

**TECHNICAL MEMORANDUM**

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The Wharf

From: Daniel Solomon  
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Date: December 31, 2015

Subject: The Wharf Parcel 1 Stage 2 PUD Traffic Statement

***Introduction***

This memorandum presents the findings of a traffic statement conducted for Parcel 1 of The Wharf in support of its Stage 2 Planned Unit Development (PUD) application (ZC Case Number 11-03C). The Wharf is located between Maine Avenue and the Washington Channel along the Southwest Waterfront, as shown in Figure 1, and is broken up into 11 parcels stretching between existing Maine Avenue Municipal Fish Market and 6<sup>th</sup> Street SW. A Stage 1 PUD application covering the entire project site received Zoning Commission approval on October 11, 2011 (ZC Case 11-03).

This Statement concludes that Parcel 1 will not have a detrimental impact on the surrounding transportation network, for the following reasons:

- The overall development plan for Parcel 1 has decreased since the Stage 1 PUD.
- The site will supply an appropriate amount of vehicular and bicycle parking, and the site will be designed in such a way to promote non-auto modes of transportation, including close proximity to a new Capital Bikeshare station within the Wharf development, a two-way cycle track along Maine Avenue, and improved pedestrian facilities surrounding the site.
- The development will implement a Transportation Demand Management plan, as outlined in this memorandum.
- New traffic generated by Parcel 1 will have a minimal impact to surrounding streets. Minor signal timing adjustments may be necessary to mitigate a slight increase in vehicular delays.

***Project Description***

Parcel 1 is the westernmost parcel of the Project, located adjacent to the Maine Avenue Municipal Fish Market. A map showing the location of Parcel 1 within the context of the Project and the surrounding street network is attached as Figure 2. This Stage 2 PUD application will consist of two structures. The main structure (1000 Maine Avenue SW) will be a 10-story mixed-use building containing approximately 254,569 sf gross floor area plus an approximate 10,113 sf habitable penthouse. 1000 Maine Avenue SW will be predominately office space plus 12,268 sf of ground floor retail and a potential 9,354 sf retail mezzanine occupying the northern portion of the second floor. The applicant has requested flexibility to allow the habitable penthouse to be occupied by retail uses, such as a restaurant or bar, bringing the total potential retail area to 22,381 – 31,735 sf depending on the composition of the second floor. The remaining 222,834 – 232,188 sf would be

devoted to office space. For the purposes of trip generation, this study will assume the maximum possible retail area to give a conservatively high number of site vehicle trips. The second structure will be a 1-story building with approximately 1,480 sf of ground-floor retail. An annotated site plan is attached to this memorandum.

This memorandum supports Parcel 1's Stage 2 PUD application, in keeping with the Zoning Commission conditions for the previously approved Stage 1 PUD, which stated "for each stage two PUD application filed for the project, the Applicant shall provide a supplemental transportation impact study, including transportation demand mitigation measures" (Section C.4, page 37, ZC Order 11-03). All other components of Phase 1 have received Stage 2 PUD approvals, with Parcels 2, 3, 4, and 11 receiving Stage 2 approvals on January 14, 2013 (ZC Case 11-03A) and Parcel 5 receiving Stage 2 approval on May 13, 2013 (ZC Case 11-03B).

The multi-modal impacts of all parcels within the development, including Parcel 1, were analyzed as part of the approved Stage 1 PUD (ZC Case Number 11-03). During the Stage 1 approval process, Parcel 1 was proposed to include 250,000 sf of office space, and 34,000 sf of retail space. As part of the Stage 2 PUD application the proposed development plan for Parcel 1 has been revised to include approximately 222,834 – 232,188 sf of office space and 22,381 – 31,735 sf of retail space. As a result of the conservative assumptions employed for the Stage 1 PUD application, and the reduced development plan, Parcel 1 is projected to generate fewer vehicle trips than were previously assumed in the Stage 1 TIS. Thus, the traffic impacts of the current program will be less than has been found in previous studies.

As a result, the supplementary TIS outlined in this document includes the following elements, generally following the format of the previous Stage 2 supplementary traffic analysis (*The Wharf – Parcel 5 Transportation Evaluation*, revised February 11, 2013).

- Streetscape: A review of public and private space improvements to be conducted around the site.
- Loading and Curbside Management: A discussion on the sufficiency of the provided loading dock and service space as well as any required passenger loading zones.
- Transportation Demand Management: A review of The Phase 1 TDM plan, including its performance monitoring elements, and proposed site-specific strategies to be incorporated for Parcel 1 based on its updated development program and site design.
- Intersection Capacity Analyses: A review of the most recent traffic analysis, conducted in support of Parcel 5's Stage 2 PUD application, to account for the updated Parcel 1 development program. As with the Parcel 5 study, this effort will compare the most recent results (near-term future with Phase 1 and Parcel 5) to conditions with Parcel 1 to show that Parcel 1's impacts have already been accounted for in the Stage 1 study.
- Safety: A review of the safety analyses conducted in support of Phase 1 of The Wharf in the context of the updated Parcel 1 development program and site design.

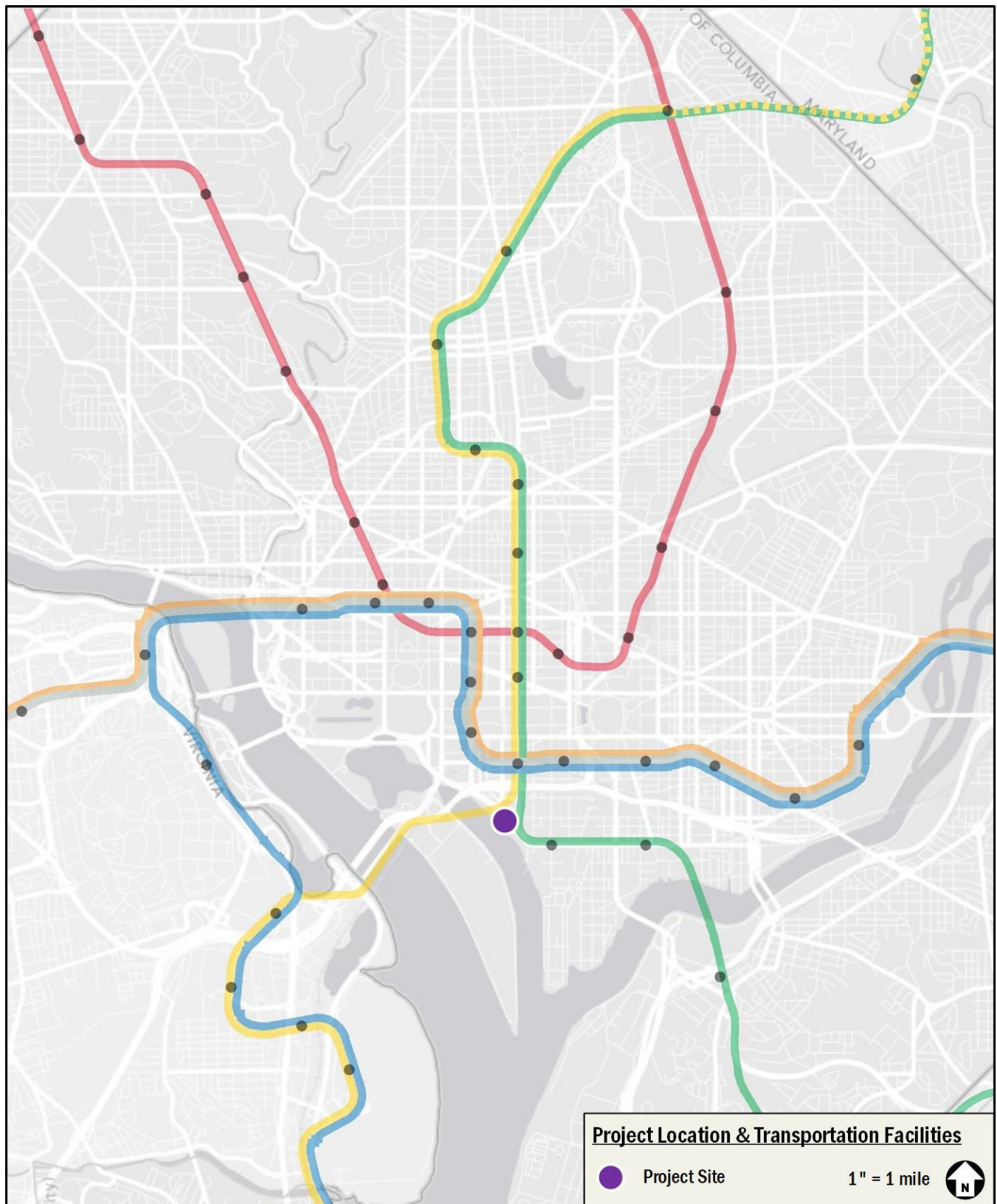


Figure 1: Site Location



Figure 2: Overall Site Plan

### ***Parcel 1 Development Program Update***

The overall development plan for Parcel 1 has been modified from the approved Stage 1 PUD, as shown in Table 1. The proposed Stage 2 PUD changes the overall development plan are as follows based on the most up to date Parcel 1 development program:

- Office space decreased by 17,812 – 27-166 sf ; and
- Retail space decreased by 2,265 – 11,619 sf.

**Table 1: Parcel 1 Development Program Update**

| <b>Plan Component</b>             | <b>Parcel 1 per Stage 1 PUD (ZC Case 11-03)</b>                                                                                                                                | <b>Parcel 1 per Stage 2 PUD plans (ZC Case 11-03C)</b>                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gross Floor Area (both buildings) | 262,846 sf                                                                                                                                                                     | 254,569 sf (264,682 sf with penthouse)                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Office Space                      | 247,538 sf<br><b><i>(Stage 1 TIS assumed 250,000 sf)</i></b>                                                                                                                   | 222,834 – 232,188 sf, depending on composition of 2 <sup>nd</sup> floor, all in 1000 Maine Avenue SW<br><b><i>(the analysis assumes 223,378 sf total based on the PUD Submission dated 8/17/2015)</i></b>                                                                                                                                                                                                                                                                       |
| Retail Space                      | 15,310 sf total, consisting of:<br>- 13,960 sf ground floor retail in 1000 Maine Avenue SW<br>- 1,350 sf in Market Shed<br><b><i>(Stage 1 TIS assumed 34,000 sf total)</i></b> | - <u>1000 Maine Avenue SW</u> : 12,268 sf ground floor retail, plus <u>potential</u> 9,354 sf retail mezzanine on 2 <sup>nd</sup> floor, plus 10,113 sf habitable penthouse<br>- <u>Market Shed</u> : 1,480 sf ground floor retail<br><b><i>(the analysis assumes 36,676 sf total based on the PUD Submission dated 8/17/2015)</i></b>                                                                                                                                          |
| Vehicle Parking                   | Parking to be located in Phase 1 garage, shared between Parcels 1-5                                                                                                            | 78 spaces in shared Parcel 1/2/3/4/5 garage devoted to Parcel 1 office use; retail/visitor parking uses general use spaces in shared Parcel 1/2/3/4/5 garage or 11 surface spaces on new private streets.<br>The Parcel 1 parking plan was previously approved in the earlier PUD entitlements, which included the shared Parcel 1/2/3/4/5 garage (1,495 total spaces). The garage is currently under construction.<br><b><i>(previously approved by Zoning Commission)</i></b> |
| Bike Parking                      | (not broken out by parcel)                                                                                                                                                     | Approximately 16 rack spaces at street level along the future Maine Avenue protected bikeway plus approximately 120 rack spaces under building in shared Parcel 1/2/3/4/5 garage<br><b><i>(exceeds Zoning requirement)</i></b>                                                                                                                                                                                                                                                  |

|                    |                                                                                 |                                                                                                                                                   |
|--------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Loading Facilities | Planned as 2 x 30' berths, "conforming" loading platform, 1 x 20' service space | 2 x 30' berths and 250 sf loading platform in loading dock<br>(Zoning requirement: 3x 30' berths, 300 sf loading platform, 1 x 20' service space) |
|--------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|

## Site Review

This section discusses the existing pedestrian and bicycle facilities surrounding the site, as outlined in *The Wharf Phase 1 Stage 2 TIS*, with updates based on updates and improvements to the network.

### Bicycle Facilities

Within the study area, bicycles have access to multi-use trails, on-street bike lanes, signed bike routes, and local and residential streets that facilitate cycling. The bicycle network generally provides good conditions for local trips and there are several routes for trips between the study area and Northern Virginia, Northwest Washington DC, and destinations east of the Anacostia River.

In the study area, the most direct routes between the site and destinations to the north, east, and south are provided along the Anacostia Riverwalk Trail, Maine Avenue, 4<sup>th</sup> Street, I (Eye) Street, and P Street. The Anacostia Riverwalk Trail, Maine Avenue, and 4<sup>th</sup> Street provide the most direct access between the site and destinations to the west and the north. West of the site, Maine Avenue has a sidewalk along the northern side of the bridge that is used as a multi-use trail connecting the District with Northern Virginia. I (Eye) Street and P Street provide east-west connectivity in the study area. I (Eye) Street is a signed bicycle routes with on-street bicycle lanes. P Street provides good cycling conditions and connects the site to destinations to the east and south such as Nationals Ballpark, The Yards, Fort McNair, and Navy Yard. P Street is also a key component of the Anacostia Riverwalk Trail.

In addition to personal bicycle use, the Capital Bikeshare system provides an additional option for residents, employees, and patrons of the Wharf Parcel 1 development. Within a half-mile of the development there are three Capital Bikeshare station and there will also be two new Capital Bikeshare stations installed by the time Parcel 1 opens as part of earlier parcels in The Wharf development. The locations of these stations and number of docking stations (where available) is shown in Table 2.

**Table 2: Capital Bikeshare Location and Docking Stations**

| Bikeshare Location                              | Number of Docking Stations                                          |
|-------------------------------------------------|---------------------------------------------------------------------|
| 6 <sup>th</sup> & Water Street SW/SW Waterfront | 19 docking stations                                                 |
| Independence Avenue & L'Enfant Plaza SW/DOE     | 14 docking stations                                                 |
| USDA/12 <sup>th</sup> & Independence Avenue SW  | 39 docking stations                                                 |
| 7th Street and Maine Avenue                     | Future station<br>(number of docking stations unknown at this time) |
| 9 <sup>th</sup> Street and Maine Avenue         | Future station<br>(number of docking stations unknown at this time) |
| <b>Total</b>                                    | <b>72+ docking stations</b>                                         |

### Pedestrian Facilities

Overall, the pedestrian facilities surrounding the site provide a good walking environment. Sidewalks, crosswalks, and curb ramps with detectable warnings are provided along the length of Maine Avenue and M Street for most crossings.

Pedestrian activity within the study area occurs along transit access routes, near transit stops, at commercial nodes along Water Street and M Street, and, to a lesser extent, between residential neighborhoods and transit and commercial nodes. Nearby, all streets surrounding the site have adequate sidewalks, planted buffers between sidewalks and the curb, and on-street parking that provides an additional buffer between pedestrians and vehicular traffic.

The bus stops located along Maine Avenue and M Street serve bus routes that provide local and commuter service between the study area and destinations to the north, east, and south. Pedestrians access these bus stops along the local pedestrian network at the site and within the residential neighborhoods located adjacent to the site.

There are some barriers and areas of concern within the study area that negatively impact the quality and attractiveness of walking, including walking distances between the site and some major destinations, manmade and natural barriers that increase walking distances, and roadway conditions that reduce the quality of walking, including narrow sidewalks along several streets, lengthy freeway underpasses, and lengthy crossings at some intersection.

### ***Design Review***

This section provides an overview of the on-site transportation features for Parcel 1 of The Wharf redevelopment. This section reviews the updates to the proposed site facilities discussed during the Phase 1 PUD and provides information about bicycle and pedestrian facilities that were not yet determined during Phase 1. The proposed ground-floor site plan is shown as Figure 3.

### ***Vehicular Access and Circulation***

Vehicular access to Parcel 1 will be from Blair Alley and Market Square, two new private internal street that will be constructed as part of The Wharf development. The entirety of the site has been designed to optimize pedestrian connectivity within the site while allowing for low-speed, low-volume vehicular access to business fronts, restaurants, elderly and disabled passenger drop off, and parking.

Along Maine Avenue SW there will be two curb cuts. The easternmost curb cut will provide right-in/right-out access to Blair Alley, on which the primary parking and loading access points are situated. The westernmost curb cut will provide access to Market Square, where additional on-street parking will be located as well as a connection to Blair Alley. Figure 4 shows the planned vehicular and pedestrian access and circulation for Parcel 1.

### ***Loading***

Parcel 1 contains two 30-foot berths and a shared 250 sf loading platform. These facilities are shared amongst the various land-uses found on site. Truck circulation is planned such that trucks enter and exit Blair Alley from the curb cut on Maine Avenue SW. Truck maneuverability diagrams for the loading docks were included in the Stage 2 PUD submission (Section 3.2, page 175).

Since 90% or more of the Parcel 1 building will be devoted to office use, the loading requirement has been calculated as if the entire building is occupied by office use. As a result, the Applicant is required to provide three 30-foot loading berths, one 20-foot service/delivery space, and three 100 sf loading platforms. Consistent with the loading flexibility already granted by the Zoning Commission in other Stage 2 PUDs, the Applicant is requesting similar flexibility to provide the planned loading facilities.

To determine the loading demand at the shared loading dock, the same assumptions were made as discussed within the Loading and Curbside Management report for Phase 1. General retail stores are expected to have three van-sized deliveries

a week, quick service food establishments are expected to have two van-sized and two 30-foot truck deliveries a week, and full sized restaurants are expected to have two van-sized and four 30-foot truck deliveries a week. Although exact retail tenants are not known at this time, a conservative approach of having six full restaurants was employed for calculating loading demand at Parcel 1. As such, the retail component is predicted to generate 12 van-sized deliveries and 24 30-foot truck deliveries a week, or 1.71 van-sized deliveries and 2.84 30-foot truck deliveries per day. An office building is expected to have 15 van-sized deliveries and three 30-foot truck deliveries per week, or three van-sized deliveries and 0.60 30-foot truck deliveries per day. Therefore, Parcel 1 is expected to have an average daily loading demand of 4.71 van-sized deliveries and 3.44 30-foot deliveries per day. This demand can be accommodated by the site's two truck berths if loading activities are spread evenly throughout the day.

Specific restrictions and guidance regarding loading operations at the Parcel 1 loading docks include:

- A representative of the Operations Manager will supervise all deliveries to the loading dock. This dock manager will monitor vehicle, bicycle, and pedestrian traffic on the internal streets during loading ingress and egress and direct truck movements to minimize conflicts, especially when wide trucks are maneuvering down the alley in two-way traffic.
- Trucks using the loading dock will not be allowed to idle and must follow all District guidelines for heavy vehicle operation including but not limited to DCMR 20 – Chapter 9, Section 900 (Engine Idling), the regulations set forth in DDOT's Freight Management and Commercial Vehicle Operations document, and the primary access routes listed in the DDOT Truck and Bus Route System.
- Delivery trucks will not be permitted to maneuver during peak periods when traffic volumes are highest or at times that would conflict with trash collection. Peak periods are defined as weekdays (excluding holidays) from 7-9 AM and 4-6 PM.
- High-turnover retail and restaurant delivery trucks will not be allowed to use the loading dock during times of high retail and restaurant traffic in The Wharf. Therefore, the dock will close to these delivery vehicles at 4pm on weekdays and at 11am on weekends.

### *Parking*

Vehicle and bicycle parking will be located within the two-level below-grade garage that has already received PUD approval from the Zoning Commission. 78 spaces will be dedicated for Parcel 1 office use, and retail and visitor parking will be accessible through the general-use spaces provided in the below-grade parking garage, with an additional 11 spaces provided along Market Square. The below-grade parking garage that will be shared by Parcels 1 to 5 is currently under-construction and will supply 1,495 parking spaces. As discussed in *The Wharf Phase 1 Stage 2 TIS*, these spaces are intended to be shared between the Parcels as not all land uses will be using the parking facility at the same time.

### *Bicycle & Pedestrian Facilities*

The development will provide both short-term bicycle parking around the perimeter of the site and long-term bicycle parking within the parking garage. These elements of the site plan were unknown during the Stage 1 PUD process, but have since been refined. The current development plan includes approximately 200 short-term bicycle parking throughout The Wharf. Of those 200 short-term bicycle spaces, 16 bike rack spaces along the future Maine Avenue SW protected bikeway will serve Parcel 1. The Maine Avenue SW protected bikeway will be a two-way off-street cycle track that will be constructed in conjunction with Phase 1 of the Wharf development and connect to the existing Anacostia Riverwalk Trail.

Additionally, there will be approximately 120 short-term bicycle spaces and 850 long-term secure bicycle spaces in the shared below-grade parking garage. The bicycle space zoning requirement for office and retail uses is five percent of the required number of vehicle parking spaces; thus the number of bicycle spaces provided by the development far exceeds these requirements. As discussed in *The Wharf Phase 1 Stage 2 TIS*, the design and layout of the bicycle parking supply is intended to be flexible and includes various types of accommodations that will work for different types of cyclists and at different times of the day/week. In addition, to supplement the existing Capital Bikeshare stations in the area, one Capital Bikeshare station will be relocated and one new station will be installed within the Wharf development site, both within a quarter-mile from the Phase 1 site, at 9th Street and 7<sup>th</sup> Street along Maine Avenue.

Pedestrian facilities will be greatly improved within the vicinity of Parcel 1 due to the implementation of shared space roadways, the construction of Market Square and the completion of the Market Square intersection. The Market Square 25,000 sf active open air plaza will serve as a gateway to the Market Pier and Day Docks. Market Square will also contain Market Shed, a smaller-scale retail building that is designed to relate to the context of the waterfront and the Maine Avenue Municipal Fish Market. The Market Square Intersection has been largely constructed and completed already with Phase 1 of The Wharf and the improvements to pedestrian crosswalks, lighting installation, and universal accessibility will be finalized with the construction of Market Square. It will provide a safe, functional, and aesthetically pleasing pedestrian connection across Maine Avenue SW.

Pedestrians will be seen as the primary users of Parcel 1, such that automobiles will travel at lower speed and yield to pedestrians. The combination low speeds and aesthetically pleasing design elements creates a pedestrian environment that is safe, functional, and visually appealing. Additionally, as discussed in the Wharf Phase 1 study, the added pedestrian traffic load expected through the full build-out of The Wharf will not experience negative impacts. Pedestrian facilities along Maine Avenue SW will meet or exceed DDOT requirements, with an emphasis on pedestrian safety and comfort. This includes sidewalks that meet or exceed the width requirements, crosswalks at all necessary locations, curb ramps with detectable warnings, and additional design elements such as curb extensions and room for outdoor seating. The construction of these new pedestrian facilities, in conjunction with those constructed at the other Parcels will greatly improve the pedestrian connectivity within the site as well as throughout the surrounding neighborhoods.

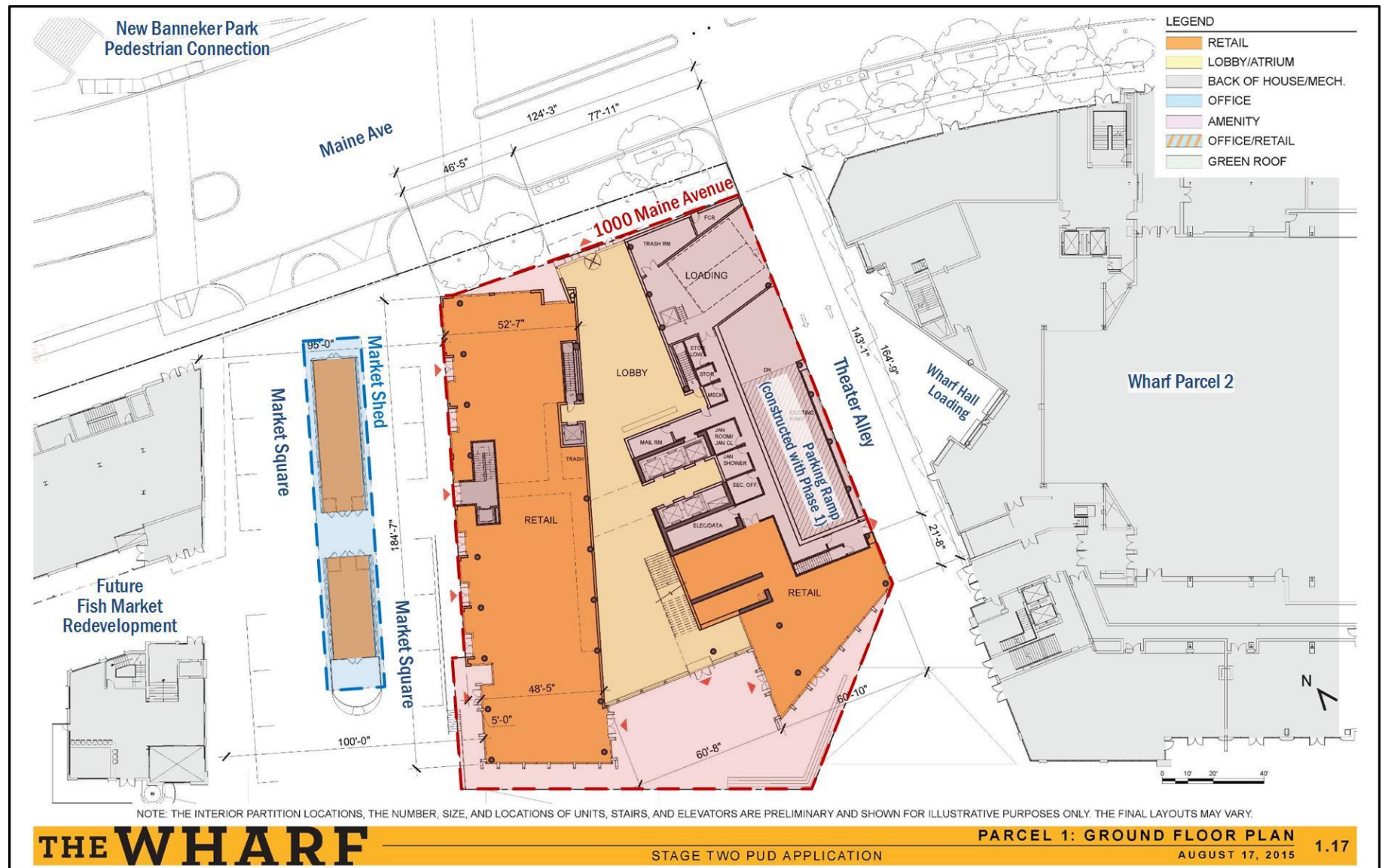


Figure 3: Site Plan

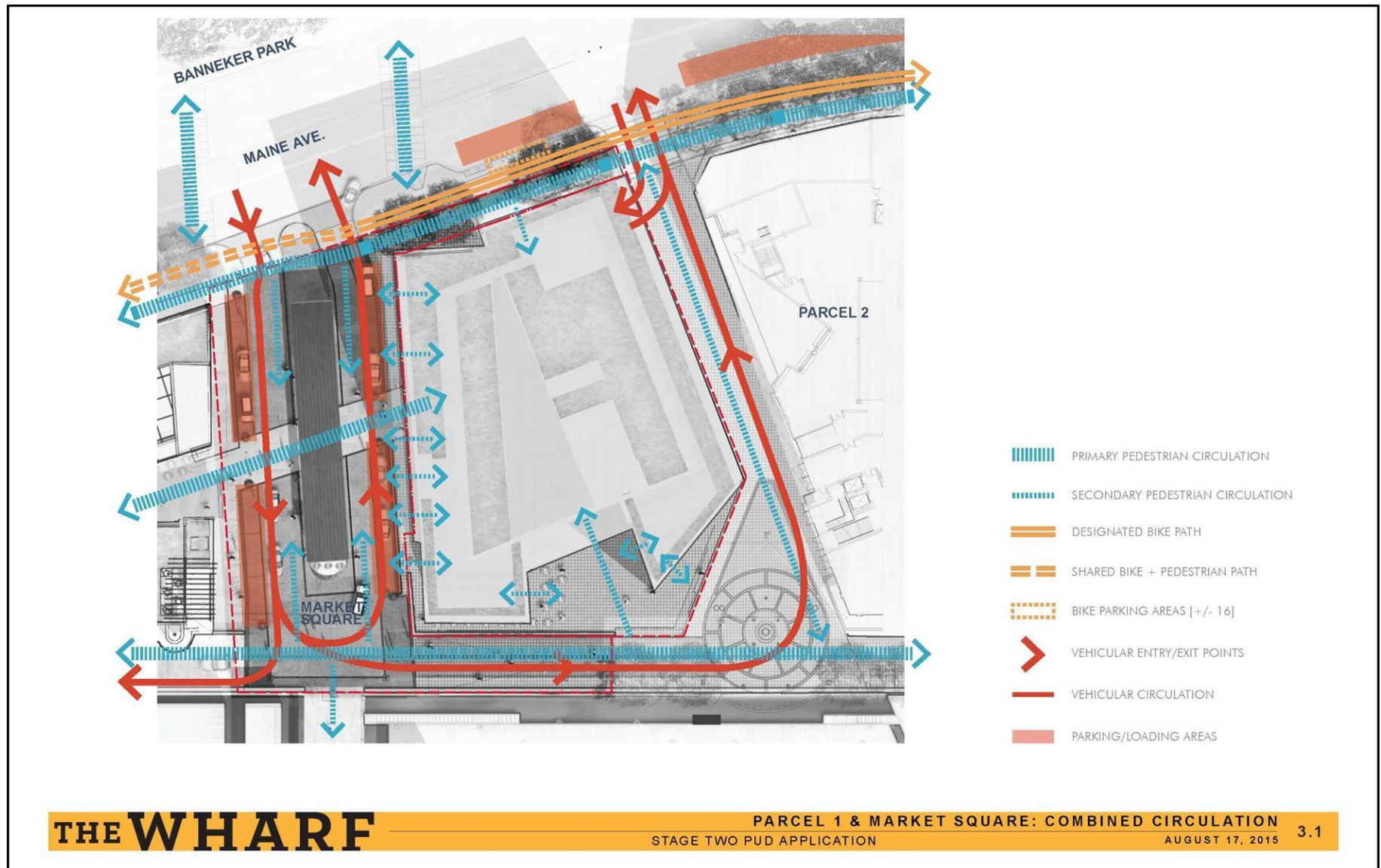


Figure 4: Site Circulation

## ***Transportation Demand Management***

This section reviews the Transportation Demand Management (TDM) strategies discussed in the Warf Phase 1 study and proposed additional strategies specific to the Parcel 1 site. The goal of the TDM strategies is to minimize the impacts of the site traffic on the transportation network and promote the efficient use of transportation resources. TDM strategies are specifically tailored to promote travel modes that have the least impact on the transportation network and other resources, such as the environment, and discourage those that have the greatest impact.

### ***Review of The Wharf Phase 1 TDM Plan***

The TDM plan for the Wharf Phase 1 diverges from what is suggested in DDOT's guidelines through the use of performance monitoring. The Applicant has proposed to perform monitoring of the success of the TDM plan and will adjust measures as needed. The Applicant and DDOT have agreed to a monitoring framework for Phase 1, and the Applicant proposes incorporating Parcel 1 into the same monitoring plan.

Aspects of The Wharf's TDM plan applicable to Parcel 1 are listed below.

- Pedestrian
  - The concept of "shared-space" will be implemented within the Wharf site to ensure a pedestrian-friendly environment in which bicycles and automobiles are guests in the space and proceed with caution and deference to pedestrians within the space.
  - Buildings along Maine Avenue SW have been set back approximately twelve (12) feet from the existing property line to provide for an enhanced "complete streets" streetscape design for the length of the project.
  - Intersections along Maine Avenue will be improved through the provision of corner "bulb-outs" and enhanced crosswalks.
- Bicycle
  - A grade-separated, dedicated, bi-directional cycle-track facility will be provided along the Maine Avenue SW edge of the project site that will serve as a major regional bicycle transportation amenity. The cycle track is designed in accordance with the best practices found in the DDOT Bicycle Facility Design Guide, the NACTO Urban Bikeway Design Guidelines, and AASHTO's Guide for the Development of Bicycle Facilities.
  - A wide variety of bicycle parking facilities will be provided to meet the projected demand on-site, such as traditional U-racks, lift assist stacked racks, and vertically mounted hanging racks, many of which will be located within the below-grade parking garage. Additionally the below-grade garage will offer services such as publicly accessible bicycle pumps, basic bicycle repair and maintenance, and bicycle lock rentals on an hourly basis.
  - The Applicant will fund the relocation of the existing Capital Bikeshare station and the purchase of one new Capital Bikeshare station during Phase 1 of the Project. Space has been allocated along Maine Avenue at 7<sup>th</sup> and 9<sup>th</sup> Street for the placement of these stations.
  - The vertical buildings on-site will provide for on-site showers and changing facilities in accordance with LEED requirements.

- The design and signalization of the intersection of 7<sup>th</sup> and 9<sup>th</sup> as well as the on-site extension of Water Street SW will include bicycle specific signage, striping, and signalization in addition to bicycle specific signage and way-finding designs throughout the Wharf.
- The Applicant will work with vertical building developers to provide bicycles for rental or amenity use by project residents, hotel guests, and employees on a short term basis. Additionally cargo bicycles and/or tricycles may be available for rental use by project residents, tenants, and employees to provide a non-automotive alternative for users who need to make large deliveries or purchases.
- Public Transportation
  - Bus stops at the intersection of 7<sup>th</sup> Street SW and Maine Avenue will be renovated as a part of the “complete streets” reconstruction of Maine Avenue SW. The station design will be coordinated with DDOT to be compliant with Metrobus and Circulator vehicles and to be retrofitted for future streetcar service.
  - There will be one or more points of sales on-site for Metro SmarTrip cards.
  - The Project will provide the needed development density and intensity to support the planned reinstatement of the Convention Center – Southwest Waterfront Circulator route.
  - The Applicant will provide pedestrian enhancements along Maine Avenue to help improve the pedestrian experience and safety when walking between the L’Enfant Metrorail Station and the Waterfront-SEU Metrorail Station and the site
- Marketing and Management
  - A Transportation Demand Management coordinator will be appointed and will monitor the targets set forth in the TDM plan as well as promote and distribute materials discussing available public transit. Such information will also be available on-line on the projects website. The TDM coordinator will train and equip “ambassadors” with skills to assist people with basic bicycle maintenance, the Capital Bikeshare system, available transit options, and preferred pedestrian and bicycle routes to these transit options.
  - Residential building managers, hotel managers, office managers, and retailers should provide transit maps and information to their residents, guests, workers, and patrons.
- Parking and Vehicular Access
  - Below-grade parking garages will be provided in which size, allocation, and configuration have been structured in accordance with the shared parking methodology to economize on parking efficiencies and provide parking that receives a high level of use. Parking rates will be market driven based on “performance parking” methodology to help optimize the use of available parking.
  - Competitively priced parking spaces will be provided for interested Car Sharing companies to host their cars.

### *Parcel 1 TDM Plan*

Along with utilizing the TDM plan discussed in The Wharf Phase 1 study, site-specific TDM strategies will be incorporated for Parcel 1 in conjunction with the specific land uses and layout of the site. All of the TDM measures listed below are being

considered for Parcel 1. These, and other TDM measures, will be incorporated in the TDM plan based on the results of the TDM monitoring.

- A member of the property management group will be a point of contact and will be responsible for coordinating, implementing, and monitoring the TDM strategies. This would include the development and distribution of informational and promotional brochures to patrons and employees regarding transit facilities and services, walk and bicycle facilities and linkages, and car sharing.
- The Applicant will post all TDM commitments on-line, publicize availability, and allow the public to see what commitments have been promised.
- The Applicant will install Transportation Information Center Displays (kiosks) within the office lobby containing printed materials related to local transportation alternatives and maintain a stock of materials at all times. The marketing program should also utilize existing resources such as [www.goDCgo.com](http://www.goDCgo.com), which provides transportation information and options for getting around the District.
- To encourage transit utilization by both Metrorail and Metrobus, employees may fund a SmarTrip or other transit account with pre-tax dollars from their paycheck.

## ***Impacts Review***

### ***Trip Generation***

The updated trip generation for Parcel 1 was calculated using the same methodology as in The Wharf Phase 1 study, in which the Institute of Transportation Engineers' (ITE) Trip Generation, 9th Ed was supplemented to account for the urban nature of the site. Trips were split into four modes: transit (consisting of both Metrorail and Metrobus/DC Circulator), walking, biking, and vehicle. The mode split was developed using survey information contained in several sources: WMATA's *2005 Development-Related Ridership Survey*, WMATA's *Station Site and Access Planning Manual*, Commuter Connections' *2010 State of the Commute Survey Report*, results from the 2000 U.S. Census, and files from Gorove/Slade's library.

For the purpose of the capacity analyses, the development program included in the PUD Submission dated August 17, 2015 was used, which included 223,378 square feet of office space and 36,676 square feet of retail space. The development program has since been updated to include approximately 222,834 – 232,188 sf of office space and 22,381 – 31,735 sf of retail space. Based on the above methodology and the development program from the PUD Submission, the following changes to Parcel 1 vehicular trips were determined:

- AM trip generation decreases by 14 trips (from 171 to 157 trips)
- PM trip generation decreases by 11 trips (from 175 to 164 trips)

Table 3 summarizes the Parcel 1 trip generation for the Stage 1 Application, the current Stage 2 application, and the difference between the two.

**Table 3: Wharf Parcel 1 Trip Generation Comparison**

| <b>Trip Gen Summary by Land Use/Mode (Stage 1 Application)</b> |              |                   |                  |                   |                  |                   |                   |
|----------------------------------------------------------------|--------------|-------------------|------------------|-------------------|------------------|-------------------|-------------------|
| Mode                                                           | Land Use     | AM Peak Hour      |                  |                   | PM Peak Hour     |                   |                   |
|                                                                |              | In                | Out              | Total             | In               | Out               | Total             |
| Auto                                                           | Office       | 144 veh/hr        | 20 veh/hr        | 164 veh/hr        | 25 veh/hr        | 126 veh/hr        | 151 veh/hr        |
| Auto                                                           | Retail       | 4 veh/hr          | 3 veh/hr         | 7 veh/hr          | 12 veh/hr        | 12 veh/hr         | 24 veh/hr         |
| <b>Auto</b>                                                    | <b>Total</b> | <b>148 veh/hr</b> | <b>23 veh/hr</b> | <b>171 veh/hr</b> | <b>37 veh/hr</b> | <b>138 veh/hr</b> | <b>175 veh/hr</b> |
| Transit                                                        | Office       | 196 ppl/hr        | 27 ppl/hr        | 223 ppl/hr        | 35 ppl/hr        | 170 ppl/hr        | 205 ppl/hr        |
| Transit                                                        | Retail       | 21 ppl/hr         | 13 ppl/hr        | 34 ppl/hr         | 62 ppl/hr        | 65 ppl/hr         | 127 ppl/hr        |
| <b>Transit</b>                                                 | <b>Total</b> | <b>217 ppl/hr</b> | <b>40 ppl/hr</b> | <b>257 ppl/hr</b> | <b>97 ppl/hr</b> | <b>235 ppl/hr</b> | <b>332 ppl/hr</b> |
| Bike                                                           | Office       | 11 ppl/hr         | 2 ppl/hr         | 13 ppl/hr         | 2 ppl/hr         | 10 ppl/hr         | 12 ppl/hr         |
| Bike                                                           | Retail       | 4 ppl/hr          | 2 ppl/hr         | 6 ppl/hr          | 11 ppl/hr        | 12 ppl/hr         | 23 ppl/hr         |
| <b>Bike</b>                                                    | <b>Total</b> | <b>15 ppl/hr</b>  | <b>4 ppl/hr</b>  | <b>19 ppl/hr</b>  | <b>13 ppl/hr</b> | <b>22 ppl/hr</b>  | <b>35 ppl/hr</b>  |
| Walk                                                           | Office       | 11 ppl/hr         | 2 ppl/hr         | 13 ppl/hr         | 2 ppl/hr         | 10 ppl/hr         | 12 ppl/hr         |
| Walk                                                           | Retail       | 6 ppl/hr          | 3 ppl/hr         | 9 ppl/hr          | 17 ppl/hr        | 17 ppl/hr         | 34 ppl/hr         |
| <b>Walk</b>                                                    | <b>Total</b> | <b>17 ppl/hr</b>  | <b>5 ppl/hr</b>  | <b>22 ppl/hr</b>  | <b>19 ppl/hr</b> | <b>27 ppl/hr</b>  | <b>46 ppl/hr</b>  |

| <b>Trip Gen Summary by Land Use/Mode (Stage 2 Application)</b> |              |                   |                  |                   |                  |                   |                   |
|----------------------------------------------------------------|--------------|-------------------|------------------|-------------------|------------------|-------------------|-------------------|
| Mode                                                           | Land Use     | AM Peak Hour      |                  |                   | PM Peak Hour     |                   |                   |
|                                                                |              | In                | Out              | Total             | In               | Out               | Total             |
| Auto                                                           | Office       | 132 veh/hr        | 18 veh/hr        | 150 veh/hr        | 24 veh/hr        | 114 veh/hr        | 138 veh/hr        |
| Auto                                                           | Retail       | 4 veh/hr          | 3 veh/hr         | 7 veh/hr          | 13 veh/hr        | 13 veh/hr         | 26 veh/hr         |
| <b>Auto</b>                                                    | <b>Total</b> | <b>136 veh/hr</b> | <b>21 veh/hr</b> | <b>157 veh/hr</b> | <b>37 veh/hr</b> | <b>127 veh/hr</b> | <b>164 veh/hr</b> |
| Transit                                                        | Office       | 179 ppl/hr        | 25 ppl/hr        | 204 ppl/hr        | 32 ppl/hr        | 156 ppl/hr        | 188 ppl/hr        |
| Transit                                                        | Retail       | 23 ppl/hr         | 14 ppl/hr        | 37 ppl/hr         | 67 ppl/hr        | 70 ppl/hr         | 137 ppl/hr        |
| <b>Transit</b>                                                 | <b>Total</b> | <b>202 ppl/hr</b> | <b>39 ppl/hr</b> | <b>241 ppl/hr</b> | <b>99 ppl/hr</b> | <b>226 ppl/hr</b> | <b>325 ppl/hr</b> |
| Bike                                                           | Office       | 10 ppl/hr         | 2 ppl/hr         | 12 ppl/hr         | 2 ppl/hr         | 9 ppl/hr          | 11 ppl/hr         |
| Bike                                                           | Retail       | 4 ppl/hr          | 3 ppl/hr         | 7 ppl/hr          | 12 ppl/hr        | 12 ppl/hr         | 24 ppl/hr         |
| <b>Bike</b>                                                    | <b>Total</b> | <b>14 ppl/hr</b>  | <b>5 ppl/hr</b>  | <b>19 ppl/hr</b>  | <b>14 ppl/hr</b> | <b>21 ppl/hr</b>  | <b>35 ppl/hr</b>  |
| Walk                                                           | Office       | 10 ppl/hr         | 2 ppl/hr         | 12 ppl/hr         | 2 ppl/hr         | 9 ppl/hr          | 11 ppl/hr         |
| Walk                                                           | Retail       | 6 ppl/hr          | 4 ppl/hr         | 10 ppl/hr         | 18 ppl/hr        | 19 ppl/hr         | 37 ppl/hr         |
| <b>Walk</b>                                                    | <b>Total</b> | <b>16 ppl/hr</b>  | <b>6 ppl/hr</b>  | <b>22 ppl/hr</b>  | <b>20 ppl/hr</b> | <b>28 ppl/hr</b>  | <b>48 ppl/hr</b>  |

|                              | AM Peak Hour |           |                   | PM Peak Hour |            |                   |
|------------------------------|--------------|-----------|-------------------|--------------|------------|-------------------|
|                              | In           | Out       | Total             | In           | Out        | Total             |
| Net change in auto trips     | -12 veh/hr   | -2 veh/hr | <b>-14 veh/hr</b> | 0 veh/hr     | -11 veh/hr | <b>-11 veh/hr</b> |
| Net change in non-auto trips | -17 ppl/hr   | 1 ppl/hr  | <b>-16 ppl/hr</b> | 4 ppl/hr     | -9 ppl/hr  | <b>-5 ppl/hr</b>  |

### *Intersection Capacity Analysis Comparison*

In order to determine Parcel 1's potential traffic impact, the capacity analyses performed for the most recent analysis of Phase 1 of the Wharf, the Parcel 5 Transportation Evaluation, was updated. To determine the direct impacts of Parcel 1, the Near-Term Future Conditions with Phase 1 and Parcel 5 from the Parcel 5 study were analyzed and compared to Near-Term

Future Conditions with Phase 1, Parcel 5, and Parcel 1. The Existing and Background Conditions from the Phase 1 study will not change due to the inclusion of Parcel 1 therefore they were not included in this analysis.

The study area remained the same from the Phase 1 study and includes the following intersections. Counts were collected for these intersections on Tuesday, September 14<sup>th</sup>, 2010, Wednesday, September 15<sup>th</sup>, 2010, and Thursday, September 16<sup>th</sup>, 2010.

1. 14<sup>th</sup> Street & C Street, SW
2. 12<sup>th</sup> Street & C Street, SW
3. 14<sup>th</sup> Street & D Street, SW
4. 12<sup>th</sup> Street & D Street, SW
5. Maine Avenue & 14<sup>th</sup> Street Ramp, SW
6. 12<sup>th</sup> Street & Maine Avenue, SW
7. Maine Avenue & Fish Market Dwy #1, SW
8. Maine Avenue & Fish Market Dwy #2, SW
9. 9<sup>th</sup> Street & G Street/I-395 Exit Ramp, SW
10. 9<sup>th</sup> Street & L'Enfant Promenade, SW
11. Maine Avenue & 9<sup>th</sup> Street/SWW Dwy #2, SW
12. 7<sup>th</sup> Street & Frontage Road/I-395 Exit Ramp, SW
13. 7<sup>th</sup> Street & G Street, SW
14. 7<sup>th</sup> Street & I Street, SW
15. Maine Avenue & 7<sup>th</sup> Street/SWW Dwy #5, SW
16. Maine Avenue & SWW Dwy #8, SW
17. Maine Avenue & 6<sup>th</sup> Street/SWW Dwy #11, SW
18. 4<sup>th</sup> Street & G Street, SW
19. 4<sup>th</sup> Street & I Street, SW
20. 4<sup>th</sup> Street & M Street, SW
21. 3<sup>rd</sup> Street & M Street, SW
22. Delaware Avenue & M Street, SW
23. 1<sup>st</sup> Street & M Street, SW
24. Half Street & M Street, SW

Trip routing for Parcel 1 was determined based on the methodology outlined in the Wharf Phase 1 report in which trips were distributed and assigned to the network based on an analysis of the Metropolitan Washington Council of Governments (MWCOG) transportation planning modes. Site-generated trips were added to the Near-Term Future Conditions with Phase 1 and Parcel 5 Synchro network used in the Parcel 5 Transportation Evaluation, which included existing volumes, roadway improvements, background developments, Phase 1 (Parcels 2, 3, and 4) site-generated trips, and Parcel 5 site-generated trips.

Intersection capacity analyses were performed on all study intersections in the network for the AM and PM peak hours. The results of the capacity analyses are expressed in level of service (LOS) and delay (seconds per vehicle) for each approach. A LOS grade is a letter grade based on the average delay (in seconds) experienced by motorists traveling through the

intersection. LOS results range from “A” being the best to “F” being the worst. LOS D is typically used as the acceptable LOS threshold in the District; although LOS E and F are sometimes accepted in urbanized area.

The results of the capacity analyses for the near-term future conditions with and without Parcel 1 are shown in Table 5. As shown, the inclusion of Parcel 1 in Phase 1 of the Wharf PUD results in slight changes to LOS and minimal increases to delay for the majority of intersections. There are two intersections that have an approach that degrades to LOS E as a result of the development.

- *Maine Avenue & 9<sup>th</sup> Street*  
The eastbound approach of this intersection operates at an LOS E during the PM peak hour as a result of the development. This intersection can be improved to acceptable operations by way of signal timing adjustments.
- *Maine Avenue & Fish Market Driveway #3*  
The southbound approach of this intersection operates at an LOS E during the AM peak hour as a result of the development. This intersection can also be improved to acceptable operations by way of signal timing adjustments.

The LOS and delay improvements associated with these improvements are shown in Table 4.

**Table 4: Summary of Mitigation Results**

| Intersection                      | Approach   | Near-Term Future Conditions with Parcel 1 |     |              |     | Near-Term Future Conditions with Parcel 1 - Mitigated |     |              |     |
|-----------------------------------|------------|-------------------------------------------|-----|--------------|-----|-------------------------------------------------------|-----|--------------|-----|
|                                   |            | AM Peak Hour                              |     | PM Peak Hour |     | AM Peak Hour                                          |     | PM Peak Hour |     |
|                                   |            | Delay                                     | LOS | Delay        | LOS | Delay                                                 | LOS | Delay        | LOS |
| 11 Maine Ave & 9th St/SWW Dwy #2  | Overall    | 33.1                                      | C   | 42.8         | D   | --                                                    | --  | 36.9         | D   |
|                                   | Eastbound  | 41.2                                      | D   | 64.5         | E   | --                                                    | --  | 47.1         | D   |
|                                   | Westbound  | 22.2                                      | C   | 24.3         | C   | --                                                    | --  | 24.3         | C   |
|                                   | Northbound | 35.3                                      | D   | 48.9         | D   | --                                                    | --  | 48.9         | D   |
|                                   | Southbound | 38.3                                      | D   | 41.9         | D   | --                                                    | --  | 41.9         | D   |
| 25 Maine Ave & Fish Market Dwy #3 | Overall    | 21.9                                      | C   | 34.0         | C   | 20.9                                                  | C   | --           | --  |
|                                   | Eastbound  | 17.5                                      | B   | 15.3         | B   | 18.4                                                  | B   | --           | --  |
|                                   | Westbound  | 19.3                                      | B   | 44.7         | D   | 18.5                                                  | B   | --           | --  |
|                                   | Northbound | 31.5                                      | C   | 46.2         | D   | 31.5                                                  | C   | --           | --  |
|                                   | Southbound | 57.9                                      | E   | 28.5         | C   | 45.5                                                  | D   | --           | --  |

## Safety

A safety analysis was performed to determine if there was an abnormally high accident rate at any study area intersection. Phase 1 of The Wharf should be designed in a manner to help alleviate, or at minimum not add to the conflicts at intersections with elevated crash rates. The following summarizes the complete safety analysis performed in The Wharf Phase 1 study. Three intersections were identified with elevated crash rates: D Street SW & 12<sup>th</sup> Street SW, M Street SW & 4<sup>th</sup> Street SW, and M Street SW & 1<sup>st</sup> Street SW. All three of these intersections had crash rates slightly above the threshold for further review. This memorandum does not recommend mitigation measures at these intersections as the proposed development is not projected to make significant changes to the commuting patterns, operations, or geometry of these

intersections. In addition, the intersection of M Street SW & 4<sup>th</sup> Street SW was previously studied and modified by DDOT in response to pedestrian safety concerns. Thus, recent crash data is not relevant to draw conclusions on this intersection, and a review of crash data would be revisited when sufficient time passes. None of these intersections are located adjacent to Parcel 1.

The pedestrian improvements adjacent to the site along Maine Avenue SW include elements that can theoretically reduce speeds and crash rates. In addition to these physical improvements, this memorandum recommends that DDOT consider adding Leading Pedestrian Intervals (LPI) to the signalized intersections within the study area. Furthermore and as mentioned above, the Benjamin Banneker Park Pedestrian Access Improvements and new signal connecting Banneker Park and The Wharf, will improve pedestrian access to the site.

### ***Summary and Conclusions***

This Traffic Statement concludes that Parcel 1 will not have a detrimental impact on the surrounding transportation network. The conclusions and mitigations reached in prior reports analysis performed for the Stage 1 PUD for The Wharf and subsequent Stage 2 PUD studies for other parcels remain valid. The design elements of Parcel 1 detailed in the Stage 2 application are consistent with the Stage 1 approvals and will improve multi-modal access at the site. The following is a summary of the findings reached in this Statement:

#### Design Review

- Vehicular access to Parcel 1 will be from two curb cuts along Maine Avenue SW, as per the Stage 1 PUD approvals. The overall access plan was reviewed in the Stage 1 PUD, and the amount of vehicular access and location of curb cuts is appropriate.
- The site is designed for predominantly pedestrian use and circulation, with low-speed and low-volume vehicular and bicycle access. The installation of a traffic signal on Maine Avenue SW connecting Banneker Park to The Wharf will improve pedestrian connectivity to and from the site.
- Loading and parking access will take place along Blair Alley, on the eastern edge of the Parcel. Two 30-foot loading berths will adequately service the needs of all tenants on site.
- Vehicular parking for Parcel 1 will be provided in the Phase 1 shared below-grade parking garage, which is accessed through Theater Alley. The below-grade garage has 1,495 total spaces, 78 of which are devoted for Parcel 1 office use. Eleven (11) surface parking spots will be available for patron parking along Market Square. The overall parking plan for The Wharf was described in prior studies, and is an adequate amount to accommodate all parking demand while not encouraging driving as a mode.
- Approximately 320 short-term bicycle rack spaces will be available for Phase 1. In the vicinity of Parcel 1, approximately 16 will be at street level along the future Maine Avenue SW protected bikeway. Approximately 120 short-term bike spaces will be in the shared below-grade garage. The amount of bicycle parking exceeds zoning requirements, is more than adequate to accommodate demand, and the quality and variety of options provided to cyclists will help encourage bicycling as a mode.

#### Transportation Demand Management (TDM)

- The Applicant proposes to incorporate Parcel 1 into the TDM monitoring plan agreement reached between the Applicant and DDOT regarding Phase 1. The TDM measures incorporated into Parcel 1 will be based on the monitoring of vehicular generated trips per the agreement.
- Site specific TDM strategies will be considered for Parcel 1, and their inclusion will be based on the results of the monitoring program.

#### Impacts Review

- Traffic generated by Parcel 1 will be less than what was projected in the Stage 1 PUD analysis.
- Traffic generated by Parcel 1 will have a minor impact on study area intersections. The majority of intersections experience a minimal change to LOS and delay.
- Two intersections (Maine Avenue & 9<sup>th</sup> Street and Maine Avenue & Fish Market Driveway #3) have slight increases to delay that push them over acceptable thresholds. These impacts can be mitigated through minor signal timing adjustments.

**Table 5: Vehicular Capacity Analysis Results**

| Intersection                                       | Approach        | Near-Term Future Conditions<br>from Parcel 5 Study |          |              |          | Near-Term Future<br>Conditions with Parcel 1 |          |              |          |
|----------------------------------------------------|-----------------|----------------------------------------------------|----------|--------------|----------|----------------------------------------------|----------|--------------|----------|
|                                                    |                 | AM Peak Hour                                       |          | PM Peak Hour |          | AM Peak Hour                                 |          | PM Peak Hour |          |
|                                                    |                 | Delay                                              | LOS      | Delay        | LOS      | Delay                                        | LOS      | Delay        | LOS      |
| <b>1 14th St &amp; C St</b>                        | <b>Overall</b>  | <b>19.1</b>                                        | <b>B</b> | <b>22.4</b>  | <b>C</b> | <b>19.1</b>                                  | <b>B</b> | <b>22.4</b>  | <b>C</b> |
|                                                    | Westbound       | 56.4                                               | E        | 18.2         | B        | 57.0                                         | E        | 18.2         | B        |
|                                                    | Northbound      | 20.2                                               | C        | 22.4         | C        | 20.1                                         | C        | 22.4         | C        |
|                                                    | Southbound      | 9.2                                                | A        | 24.3         | C        | 9.2                                          | A        | 24.3         | C        |
| <b>2 12th St &amp; C St</b>                        | <b>Overall</b>  | <b>14.9</b>                                        | <b>B</b> | <b>43.5</b>  | <b>D</b> | <b>15.0</b>                                  | <b>B</b> | <b>43.9</b>  | <b>D</b> |
|                                                    | Eastbound       | 15.2                                               | B        | 100.6        | F        | 15.3                                         | B        | 101.0        | F        |
|                                                    | Westbound       | 17.5                                               | B        | 28.9         | C        | 17.5                                         | B        | 28.9         | C        |
|                                                    | Northbound      | 8.5                                                | A        | 6.8          | A        | 8.5                                          | A        | 6.8          | A        |
|                                                    | Southbound      | 26.1                                               | C        | 64.2         | E        | 26.1                                         | C        | 64.7         | E        |
| <b>3 14th St &amp; D St</b>                        | Westbound       | 17.2                                               | C        | 14.4         | B        | 17.3                                         | C        | 14.4         | B        |
| <b>4 12th St &amp; D St</b>                        | <b>Overall</b>  | <b>19.3</b>                                        | <b>B</b> | <b>17.7</b>  | <b>B</b> | <b>19.7</b>                                  | <b>B</b> | <b>17.8</b>  | <b>B</b> |
|                                                    | Eastbound       | 14.5                                               | B        | 20.9         | C        | 14.5                                         | B        | 20.9         | C        |
|                                                    | Westbound       | 19.2                                               | B        | 21.0         | B        | 19.8                                         | B        | 21.2         | C        |
|                                                    | Northbound      | 17.2                                               | B        | 17.1         | B        | 17.3                                         | B        | 17.1         | B        |
|                                                    | Southbound      | 23.7                                               | C        | 15.0         | B        | 24.0                                         | C        | 15.1         | B        |
| <b>5 Maine Ave &amp; 14th St Ramp</b>              | <b>Overall</b>  | <b>15.2</b>                                        | <b>B</b> | <b>9.7</b>   | <b>A</b> | <b>15.2</b>                                  | <b>B</b> | <b>9.7</b>   | <b>A</b> |
|                                                    | Eastbound       | 24.8                                               | C        | 19.8         | B        | 24.8                                         | C        | 19.8         | B        |
|                                                    | Westbound       | 0.4                                                | A        | 0.7          | A        | 0.4                                          | A        | 0.7          | A        |
|                                                    | Northbound      | 63.5                                               | E        | 44.1         | D        | 63.9                                         | E        | 44.1         | D        |
| <b>6 12th St &amp; Maine Ave</b>                   | <b>Overall</b>  | <b>8.4</b>                                         | <b>A</b> | <b>11.9</b>  | <b>B</b> | <b>9.2</b>                                   | <b>A</b> | <b>12.2</b>  | <b>B</b> |
|                                                    | Northbound      | 4.3                                                | A        | 5.1          | A        | 4.3                                          | A        | 5.1          | A        |
|                                                    | Southbound      | 20.5                                               | C        | 31.2         | C        | 21.8                                         | C        | 32.0         | C        |
| <b>7 Maine Ave &amp; Fish Market Dwy #1</b>        | Northbound      | 17.8                                               | C        | 16.4         | C        | 18.5                                         | C        | 16.5         | C        |
| <b>8 Maine Ave &amp; Fish Market Dwy #2</b>        | Northbound      | 12.1                                               | B        | 11.8         | B        | 12.3                                         | B        | 11.9         | B        |
| <b>9 9th St &amp; G St/I-395 Exit Ramp</b>         | <b>Overall</b>  | <b>21.1</b>                                        | <b>C</b> | <b>31.8</b>  | <b>D</b> | <b>21.5</b>                                  | <b>C</b> | <b>33.4</b>  | <b>D</b> |
|                                                    | Northbound      | 13.6                                               | B        | 15.2         | C        | 13.9                                         | B        | 17.1         | C        |
|                                                    | Southbound      | 15.6                                               | C        | 44.8         | E        | 15.8                                         | C        | 47.8         | E        |
|                                                    | Southeast       | 26.0                                               | D        | 12.8         | B        | 26.6                                         | D        | 12.9         | B        |
| <b>10 9th St &amp; L'Enfant Promenade</b>          | Eastbound       | 10.8                                               | B        | 12.2         | B        | 10.8                                         | B        | 12.2         | B        |
|                                                    | Northbound Left | 10.2                                               | B        | 10.7         | B        | 10.3                                         | B        | 10.8         | B        |
| <b>11 Maine Ave &amp; 9th St/SWW Dwy #2</b>        | <b>Overall</b>  | <b>31.8</b>                                        | <b>C</b> | <b>34.7</b>  | <b>C</b> | <b>33.1</b>                                  | <b>C</b> | <b>42.8</b>  | <b>D</b> |
|                                                    | Eastbound       | 39.8                                               | D        | 41.6         | D        | 41.2                                         | D        | 64.5         | E        |
|                                                    | Westbound       | 19.6                                               | B        | 24.1         | C        | 22.2                                         | C        | 24.3         | C        |
|                                                    | Northbound      | 35.3                                               | D        | 48.9         | D        | 35.3                                         | D        | 48.9         | D        |
|                                                    | Southbound      | 38.6                                               | D        | 41.9         | D        | 38.3                                         | D        | 41.9         | D        |
| <b>12 7th St &amp; Frontage Rd/I-395 Exit Ramp</b> | <b>Overall</b>  | <b>31.7</b>                                        | <b>C</b> | <b>20.0</b>  | <b>B</b> | <b>32.1</b>                                  | <b>C</b> | <b>20.6</b>  | <b>C</b> |
|                                                    | Eastbound       | 8.6                                                | A        | 23.7         | C        | 8.5                                          | A        | 23.7         | C        |

| Intersection                       | Approach       | Near-Term Future Conditions<br>from Parcel 5 Study |          |              |          | Near-Term Future<br>Conditions with Parcel 1 |          |              |          |
|------------------------------------|----------------|----------------------------------------------------|----------|--------------|----------|----------------------------------------------|----------|--------------|----------|
|                                    |                | AM Peak Hour                                       |          | PM Peak Hour |          | AM Peak Hour                                 |          | PM Peak Hour |          |
|                                    |                | Delay                                              | LOS      | Delay        | LOS      | Delay                                        | LOS      | Delay        | LOS      |
| 13 7th St & G St                   | Westbound      | 27.8                                               | C        | 27.6         | C        | 27.5                                         | C        | 27.8         | C        |
|                                    | Northbound     | 33.2                                               | C        | 13.9         | B        | 34.6                                         | C        | 16.3         | B        |
|                                    | Southbound     | 38.2                                               | D        | 20.5         | C        | 38.4                                         | D        | 20.5         | C        |
|                                    | <b>Overall</b> | <b>24.3</b>                                        | <b>C</b> | <b>14.7</b>  | <b>B</b> | <b>24.8</b>                                  | <b>C</b> | <b>14.7</b>  | <b>B</b> |
|                                    | Eastbound      | 12.9                                               | B        | 15.2         | B        | 12.9                                         | B        | 16.1         | B        |
|                                    | Westbound      | 12.2                                               | B        | 8.9          | A        | 12.2                                         | B        | 9.3          | A        |
| 14 7th St & I St                   | Northbound     | 35.6                                               | D        | 11.7         | B        | 36.2                                         | D        | 10.9         | B        |
|                                    | Southbound     | 34.5                                               | C        | 19.8         | B        | 34.9                                         | C        | 20.0         | C        |
|                                    | <b>Overall</b> | <b>11.3</b>                                        | <b>B</b> | <b>10.6</b>  | <b>B</b> | <b>10.9</b>                                  | <b>B</b> | <b>10.7</b>  | <b>B</b> |
|                                    | Westbound      | 31.7                                               | C        | 11.4         | B        | 31.1                                         | C        | 11.4         | B        |
| 15 Maine Ave & 7th St/SWW Dwy #5   | Northbound     | 4.2                                                | A        | 13.4         | B        | 3.9                                          | A        | 12.5         | B        |
|                                    | Southbound     | 7.2                                                | A        | 8.3          | A        | 7.0                                          | A        | 8.9          | A        |
|                                    | <b>Overall</b> | <b>12.7</b>                                        | <b>B</b> | <b>14.8</b>  | <b>B</b> | <b>12.8</b>                                  | <b>B</b> | <b>14.7</b>  | <b>B</b> |
|                                    | Eastbound      | 10.6                                               | B        | 8.0          | A        | 10.7                                         | B        | 8.0          | A        |
|                                    | Westbound      | 11.8                                               | B        | 16.6         | B        | 12.0                                         | B        | 16.8         | B        |
| 16 Maine Ave & SWW Dwy #8          | Northbound     | 24.4                                               | C        | 27.9         | C        | 24.4                                         | C        | 27.9         | C        |
|                                    | Southbound     | 19.5                                               | B        | 26.3         | C        | 18.7                                         | B        | 26.1         | C        |
|                                    | <b>Overall</b> | <b>9.6</b>                                         | <b>A</b> | <b>10.0</b>  | <b>B</b> | <b>9.6</b>                                   | <b>A</b> | <b>10.1</b>  | <b>B</b> |
| 17 Maine Ave & 6th St/SWWF Dwy #11 | Northbound     | 9.6                                                | A        | 10.0         | B        | 9.6                                          | A        | 10.1         | B        |
|                                    | <b>Overall</b> | <b>7.0</b>                                         | <b>A</b> | <b>16.4</b>  | <b>B</b> | <b>7.0</b>                                   | <b>A</b> | <b>16.6</b>  | <b>B</b> |
|                                    | Eastbound      | 6.6                                                | A        | 18.4         | B        | 6.6                                          | A        | 18.7         | B        |
|                                    | Westbound      | 6.1                                                | A        | 13.5         | B        | 6.2                                          | A        | 13.6         | B        |
|                                    | Northbound     | 27.2                                               | C        | 27.9         | C        | 27.2                                         | C        | 27.9         | C        |
| 18 4th St & G St                   | Southbound     | 28.4                                               | C        | 31.5         | C        | 28.4                                         | C        | 31.5         | C        |
|                                    | <b>Overall</b> | <b>28.7</b>                                        | <b>C</b> | <b>15.3</b>  | <b>B</b> | <b>28.7</b>                                  | <b>C</b> | <b>15.3</b>  | <b>B</b> |
|                                    | Eastbound      | 33.9                                               | C        | 23.2         | C        | 34.0                                         | C        | 23.2         | C        |
|                                    | Westbound      | 13.0                                               | B        | 26.4         | C        | 13.0                                         | B        | 26.4         | C        |
|                                    | Northbound     | 31.3                                               | C        | 7.0          | A        | 31.5                                         | C        | 7.0          | A        |
| 19 4th St & I St                   | Southbound     | 26.0                                               | C        | 14.5         | B        | 26.0                                         | C        | 14.6         | B        |
|                                    | <b>Overall</b> | <b>14.4</b>                                        | <b>B</b> | <b>30.8</b>  | <b>C</b> | <b>14.4</b>                                  | <b>B</b> | <b>31.1</b>  | <b>C</b> |
|                                    | Eastbound      | 6.0                                                | A        | 16.7         | B        | 6.0                                          | A        | 17.4         | B        |
|                                    | Westbound      | 22.1                                               | C        | 27.6         | C        | 22.2                                         | C        | 27.8         | C        |
|                                    | Northbound     | 9.7                                                | A        | 44.8         | D        | 9.6                                          | A        | 44.8         | D        |
| 20 4th St & M St                   | Southbound     | 19.0                                               | B        | 37.5         | D        | 19.1                                         | B        | 37.6         | D        |
|                                    | <b>Overall</b> | <b>9.1</b>                                         | <b>A</b> | <b>40.4</b>  | <b>D</b> | <b>9.2</b>                                   | <b>A</b> | <b>41.2</b>  | <b>D</b> |
|                                    | Eastbound      | 8.3                                                | A        | 62.1         | E        | 8.4                                          | A        | 63.2         | E        |
|                                    | Westbound      | 4.1                                                | A        | 12.0         | B        | 4.1                                          | A        | 12.7         | B        |
|                                    | Northbound     | 31.2                                               | C        | 43.4         | D        | 31.2                                         | C        | 43.4         | D        |
|                                    | Southbound     | 15.6                                               | B        | 29.5         | C        | 15.7                                         | B        | 29.8         | C        |

| Intersection                      | Approach   | Near-Term Future Conditions<br>from Parcel 5 Study |     |              |     | Near-Term Future<br>Conditions with Parcel 1 |     |              |     |
|-----------------------------------|------------|----------------------------------------------------|-----|--------------|-----|----------------------------------------------|-----|--------------|-----|
|                                   |            | AM Peak Hour                                       |     | PM Peak Hour |     | AM Peak Hour                                 |     | PM Peak Hour |     |
|                                   |            | Delay                                              | LOS | Delay        | LOS | Delay                                        | LOS | Delay        | LOS |
| 21 3rd St & M St                  | Overall    | 10.9                                               | B   | 22.2         | C   | 11.1                                         | B   | 22.3         | C   |
|                                   | Eastbound  | 5.3                                                | A   | 8.4          | A   | 5.4                                          | A   | 8.7          | A   |
|                                   | Westbound  | 12.6                                               | B   | 34.8         | C   | 12.8                                         | B   | 34.9         | C   |
|                                   | Northbound | 29.6                                               | C   | 19.4         | B   | 29.6                                         | C   | 19.4         | B   |
|                                   | Southbound | 34.6                                               | C   | 30.8         | C   | 34.8                                         | C   | 30.8         | C   |
| 22 Delaware Ave & M St            | Overall    | 6.4                                                | A   | 4.1          | A   | 6.3                                          | A   | 4.1          | A   |
|                                   | Eastbound  | 10.7                                               | B   | 0.9          | A   | 10.6                                         | B   | 0.9          | A   |
|                                   | Westbound  | 0.7                                                | A   | 2.9          | A   | 0.7                                          | A   | 2.9          | A   |
|                                   | Northbound | 48.1                                               | D   | 50.2         | D   | 48.1                                         | D   | 50.4         | D   |
|                                   | Southbound | 37.6                                               | D   | 40.7         | D   | 37.6                                         | D   | 40.7         | D   |
| 23 1st St & M St                  | Overall    | 13.4                                               | B   | 15.2         | B   | 13.6                                         | B   | 15.3         | B   |
|                                   | Eastbound  | 12.4                                               | B   | 15.8         | B   | 12.7                                         | B   | 16.0         | B   |
|                                   | Westbound  | 12.0                                               | B   | 7.6          | A   | 12.1                                         | B   | 7.6          | A   |
|                                   | Northbound | 30.0                                               | C   | 32.7         | C   | 30.0                                         | C   | 32.8         | C   |
|                                   | Southbound | 45.9                                               | D   | 47.9         | D   | 43.5                                         | D   | 47.9         | D   |
| 24 Half St & M St                 | Overall    | 9.6                                                | A   | 6.7          | A   | 9.7                                          | A   | 6.7          | A   |
|                                   | Eastbound  | 1.9                                                | A   | 3.4          | A   | 2.0                                          | A   | 3.4          | A   |
|                                   | Westbound  | 11.9                                               | B   | 5.1          | A   | 12.0                                         | B   | 5.1          | A   |
|                                   | Southbound | 32.3                                               | C   | 34.8         | C   | 32.4                                         | C   | 34.9         | C   |
| 25 Maine Ave & Fish Market Dwy #3 | Overall    | 18.1                                               | B   | 34.3         | C   | 21.9                                         | C   | 34.0         | C   |
|                                   | Eastbound  | 14.8                                               | B   | 15.1         | B   | 17.5                                         | B   | 15.3         | B   |
|                                   | Westbound  | 17.7                                               | B   | 45.4         | D   | 19.3                                         | B   | 44.7         | D   |
|                                   | Northbound | 31.5                                               | C   | 46.2         | D   | 31.5                                         | C   | 46.2         | D   |
|                                   | Southbound | 38.4                                               | D   | 27.6         | C   | 57.9                                         | E   | 28.5         | C   |
| 26 Maine Ave & SWW Dwy #1         | Northbound | 9.6                                                | A   | 9.6          | A   | 9.8                                          | A   | 10.6         | B   |
| 27 Maine Ave & SWW Dwy #3         | Northbound | 9.9                                                | A   | 10.0         | B   | 10.0                                         | B   | 10.1         | B   |
| 28 Maine Ave & SWW Dwy #4         | Northbound | 9.6                                                | A   | 9.7          | A   | 9.7                                          | A   | 9.9          | A   |
| 29 Maine Ave & SWW Dwy #6         | Northbound | --                                                 | --  | --           | --  | --                                           | --  | --           | --  |
| 30 Maine Ave & SWW Dwy #7         | Overall    | --                                                 | --  | --           | --  | --                                           | --  | --           | --  |
|                                   | Eastbound  | --                                                 | --  | --           | --  | --                                           | --  | --           | --  |
|                                   | Westbound  | --                                                 | --  | --           | --  | --                                           | --  | --           | --  |
|                                   | Northbound | --                                                 | --  | --           | --  | --                                           | --  | --           | --  |
| 31 Maine Ave & SWW Dwy #9         | Overall    | --                                                 | --  | --           | --  | --                                           | --  | --           | --  |
|                                   | Eastbound  | --                                                 | --  | --           | --  | --                                           | --  | --           | --  |
|                                   | Westbound  | --                                                 | --  | --           | --  | --                                           | --  | --           | --  |
| 32 Maine Ave & SWW Dwy #10        | Northbound | 9.2                                                | A   | 9.6          | A   | 9.3                                          | A   | 9.7          | A   |