



MEMORANDUM

To: Chris Jakubiak, Jakubiak & Associates
From: Karina Ricks, Nelson\Nygaard
Date: September 5, 2012
Subject: DRAFT Annapolis City Dock Parking Strategy Technical Memorandum - Revised

TASK OVERVIEW

Waterfronts are special and unique places. There is something about water that draws human beings to it – the smells, the sounds, and the sights all draw us in.

However, the City Dock, as it exists today, makes it difficult to satisfy this powerful urge to get to and enjoy the water and the waterfront. At present, this valuable real estate is dominated by surface parking and vehicles circling in search of that elusive space in the middle of one of the most active and attractive areas of historic Annapolis.

Capturing the true value of this waterfront real estate – for public enjoyment and economic activity – is the task of the City Dock Master Plan effort. The success of this effort will rely, in part, on finding better solutions for locating and managing automobile parking as well as providing convenient and attractive non-auto connections to the Dock area.

Nelson\Nygaard Consulting Associates was tasked with the following activities in support of this effort:

1. Review and summarize parking-related existing documents produced by others.
2. Establish parking management principles for public parking supply.
3. Evaluate existing public parking conditions based on data available in existing documents.
4. Develop parking management policy recommendations to support the Master Plan

This technical memo summarizes the findings and recommendations of the above.

PLANNING PRINCIPLES AND DESIRED OUTCOMES

The assessment of past plans and existing conditions must be done in the context of the overall goals and objectives of the City Dock Master Plan and the role that parking plays in helping or hindering the master plan. The guiding principles of the City Dock Master Plan are:

1. Improvements should be made gradually and emphasize historic layout and scale, access to the waterfront, sight lines and views. Improvements may be gradual and experimental.
2. A central organizing feature of improvements should be high quality pedestrian-oriented and walkable public open space that is *flexible* enough to support a variety of uses in a variety of seasons and under a variety of conditions.
3. Improvements should support a greater mix of transportation modes (bikes, shuttles, water taxis, and public transit) that complement and enhance one another.

4. City Dock improvements should contribute to the City's "greening" and the area should serve as a sustainable focus for an authentic residential life. Design should maximize resiliency to changing weather effects such as sea level rise, flooding, high tide, storm surge, and rain fall.
5. Public art opportunities and installations can enhance City Dock and provide both thought-provoking and entertaining experiences.

The parking management principles must nest under and advance these general principals. The parking strategies and recommended tools and policies should, ideally, be measurable in their performance toward these objectives. Criteria by which to evaluate the performance of various tool options against the master plan principals include:

1. **Practicability:** Does the city have the authority to implement proposed changes at present or will new regulations or contract changes be required to implement? Can it be done within budget limitations? Is it appropriate given the historic character of the Dock area?
2. **Flexibility:** Is the tool or strategy flexible enough to respond to dramatic swings in demand during various seasons? Does the strategy allow physical flexibility in surface public space in the Dock area?
3. **Choice:** Does the strategy support and encourage a broad mix of travel and access choices to and around the Dock area? Does it accommodate and expand options for the different patron and worker populations that support the City Dock?
4. **Mobility:** How effective is the tool in reducing vehicle congestion in the Dock area and improving the safety and attractiveness of walking in the Dock area? Does the tool make it easier and more intuitive to access and get around City Dock?
5. **Identity:** Does the tool improve the overall image and identity of the City Dock?

DOCUMENT REVIEW

Several studies and plans have been completed for the city and/or City Dock area that provide the foundation for this master planning effort and supportive parking strategy. The resources that were specifically reviewed, and their relevant findings and recommendations, are summarized below.

Bicycle, Automotive and Pedestrian Safety Evaluation (May 2011)

- A survey taken during mid November and mid December 2010 found weekday daytime parking utilization rates for downtown facilities at nearly 100%. City Dock, Market Space, and Larkin Street lots and the Whitmore Garage had more availability with 20 to 30% vacancies during the weekday day. The survey found that weekend demand was highest near the City Dock with the City Dock lot, Fleet, Donner and Market Space facilities near capacity while most other facilities had the majority of spaces available.
- Observations noted that drivers backing out of public parking spaces within the Memorial Circle blocked traffic and contributed to area congestion.
- Summary Finding – The parking environment is defined by ample overall supply, over-utilization of the downtown surface lots and garages while underutilization of satellite locations, limited wayfinding signage, and limited real-time parking information.

- Recommendation - Reduce the roadway width of Market Space Road, convert to parallel parking and reverse traffic flow away from Main Street to enhance pedestrian space and comfort.
- Recommendation - Implement a trial weekend and weekday closure of the City Dock, Donner, Fleet and Green parking lots. Monitor usage of other garages.
- Recommendation - Implement performance pricing for metered spaces and garages near City Dock (Hillman, Donner, Fleet, Green, City Dock, Market Space, Main Street).
- Recommendation - Develop parking information system with electronic messaging, real-time info along West St and Rowe Blvd, iPhone apps, etc.
- Recommendation - Construct bumpouts, wider sidewalks, and medians within lot to improve pedestrian circulation in the City Dock lot.

City Dock Concept Refinement and Traffic Analysis (January 2012)

- While traffic operations generally work well during the week day in the City Dock area, weekends are heavily congested.
- Seven on-street parking zones were evaluated primarily along Main Street (zones 1 and 2), Market Space Road (zones 3 through 6), and Memorial Circle (zone 7).
- Key findings were that parking in this area has greater demand on Saturday than on weekdays and long-term (2-hour) parking is better utilized than short-term (30 minute).
- Of the zones studied, zones 5 and 7 had lower demand during the week day but all zones 1 to 6 were filled in the evening. Zone 7 had the lowest mid-day and evening demand. Nearly all spaces in all zones were filled after noon on Saturdays, extending into the evening, with the exception of Zone 7.

Annapolis City Dock: ULI Technical Assistance Panel (November 2010)

- Panel observed that the predominance of driving pavement within the City Dock area “sends a definite signal that this area privileges the vehicle over the pedestrian.”¹
- The report noted that while residents of the area do not believe parking on the prime waterfront locations was the highest and best use, business owners may hold a different perspective. The panel advised a comprehensive parking strategy for the city.
- Advisors recommended that on-street spaces be prioritized for short term use. Longer visits should be encouraged to use garages. A clear wayfinding system would help.
- Finally the panel noted that City Dock area employees are often occupying the convenient on-street spaces. Inducements should be explored to encourage employee parking in the garages to free up this space for potential customers.

Annapolis Comprehensive Plan: Transportation (2009)

- General principles for transportation in Annapolis: provide access and connectivity; support a “Green Annapolis”; lead and follow land uses; and prioritize transit, bicycles and pedestrians over auto use.

¹ Annapolis City Dock: ULI Technical Assistance Panel Report. November 2010. ULI Washington District Council. Pp. 16.

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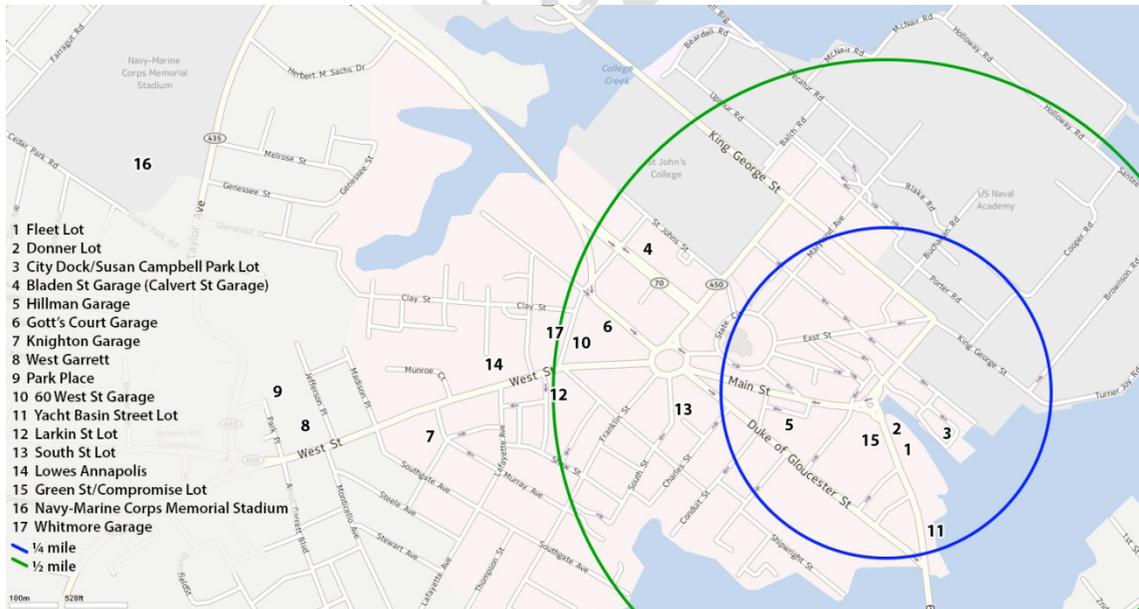
- Parking was identified as key to system operation and funding and recommends using it as both an incentive and disincentive. Goals are to reduce environmental and land costs of parking; manage parking so that alternative modes are competitive; and invest parking proceeds in transit.
- Parking supply should be managed to reduce peak period congestion and reinvest in pedestrian, bicycle and transit improvements. Actions to accomplish this include demand-based pricing; long-term parking at satellite locations while short-term in the center; and the use of technology for better management, enforcement and consumer information.
- Emphasis on Transportation Demand Management (TDM)

EXISTING CONDITIONS AND GOVERNING POLICIES

Parking resources

Several on and off street parking resources are conveniently located within one-half mile of the City Dock, approximately a 10-minute walk. Roughly 320 publicly available parking spaces exist in the immediate Dock area – 250 provided in public surface lots, 70 provided as metered curbside spaces. 450 additional public spaces are located within a 5-minute walk from the Dock in the Hillman Garage. Another 761 spaces are accessible within the 10-minute radius. The Whitmore Garage (830 spaces) is just beyond the half-mile radius. Hundreds more are connected to City Dock by the free Annapolis Circulator Trolley (Figure 3).

Figure 1 Parking Resources within ¼ and ½ Mile of City Dock (5 and 10 minute walks)



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Figure 2 Parking Resources Proximate to City Dock

Parking Lot/Garage	Public/ Private	No. of spaces ²	Distance to City Docks (mi)
On-street parking (100 block Main Street)	Public	28	0.0
On-street parking (Market Space Street)	Public	41	0.0
Fleet Lot	City	28	0.0
Donner Lot	City	24	0.0
Dock Street/Susan Campbell Park Lot	City	198	0.0
Green Street Lot	B of Ed	62	0.1
Hillman Garage (150 Gorman St)	City	451	0.15
Gott's Court Garage (25 Northwest St)	City	532	0.4
Knighton Garage (1A Colonial Ave)	City	270	0.7
Park Place Garage (5 Park Place)	PPP	700	0.9
West Garrett Garage (275 West St)	City	288	0.9
60 West St Garage	City	172	0.45
Yacht Basin Street Lot (Compromise Street)	Marriot	80	0.15
Larkin Street Lot (Larkin St at City Gate Ln)	City	57	0.5
South Street Lot (South St at Church Cr)	City	46	0.3
Lowes Annapolis (126 West St)	Private		0.6
Navy-Marine Corps Memorial Stadium	USNA	5,000	1.2
Whitmore Garage (37 Clay St)	County	830	0.6
Bladen St Garage (aka Calvert) 19 Saint Johns	State	725	0.5

² The majority of number of spaces information is from the January 2006 ARTVAMP.
<http://www.annapolis.gov/Government/Departments/PIZon/Reports/2007ARTVMPMain.pdf>

Figure 3 Circulator service to parking facilities (Source: Annapolis Transit)



Reasonable Walking Distance

The distance travelers are willing to walk between their parking space and their destination depends largely on five primary factors:

1. The physical ability of the traveler
2. The safety and attractiveness of the walk link
3. The traveler's familiarity with the area
4. The purpose of the trip
5. The price/time competitiveness of the parking (the price of the parking per the time it takes to travel from parking to final destination)

Travelers with mobility restrictions – including many seniors, those with very young children, and the disabled community – cannot reasonably be expected to walk any significant distance regardless of the attractiveness of the place or the purpose of their trip. Other travelers, assuming personal safety requirements are met, may be willing to walk modest or even medium distances depending on the purpose of their trip, their familiarity with the area, and the affordability of the parking facility.

A typical walk level of service (LOS) is depicted in Figure 4 below and assumes a minimum walk LOS of D or better is required. Employees, particularly those that work full day shifts, tend to be willing to walk the greatest distance. Repeat patrons or visitors, workers on an afternoon or weekend shift, or customers planning on an extended (2 hours or longer) shopping, dining or office visit, may be willing to walk a modest distance if they can rely on parking being available to them, competitively priced, safe (both real and perceived), attractive and interesting to get to and

from. Patrons doing a quick errand or customers new to the area will not tolerate much of a walk distance at all.

Ideally, parking policies respond to these different population demands to optimize available parking resources.

Figure 4 Walk Level of Service (outdoor, uncovered)³

Level of Service	Distance
A	< 400 feet
B	< 800 feet
C	< 1,200 feet
D	< 1,600 feet

Parking pricing and management

Various parking pricing and management policies are in place in the vicinity of City Dock. On-street spaces and City Dock lots are within the lowest hourly price bracket (\$1 per hour), *however* these lots are not eligible for the Park and Shop program, which offers one free hour of parking to patrons. Most of these spaces allow for up to 2 hours of parking while some are limited to 30 minutes. The Fleet lot allows up to 10 hours of parking. Metered parking is in effect until 7:30pm (6pm on Sundays) after which it is free. At present, meters are coin-operated, however the city will soon convert to meters that accept a range of payment types and provide richer data for tracking and management.

Public garage parking price structures are tiered so that parking closest to primary destinations are in the highest bracket and descend with distance from City Dock. Daily rates and monthly permits are available. Garages typically offer reduced flat evening rates after 8pm. These too descend in price with distance from the Dock. Parking is generally free Sunday mornings. Several garages participate in the city’s Park and Shop program and offer 2 hours of free parking for residents participating in the program.

Figure 5 Parking Garage and Lot Rates and Management Framework

Parking Lot/Garage	Hour Rate	Daily Rate	Even. Rate	Permit Rate		Time Limits	Discounts	Hours of Operation
				Restricted	Unrestricted			
On-street parking (Market Space Street and Main Street)	\$1					30 min/ 2 hours	ADA tags allowed double time	Mon – Sat 10am – 7:30pm Sun: 12 noon–6pm
Fleet Lot	\$1	N/A				10 hours		
Donner Lot	\$1	N/A				2 hours		
City Dock/Susan	\$1					2 hours		

³ Smith, M. and Butcher, T. *How Far Should Parkers Have to Walk?*
<http://www.walkerparking.com/files/Smith%20&%20Butcher%20-%20How%20Far%20Should%20You%20Walk%20-%20May%202008.pdf>

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Campbell Park Lot								
Green Street Lot	\$1							
Hillman Garage (150 Gorman St)	\$2	\$16 max	\$4 flat	\$190/mo	\$225/mo		Free 2 hours for residents Free 1 hour park and shop 50% off B&B	24/7
Gott's Court Garage (25 Northwest St)	\$1.50	\$12 max	\$3 flat	\$160/mo	\$190/mo			24/7
Knighton Garage (1A Colonial Ave)	\$1	\$5 max	\$2 flat	\$50/mo	\$60/mo			24/7
Park Place Garage (5 Park Place)	\$1.25	\$5 max	\$3 flat	\$50/mo	\$60/mo \$175/mo reserved \$40/mo evening			24/7
West Garrett Garage (275 West St)				\$65 non- resident employee \$80 Zenoss employee	\$90 non- reserved			
60 West St Garage								
Yacht Basin Street Lot (Compromise St)		\$10 / \$20			\$150/mo			24/7
Larkin Street Lot (City Gate Ln)			Free wknds		\$170/mo			
South Street Lot (at Church Cr)	\$1.50	\$5 max			\$175/mo			24 hs, Mon- Fri
Lowe's Annapolis (126 West St)					\$50/mo outdoor \$125/mo indoor			
Navy-Marine Corps Memorial Stadium		\$5/ day			\$70/mo	No overnight parking		
Whitmore Garage (37 Clay St)	\$1.25	\$10 max				Max 24 hours		24/7
Bladen St Garage (aka Calvert) 19 Saint Johns		Wknds free	Free wklys			General public towed after 6am		24/7

On-Street and Lot Parking Meter Regulations

City Code 12.24.020 addresses meter installation and space designation. Under this regulation, the Director of Public Works is empowered to determine metered parking locations as well as the hours and days of operation. The code requires that time limitations be designated. Fees for parking are not specified in the code and are instead determined by the City Council as a budgetary matter.

City Code 12.24.040 addresses the marking of spaces. This section requires the specific designation of individual spaces when meters are used and requires parkers to locate their vehicles within them.

New technologies and equipment, as well as some innovative re-thinking about how parking is priced has generated significant interest in managing parking duration through demand-responsive meter rates, rather than time limitations. Likewise innovative metering technologies (like pay and display kiosks and Pay by Phone) can eliminate the need for individually marked

spaces providing the potential to increase parking capacity by as much as 10%. Thus, the City may wish or need to reevaluate these two sections of the code depending upon the preferred and adopted parking strategy. (addressed in Strategy Section of this memorandum)

Garage Management and Rates

Public parking garages are managed through contract. All garages share the same contractor. In FY2012 authority transferred from the City Council to the City Manager (or his/her Designee) to set rates in the parking garages, typically in consultation with the City Council and operator.

Valet Parking

Valet parking is presently available in the Donnor Lot. Valet services are operated under contract to the City and are a public service servicing all Dock businesses from a common location. Participating businesses may validate valet parking, providing a discount to customers.

Annapolis Parking Advisory Commission

Annapolis has established an official Parking Advisory Commission through City Code 12.04.030. The commission is comprised of eleven members appointed by the Mayor and confirmed by City Council. Representation is divided among residents (six members), residents who own or manage a local business (three), St. John’s College (one), and the Naval Academy (one). The primary purpose of the Commission is to review parking policies, laws and regulations, recommend revisions, monitor enforcement, and advice on parking operational structures.

PARKING UTILIZATION

Occupancy

Findings from the *City Dock Concept Refinement and Traffic Analysis* concluded that the on-street parking resources in the immediate vicinity of City Dock generally had modest, but relatively consistent, vacancies during the day with the peak daytime period occurring during typical lunch hours. Evening demand generally exceeded daytime demand. Weekend afternoons into the evening hours were the highest overall demand period when few parking vacancies were observed. The search for parking, or waiting for parking spaces to open up, contributed to area vehicle congestion.

The *City Dock Analysis* also concluded that the spaces limited to just 30-minutes were generally less well utilized than those with 2-hour time limits.

Utilization surveys were not conducted after 7:30pm (the end of the meter regulation period) however most on-street parking zones were fully filled at that hour indicating continued high levels of demand in the evening hours.

Figure 6: On-Street Parking Utilization at City Dock⁴

Weekday

Saturday

⁴ Parking utilization observed during December 2011. *City Dock Concept Refinement and Traffic Analysis*. Sabra Wang & Associates. January 2012. Pp. 11.

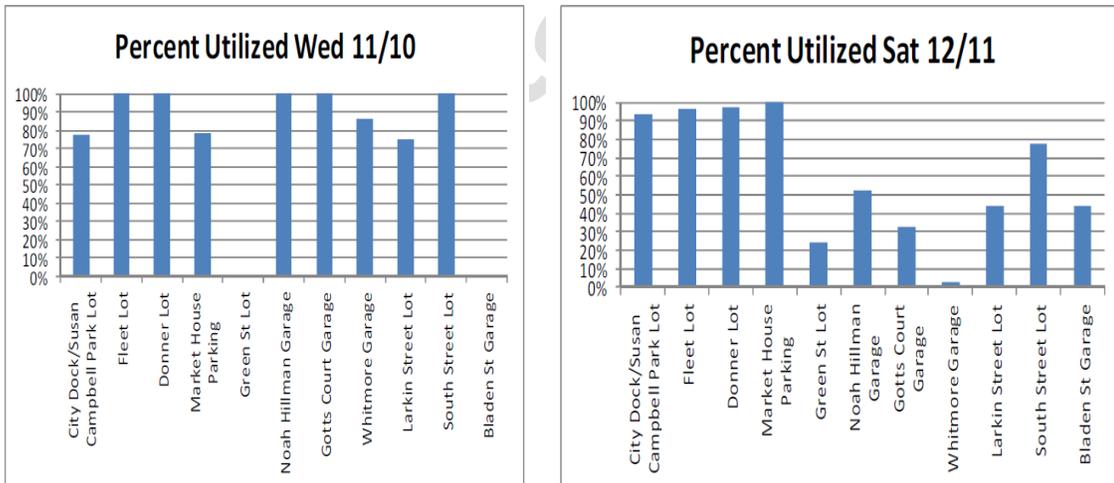
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Note: Zone 1 and 2 are the 100 block of Main Street; Zones 3-6 are located on Market Space, and Zone 7 is parking adjacent to the Circle.

Parking garage utilization surveys also conducted for the *City Dock Concept Refinement and Traffic Analysis* illustrated that daytime parking demand was highest closer to State Circle (Hillman, Gott’s Court, Whitmore, Larkin Street and South Street garages and lots), where office employment is concentrated and lighter in the Dock area retail and entertainment area.

Figure 7 Garage and Lot Utilization in City Dock and State Circle areas⁵



Duration

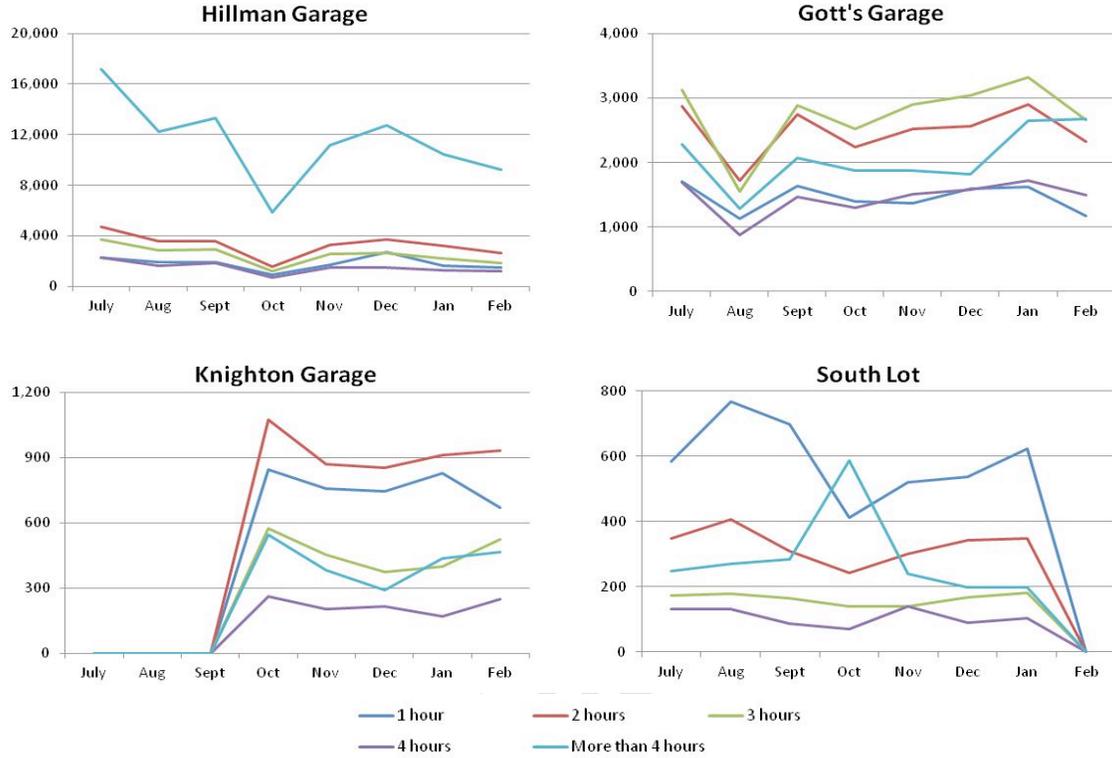
Analysis of data from July 2011 to February 2012 also highlights differences in the duration of stay at the parking garages. The majority of hourly parkers at the South Lot stayed for 1 hour or less, while Hillman Garage was dominated by longer term parkers (those staying more than 4

⁵ Ibid.

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hours). Knighton and Gott's tended toward parkers staying for 2 hours or less. It should be noted that data for October exhibited oddities throughout.

Figure 8 Duration of parking demand⁶

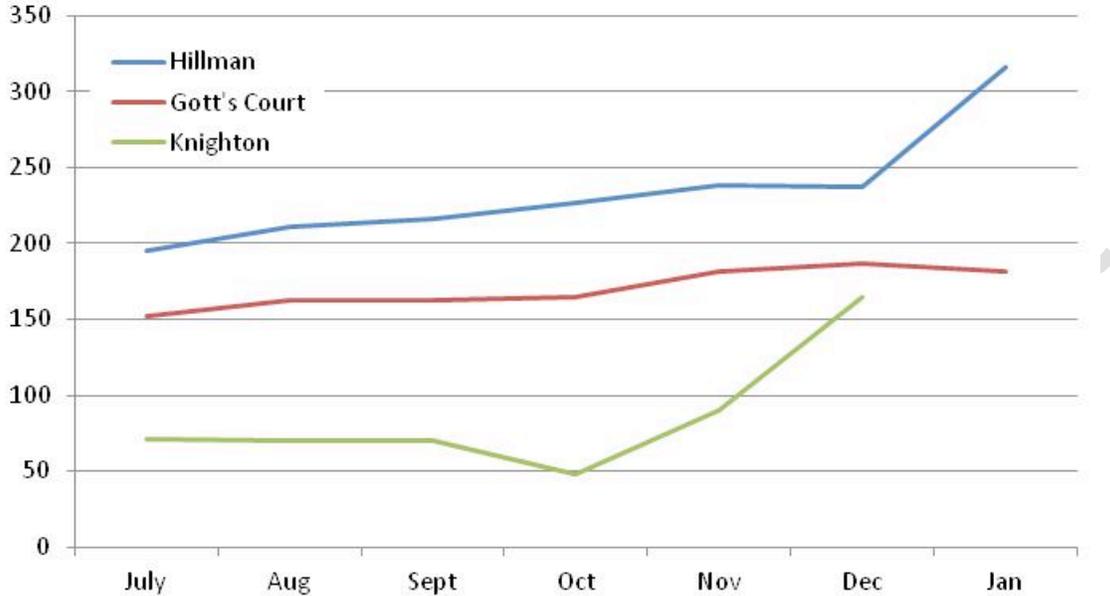


Monthly Permit Utilization

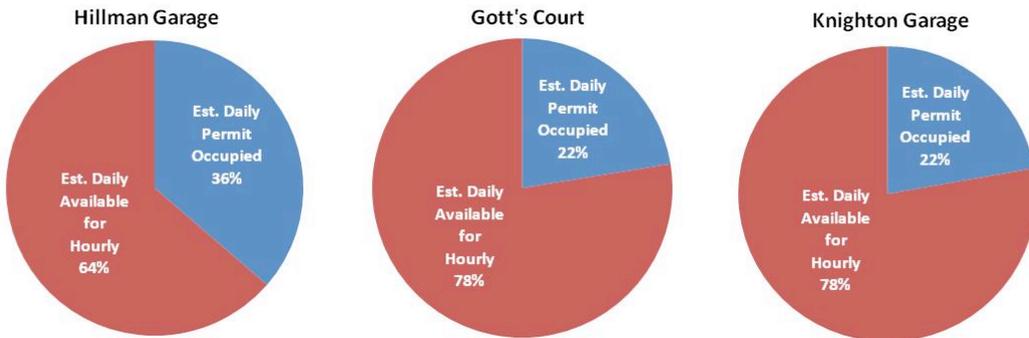
Sales of monthly permits appear to remain relatively level through the warmer months with an increase in demand as the weather turns colder. Hillman, given its proximity to both State Circle and City Dock experiences the greatest demand, despite the larger size of the Gott's Court garage.

⁶ Derived from data provided by Park America for FY2012.

Figure 9 FY2012 Monthly Parking Permit sales



Monthly permit parking utilization closely parallel employee attendance. Studies have found that up to 25-30% of employees may be absent on any given day. This combines all reasons such as sick or vacation time off, suspensions, jury duty, travel or training, and unreported absences, among others.⁷ These absences, combined with periodic alternative commutes, means that fewer than three quarters of issued monthly permits are in use on any given day and freeing up those spaces for general use. The pie charts below illustrate the estimated average daily spaces occupied by permit holders and those available for other daily users.



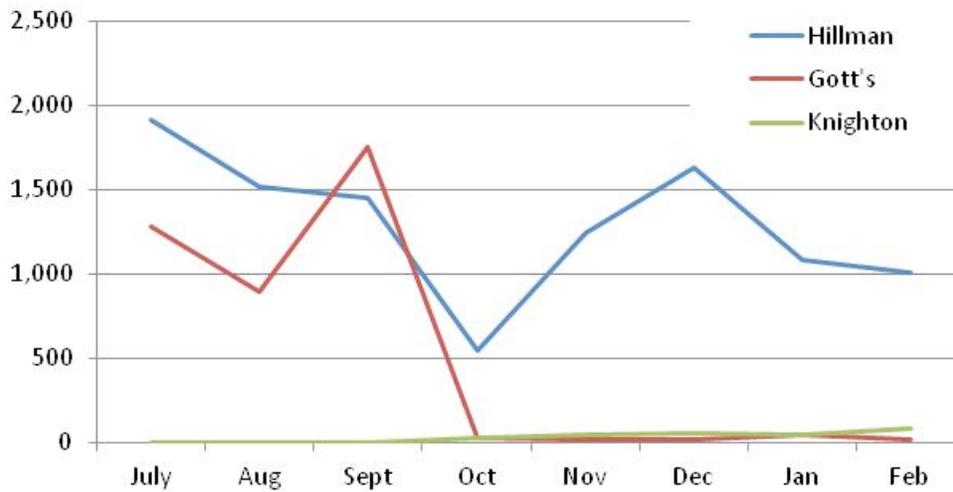
⁷ Deborah Dibenedetto, *Taming Disability*, February 1, 2009, www.dorlandhealth.com.

Figure 10 Percent parking spaces available versus monthly utilized parking permits

Park and Shop Utilization

The Park and Shop program is well utilized. On average, more than 1,800 patrons take advantage of the program every month across the three garages offering the program for which data was available (Hillman, Gott’s Court, and Knighton). Of these facilities, Hillman was by far the most heavily utilized, accommodating roughly 1,300 of those patrons (72%) per month and Knighton, at just 3.5%, the least well used by the program. While Gott’s was well used in the summer months, fall and winter usage was minimal.

Figure 11 Park and Shop Program utilization, FY 2012



RECENT OR APPROVED CHANGES TO SUPPLY, MANAGEMENT, OR OPERATIONS

Generally speaking, the supply of public parking in the immediate City Dock area has not changed (increase or decrease) since the adoption of the Ward One Sector Plan in 1993. Parking rates, however, have changed over time.

On-street parking rates were just 50 cents per hour as recently as 2005 and now stand at \$1 per hour. Despite the increase, on-street parking demand continues to exceed supply during peak periods.

Parking garage rates have also changed in recent years. In 2005 rates at the Gott’s and Hillman garages were \$1 per hour⁸ before they were raised to \$1.50 and \$2 respectively while Knighton remained at \$1 per hour. Monthly permit costs increased from \$175/month in FY09 to \$225/month in FY10 at the Hillman facility while the Gott’s garage went up \$15 from \$175 to

⁸ Jamie Stiehm, *Panle’s Proposals Promote Short-Term Parking In City*, http://articles.baltimoresun.com/2005-02-14/news/0502140293_1_parking-meter-garages-meter-rates.

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\$190.⁹ Some rates decreased. Monthly permits at the Knighton facility dropped from \$150 in FY09 to \$125 in FY10 and just \$60 in FY12. Evening flat rates were cut from \$6 to \$4 for the Hillman Garage and reduced to \$3 at both the Gott's Court and Knighton facilities.

FY2012 brought a change in authority granting the City Manager the ability to change the rates in the garages rather than requiring City Council approval as had previously been the case. It also brought both physical and operational improvements to the public parking system including expanded vehicle exists and new public restrooms at the Hillman Garage, parking control equipment has been installed and an online payment system developed.

As the city approaches FY2013, more changes are in store. The Hillman Garage, constructed in 1972, is nearing the end of its construction life. A special Advisory Committee has been formed to prepare recommendations for the Mayor as to what changes should be made with that facility. Major capital improvements are programmed for FY2015. The FY13 fee schedule introduces escalating rates which increase the cost per hour for longer and longer parking durations, favoring shorter term parking in the garages. The fee schedule also eliminates flat rate parking at the Hillman facility and increases flat rates to \$5 at both Gott's Court and Knighton Garages. Monthly parking permit fees also increase.

Figure 12 FY13 Fee Schedule for parking

South St			Hillman Garage		
	Current	Proposed		Current	Proposed
1 hr	\$ 1.50	\$ 5.00	1 hr	\$ 2.00	\$ 2.00
2 hr	\$ 3.00	\$ 5.00	2 hr	\$ 4.00	\$ 5.00
3 hr	\$ 4.50	\$ 10.00	3 hr	\$ 6.00	\$ 8.00
4 hr	\$ 6.00	\$ 10.00	4 hr	\$ 8.00	\$ 11.00
5 hr	\$ 7.50	\$ 15.00	5 hr	\$ 10.00	\$ 16.00
6 hr	\$ 9.00	\$ 15.00	6 hr	\$ 12.00	\$ 20.00
7 hr	\$ 10.50	\$ 15.00	7 hr	\$ 14.00	\$ 20.00
8 hr	\$ 12.00	\$ 15.00	8 hr	\$ 16.00	\$ 20.00
9hr + max	\$ 12.00	\$ 15.00	9hr + max	\$ 16.00	\$ 20.00
			Flat	\$ 4.00	N/A
			SUN 6A-1P	FREE	N/A

Gott's St			Knighton		
	Current	Proposed		Current	Proposed
1 hr	\$ 1.50	\$ 2.00	1 hr	\$ 1.00	\$ 1.00
2 hr	\$ 3.00	\$ 5.00	2 hr	\$ 2.00	\$ 3.00
3 hr	\$ 4.50	\$ 5.00	3 hr	\$ 3.00	\$ 5.00
4 hr	\$ 6.00	\$ 9.00	4 hr	\$ 4.00	\$ 7.00

⁹ Nicole Fuller, *Council Relents On Parking Fees*, http://articles.baltimoresun.com/2009-08-02/news/0907310028_1_garages-annapolis-parking-rates#.UCKWHqnsNrw.email.

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5 hr	\$ 7.50	\$ 11.00
6 hr	\$ 9.00	\$ 13.00
7 hr + max	\$ 10.50	\$ 15.00
Flat	\$ 3.00	\$ 5.00
SUN 6A-1P	FREE	N/A

5 hr + max	\$ 5.00	\$ 10.00
Flat	\$ 3.00	\$ 5.00
SUN 6A-1P	FREE	N/A

Park Place

	Current	Proposed
1 hr	\$ 1.25	\$ 1.00
2 hr	\$ 2.50	\$ 3.00
3 hr	\$ 3.75	\$ 5.00
4 hr	\$ 5.00	\$ 7.00
5 hr + max	\$ 5.00	\$ 10.00

Monthly Rates (Old) New

	Restricted	Unrestricted
Hillman	(\$190) \$225	(\$225) \$250
Gotts	(\$160) \$175	(\$190) \$225
Knighton	(\$50) \$90	(\$60) \$110
Park Place	(\$50) \$50	(\$60) \$60
South St.	N/A	(\$175) \$225
Larkin St.	N/A	(\$175) \$225

PARKING REVENUES AND EXPENDITURES

Parking revenues fund transit services in the downtown and City Dock area, and for years these revenues have been insufficient to cover operations and maintenance of the parking system as well as transit services. The proposed FY13 changes are intended to make the Transportation Department self-sufficient without continued reliance on general fund transfers for the transit and parking systems.¹⁰

CHALLENGES AND OPPORTUNITIES

City Dock area has substantial parking supply, however not all of it is fully utilized and little of it is presently managed in a way that optimizes use to support City Dock activities, merchants, and revitalization. While over 2,000 public parking spaces are available within a short walk or trolley ride of the City Dock, motorists vie most intensely for the 85 on-street spaces offered on Main Street, Market Space and at the circle, yet these represent less than 5% of the total parking supply. This jockeying for premium space gives the perception of shortage that distorts the reality of availability.

The situation is further exacerbated by the present mismatch between spaces and their optimal use. Dock employees and merchants routinely park in these coveted spaces, feeding the meter and participating in the “90 minute shuffle” - moving vehicles to evade enforcement, but still not relinquishing them to consumers that drive business. 60 percent of parkers store their vehicles in these few spaces while lingering in the district longer than an hour – 27% of them for longer than

¹⁰ Elisha Sauer, *Annapolis Parking Garages To Get Pricier*, http://www.capitalgazette.com/news/annapolis/annapolis-parking-garages-to-get-pricier/article_396ef506-2d85-50e1-b6f0-738567132a3d.html.

the two hour legal limit.¹¹ This means that even the most used of these premium spaces turn over fewer than a dozen times presently providing access to less than 1,000 drivers to the district each Saturday even if every space were continuously occupied.¹² This assumes a very generous rate of turn-over and occupancy which likely exceeds reality. But nonetheless illustrates that the on-street spaces must be optimized in their use and supplemented by off street resources. Applying management strategies that entice longer term parkers to off-street spaces and attract shorter term patrons to on-street locations increases access for a variety of patrons and trip purposes.

The land consumed by the surface parking resources is substantial, meaning a significant land opportunity cost. An on-street parking space typically requires roughly 175 square feet while an off-street space requires at least 500 given that they must provide separate drive aisles, driveways, and/or buffers where on-street spaces utilize the travel way.¹³ This means that at least one and a half times more space is consumed circulating vehicles than storing them – 325 square feet per parked vehicle that could be for park, pedestrians, or revenue producing activity.

While the City Dock area struggles with managing its parking resources, it has a number of enviable strengths to build from. First, and perhaps most importantly, the area is highly walkable earning a WalkScore® of 92 – in the lexicon of walkability this falls into the bracket of “a walker’s paradise” – keeping company with the likes of Old Port in Portland, ME (WalkScore of 98) and downtown Newport, RI (WalkScore of 92).

While the street grid and amenities make walking interesting and attractive, the lack of wayfinding and real time traveler information doesn’t always make it easy. Visitors may very well walk from parking facilities, utilize the valet parking services, or hop a bus to and from their parking spot and City Dock, if they know these resources are available, their cost, and their location. “Existing wayfinding signing to parking garages is limited, less than two dozen directional/ trailblazing signs are posted...The signing does not provide any rate information or real time parking availability.”¹⁴ Real time space availability information and smart phone applications are already planned however which should greatly improve traveler information.

The Annapolis Circulator is a tremendous opportunity to encourage the use of parking facilities just beyond easy walking distance of City Dock. The Circulator has seen steady growth in ridership since its launch in July 2011, tripling the number of riders in its first year. The 10 minute headways and long span of service (6:30 am to midnight weekdays and 2:30 am weekends) cover the demand period of virtually all patrons and most workers, if headways are reliable. Merchants report that the trolley adherence to schedule is not reliable enough.

Finally the periodic large special events – such as the Sailboat and Powerboat Shows – and notable seasonal variations in visitor parking demands present both a challenge and an opportunity in parking management.

¹¹ Sabra Wang survey of Saturday parking Dwell Times (2012)

¹² Assumes meter periods from 10am to 7:30pm, 60% dwell time of 1 hour or more and 40% dwell time of 30 minutes on average for the 70 on-street spaces located on Main Street, Market Space and at the circle.

¹³ Marshall, Wesley, Norman Garrick and Gilbert Hansen. “Reassessing On-Street Parking” *Transportation Research Record: Journal of the Transportation Research Board*, No. 2046, Transportation Research Board of the National Academies, Washington, D.C., 2008, pp. 47.

¹⁴ *Pedestrian Automotive and Bicycle Safety Evaluation*. Toole Design Group and Sabra Wang & Associates. May 2011. Pp. 45.

CITY DOCK MASTER PLAN PARKING

The proposed City Dock master plan puts some of the land presently occupied by parking to other value-added uses that provide a greater attraction to the Dock area.

The proposed master plan does result in a reduction of surface parking. Market Space parking is reconfigured from angled to parallel parking to create an enhanced street character, pedestrian environment, and flexible outdoor retailing and café space. Parking is also reduced on Dock Street to create a more defined and regular street that will improve circulation. The parking adjacent to the Susan Campbell Park is redesigned and organized to improve access to and attraction of the water by bus, car, bike and auto and enable redevelopment to create more attractions in the City Dock area. The Donner and Fleet lots are eliminated. Meanwhile the most used spaces – those on the 100 block of Main Street – are expanded by 30% and the spaces at the circle are generally retained. The result is a net reduction of approximately 177 spaces, the majority at the far end of City Dock. Redevelopment sites may provide an opportunity for additional replacement parking.

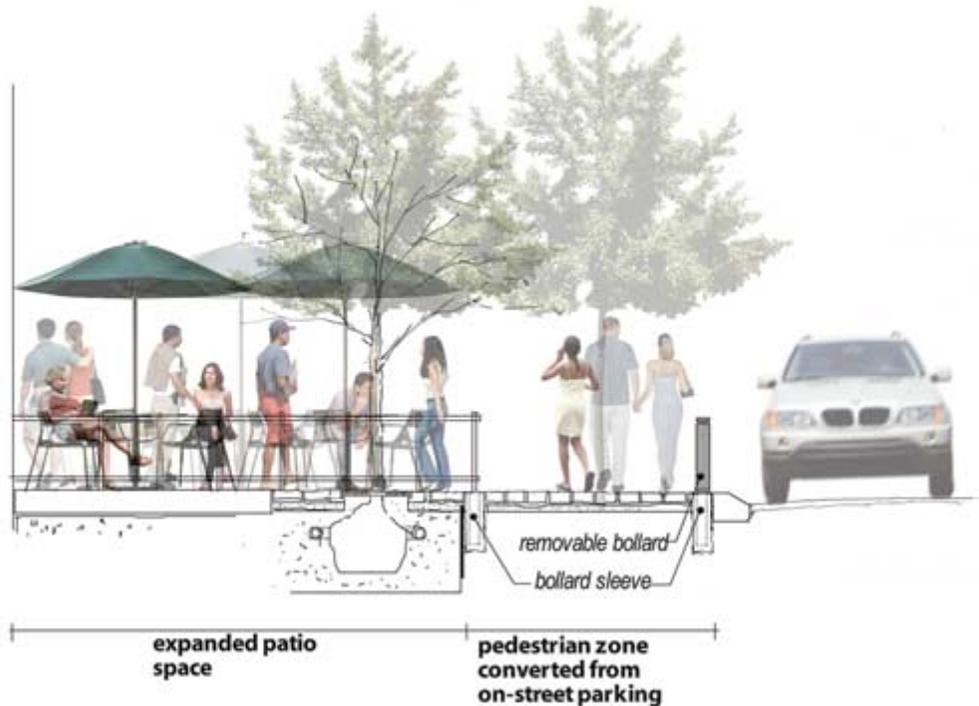
Figure 13 Plan Effects on Public Space Parking

Public Space Parking Resources	Existing Spaces	Proposed Spaces	Net Change
100 block Main Street	28	36	+8
Dock Circle	16	14	-2
Market Space Street	41	20	-21
Dock Street	66	38	-28
Susan Campbell Park Lot	132	50+	-82
Fleet Lot	28	0	-28
Donner Lot	24	0	-28
	325	158	-177

The plan proposes a total reduction of public space parking of 50%. This will undoubtedly raise concerns, however it is important to note that as Figure 7 illustrates, scarcely 800 feet away from the heart of the Dock (walk level of service “B”), the 450 space Hillman Garage is only 50% occupied during the Saturday and evening activity periods, providing more than adequate capacity to absorb the loss, provided appropriate measures are implemented to redirect patrons to its use. Facilities only slightly further away provide yet more available capacity.

The plan repurposes approximately 70,000 s.f. from parking and drive aisles to improved attractions and access to the waterfront. Additionally, Market Space and Dock Street will be innovatively designed to allow flexible use of these places to take maximum advantage of the seasonal and peak demands for public space. This is an increasingly used practice in many destination cities and districts. King Street in Kitchener, Ontario has been designed with removable and relocatable bollards to allow “pop-out” retail in the summer months, converting on-street parking to sidewalk space as desired. Similar streets have been designed or implemented in cities as diverse as Portland, OR (Chinatown 3rd and 4th Avenues), West Palm Beach, FL (Rosemary Avenue), Toronto, OT (John Street corridor), Jacksonville, FL (First Street North), and Washington, DC (Half Street SE).

Figure 14 Flexible Street Design¹⁵



San Francisco has the nation's foremost program in managing such flexible use with their "Pavement to Parks" program.¹⁶ The program allows the conversion of curbside parking spaces from serving one automobile to bicycle parking for multiple patrons and/or café seating and/or other public seating. Converted spaces are not privately leased, but retained for general public use. Merchants who have benefited from such conversions in their vicinity report increased business and higher sales.¹⁷ Numerous other cities and even small towns are looking to the San Francisco model for managing similar programs.

RECOMMENDED STRATEGY

The City of Annapolis should be commended for the actions it has already taken to improve parking management, particularly in the off street facilities. The investment in the free circulator trolley, tiered pricing system by location, and Park and Shop program are all model practices, however, revitalizing the City Dock area may very well necessitate the expansion of existing tools and deployment of additional ones to ensure parking resources are optimized for the priority uses.

Studies and experience has shown that drivers rank their parking experience and willingness to patronize an area based on the following:

¹⁵ "Kitchener's Flexible, Pedestrian-First Streetscape" Landscape Online. <http://www.landscapeonline.com/research/article/13721> (Accessed September 3, 2012)

¹⁶ <http://sfpavementtoparks.sfplanning.org/>

¹⁷ <http://www.streetfilms.org/people-parklets-and-pavement-to-parks/>

1. Quality and mix of destinations
2. Quality of place
3. Traffic congestion and circulation in the place
4. Availability of parking
5. Sufficient time to complete business (meter time)
6. Cost of parking
7. Enforcement (effective enforcement, but also risk of a ticket)

Other factors are also important including the condition of the on-street spaces and the availability of different payment options (cash, credit/debit, smart cards).¹⁸

To improve the attractiveness of the Dock area and the strength and vitality of existing commercial uses in the district it is necessary to improve as many of these patron influences as possible. Addressing all may not be possible as some strategies, such as price for parking, are effective tools in enhancing specific concerns, like availability. Commercial districts that have implemented specific tools have seen increased sales, increased access, and increased patron satisfaction – although such positive feedback is rarely overtly provided by customers. Todd Litman captured a likely scenario, “A shop owner is more likely to hear older customers say, “I’ll quit visiting your store to avoid parking fees” than to hear new customers say, ‘I’ll start visiting your store because a parking space is easier to find.’”¹⁹ The truth is customers want free availability more than they want free cost.

In order to address current parking problems in the City Dock area and enable the implementation of the City Dock Master Plan, the following strategies are recommended:

Expand Valet Parking

Parking demand in the Dock Area is greatest in the evenings and on weekends. Capacity is typically available in the parking facilities, however many patrons are unable, unwilling or uncertain of how to utilize these facilities and instead seek parking immediately proximate to their destination in the Dock area.

The existing valet program provides valet services at one location. This limits the visibility and knowledge of the program and concentrates vehicle trips in one location. Additional locations for valet services should be provided serving Market Space and Main Street to provide greater convenience to multiple destinations in the Dock area, improve access from multiple points of entry to the district, and distribute trips more evenly in the network.

Valet parking has the advantage not only of making the distance to the parking facility “invisible” to the consumer, but also can increase parking capacity by 20-40% compared with self-park systems as vehicles can be stacked or parked in tandem.

The city and valet operator should explore providing valet services during the midday weekday peak to address this demand as well.

¹⁸ SFMTA (2009), Extended Meter Hours Study, San Francisco Metropolitan Transportation Agency. www.sfmta.com/cms/rextendedhours/extendedhours.htm.

¹⁹ Litman, Todd (2011) *Parking Pricing Implementation Guidelines*. Victoria Transport Policy Institute. March 1, 2011. Pp. 12.

Implement Demand-Responsive Pricing

Annapolis appears to be familiar with Performance Parking concepts and has already deployed various pricing regimes at city owned facilities. The goal of performance parking is to utilize the “Goldilocks Principle” – not too high and not too low – to price parking to achieve 85-90% occupancy at all times of day. In many instances this means that parking is priced differently for different days of the week and even periods of the day. All active periods – including late evenings – should be priced with higher rates during peak times and lower (or no) fees when demand is light.

Effective parking pricing can reduce parking demand between 10 and 30 percent while maintaining the same number of person trips. Research has found that the price elasticity of parking is -0.1 to -0.3. This means that a 10% increase in parking price results in a decrease of parking demand by 1 to 3%.²⁰

Improved pricing methods make parking more cost effective, convenient and fair. Pricing systems should charge for just the amount of time a vehicle is parked, rather than fixed time blocks (e.g. allow consumers to pay for 1.5 hours rather than 2 hours). Establish short pricing periods – for short term parking even charging by the minute rather than by the hour. Charge higher rates and use shorter units of time for the most convenient spaces to encourage turn-over without simply relying on time limits which become more difficult to enforce at shorter limits.

On-Street Spaces

All things being equal, on-street spaces are generally the most desirable spaces in areas such as City Dock. They are visible, generally easy to get in and out of, publically visible, and close to the destination. They are also typically the smallest portion of an area’s parking supply – comprising less than 10 or 15% of total parking supply (and in dense cities, a fraction of that).

High demand and limited supply can, and in the City Docks does, lead to traffic issues as motorists circle the block numerous times in search of that elusive space. A study in the Park Slope community of Brooklyn, NY found that some 45% of all traffic and 64% of local traffic was cruising for parking.²¹ While extreme, other research have concluded that one-quarter to one-third of traffic in downtown districts consists solely of drivers looking for a space to park.²² Worse yet, are the potential loss of customers associated with ill-managed parking. Surveys in 20 large global cities concluded that 6 out of 10 drivers have, at one time or another, ultimately abandoned their search and proceeded somewhere else entirely.²³

The application of market economics can play an important role in clearing up the disparity between the value customers place on parking at these spaces and the cost they actually pay – which is typically far lower than the value. Managing the on-street resource can actually increase access and patronage without necessitating an increase in supply.

²⁰ Victoria Transport Policy Institute, *Parking Management*, <http://www.vtpi.org/tm/tm28.htm>.

²¹ <http://www.transalt.org/files/newsroom/reports/novacancy.pdf>

²² Arnott, R. and E. Inci (2005). An integrated Model of Downtown Parking and Traffic Congestion, *Working paper*, 11118, National Bureau of Economic Research, Cambridge, February 2005.

Kipke, H. (1993) Theoretical considerations to search for parking, *Traffic Engineering*, 93 (4) 246-249.

Shoup, Donald (2006) Cruising for parking, *Transport Policy*, 13 (2006) 479-486

²³ <http://www-03.ibm.com/press/us/en/pressrelease/35515.wss>

Off-Street Spaces

While on-street spaces must be priced according to value, off-street spaces should be priced according to cost. On-street spaces are among the cheapest to build and maintain as they are components of the overall street. Off-street spaces, whether in lots or garages, require separate resources. Construction costs alone can be substantial, ranging from \$5,000 per space in a surface lot to \$15,000 in an above ground structure²⁴ to more than \$50,000 below grade.²⁵

Maintaining a clear relationship between the cost of these spaces and the rates charged to use them is a key strategy in terms of clarifying demand in terms of actual costs, public relations, supply management, and travel choice funding for the City.

Pricing strategies should minimize discounts for long-term parking by setting daily rates at least 6 times the hourly rates, and monthly rates at least 20 times daily rates. (Note: the proposed FY13 parking rates generally adhere to these guidelines)

Increase Payment Options

Only a few short years ago, coins were virtually the only means by which to pay for parking. This made it impractical to increase hourly parking rates above a certain threshold less patrons be forced to carry heavy bags of coins with them simply in order to visit the Dock.

Multiple payment options are now available, some of which Annapolis has already deployed including online payment and credit card acceptance at off-street facilities.

Electronic debit payment systems could extend many of the conveniences offered to monthly permit holders. Similar to a transit smart card or EZPass transponder, these cards can be used to quickly pass through entry and exit points of off-street facilities. Charges are deducted from a prepaid amount and itemized for customers. This could be especially useful during events to reduce queuing in and out of facilities.

Modernize Meter Technologies

This Annapolis is already pursuing modern meter technologies. Modern meter systems will not only expand payment options, but will increase the availability of data on on-street parking utilization, reduce the incidences of jammed or full meters that go out of service, and can provide better customer service to patrons by notifying them when their parking periods are ending. Modern meters have increased revenue collections in many places while decreasing fines and penalties to parkers and increasing turnover through better information. Depending on the meter technology chosen, on-street parking resources may also be expanded and the areas of public space occupied by meter equipment reduced. Among the technologies available that should be considered:

- Multi-space pay-by-space meters manage a number of on-street spaces through a single kiosk and provide information on the occupancy and demand of individual spaces. Drawbacks of this system are that they do not increase parking supply and do require

²⁴ Victoria Transport Policy Institute (2012) *Transportation Cost and Benefit Analysis II – Parking Costs* (5.4-2)
<http://www.vtpi.org/tca/tca0504.pdf>

²⁵ Chrest, Anthony P., Mary Smith, Sam Bhuyan, Donald Monahan, and Mohammad Iqbal. (2002) *Parking Structures: Planning, Design, Construction, Maintenance and Repair*. Kluwer Academic Publishers. (27-28)

that each space be individually marked – which could present aesthetic issues in a historic district such as City Dock.

- Multi-space pay and display meters also manage 10 or more spaces with a single meter, allowing more flexible use of sidewalk and plaza space, and accept many different forms of fee payment – some can even be used to recharge transit smart cards! Because spaces do not need to be individually striped or marked pay-and-display systems can allow parkers to use space more efficiently and can increase parking supply by up to 10 percent. However, because pay-and-display meters do not distinguish between individual spaces or even blocks, they do not provide a reliable source of occupancy information. Some multispace meters (either pay-by-space or pay-by-phone) can be programmed remotely and can handle dynamic (real-time) pricing and multiple pricing periods. However other meters must be programmed individually. Cost for multi-space meters generally begin at \$8,000 and up.
- Many municipalities are replacing “dumb” single-head mechanical coin meters with smart electronic meters that can take a variety of payment methods. These are solar powered individual units that can be swapped into existing meter casings and can therefore be deployed quickly and at about \$500 per mechanism can be less expensive per space than multispace meters. These electronic meters are networked together and communicate wirelessly with a central system which enables dynamic programming. Because each smart meter presides over just one space, some models can be equipped with sensors to detect occupancy of the space they are associated. This combination can provide rich real time information. Although such meters do not reduce the “curb clutter” of parking meters and can reduce the flexibility of shared streets, they are championed by many bicyclists who lament the removal of individual parking meter posts which serve as surplus bicycle racks to many.
- Pay by phone has become increasingly popular and is well used in neighboring Washington, DC since deployed there roughly two years ago. Pay by phone requires no physical equipment at all beyond periodic signs advising would-be-parkers of the number to call and the zone identification for the area. Such technology can be used in conjunction with meters or entirely apart from them. Its use, however, typically relies on networked license plate reader (LPR) technology for efficient enforcement.

Extend Metered Parking Span

At present, metered parking periods end at 7:30pm Monday to Saturday and 6:00pm on Sundays, despite evidence that parking demand continues unabated – perhaps even rising – until well after 10pm. The span of parking meter periods should reflect the actual span of demand for metered parking spaces. Doing so can have positive benefits on circulation for all modes of travel as vehicles jockeying for parking spaces or circling in search become greatly reduced.

Eliminate Parking Time Restrictions

Enforcement is tricky business and enforcement officers are typically spread thin over a relatively large parking area. Time restricted parking – such as 2 hour unpaid or 30 minute paid parking limits – means that an officer must observe a vehicle twice – once at the beginning of the time period and once after the time period has expired. Because vehicles are constantly coming and going, it makes it nearly impossible for a parking officer to witness a vehicle precisely within the limited time period.

Pricing can be much more effective for maintaining availability among on-street spaces than the time limits as it allows parkers to make informed decisions about choose where and when, and for how long, they will occupy public parking spaces and at what cost. In some places pricing has replaced time limits entirely. This reduces enforcement needs to simply checking for expired meters.

The limited data reviewed indicates that on-street spaces with short time limits (30 minutes) are currently under-utilized or among those last occupied. Time limits are most useful in areas of most intense demand to encourage turn over. In areas of lower demand, turnover is better managed through pricing regimes than time limits.

Explore Day Permits

Oftentimes while on-street parking is full to overflowing on commercial streets, just a half a block away, residential permit only streets have available curbside space as residents have taken their cars with them for their daily trips. These spaces are often too tempting to pass up, particularly for merchants and retail workers who want to be close to their establishment and may only work 4 or 5 hour shifts. They will often risk tickets in these areas rather than have to constantly feed meters on street or park remotely.

Economists would see this empty curbside space while there is unmet demand as a wasted resource. Charging non-residents to park in a residential parking district has been used in several California cities and experimented with elsewhere. Although it can be quite controversial with residents, such programs acknowledge that such parking is currently occurring for free and is better managed and provides greater benefit when priced. A portion of the revenue generated when such parking is available and priced should be returned to the neighborhood, offering an incentive for neighbors to maximize instead of waste this resource.

So called “day permits” (because non-residential parking is only allowed during the day when residential parking demands are lighter) can take the form of annual decals similar to residential parking permits, monthly dashboard or hang tag placards, or through daily or hourly registration of license plates through pay-by-phone or online systems and LPR enforcement.

Day permit parking can support local merchants and their employees while at the same time giving them a reasonably convenient alternative to occupying valuable on-street spaces that are better reserved for customer use.

Reform Monthly Permit Parking

It is human nature to want to consume all that we feel we have paid for. For this reason, monthly parking permits – for which a consumer has theoretically paid for daily parking for a month – tend to have a perverse incentive to drive and park more than they might if every day were separately accounted for. Some days alternate commute modes may be viable and attractive but to many commuters this feels like an extra cost above the parking they have already paid for.

Offering different kinds of monthly permit “products”, for example purchasing only 1, 2 or 3 days per week or selling non-month specific physical or electronic “books” of daily parking (like postage stamps) more directly charge permit users only for the days they consume parking and encourage them to use other commute options when driving and parking is not necessary.

Annapolis’ current structure of “restricted” (weekdays only) and “unrestricted” (weekdays, evenings and weekends) is a step toward this. The recent or forthcoming deployment of online

payment and new parking management equipment presents an opportunity to pilot more flexible monthly parking structures.

Establish a Parking Benefit District

While many of the above tools can cause some public and business consternation, they become much more palatable when the proceeds of these reforms go toward improving the district in which they were generated. Such a system is known as a Parking Benefit District where all or a predefined portion of the increment of increased revenue yielded by the adoption of such strategies is reinvested locally for priorities that are defined, not by the transportation department, but by the local stakeholders and business community themselves. Such a reinvestment program has been in place for several years now in Pasadena, CA where each block of the benefit district generates \$80,000 a year in meter revenue to finance a high level of local public services and has been enthusiastically received by other cities and communities across the country. The increment available for reinvestment depends on the strategies adopted.

Enhance Wayfinding

Wayfinding is generally a low cost improvement that can yield substantial benefits – not only making it easier to find parking facilities and pedestrian destinations, but also in improving the identity and “brand” of local commercial districts. Wayfinding signs must be thoughtfully designed and located in a planned system to respond to typical travel patterns and many gateways into the district. Signs should be designed to enhance and reflect the overall identity and character of the City Dock area. Wayfinding signs can also provide additional information beyond simply guiding patrons to parking facilities or other destinations. Higher tech signs can include dynamic message components that can advise travelers of real time parking availability, travel time to the facility, or changes in price so that travelers can make the best decision according to their needs.

Annapolis has already commenced a systemic program of wayfinding that should dramatically improve traveler information to destinations as well as travel options for access.

Improve User Information and Marketing

Better user information and marketing can reduce parking demand by 5 to 15 percent.²⁶ Annapolis has excellent online parking information resources at www.parkannapolis.com which provide current information about construction projects, fee schedules, locations and access. The planned development of smart phone applications will make these resources even more accessible to travelers. This tool could be more intimately integrated with the Annapolis Regional Transportation Management Association’s (ARTMA) transportation choices tool (<http://www.artma.org/transportation-choices>) to further market the array of attractive transportation choices available to City Dock workers, visitors, and patrons.

Marketing of transportation choices beyond parking is key. Annapolis has done a superior job in promoting the free Circulator trolley – as evidenced by the tremendous ridership growth. This work should continue emphasizing park-once strategies and alternative means of access.

²⁶ Ibid.

Enhance Employee Incentive Programs

Employees are essential to the success of the City Dock and while it is inappropriate to accommodate their parking needs in the on-street spaces, they must be efficiently and conveniently accommodated in other facilities. Targeted marketing to employees has been effective in some cities and rewards programs – such as a weekly or monthly lottery for free parking in off-street facilities for employees recognized for their adherence to the program. Improving schedule reliability of the Circulator and a sense of safety in the remote facilities is an important component of adequately serving retail and restaurant employee needs.

Retain Off-Street Parking Resources

The City Dock and Main Street areas of Annapolis have a rare benefit in the form of the Hillman Garage. This facility is conveniently located to both destination areas and provides essential relief to the pressures on the limited on-street spaces. While capital improvements are necessary, and robust mitigation strategies must be deployed if the garage is taken off line for construction the Hillman Garage should be maintained. The garage is a necessary resource to this destination market which must accommodate access of patrons outside the City of Annapolis less likely to utilize the shuttle or other remote services. This does not mean, however, that the garage site could not be redeveloped to accommodate mixed use. Parking may still be adequately provided below grade (at significant cost) or wrapped by and/or above active ground level uses.

Maximize New Parking Resources

Additional parking will be constructed in association with the redevelopment sites. This parking must not only serve the private uses of the new buildings, but be designed to also provide a public parking resource. This not only benefits public visitors, but also makes the most efficient use of a fixed real estate asset – the parking space – once constructed. Cities around the country have adopted policies that “unbundle” parking from building use so that building tenants purchase parking spaces at a separate cost to their building unit. This encourages tenants to assess their true parking needs (and the true value of parking to them) and use only what is necessary. Any unused spots, and parking associated with retail uses, is made available in a public portion of the garage and priced for optimal occupancy. This meets the parking demand for on-site uses and frees up surplus parking to support off-site establishments and destinations.

Expand Bicycle Parking and Use as Branding Opportunity

The Annapolis City Dock area is eminently bikeable and this is a pleasant, efficient and eco-friendly way to travel. Key to encouraging bicycle access to events, opportunities, and offerings in the City Dock area is providing safe and convenient locations to lock and store the bicycles. Fortunately bicycle parking tends to be very flexible. It can often be accommodated in the awkward left-over spaces within garages and streets that are not practical for auto parking and racks can be moved during special events. Given the density of foot traffic and the narrowness of the historic sidewalks in the Dock Area, Annapolis may evaluate the option of locating bicycle parking corrals in the first or last space of on-street parking or evaluate the ability to utilize the sight line triangle between the last legal on-street parking space and the intersection. As a rule of thumb, approximately 10 bicycles can be parking in the area of one auto parking space thus bicycle parking can dramatically increase parking supply.

Even the most attractive and convenient bicycle parking generally has limited potential to profoundly affect demand for vehicle parking, however it does expand travel choices which, in

turn, can lead to increased access and patronage of this consumer group. Several cities have joined the League of American Cyclists’ “Bicycle Friendly Business” (BFB) program.²⁷

Figure 15: Expand Bicycle Parking



Bicycle parking can also be a place-making element and a marketing tool to raise the visibility of area businesses. Annapolis is already well ahead in this area having partnered with the Arts Council of Anne Arundel County to procure artistic bike racks in autumn 2012.²⁸ Partnerships with local businesses to develop bicycle parking facilities that reflect their commercial offerings in a fun and engaging way may be one opportunity to share costs and extend the budget of the program.

Have Fun with Parking Day and other temporary installations

Parking spaces need not always be for cars. Many communities have played with parking as a way of further demonstrating the value of their public spaces and encouraging patrons to utilize other parking options in order to enjoy the alternate uses of on-street space. Various communities have allowed parking spaces to be used for pop-up uses such as café seating or outdoor vending. A nonprofit organization has declared international Park(ing) Day to temporarily reclaim on-street metered parking spaces as mini parks (<http://parkingday.org/>).

These temporary installations bring interest and intrigue to the district and can be fun opportunities for promotion of the area while at the same time raising awareness of alternative parking options.

Improve Enforcement

No discussion of parking would be fully complete without at least a brief mention of enforcement. Enforcement technologies have advanced in tandem with parking management technologies. For

²⁷ League of American Bicyclists, *Bicycle Friendly Business*, <http://www.bikeleague.org/programs/bicyclefriendlyamerica/bicyclefriendlybusiness/>.

²⁸ Anna Staver, *Annapolis to Build Artistic Bike Racks Downtown*, <http://annapolis.patch.com/articles/annapolis-to-build-artistic-bike-racks-downtown>.

parking management strategies to be effective, they must also be able to be efficiently and reliably enforced. License plate reader technologies and handheld ticketing and tracking devices have made the job of enforcement much easier and have also contributed valuable information from which to continuously evaluate the effectiveness of parking management tools and appropriately alter their application.

The parking scholar Donald Shoup has gone so far as to propose to some communities that, in order to reduce the distaste of parking ticket on the local merchant and resident community, fines from increased enforcement or enforcement of new restrictions also be contributed to the proceeds of the Parking Benefit District, should one be established.

EVALUATION OF TOOLS

The recommended strategies advance the original planning principles of the City Dock Master Plan: practical for implementation, allows flexible use of the City Dock, expands choice, improves mobility and strengthens identity. The table below illustrates the considerations for performance against each principle followed by the overall performance evaluation of the various tools.

Figure 16: City Dock Master Plan Principals and Measures

Principle	Measures
Practicability	Cost effective to implement Implementable within existing authority Appropriate to historic district
Flexibility	Can be easily adjusted with changes in demand Allows physical flexibility of City Dock
Choice	Appropriate to a broad range of travel consumers Provides for different consumer demands Expands or enhances travel options
Mobility	Reduces vehicle congestion Improves safety Improves efficiency to locate and access City Dock
Identity	Improves physical and perceived attractiveness Strengthens brand identity of City Dock

Figure 17: Recommended Strategies Performance Evaluation

	Practical			Flexible		Choice			Mobility			Identity	
	Cost	Authority	Historic reviews	Adjustable	Flexible space	Diverse users	Choice in product	Travel options	Congestion	Safety	Efficiency	Attractiveness	Brand
Valet parking	↑	↑	↑	↑	↑	↔	↔	↔	↔	↑	↑	↑	↑
Pricing	↑	↔	↑	↑	↑	↑	↑	↔	↑	↔	↑	↓	↔
Payment options	↓	↑	↑	↑	↔	↑	↑	↔	↑	↔	↑	↔	↔
Meter technologies	↓	↑	↔	↔	↔	↑	↑	↔	↑	↔	↑	↔	↔
Metering span	↑	↑	↑	↔	↔	↔	↔	↔	↑	↔	↑	↓	↔
Few time limits	↑	↑	↑	↑	↑	↑	↑	↔	↑	↔	↑	↑	↔
Day permits	↓	↔	↑	↑	↑	↔	↔	↔	↔	↔	↑	↔	↔
Reform monthlies	↑	↑	↑	↑	↑	↑	↑	↑	↑	↔	↑	↔	↔
Benefit District	↓	↓	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Wayfinding	↓	↑	↔	↔	↔	↑	↑	↑	↑	↑	↑	↑	↑
User information	↓	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Employee Incentives	↓	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↔
Expanded off-street	↓	↑	↔	↑	↔	↑	↔	↔	↔	↔	↔	↑	↔
New parking	↔	↑	↔	↑	↔	↑	↔	↔	↔	↔	↑	↑	↔
Bicycle parking	↓	↑	↔	↔	↔	↑	↔	↑	↑	↔	↑	↑	↑
Temporary use	↑	↑	↔	↑	↑	↑	↑	↑	↔	↔	↔	↔	↑
Enforcement	↔	↔	↑	↔	↔	↔	↔	↑	↑	↑	↑	↓	↔

 = can improve conditions, generally positive effect, cost effective or within existing authority
 = no effect, potentially mixed outcome, or unknown depending on how implemented
 = potentially negative effect or may require some additional budget or authority

Annapolis Department of Transportation and Department of Planning and Zoning have already initiated the implementation of several tools for better parking management and traveler information. Some of the tool descriptions above may offer recommendations to enhance these initiatives. Initiatives underway or planned include:

- Pricing adjustments (off street)
- Expanded payment options and newer meter technologies (already planned)

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- Investments in wayfinding and traveler information and marketing,
- Artistic bicycle parking

Given the above assessment, the strategies recommended to explore first include:

- Expanded valet parking
- Pricing adjustments, particularly for on-street curbside parking
- Extending span of metering period
- Reducing time limited parking spaces, and
- Reforming monthly parking permit structures.

Actions that may require some capital programming or structural adjustments, but have a high likely return on investment include:

- Additional bicycle parking, and
- Temporary alternative use of on-street parking spaces.

Strategies that show promise, but require further analysis and consideration include:

- Exploring options for day permits
- Establishing a parking benefit district
- Expanding parking at Hillman Garage
- Creating new publically available parking at development sites and
- Enhancements to enforcement.