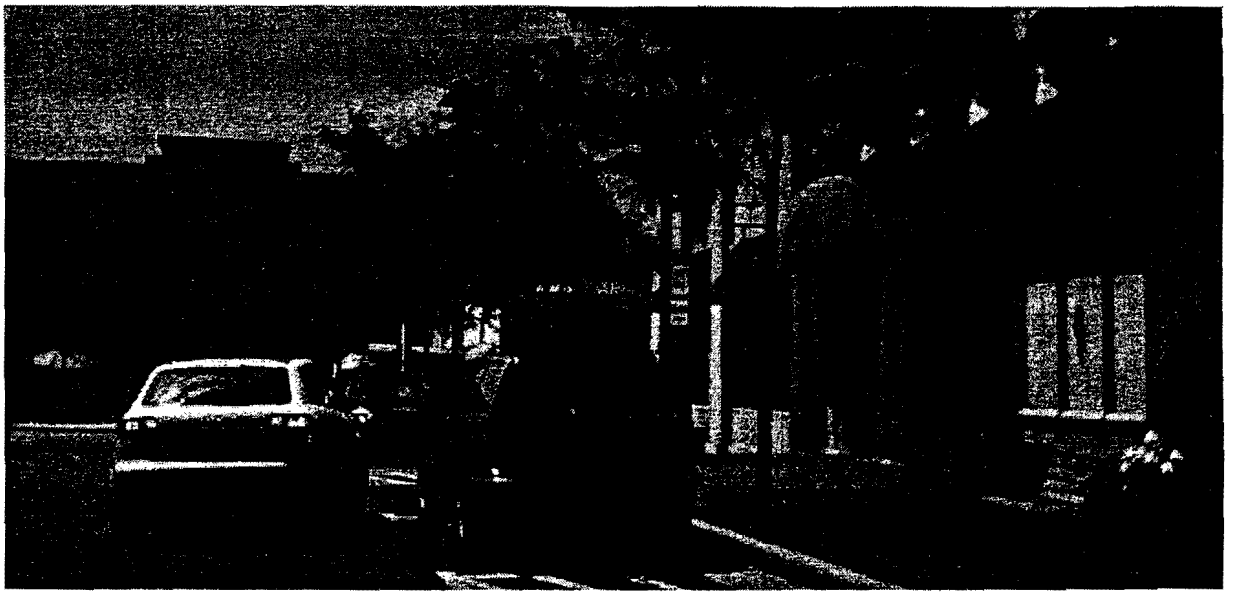
Specific objectives of this Study include:

- Updating the County's Parking Lot District program to:
- Assess performance;
- Identify opportunities for improvement; and
- Assess vulnerability to 59-E changes.
- Updating the County's parking requirements for urban, mixed-use districts to:
- Reduce current requirements, if found appropriate;
- Promote a shared parking (i.e., "park once") focus;
- Support local business;
- Increase flexibility of standards; and
- Make standards clear and predictable.

The results of this study will be used to guide a broader public discourse on the details of changes to Article 59-E and Chapter 60, with both sets of amendments expected to require approximately a year to complete.

STUDY BACKGROUND

Minimum Parking Requirements



New approaches to parking requirements within mixed-use centers seek to accommodate modern transporation demands while retaining historic levels of walkability and multi-modal access.

Parking requirements encoded within municipal zoning ordinances represent a powerful tool for shaping a city's transportation and development character. The collective ability of communities to use zoning and other tools to shape local transportation conditions around shared values and goals will have increasingly far-reaching impacts.

For roughly fifty years, zoning codes across the United States have included minimum requirements for accessory (defined as on-site, tenant-reserved) parking spaces as a means of mitigating the impact of increased parking demand on nearby streets. Most of these requirements were first drafted during the middle of the twentieth century – a time when the advent of affordable, personal automobiles had captured the public imagination and shaped the vision of future urban development. The intense demand for this newly accessible transportation option generated concerns about the impacts on local streets, as residents, commuters, visitors, and shoppers competed for a limited supply of spaces.

In response, cities began to require sufficient accessory parking at each new development — enough to ensure that spaces would almost always be available for anyone who needed one, even if they were free. This meant building to meet peak demand for free parking at each location. It also meant generating a high level of redundancies between land uses which, particularly within urban districts, are frequently within short walking distance of each other.

In fact, decades of over-requiring parking in urban centers has shown that it can create a number of unwanted effects, including:

- Reducing Infill Development Viability – smaller or awkwardly-configured sites typical of urban centers, as well as historic re-development opportunities in older commercial centers, can present significant challenges to meeting contemporary parking requirements, limiting their re-investment value and encouraging "green field" development instead;
- Discouraging alternatives to auto travel – by promoting free parking, minimum parking requirements put pay-as-you-go modal alternatives like transit at a distinct disadvantage;
- Eroding pedestrian environments – requiring each development to self-park (accommodate all demand on-site) greatly increases the proliferation of driveway-sidewalk intersections and creates large swathes of inhospitable surface parking lots; and
- Adding to the cost of living – by promoting free parking, conventional requirements ensure that parking costs are externalized in higher prices for goods, services, and housing — creating a particularly unfair burden for low-income households and those who do not drive.

Today, governments are increasingly questioning the merits of minimum parking requirements in urban centers — particularly as traditional urban land use patterns and transportation options have regained market favor. Most, like

in Montgomery County, have added options to reduce requirements in these areas. Increasingly, many are proposing full-scale reviews of their standards, and even considering removing parking requirements altogether.

Parking Management Districts

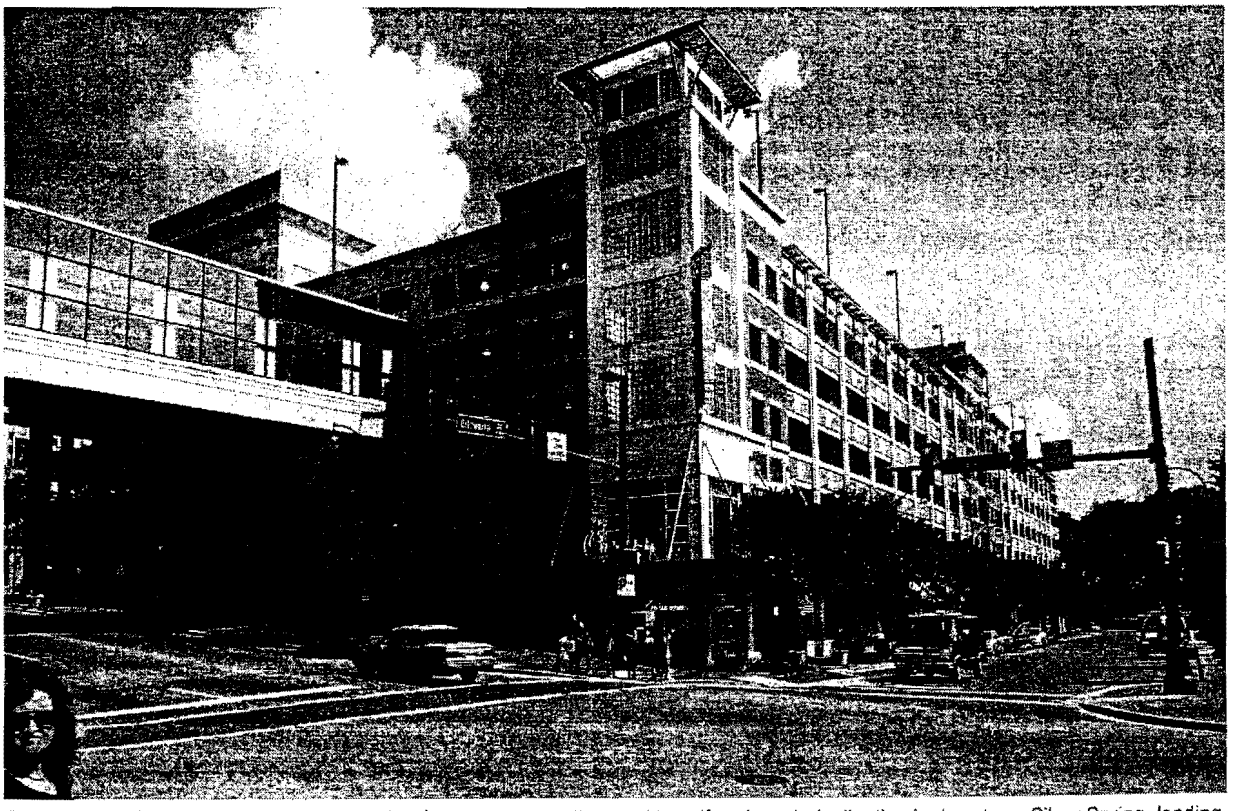
One of the more innovative means that governments have employed to mitigate the adverse impacts of parking requirements on their urban centers has been the creation of Parking Management Districts — often combining the provision of well-managed public parking with varying levels of relief from minimum parking requirements. Montgomery County's Parking Lot Districts (PLDs) represent perhaps the longest-standard example of this strategy, and the program remains a leading example of effective parking management district implementation.

In each of the four PLDs (Bethesda, Montgomery Hills, Silver Spring, and Wheaton), minimum parking requirements do not need to be met on site. Instead, a property owner may choose to provide fewer than the required number of spaces and pay a County-assessed property-value (Ad Valorem) tax within these areas. This revenue is directed towards the PLD program for the purpose of providing shared, public parking. Those who choose to provide the minimum requirement on-site can apply for exemption from paying this tax. As such, the minimum parking requirements themselves catalyze Ad Valorem revenue — and, in turn, provide revenue for the construction and management of public parking in these areas.

The fact that this program was conceived over 60 years ago, during a time when county transportation and development patterns and trends were very different, was a primary reason for reviewing the state of this program. Its financial links to parking requirements that are themselves being revisited through a comprehensive zoning ordinance review also prompted the need for this review.

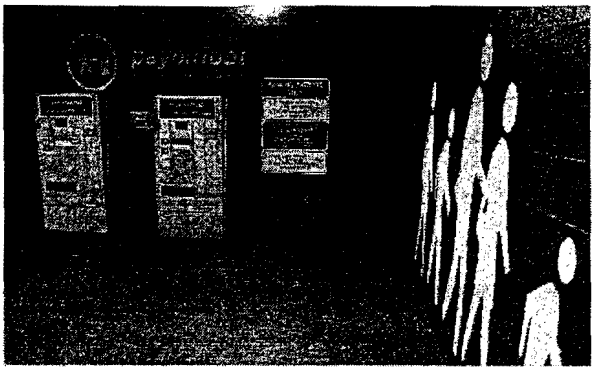
Combining a peer-based review of this program with a comprehensive review of parking requirements provides an opportunity to keep both in step with best practices and coordinated with each other. The study focused first on a review of the PLD program for two key reasons:

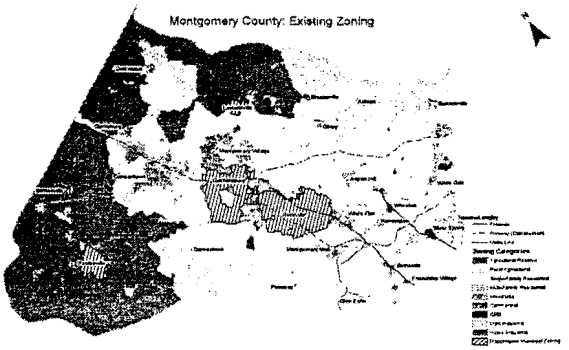
- It would help determine whether or not some form of parking management district should be established within the County's emerging urban centers; and
- It would outline opportunities to minimize or offset any negative financial impacts of reduced minimum parking requirements on the program — essentially framing the options for revising current requirements without undermining the benefits of the existing management districts.



Coordination of public parking and private develpment removes the need to self-park each destination in downtown Silver Spring, leading to less parking, more walking, and higher land values — even without immediate transit access.

SCOPE OVERVIEW





Parking Lot District Model Review

The study began with the review of the PLD program, which served two important purposes. First, it allowed all parties to assess the future viability of the program and identify whether it should be left as it is, improved upon, or discarded. Without changes, any significant reduction in minimum parking requirements could represent a significant financial liability — significantly limiting the options for changing the current regulations. If the program were discarded or replaced by another, then the current parking regulations could be assessed on their own merits. Finally, if changes to the program were deemed desirable and feasible, those changes would need to be coordinated with the changes to parking regulations to assure continued mutual support.

This task was based on a review of peer programs and was completed in three steps.

- Concept Understanding – Defining the concept and utility of shared parking and parking management districts including the advantages and disadvantages of public vs. private ownership of public parking supplies;
- Program Evaluation and Peer Review – A review of current performance, peer programs, and additional case studies and strategies for effective district-level parking management; and
- Application to the PLD program – A general assessment of the current program in the context of the case studies and practices reviewed, including a series of recommended changes and improvements to the current model.

Parking Requirements

FRAMEWORK APPROACH OPTIONS

The most common approaches to setting minimum parking requirements are most appropriate in suburban zones, characterized by highway-oriented development and highly car-dependent populations. Proposed approaches to improve requirements in mixed-use settings with transportation options vary widely — from reducing or removing minimums to setting "maximums" (on-site parking limits), or a combination of each. The parking requirement review tasks therefore began with a review of leading and emerging approaches. This task was completed in four steps:

- Identifying Goals and Objectives – These were derived from official County policies as well as input from the project's Steering Committee (County officials, including those directly involved with the project as well as those ultimately responsible for implementing any recommended changes).
- Gathering stakeholder input – Interviews with key stakeholders and focus groups, including:
  - Residential Community Representatives;
  - Business Community Representatives and Commuters ;
  - Development Industry Representatives;
  - Retailers;
  - County Transportation Planners; and
  - Transportation Advocates.
- Identifying Approach Options – A comprehensive list of established and leading methods for setting parking requirements most capable of addressing identified Goals and Objectives and stakeholder input
- Assessing Approach Options – Analysis and a tabular comparison that applied select approach options to a series of five hypothetical project scenarios (provided by M-NCPPC from actual development approval applications).

APPROACH SELECTION

Nelson\Nygaard, with the MCDOT/M-NCPPC Steering Committee, identified a unique approach for Montgomery County, based on the most promising aspects of the set of reviewed approaches. The result was a parking standards framework that includes consolidated land use categories, standards that provide a range of supply options based on projected parking demand, and options for developing supplies outside of this range in return for public benefits.

APPLYING THE APPROACH

Once the framework was in place, the next step was to determine appropriate standards that served the intent of the selected approach. This task was completed in three steps:

- Identifying Land Uses – A set of consolidated land uses for which distinct parking standard ratio would be applied
- Setting baseline standards – A set of corresponding ratios to determine a project's baseline parking requirements
- Weighting Mode Share Goal Impact – Reducing minimum requirements based on the site's applicable mode share goal

BEYOND MINIMUMS AND MAXIMUMS

To complement these standards and further a multi-modal development approach in urbanizing, mixed-use districts, a set of additional zoning strategies and practices are proposed for consideration, including, but not limited to:

- Setting bicycle parking standards;
- Promoting car-share spaces;
- Creating multi-modal design guidelines; and
- Promoting the unbundling of parking costs from land use leases/purchases.

FINDINGS & RECOMMENDATIONS — PLD REVIEW

Program Description

Montgomery County, through its Parking Lot District (PLD) program, operates more than half of the public (publicly available) parking in three of its largest central business districts — Bethesda, Silver Spring, and Wheaton — as well as in the Montgomery Hills community. These public inventories provide a shared pool of parking resources for the benefit of all area businesses, patrons, and commuters. They also provide a viable alternative to on-site parking requirements in return for payment of an annual Ad Valorem tax that provides significant program funding underwriting PLD costs. Additionally, the County's large parking market share provides numerous opportunities to mitigate traffic levels, effect commuter patterns, and promote alternative transportation modes, including the use of parking revenues to market and provide transit services and benefits.

The PLD program is perhaps the longest standing program of its kind, and remains a leading example of effective parking management district (PMD) implementation — a strategy that both streamlines and maximizes the value of area parking supplies by incorporating as many spaces as possible into a shared parking resource. One of the most important objectives for most PMDs is to preserve traditional, dense, mixed-use centers from conventional development requirements for on-site accessory parking facilities. By providing a shared resource, the small-lot and infill development projects characteristic of these areas can thrive. And by sharing parking resources, collective parking needs can be met with fewer spaces overall, allowing these centers to continue to provide dense, walkable, multi-modal alternatives to typical, parking-oriented suburban centers.

In addition, effective PMD implementation can provide:

- A sense of formality and permanence to shared-parking resources, allowing developers (and their lenders) to rely upon them to reduce their on-site parking needs;
- Capacity to manage parking demand via centralized control over policies and pricing;
- Capacity to capture and direct parking revenues toward local investments;
- Capacity to manage the design and functionality of primary parking facilities, including facility and access-point location to minimize conflict with predominant automobile, transit, bicycle, and pedestrian traffic patterns;
- More welcoming conditions for customers and visitors — fewer "Thou Shalt Not Park Here" signs throughout the district; and
- Re-captured land and redevelopment opportunities, supporting the general tax base.

ESSENTIAL ELEMENTS

Montgomery County currently has four PLDs — Bethesda, Montgomery Hills, Silver Spring, and Wheaton — all created between 1947 and 1951. Combined, these districts provide over 20,000 public parking spaces. Each PLD has its own "enterprise" fund separate from the County's general fund. In addition to revenues from the Ad Valorem tax, each enterprise fund also receives all public parking revenue collected within the PLD boundaries — from individual meters, electronic pay stations, cashiered facilities, sale of parking permits, parking fines, etc.

REVENUE AND BENEFITS FUNDED

In 2008, program-wide revenue was just under $40,000,000. The two largest sources of income are the Ad Valorem tax and user fees, accounting for 29% and 46% of all program revenues, respectively. In the last 10 years, MCDOT has expanded the overall supply within the PLD program by roughly 2,300 spaces. This includes the construction of two off-street facilities in the Bethesda PLD in 2003[1] and the replacement of one garage and two surface lots with two new garages in the Silver Spring PLD.[2] 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 2008, $8.7 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.

1 Garage 36, a 747-space above ground structure, was built by the County on a former surface lot for a net gain of 632 spaces. Garage 42, a 345-space sub-surface garage, was built by a private developer for the County on a former surface lot for a net gain of 175 spaces. Construction costs at this time were $24,000 per space for the above ground structure and $36,200 per space at the sub-surface garage, not including the cost of the land.

2 Garage 1, Lot 1 and Lot 21 were taken out of service and Garages 60 and 61 were built and opened, resulting in a net increase of 1,493 spaces.

Peer Review

This study presented an opportunity to assess the current performance of the PLD program compared with leading, peer PMD programs, including their cost-effectiveness and their capacity to realize the many potential benefits of this parking management approach. The peer programs selected for this purpose were:

- Ann Arbor, Michigan;
- Boulder, Colorado; and
- Santa Monica, California

Key findings from each are summarized below.

ANN ARBOR, MI

- A leading example of how parking revenue can be used to: expand commuter options; reduce supply expansions; and achieve mode shift goals. Providing financial support to bring commuter bus service to downtown is an example of all three. By providing the kind of transit service that parking customers said they would try, the Downtown Development Authority and the local transit authority were able to launch a successful new service that provides affordable downtown access, reduces pressure on the parking inventory, and expands the modal options of downtown workers — all of which helps local businesses attract and retain employees.
- Like Montgomery County, Ann Arbor presents a model in which parking income essentially pays for the cost of providing and maintaining public, shared parking facilities.
- Like Montgomery County, supporting economic development and vitality is the primary mission of the authority tasked with parking management.
- Directly ties alternative transportation investments to the economics of parking, using alternative transportation investments such as bike parking and sidewalk improvements to reduce the need to expand supplies.
- Recent changes in revenue-sharing agreements highlight the need to protect parking revenues from disappearing into general municipal funds.

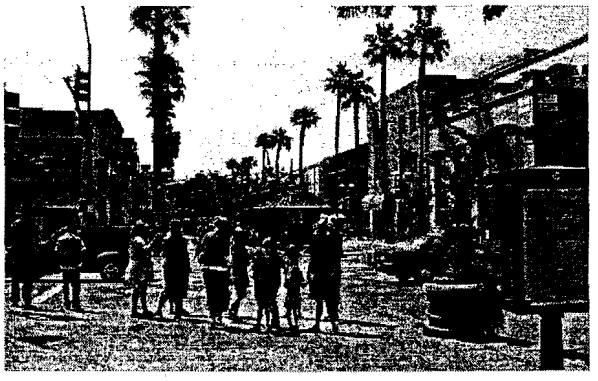
Source: Robert Blackie

BOULDER, CO

- An example of the power of employee transit benefits on both opening up customer parking opportunities and shifting commute mode splits away from driving.
- Provides unlimited transit passes to most downtown employees at a fraction of the cost of providing them with parking. A leading example of the both the demand-management potential of PMDs and the role of a demand-management in economic development.
- Like Ann Arbor and Montgomery County, parking largely pays for itself.
- Spends significant program revenues on local, program-directed investments —critical for maintaining public awareness of the program's role in district revitalization and ongoing improvements.

SANTA MONICA, CA

- An example of the PMD approach allowing commercial and office development to succeed with half the parking required in a suburban setting.
- Also an example of where tremendous economic development and supply-efficiency success fails to produce measurable mode share change.
- Most limited of all peers in terms of its scope — does not provide any means to direct parking revenue toward demand-management or alternative transportation benefits.



COMPARING PERFORMANCE

Comparing the performance of the peer programs to Montgomery County's program revealed a number of strengths within the current County PLD program. While the overall utilization of the PLD inventory is less than most peers, program revenues pay for more alternative transportation investments than the laudable Ann Arbor program (on a revenue/ parking space basis) and its parking revenues pay a greater share of program costs than the widely-praised Boulder program — in part because the County's costs per space were lower than any peer program.

The following tables provide detailed information on these and other critical performance measures among these programs.

Figure 1 Inventory and Utilization

Measure	Montgomery County	Ann Arbor	Boulder	Santa Monica
Inventory - On-Street	2,280	1,063	810	582
Inventory - Surface	1,837	898	263	3,057
Inventory - Structured	17,027	3749	2,209	744
Inventory - All	21,144	5,710	3,282	4,383
On-Street/ Off-Street Ratio	0.12	0.23	0.33	0.15
Weekly Peak Utilization	68%	81%	NO DATA	80%

Figure 2 Financial Performance

Measure	Montgomery County	Ann Arbor	Boulder	Santa Monica
Direct Parking Income (Fees, Fines, Etc.)	25,823,253	18,254,775	5,797,553	
In Lieu Fee (or equivalent) income	11,266,747	NA	NA	
Other Parking-Related Revenue	2,265,146	68,027	2,471,976	
Direct Income per Space	$1,221.30	$3,196.98	$1,766.47	NO DATA
Parking-Related Costs	$28,657,365	$18,131,945	$6,818,875	
Parking Costs per Space	$1,355.34	$3,175.47	$2,077.66	
% of Parking Costs Covered by Parking Income	90%	101%	85%	

Figure 3 Alternative Modes and Other Benefit

Measure	Montgomery County	Ann Arbor	Boulder	Santa Monica
Alternative Transportation Investments	$4,413,610	$600,000	$722,173	$ -
Local Improvement Investments	$4,174,440	$ -	$505,000	$ -
Total Inter-Fund Transfers	$8,724,276	$2,000,000	$ -	100%
Alternative Transport Investments / Space	$209	$105	$220	$ -

ADDITIONAL CASE STUDIES AND PRACTICES

The study also provided an opportunity to review additional, leading examples of district-level parking management approaches and strategies, including:

San Francisco, CA

- Primary focus on managing parking demand.
- Taxing private parking
- Directing parking taxes to fund transit.
- Parking rates based on demand and vary by individual facilities.
- Parking pricing to influence travel behavior — all parking is hourly to dis-incentivize commuter parking.

Pasadena, CA

- Program primarily focused on improving the PMD's physical appearance.
- The resulting high-quality, high-appeal pedestrian environment has led indirectly to the creation of a successful "park-once" district.
- Famous for demonstrating the power of local return — gaining the support of local merchants for metering on-street parking hinged upon a guarantee that revenues would be dedicated to local investments.
- Demonstrates capacity of meter revenues to financially catalyze a dramatic, district-wide transformation
- Shared, public off-street supply key to maintaining walkable built forms while making historic redevelopment economically viable.

Redwood City, CA

- Leading example of how effective, price-based curb management can fund major improvements, including large, new off-street facility construction.
- Another testament to the power of real, local return of parking revenues to garner stakeholder support for pricing strategies.
- Demonstrates that effective, performance-based pricing can make time limits unnecessary – making businesses and their customers happy.

Arlington County, VA

- Leading example of effective reliance upon private developers to provide most or all public parking within major, mixed-use urban districts through incentive density programs.

Key Recommendations

The above review reveals that the 60+ year old PLD program continues to be a leading model of PMD implementation and performance and provides a number of vital benefits to the mixed-use commercial districts it serves, including:

- Reducing the need for and reliance upon multiple, on-site, accessory parking facilities that spread land uses apart, consume valuable development space, and degrade pedestrian environments and multi-modal circulation via ubiquitous curb-cuts and intersections;
- Providing parking opportunities for development on sites offering little opportunity for effective on-site parking;
- Providing financial support for county-wide transit investments, streetscape and lighting improvements, and demand management efforts; and
- Providing short-term parking opportunities critical to support local businesses.

There are, however, a number of potential opportunities for improvement that are worth noting. In particular, three key challenges and opportunities confront the program as its directors seek to maintain its effectiveness within a rapidly evolving transportation environment:

- Addressing the long-term viability of relying upon Ad Valorem revenue while also implementing zoning best practices that continue to de-emphasize reliance upon minimum parking requirements in transit-accessible, mixed-use districts;
- The population and demographic shifts in existing and emerging commercial centers in the County; and
- Incorporating leading practices from the growing number of innovative PMD programs across the United States to further the County's environmental and social policy objectives

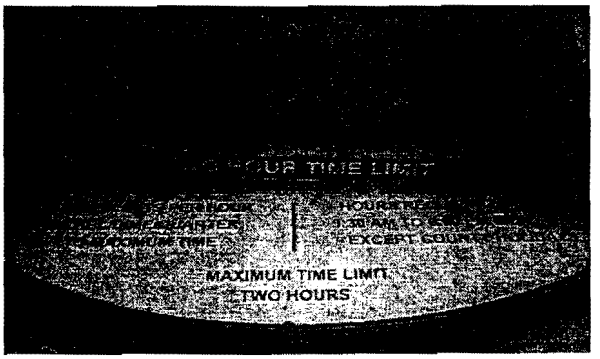
Following are a series of recommendations for addressing these challenges and opportunities.

MANAGE CURBS TO DELIVER PERFORMANCE AND CUSTOMER SERVICE

A small but growing number of cities — Redwood City and Pasadena, as outlined above, among them — are beginning to perceive a management approach that stresses performance-based, variable pricing, as a promising alternative to the long-standing convention of combining fixed, artificially depressed meter rates with time-limits. This approach can take many forms, but its central components consist of:

- Setting variable curb-parking rates based directly on demonstrated, geographic and temporal patterns of demand;
- Adjusting rates periodically to influence these demand patterns in pursuit of a specified curb-availability target (typically around 15%) on each block, at all times;
- Eliminating time-limits once consistent availability has been achieved — the goal of space-turnover is consistent availability, thus making time-limits redundant if availability can be achieved through price alone; and
- Investing meter revenue in local improvements, including TDM, off-street parking structures, and streetscapes and sidewalks.

To minimize public resistance to higher meter rates, the first two steps, and preferably all four, must be in place and allowed to complement each other to maximize the customer benefits of consistent availability and local improvements.



FORMALIZE CURRENT SUPPLY-EXPANSION POLICIES

The County has an enviable selection of available resources for addressing parking demand and avoiding the hasty expansions of off-street supplies that have undermined many urban commercial districts across the country. Reflective of this, as well as the County policy of supporting alternative transportation modes by not subsidizing parking costs, PLD administrators ensure that any new parking facilities will be able to pay for themselves before investing in costly new construction. Current low utilization rates in the Silver Spring, Wheaton, and Montgomery Hills PLD inventories are more indicators of past periods of prolonged economic decline than indictments of PLD supply expansion decisions.

Nonetheless, perceived parking shortages frequently fuel strong public and political pressure to expand

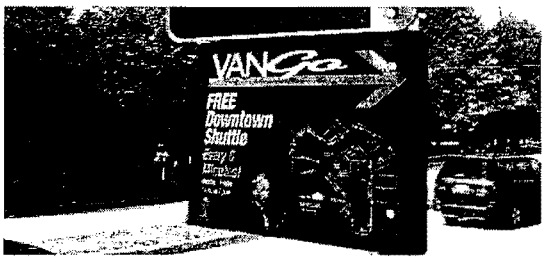
supplies, even where and when utilization patterns and parking rates fall well short of justifying such investments. It is therefore often useful to formally articulate and reinforce such supply-expansion policies to better shield supply decisions from populist or political pressure.

COORDINATE PLD, TMD, AND URBAN DISTRICT PROGRAMS

To capitalize on the cross-supportive potential of coordinated PLD, TMD, and Urban District programs and investments, and to ensure that current coordination efforts are continued and improved upon in the future, the County should enhance and formalize its current program coordination practices.

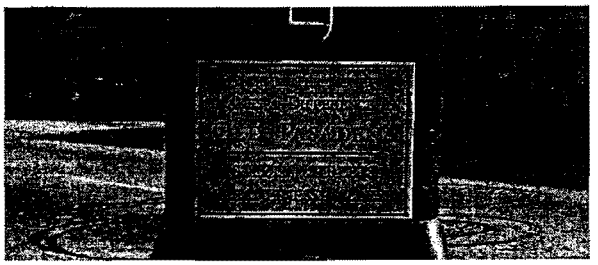
Potential strategies for this include:

- Creating a coordinating Committee or Taskforce, with regular meetings to discuss cross-supportive opportunities, strategies, and initiatives;
- Joint-marketing of initiatives ensuring that benefits amount to more than the sum of the parts; and
- Geographic overlap of all three programs ensuring that, at a minimum, each PLD is also a TMD and will facilitate coordination of TDM and parking management efforts.



RE-BRAND AS PARKING BENEFIT DISTRICTS

While maintaining the name of the individual programs noted above, the districts themselves would be better served under this umbrella moniker that better reflects and promotes the non-parking benefits funded by parking revenues. Further, the Boulder/ Pasadena Parking Benefit District models provide precedents for fostering strong public and business-community support by promoting the links between parking charges and local improvements. This will not only improve the public perception of the PLD system, but help generate public support to keep parking revenues from becoming absorbed within the general fund.



RESTRUCTURE THE AD VALOREM TAX

Conventional minimum parking requirements are falling out of favor across the country among communities of all sizes and seem particularly ill-fated within denser, mixed-use urban districts. Without significant minimum requirements, most new development within PLD areas would be exempt from paying the Ad Valorem tax as currently structured and existing developments may demand a similar exemption. In 2008, this revenue represented roughly 29% of overall program revenue. Thus, maintaining the financial health of the PLD program, while addressing its exposure to the potential loss of this revenue, will be an important aspect of the PLDs evolution and long-term viability.

Options to explore for avoiding revenue loss include implementation of one or more of the following solutions:

- Leaving the Ad Valorem tax as is, but linking liability to:
- Failure to meet County-assessed mode split targets;
- Provision of "excess" on-site parking (as measured against possible County code maximum standards); or
- Provision of any on-site parking;
- Leaving the Ad Valorem tax as is, but removing exemptions — creating 100% liability;
- Establishing a Parking Benefit Charge, structured along the lines of the County's Solid Waste System Benefit Charge;
- Establishing a new Parking Benefit fee to complement fees assessed within Transportation Management Districts;
- Implementing parking taxes, perhaps as an excise tax on reserved, on-site spaces; and/or
- Imposing special assessments, along the lines of the Special District assessments used to maintain public structures in Santa Monica

CREATE A PROGRAM EXPANSION PLAN

In light of the population and demographic shifts in the County, with more and more commercial centers and corridors needing to address congestion levels expected in just a few locations 60 years ago, the most important long-term program improvement may be developing a viable expansion plan. This plan needs to protect what continues to work well today, while addressing constraints and opportunities affecting its current and future efficacy.

It is recommended that the County designate three levels of program application as part of this expansion:

- **Primary PBDs**, where a critical mass of managed, County-owned or operated public parking is both desired and feasible;
- **Secondary PBDs**, where the County plays a reduced role in providing off-street parking; and an
- **At-Large Area**, where the County's parking management role is limited to on-street parking.

ADDITIONAL RECOMMENDATIONS

- To increase the appeal of non-driving commuter mode options, provide parking for car-share vehicles.
- To increase access-accommodation efficiency (more vehicle access per facility square foot) and reduce roadway congestion during peaks, enhance bicycle parking accommodations within PLD facilities.
- To distribute parking demand more evenly across public inventories and expand awareness of all parking options, invest in a coordinated availability information and mapping system.
- To further enhance the customer service aspects of performance-based pricing, eliminate time-limits on all, or nearly all, on-street parking once consistent availability levels have been achieved.

FINDINGS & RECOMMENDATIONS — PARKING STANDARDS

Following is a summary of the parking standards recommended for the County's mixed-use centers. These standards were developed over the course of a year, during which time the Study team:

- Assessed the strengths and weaknesses of a set of viable options for developing new standards (from borrowing from County-established benchmark communities, to adopting emerging and best practices across the county, to developing new approaches such as a density-based formula);
- Identified an approach based on the emerging best practices of:
  - Consolidated land use categories,
  - Reduced standards based on shared-parking efficiencies, and
  - Distinct standards for Shared compared to Reserved parking spaces;
- Developed distinct approach details to respond to unique Montgomery County opportunities (such as the presence of well-established and effective public-parking and TDM programs) and constraints (such as the historic reliance upon County-provided public parking likely to complicate a transition to a developer-provided approach);
- Worked with various stakeholder groups, including the Zoning Advisory Panel, and various business, development, and residential representatives, to anticipate responses to potential options; and
- Developed the details of the final recommended approach, framework, and standards through a series of project-team workshops and discussions.

The Framework

OVERVIEW

The historical role of minimum requirements has been to protect nearby streets and parking supplies from potential ill effects of uses that generate more parking demand than they can accommodate on-site. Because of the emphasis on preventing harm from under-supply, and the fact that the cost of underestimating these requirements would be borne by others, there has been an historical tendency for requirements to err on the side of over-supply. Because of this, the minimum requirement is more often than not what gets built, particularly in areas where developers have limited options to bring requirements down to meet their own demand projections. As a result, the role of minimum parking requirements has been erroneously assumed to predict the right amount of parking for each and every project. The proposed framework distinctly moves away from this approach.

OBJECTIVES

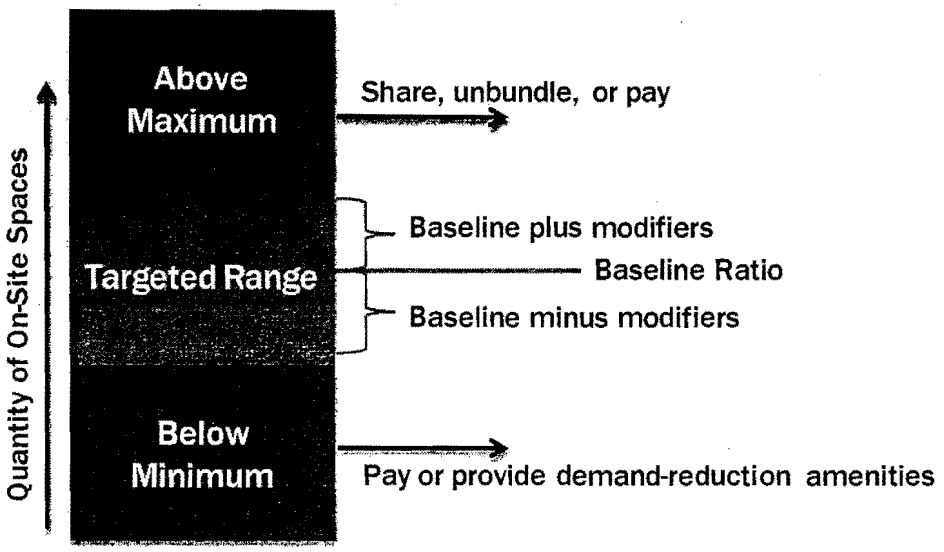
Under the recommended approach, the role of the Minimum Requirement is not to over-estimate peak demand but to create market incentives to generate efficient, flexible, shared parking supplies within PBDs. In all PBDs, MCDOT has effective on-street management tools to maintain curb availability, such as pricing and residential permits. But, particularly within Secondary PBDs, an additional role of the recommended framework is to increase the role of private developers in the provision of publicly-available parking.

The most straightforward way to achieve the objective of having private developers provide publicly available parking is to require it. While the study revealed precedent for requiring a minimum number of spaces to be provided as Shared parking and placing a firm cap on total supply, the presence of the Ad Valorem Tax (from this point forward referred to as Parking Benefit Charge or PBC) created the opportunity to create a more flexible, incentives-based approach. In the simplest terms, the framework is designed to make shared spaces the least expensive to provide, and excess Reserved spaces the most expensive. This is accomplished by adjusting each project's PBC rate according to how much of its parking supply is made available as County-recognized shared parking.

To ensure that such spaces provide the value anticipated by this framework, MCDOT will develop standards for recognizing parking as Shared. These are likely to focus on, among other details, ensuring that recognized spaces are available for public parking during a minimum number of hours in any 24-hour period. MCDOT will also be responsible for monitoring credited spaces to ensure that they continue to function appropriately and safely. Should any credited spaces fail to maintain their Shared status, the property's PBC rates will be adjusted accordingly.

Following is a description of the recommended framework.

Figure 4 A Range of Supply Options



The proposed framework consists of setting baseline ratios per-area (for non-residential uses) and per-dwelling unit (for residential uses) for calculating minimum and maximum parking targets that are:

- Defined for an abbreviated set of land uses; and
- Based on recorded rates of short-term and long-term parking demand in shared-parking environments

The parking standards generated within the proposed framework contain no single number that should be interpreted as an estimate of the optimal number of parking spaces for any particular development project. The purpose of the standards, rather, is to generate low-end and high-end estimates of how much parking is suitable for each project, that is, a target range. In general, the "minimum requirement" estimates the number of spaces needed to support on-site uses in a shared-parking environment. Conversely, the "maximum" estimates the greatest number of spaces that should be needed as reserved spaces without unduly burdening the local shared-parking supply within the PBD. The span between these two numbers creates the target range for a project — any quantity of spaces within this range can be provided and managed to suit the developer/owner.

The minimum requirement is based on the baseline ratio for each use, modified by any applicable NADMS target. In the case of projects within a Primary PBD the minimum requirement only considers long-term demand. The maximum requirement is based on the baseline ratio for each use modified by projections of overall demand – both long-term and short-term.

The resulting range may still appear relatively narrow, particularly within Secondary PBDs. But rather than expanding the target range, the proposed framework allows for a developer/owner to provide parking below or above the range if they provide public benefits that can offset the potential negative impacts of under- or over-parking their site(s).

A developer may only build below the minimum number of spaces set by the target range within in a Primary PBD. This option requires the payment of an increased Parking Benefit Charge that can then be used to provide more public parking.

There are three options for building above the maximum set by the target range, each of which mitigate the impacts of over-supplied parking. To exceed the maximum, a developer or owner may:

- Share "excess" non-residential spaces (will allow provision of excess non-residential spaces only) – this ensures that spaces built above the maximum will be available for public use, increasing their efficiency. The DOT will develop standards for recognizing "Shared" spaces as distinct from Reserved spaces within PBDs. The supply of Shared spaces is not capped for any development.
- "Unbundle" all residential spaces (will allow provision of excess residential spaces only) – separate the cost of parking from the cost of housing, provide the option to rent or purchase fewer (or no) parking spaces to reduce housing costs. Unbundling parking provides an incentive for residents to reduce their parking consumption, and can be an effective means for attracting one- or no-car households. Furthermore, by shifting the focus from projecting how much parking residents will "want" to how many spaces they will be willing to pay for, unbundling can reduce the "value-added" benefit of constructing "extra" parking spaces.

- Pay a higher PBC rate to provide funding for local demand-management investments (transit shuttles, car-share parking, commuter benefits) - developments with on-site supplies in excess of a project's maximum that are neither shared (non-residential) nor unbundled (residential) will incur a higher PBC, with the incremental revenues being directed toward the provision of local transit, car-share parking, commuter benefits, or other parking-demand reduction investments.

Following is a detailed summary of the recommended framework, as applied to the proposed Primary and Secondary PBDs.

PRIMARY PARKING BENEFIT DISTRICTS

This class of PBD is recommended for the established PLDs and the next generation of high-level PBDs, where the County owns or can obtain property for the operation of shared public parking. The Primary PBDs are established with the following parameters:

- Minimum Parking Requirement – Based on long-term proportion of projected demand ratios, subject to reduction within areas for which the County has established a NADMS target, or for sites within close proximity to a Metrorail station;
- Parking Maximum – Based on projected demand ratios; and
- PBC Liability – A pro-rata annual charge based on the proportion of the minimum parking requirement provided. If the minimum parking requirement is met, the PBC liability will be reduced to a base payment. The short-term proportion of the projected demand ratio is expected to be met by County owned and operated as public parking. All developer provided parking may be operated as private parking. Providing no on-site parking will result in full PBC liability.

SECONDARY PARKING BENEFIT DISTRICTS

This class of PBD is recommended for emerging commercial and mixed-use areas within which the County's capacity to provide meaningful publicly owned or operated shared parking resources is substantially limited due to land-acquisition constraints. The Secondary PBDs are established with the following parameters:

- Minimum Parking Requirement – Based on projected demand ratios, subject to reduction within areas for which the County has established a NADMS target. In a secondary PBD the minimum parking requirement must be constructed. There is no means to "buy out" of this requirement;
- Parking Maximum – Based on projected demand ratios; and
- PBC Liability – As in the primary PBD, all properties will pay a base PBC. The base PBC liability can be reduced by providing Shared Parking on-site. All shared spaces can be used toward meeting the project's minimum parking requirement. Increased liability will be levied based on any parking provided above the maximum that is neither shared (for non-residential spaces) nor unbundled (for residential space).

Applying the Framework

IDENTIFYING LAND USES

Consolidating the land use categories within the framework was an opportunity identified during the Approach Options task. The merits of consolidation are numerous and include:

- Simplifying regulations – Complicated zoning codes tend to dampen development interest and innovation and dissuade citizen involvement. All other things being equal, simple and transparent regulations are preferred;
- Supporting shared parking – grouping more uses within one category reflects and supports the expectation that nearby uses will share parking supplies; and
- Supporting healthy use turnover and area reinvestment – Highly differentiated parking requirements can be a common barrier to investment in vacant or under-performing properties, particularly in urban areas where expanding on-site supplies to satisfy any increased parking requirement is often physically and economically infeasible. Short of eliminating minimum requirements, consolidating use categories linked to specific parking requirements is the simplest way to reduce this barrier to healthy redevelopment and reinvestment markets.

Six land use categories are recommended: residential, office, general commercial, restaurant, events-based commercial, and hotel. The following section details rationales and expectations for each of these categories.

- **Residential** – Based on precedents such as the form-based code option in the Columbia Pike section of Arlington County, the recommended framework has just one category for residential uses. This is complemented by a recommended 50% Minimum Requirement reduction for non-market (affordable, disabled, and elderly) housing.
- **Office and General Work Space** – This land use is unique from all other categories in its concentration of employment-based trips. Such trips are in themselves unique in terms of the intensity, duration, and regularity of their peak-demand periods. As such, commuting trips largely determine peak congestion conditions and circulation patterns in any city[1] and are the traditional target of demand-management, congestion-mitigation, and alternative-mode-promotion efforts. Identifying unique parking ratios for this type of use, therefore, presents an opportunity to address these opportunities and constraints directly through the ratios themselves, as well as through the modifying factors such as County mode share goals and TMD designation.
- **General Commercial** – Distinct parking requirements for these uses will create an opportunity to promote shared parking among short-term parking customers. This opportunity is created by the following distinct characteristics of demand generated by general commercial uses:
  - Heavily skewed toward short-term (patrons) rather than long-term (employees) parking;
  - Tends to peak outside the standard work-week schedule (evenings and/ or weekends);
  - Less sensitive to demand-management strategies and mode-shift programs(typically commuter-focused); and
  - More likely to be part of linked trips — multiple, short trips between local destinations — and therefore a key market for park-once, shared-parking strategies.
- **Restaurant and Bar** – Restaurant uses incur some of the highest parking requirements of any land use in many zoning codes. This is due to the intense levels of patron-per-square-foot demand that many dining establishments consistently generate. There are, however, two key demand patterns characteristic of these land uses that offer significant opportunity to encourage reduced reliance upon dedicated parking, particularly within urban commercial centers with highly mixed uses,. First, the duration of their demand peaks tends to be very constricted and predictable — one or two hours around midday, and 2-3 hours in the evening — with sharp declines in the prolonged off-peak periods.[2] Second, outside of the lunchtime peak, during which dining establishments in urban, mixed-use centers should be expected to rely mostly on walk-to patronage from nearby employment centers, the most intense periods of parking demand fall distinctly outside traditional working hours, and thus counter-balance demand from office and other daytime-oriented uses. Furthermore, demand patterns from bars and nightclubs tends to peak even further outside traditional working hours and well after most other commercial uses have closed.[3] Identifying distinct ratios for this set of uses presents an opportunity to promote a higher ratio of shared-to-reserved parking compared to general commercial uses.
- **Events-Based Commercial** – Even more than restaurant and bar uses, events-based uses such as houses of worship, theaters, funeral homes, performance venues, etc. tend to generate distinctly intense and "pinched" periods of peak demand, with deeper and longer-lasting demand lulls. Finally, like restaurant and bar uses, events-based use demand peaks tend to fall outside of standard working hours. Unique ratios developed for these uses, therefore, allow more restrictive caps on reserved parking for these uses. The list of uses included

1 "Commuting in America III", Alan E. Pisarski for the National Cooperative Highway Research Program Report 550 and the Transit Cooperative Research Program 110 (Washington: Transportation Research Board, 2006).

2 Shared Parking", Urban Land Institute, 2005, pgs. 16-17.

3 Ibid.

in this category, as compiled from the list of "permitted" uses identified in the CR zones, include houses of worship, theaters, funeral homes, performance venues, etc.

- **Hotel** – Compared to those of other commercial uses, hotel patrons are potentially more inclined to use alternative transportation modes. Being away from home, many of these patrons arrive without their own cars and awareness of a robust transit network, including connections between an airport or train station and a hotel, can significantly reduce the rate at which patrons choose to rent a vehicle while in town. Additionally, the presence of nearby PBD facilities, where availability rates tend to peak along with hotel demand (evenings and weekends), provides an important opportunity to park guest vehicles off-site, particularly when matched with hotel valet services. Identifying distinct parking standards for these uses, therefore, allows the County to adjust the weighting of transit proximity and PBD factors for these uses accordingly.
- **Institutional and Large-Scale Commercial Uses** – Institutional uses include schools and hospitals, as well as large government-service uses such as post offices and court houses. Large-scale commercial uses include regional malls and special generators such as might require a special exception. Standards for these uses will be based on a traffic impact analysis, as well as an assessment of existing parking and transportation conditions surrounding the proposed site. The definition of large scale commercial uses should be determined during the subsequent review of Article 59-E. The standards negotiated will include not just shared and reserved parking standards, but a range of multi-modal access options including but not limited to: bicycle parking, car-share parking, employee commuter benefits, and parking fees. Parking standards for smaller government-service uses will be calculated based on the standards for general commercial uses.

IDENTIFYING BASELINE STANDARDS

Because the framework is designed to provide a range of supply options, and because this range is complemented by options for flexibility on the low- and high-end, emphasis was placed on ensuring that the range is appropriate and responsive to study objectives and findings. Rather than attempt to pinpoint the precise, optimal supply for any project, the framework and standards work together to encourage efficient supply options and discourage under- or over-supplying any project.

For this purpose, previous measures of demand in comparable environments (with similar densities, uses, and transit options) were reviewed to identify consistent patterns of demand-generation for the land uses identified for the framework. Where previous measures were limited, relevant code precedents and industry-standard demand-generation models were employed to check that those measures were in line with expectations.

Residential Demand

- Two recent parking studies provide useful data on residential parking demand in urban, mixed-use areas. A 2007 study for the Metropolitan Transportation • A 2007 study for the Metropolitan Transportation Commission of small city downtowns in the San Francisco Bay region. Based on a combination of ULI and ITE projections, existing parking requirements, demand surveys, and shared parking models, this study estimated residential parking demand to average 1.6 spaces per unit in the peak-hour[4]; and
- A 2010 study in downtown Silver Spring, MD used hourly surveys to calculate an average residential parking demand of 0.8 spaces per dwelling unit.[5]

Non-Residential Demand

Historical data indicate that within urban contexts where shared pools of parking supplies support a densely-organized diverse mixture of land uses, demand for non-residential uses rarely rises above 2.0 spaces per 1,000 SF of GFA. Examples of demand measures from recent studies and surveys of such areas include:

- A 2005, Nelson\Nygaard study including demand surveys of four California and Washington State downtown districts, each of which benefit from shared pools of public parking. Surveys indicated a non-residential parking demand rate ranging from 1.6 to 1.9 spaces per 1,000 SF of GFA;[6]
- A 2005 study of mixed-use centers across six small cities within the New England region of the United States by Wesley E. Marshall, and P.E. Norman W. Garrick, Ph.D. Surveys from this study found that, on average, parking demand peaked at about 1.8 spaces per 1,000 SF of non-residential building area;[7] and
- A 2007 study for the Metropolitan Transportation Commission of small city downtowns in the San Francisco Bay region. Based on a combination of ULI and ITE projections, existing parking requirements, demand sur-

4 "Parking Demand Model Results and Recommendations". Wilbur Smith Associates, for Metropolitan Transportation Commission, 2007.

5 "Silver Spring Parking Demand Study",Desman Associates, for Montgomery County Department of Transportation, 2010.

6 Parking Demand in Mixed-Use Main Street Districts", Nelson\Nygaard, 2005. Cities included were Chico, Palo Alto, and Santa Monica in California, and Kirkland in Washington.

7 "Parking at Mixed-Use Centers in Small Cities", Wesley E. Marshall, and P.E. Norman W. Garrick, Ph.D., 2005.

veys, and shared parking models, this study estimated non-residential parking demand to average 1.77 spaces per 1,000 SF of GFA in the peak-hour. [8]

The consistency of these measures provides the basis for at least two recently-developed requirement frameworks that focus on promoting shared parking, including the form-based code option in Columbia Pike which, as mentioned above, does not identify unique parking standards for sub-categories of non-residential uses.

Among these studies, the MTC Study and the Silver Spring study[9] parse their non-residential demand measures based on land use categories similar to those in the recommended framework. In addition, Montgomery County has evaluated modal effects on parking demand generation rates for these land use categories as part of its planning for White Flint. These White Flint rates were developed based on an assumed shared-parking environment similar to the current PLDs, but customized to meet individual NADMS targets for specific areas. These County rates were combined with the measures from the MTC and Silver Spring studies to create the basis for recommended baseline standards.

Figure 5 Demand Measures by Land Use

Land Use (1,000 SF of GFA unless otherwise noted)	MTC Study	Silver Springs Study	Non-Residential Studies	M-NCPPC Projection for Office Uses (15%NADMS)	Combined Average	Proposed Baseline Ratio
	Demand Average (Parking Spaces					
Residential (per dwelling unit)	1.6	0.8	N/A	N/A	1.20	1.20
Office	2.06	2	1.77	3.11	2.23	2.25
General Commercial	1.25	1.1		N/A	1.37	1.25
Restaurant and Bar	2.23	1.2		N/A	1.73	1.75
Events-Based	1.2	0.05		N/A	1.01	1
Hotel (per guest room)	0.2	0.5	N/A	N/A	0.35	0.33

Long-Term/ Short-Term Demand

To further refine the baseline standards, expected long-term and short-term demand ratios were calculated for each land use category based on findings from the MTC study (which articulated long- and short-term shares for its demand measures) and industry-standard measures from the Urban Land Institute, as shown below.

Figure 6 Long-Term/ Short-Term Demand Measures by Land Use

Land Use Category	Metric	Overall Demand	Long-Term Demand	Short-Term Demand
Residential	Dwelling Unit	1.2	1.2	N/A
Office & General Work Space	1,000 SF of GFA	2.25	2	0.25
General Commercial	1,000 SF of GFA	1.25	0.25	1
Restaurant	1,000 SF of GFA	1.75	0.25	1.5
Events-Based	1,000 SF of GFA	1	0.15	0.85
Hotel	Guest Room	0.33	0.33	N/A

8 "Parking Demand Model Results and Recommendations", Wilbur Smith Associates, for Metropolitan Transportation Commission, 2007.

9 The data from the Silver Spring study was not included, as it does not include an aggregate, non-residential demand estimate.

Standards for Primary Parking Benefit Districts

With these three sets of demand-generation rates, the baseline standards for the PBD framework were established.

Figure 7 Primary PBD Ratios

Land Use Category	Metric	Minimum	Maximum
Residential	Dwelling Unit	1.2	2
Office & General Work Space	1,000 SF of GFA	2	3
General Commercial	1,000 SF of GFA	0.25	1.25
Restaurant	1,000 SF of GFA	0.25	3
Events-Based	1,000 SF of GFA	0.15	1
Hotel	Guest Room	0.33	0.67

The minimum ratios are based on the projected long-term proportion of overall demand for each land use. These ratios would be subject to reduction within areas for which the County has established a NADMS target (see below). The maximum ratios are based on the projection of both long- and short-term parking demand for the project. These ratios are not adjusted based on mode share goal factors.

Standards for Secondary Parking Benefit Districts

Baseline ratios for Secondary PBDs are presented in the table below.

Figure 8 Secondary PBD Ratios

Land Use Category	Metric	Minimum	Maximum
Residential	Dwelling Unit	1.20	2
Office & General Work Space	1,000 SF of GFA	2.25	3
General Commercial	1,000 SF of GFA	1.25	1.25
Restaurant	1,000 SF of GFA	1.75	3
Events-Based	1,000 SF of GFA	1.00	1
Hotel	Guest Room	0.33	0.67

At the baseline level, both the minimum and the maximum ratios are based on projected short-term plus long-term demand for each use. Where a NADMS goal is applicable, the minimum will be reduced accordingly to area's NADMS target rate, while the maximum will not.

CALCULATING NADMS-FACTOR ADJUSTMENTS

The final step in applying the framework was to determine how to incorporate Montgomery County's Non-Auto-Driver Mode Share (NADMS) goals (the proportion of commuter trips completed via non-driving modes) within four urban centers as a means of reducing a project's minimum target. These goals represent an official congestion-reduction strategy that is expected to be expanded into emerging urban districts. This has a direct impact on expected rates of parking generation among commuters in these areas — the higher the established NADMS, the lower the expected rates of commuter-parking demand. As such, reducing the Minimum Requirement for each project is recommended based on:

- The specific, NADMS rate applicable for the proposed site; and
- The anticipated commuter-share of the project's overall parking demand.

DISTRICT-LEVEL IMPACTS

To assess the impact of the above recommendations at the district level, the following provides an analysis of the parking supplies that they would generate, based on one example of a Primary PBD (Silver Spring) and one example of an area likely to become a Secondary PBD (White Flint).

Primary PBD Scenario – Silver Spring

The following table presents projections of collective minimum and maximum requirements, compared to recorded demand, based on the 2010 Desman Study of current parking utilization levels in Silver Spring. The minimum requirements presented include all NADMS-based adjustments.

Figure 9 Applying Framework to Existing Silver Spring Developments[1]

Land Use Category	Metric	Min. Ratio	Max. Ratio	Measure	Minimum	Maximum	Measured Demand
Residential	Dwelling Unit	1.2	1.2	7,094	8,513	8,513	5,675
Office & General Work Space	1,000 SF	1.3	2.25	6,451,564	8,515	14,737	12,452
General Commercial	1,000 SF	0.23	1.25	1,526,895	358	1,909	1,679
Restaurant	1,000 SF	0.23	1.75	62,248	15	109	76
Events-Based	1,000 SF	0.14	1	54,168	8	54	1
Hotel	Guest Room	0.3	0.33	2,368	717	781	411
				All	18,125	26,103	20,294

Secondary PBD Scenario – White Flint

The following table presents projections of collective Minimum Requirements and Maximums, based on land use measures projected for a fully built-out White Flint. These numbers include all NADMS-based adjustments to Minimum Requirements.

Figure 10 Applying Framework to White Flint Build Out

Land Use Category	Metric	Min. Ratio	Max. Ratio	Measure	Minimum	Maximum
Residential	Dwelling Unit	1.2	1.2	13,430	16,116	16,116
Office & General Work Space	1,000 SF	1.46	2.25	8,063,333	11,793	18,142
General Commercial	1,000 SF	1.17	1.25	3,558,730	4,174	4,448
Restaurant	1,000 SF	1.64	1.75	67,897	111	119
Events-Based	1,000 SF	0.94	1	67,897	64	68
Hotel	Guest Room	0.3	0.33	2,444	740	807
All					32,998	39,700

As indicated in these District-wide summaries, the parking efficiencies gained in a shared parking environment are reflected in substantially reduced minimum and maximum parking rates. The total number of spaces in the District is the sum of the spaces associated with each type of land use. Unlike the current zoning ordinance, no further reductions are granted based on the specific mix of uses within a site; this simplifies the implementation of the recommended standards.

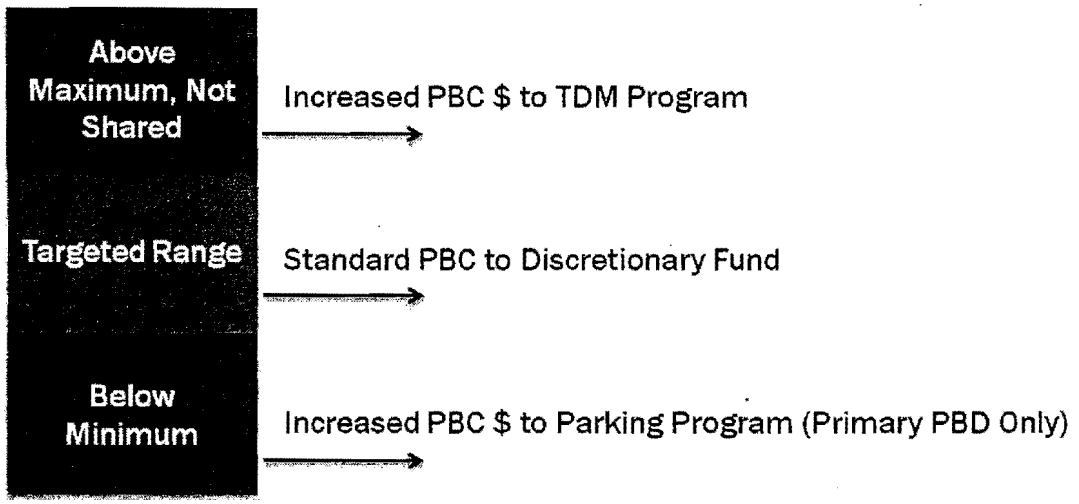
1 The measured demand for all uses reflects the shared-peak which occurs during midday. Residential and hotel uses are generally expected to require additional parking spaces for owners/tenants during overnight periods. The minimum requirement is therefore higher than the measured demand shown in this table for these uses.

DEVELOPER OPTIONS

As detailed above, the recommended framework provides a range of parking supply options for each development project, based on the gap between the minimum and maximum requirements. To build below this range will require either the payment of an increased Parking Benefit Charge in Primary PBDs. Within Secondary PBDs, there is no option to build less parking than the minimum requirement. To build above the range in either Primary or Secondary PBDs will require one of three things:

- Share "excess" spaces (will allow provision of excess non-residential spaces only)
- "Unbundle" residential spaces (will allow provision of excess residential spaces only) – Separate the cost of parking from the cost of housing, provide the option to rent or purchase fewer (or no) parking spaces to reduce housing costs
- Pay a higher PBC rate to provide funding for local demand-management investments (transit shuttles, car-share parking, commuter benefits)
- The PBC is proposed to make shared parking cheapest and excess reserved parking the most expensive, while directing revenues to mitigate impacts of under- or over-parked development

Figure 11 Creating a Financial Ecosystem for Parking and Transportation Management



The following scenarios are presented to demonstrate this strategic flexibility.

Primary PBD Scenarios

Scenario One: 100,000 SF of Office space. Developer wants to build more than the maximum for a commercial property.

- Minimum: 131 spaces
- Maximum: 225 spaces
- Parking Benefit Charge (PBC) Basis: 131 spaces
- Developer Proposal (what the developer would like to build): 250 spaces
- Options to build proposed supply:
  - Option A: The developer can build 250 spaces, share 25 spaces (the amount by which the proposed supply exceeds the Maximum) and pay the minimum PBC (because the minimum has been met and all excess spaces are provided as Shared Parking)
  - Option B: The developer can build 250 spaces, share none, and pay a PBC that is increased based on 25 "excess" Reserved spaces.

Scenario Two: Same project, but the developer wants to build less than the minimum.

- Minimum: 131 spaces
- Maximum: 225 spaces
- PBC Basis: 131 spaces
- Developer Proposal: 100 spaces
- Options to build proposed supply:
  - Build 100 spaces, pay PBC base plus an additional amount assessed based on 31 spaces (the amount by which the minimum requirement exceeds the on-site supply)

Scenario Three: Developer wants to build more than the maximum allowed for a 100-unit residential property

- Minimum: 120 spaces
- Maximum: 120 spaces
- PBC Basis: 120 spaces
- Developer Proposal : 150 spaces

- Options to build proposed supply:
  - Option A: Build 150 spaces, unbundle all parking costs from housing costs, pay the minimum PBC (because residential spaces are to be sold or rented separate from lease or purchase of dwelling units)
  - Option B: Build 150 spaces, bundle parking into housing costs, pay a PBC that is increased based on 30 "excess" spaces

Scenario Four: Developer wants to build less than the minimum allowed for the same property.

- Minimum: 120 spaces
- Maximum: 120 spaces
- PBC Basis: 120 spaces
- Developer Proposal : 100 spaces
- Options to build proposed supply:
  - Build 100 Spaces and pay a PBC increased based on 20 spaces(the amount by which the minimum requirement exceeds the on-site supply)

Secondary PBD Scenarios

Scenario One: Developer wants to build more than the maximum allowed for 100,000 SF of office space.

- Minimum Requirement: 148 spaces
- Maximum: 225 spaces
- PBC Basis: 148 spaces
- Developer Proposal: 250 spaces
- Options to build proposed supply:
  - Option A: Build 250 spaces, share 173 (the minimum + the amount by which the proposed supply exceeds the maximum), and pay the minimum base PBC
  - Option B: Build 250 spaces, share 25 spaces (the amount by which the proposed supply exceeds the Maximum), and pay the full standard PBC based on 148 unshared spaces (the Minimum)
  - Option C: Build 250 spaces, share 148 spaces (pay the minimum base PBC), and do not share the 25 spaces built above the Parking Maximum (pay the base minimum PBC + an excess PBC based on the unshared spaces above the Parking Maximum)
  - Option D: Build 250 spaces, share none, and pay the standard full PBC based on 148 unshared spaces + the excess PBC based on 25 unshared spaces above the Parking Maximum

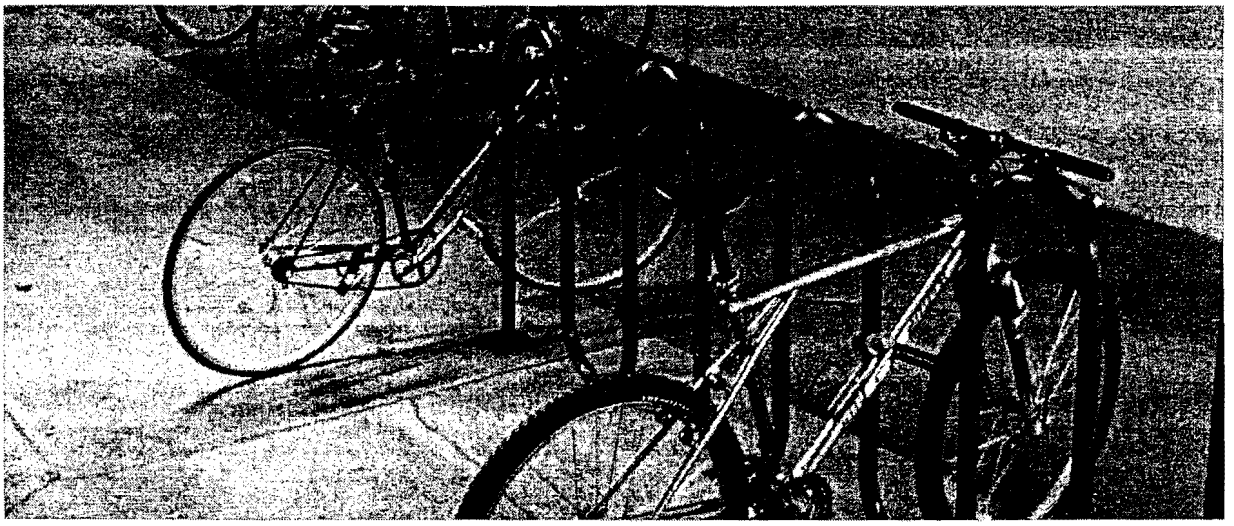
Scenario Two: Developer wants to build more than the maximum allowed for 100-unit residential property.

- Minimum: 120 spaces
- Maximum: 120 spaces
- PBC Basis: None
- Developer Proposal: 150 spaces
- Options to build proposed supply:
- Option A – Build 150 spaces, unbundle all parking, and pay minimum PBC charge
- Option B – Build 150 spaces, bundle parking, and pay PBC increased based on 30"excess" spaces

There is no fee-based option for building less than the Minimum within a Secondary PBD.

Beyond the Framework

Additional parking standards that promote a multi-modal developAdditional parking standards that promote a multi-modal development focus in PBDs can complement the framework described above in support of the County's transportation and growth objectives. Key recommendations are presented below.



RESIDENTIAL REQUIREMENTS

Sharing residential parking

The recommended framework does not focus on promoting shared parking within residential development. This is in recognition of the fact that residential parking spaces are typically the least likely to be shared — their utilization patterns are less predictable than other uses and their consumers more likely to insist upon some level of access-restrictions to their facilities. Recognizing that some developers may be willing to share their residential spaces, it is recommended that the minimum for shared residential spaces can be significantly reduced from the baseline rate of 1.2 spaces per unit. The reduction for shared residential spaces should be determined as part of the subsequent Article 59-E amendment process.

Unbundling residential parking

It is also worth considering similar reductions for non-shared residential parking that is unbundled.

Non-Market residential parking

It is recommended that the parking requirement for housing developed for the elderly, the disabled, or for moderate- or low-income households be 50% that of the standard requirement — 0.6 spaces per dwelling if the recommended ratio is adopted.

MULTI-MODAL REQUIREMENTS

Car-Share Parking

Promoting car-sharing in denser, mixed-use districts is one of the most effective and popular means for reducing:

- Vehicle ownership rates and parking demand;
- Local and regional congestion; and
- Household transportation costs.

Recommendation - Establish a minimum requirement of spaces for any development providing more than 50 reserved (non-shared) parking spaces, the requirement should be 1 car-share space, plus 1 more car-share space for every 50 reserved spaces.

Precedent

This requirement is based on a standard recently added to the San Francisco Municipal zoning code. This standard was initially established for a limited set of zoning districts, but is currently being amended to apply citywide. [1]

BICYCLE PARKING

New requirements are recommended that decouple the quantity of bicycle parking required from the quantity of auto parking that is provided. In areas where mitigating the impacts of over-parking is an explicit growth objective, such decoupling is an important part of supporting a complementary expansion of bicycle parking. New requirements should also distinguish between spaces provided as appropriate for long-term (commuter and resident) parking, as compared to short-term, visitor parking. As short-term accommodations (most typically, racks) tend to be much less expensive compared to long-term accommodations (most typically building-interior space or lockers), requiring a certain share of bicycle parking be provided as long-term spaces can be critical to ensuring that such investments effectively support bicycle commuting and general rates of ownership and use.

Recommendation - The recommended standards are summarized on the following page.

Recommended Bicycle Parking Requirements

Land Use	Metric	Spaces Required	Required as Long-Term Spaces*
Residential	Dwelling Unit	4, or 0.5 per dwelling unit, up to a maximum of 100 required spaces.	95%
Office and General Work Space	GFA	2, or 1 per 5,000 SF, up to a maximum of 100 required spaces	85%
General Commercial	GFA		15%
Restaurants and Bars	GFA	2, or 1 per 10,000 SF, up to a maximum of 100 required spaces	15%
Events-Based Uses	GFA		15%
Hotel	Guest Room	1 per 10	100%
County/ Commercial Parking Facility	Vehicle Spaces	5 per 100	0%

** Indoor or covered outdoor facilities, see facilities standards below*

Precedent

Many cities have adopted similar bicycle parking requirements. Those most resembling the proposed standards can be found in the codes for Portland, OR and Arlington County, VA.

MULTI-MODAL CREDITS

To further promote the private provision of shared, multi-modal infrastructure enhancements in PBDs, it is also recommended that the following transportation amenities be encouraged through reduced PBC rates.

- Car-share parking above what is required;
- Bicycle parking above what is required;
- Transit amenities – such as bus stop shelters or seating, information and vending kiosks, and participation in transit benefits programs;
- Additional motorcycle and Scooter Parking;
- Rideshare Parking; and
- TDM Commitments - commuter benefits, parking cash-out programs, parking charges, etc.

FACILITY DESIGN STANDARDS

Recommendations - The following are proposed to complement the design standards currently in place.

All Facilities

- Restrict automobile entrances and exits on primary pedestrian, bicycle, and/ or transit route streets.

1 Draft Ordinance, City and County of San Francisco, June, 2010: http://www.sf-planning.org/ftp/files/publications_reports/CarShare_Exhibit_B_Draft_Ordinance.pdf

- Require active, commercial uses to occupy no less than 75 percent of any above-ground facility's most commercially-active primary frontage, to a minimum depth of 25 feet.
- Require the following categories of parking spaces to be preferentially located in relation to placement of standard spaces within parking lots and structures — as measured by proximity to the main entrance for the primary land use associated with the facility:
  - ADA;
  - Bicycle;
  - Car-Share;
  - Carpool/ Vanpool;and
  - Motorcycle/ Scooter.

Shared Parking Facilities

The County should establish facility-design standards (along with operational and management standards) for any facilities in which required Shared parking is provided. At a minimum, such guidelines should identify standards for:

- Location and visibility relative to the building's primary entrance;
- Identification and way-finding signage;
- Signage identifying any restrictions on public access; and
- Provision of pedestrian and vehicle easements across adjacent facilities.