

# WELLS + ASSOCIATES

## MEMORANDUM



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**TO:** Patrick Reed, AICP – DDOT

**FROM:** Jami L. Milanovich, P.E.  
Julian L. Coles

**COPY:** Joseph Buchbauer – Turner Construction  
Christine Roddy – Goulston & Storrs

**RE:** Transportation Assessment – Southwest Neighborhood Library  
900 Wesley Place SW  
Washington, DC

**DATE:** March 6, 2018

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## OVERVIEW

Wells + Associates has conducted a transportation assessment associated with the proposed reconstruction of the Southwest Neighborhood Library, located at 900 Wesley Place SW. The subject site is located on Square 0542 (Lot 0087) in Ward 6 within the R-3 zoning district. The site is bordered by Wesley Place on the west, 3<sup>rd</sup> Street on the east, K Street on the south, and Town Center Park on the north. The site location map is shown on Figure 1.

The existing 22,032 SF library will be replaced with a new 20,792 SF building. Due to flood plain considerations, the new building will not include a basement. Accordingly, it will have a slightly larger footprint than the existing building. As a result of the larger building footprint, the on-site surface parking lot will decrease in size from approximately 17 spaces to seven spaces. Access to and egress from the parking lot currently is provided via one curb cut on K Street. The existing curb cut on 3<sup>rd</sup> Street is currently gated and closed. The Applicant proposes to abandon the curb cut on 3<sup>rd</sup> Street. Access to the parking lot is proposed via the existing curb cut on K Street. The site plan is provided on Figure 2.

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### MULTI-MODAL TRANSPORTATION OPTIONS

#### Public Transit Services

The subject site is well-served by public transportation, including both bus and Metrorail, as shown on Figure 3. The Waterfront Metro Station is approximately ¼ mile south of the site. The Metro Station provides access to the Metro Green Line. Riders can transfer to the Blue, Orange, Silver, and Yellow Lines at the L'Enfant Metro Station, and to the Red Line at the Gallery Place-Chinatown Metro Station. The minimum and maximum headways for the Green Line is summarized in Table 1.

Table 1  
Metrorail Headways (in minutes)

Headway*	AM Rush 5:00 AM – 9:30 AM	Midday 9:30 AM – 3:00 PM	PM Rush 3:00 PM – 7:00 PM	Evening 7:00 PM – 9:30 PM	Late Night 9:30 PM – Close	Weekend 7:00 AM – 9:30 PM	Weekend 9:30 PM – Close
<b>GREEN LINE (WATERFRONT METRO STATION)</b>							
<b>Min</b>	0:08	0:12	0:08	0:12	0:20	0:12	0:20
<b>Max</b>	0:08	0:12	0:08	0:12	0:20	0:15	0:20
* Headways presented represent headways in both directions.							

Several Metrobus routes also provide service to and from the site. Metrobus stops for the P6 and V1 bus routes are located on I Street to the northwest of the site and along 3<sup>rd</sup> Street to the southeast of the site. Stops for bus routes 74, A9, and W9 are located along M Street to the south of the site. The bus frequencies during the peak hour and midday are as show in Table 2.

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Table 2

Metrobus Headways (in minutes)

HEADWAY	NORTHBOUND/WESTBOUND			SOUTHBOUND/EASTBOUND		
	AM Peak Period	Midday Period	PM Peak Period	AM Peak Period	Midday Period	PM Peak Period
	7:00 AM – 10:00 AM	10:00 AM – 4:00 PM	4:00 PM – 7:00 PM	7:00 AM – 10:00 AM	10:00 AM – 4:00 PM	4:00 PM – 7:00 PM
<b>CONVENTION CENTER-SOUTHWEST WATERFRONT LINE (74)</b>						
Min	0:12	0:20	0:13	0:11	0:20	0:13
Max	0:20	0:22	0:21	0:20	0:21	0:21
Avg	0:14	0:20	0:16	0:14	0:20	0:16
<b>MARTIN LUTHER KING JR. AVE. LIMITED LINE (A9)<sup>†</sup></b>						
Min	0:15	N/A	N/A	N/A	N/A	0:15
Max	0:17	N/A	N/A	N/A	N/A	0:23
Avg	0:15	N/A	N/A	N/A	N/A	0:18
<b>ANACOSTIA-ECKINGTON LINE (P6)</b>						
Min	0:10	0:15	0:15	0:12	0:15	0:12
Max	0:24	0:24	0:24	0:20	0:25	0:20
Avg	0:16	0:20	0:18	0:16	0:22	0:15
<b>BENNING HEIGHTS-M STREET LINE (V1)<sup>*</sup></b>						
Min	0:16	N/A	N/A	N/A	N/A	0:20
Max	0:29	N/A	N/A	N/A	N/A	0:22
Avg	0:22	N/A	N/A	N/A	N/A	0:22
<b>L'ENFANT PLAZA-COAST GUARD LIMITED LINE (W9)<sup>^</sup></b>						
Min	N/A	N/A	0:11	0:14	N/A	N/A
Max	N/A	N/A	0:35	0:28	N/A	N/A
Avg	N/A	N/A	0:25	0:21	N/A	N/A
<sup>†</sup> This route provides only northbound service during the AM Peak hour and only southbound service during the PM Peak hour service only. <sup>*</sup> This route provides only westbound service during the AM Peak hour and only eastbound service during the PM Peak hour service only. <sup>^</sup> This route provides only northbound service during the PM Peak hour and only southbound service during the AM Peak hour service only.						

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### Pedestrian Facilities

The District of Columbia Pedestrian Master Plan (the Pedestrian Plan) strives to make Washington, DC safer and more walkable by improving sidewalks, roadway crossings, and the quality of the pedestrian environment as well as by ensuring that the District's policies and procedures support walking.

The Pedestrian Plan provides an overview of existing pedestrian conditions, recommends new pedestrian projects and programs, establishes performance measures, and provides a plan for implementation through 2018. The Pedestrian Plan also estimates areas of pedestrian activity and deficiency.

As part of the Pedestrian Plan, eight priority corridors (one in each ward) were identified based on areas of heavy pedestrian traffic and deficient walking conditions. The priority corridor in Ward 6 is M Street SW to SE between 6<sup>th</sup> Street SW and Isaac Hull SE, which includes the portion of M Street within the study area. Within the study area, the recommended pedestrian improvements include (where improvements have been completed, they are indicated as such):

- M Street/6<sup>th</sup> Street –
  - Reconstruct ADA ramps on northeast and southeast corners of the intersection (complete),
  - Reduce turning radius at the southeast corner of the intersection (not completed – bulb out installed instead),
  - Widen sidewalk on the north side of M Street from 6<sup>th</sup> Street east to 4<sup>th</sup> Street (currently under construction), and
  - Reconstruct/repair sidewalk on the south side of M Street, east of 6<sup>th</sup> Street (complete).
  
- M Street/4<sup>th</sup> Street –
  - Restrict right turns on red at all hours on all approaches (complete),
  - Reconstruct ADA ramps on the northeast, southeast, and southwest corners of the intersection (complete),
  - Stripe high visibility crosswalks on the west and south legs of the intersection (complete),
  - Install new bus stops along M Street, east and west of the intersection (complete), and
  - Remove bus stops along M Street, east of the intersection and along 4<sup>th</sup> Street, south of the intersection (complete).

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- M Street/3<sup>rd</sup> Street –
  - Extend the M Street median on the west side of the intersection,
  - Build curb extensions on the northwest and northeast corners of the intersection (not complete – new curb recently installed on northwest corner does not include this improvement),
  - Reconstruct ADA ramps on all four corners of the intersection (complete),
  - Reconstruct/repair sidewalk on the southeast corner of the intersection (complete),
  - Install new bus stop along M Street, west of the intersection (currently under construction), and
  - Remove bus stop along M Street, west of the intersection.
  
- M Street/Delaware Avenue –
  - Restrict right turns on red from 7:00 AM to 7:00 PM on all four corners of the intersection,
  - Reconstruct ADA ramps on all four corners of the intersection and on the island on the southbound leg of the intersection (complete),
  - Stripe high visibility crosswalks on the north, east, and south legs of the intersection, and
  - Extend the M Street median on the east side of the intersection.
  
- M Street/Canal Street –
  - Reconstruct ADA ramps on the southwest and southeast corners of the intersection (complete) and
  - Stripe high visibility crosswalk on the south side of the intersection.
  
- M Street/1<sup>st</sup> Street/Canal Street –
  - Extend the M Street median on the west side of the intersection,
  - Stripe high visibility crosswalk on the east side of the intersection,
  - Reconstruct ADA ramps on the northwest, southwest, and southeast corners of the intersection and on the island on the northbound leg of the intersection (complete), and
  - Build curb extensions on the west and east corners of the island on the northbound leg of the intersection.
  
- M Street/Howison Place –
  - Reconstruct ADA ramps on the southwest and southeast corners of the intersection (complete),
  - Stripe high visibility crosswalk on the south side of the intersection,
  - Reconstruct/repair sidewalk on the south side of M Street, east to Half Street (complete), and
  - Remove bus stop along M Street, east of the intersection.

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- M Street/Half Street
  - Restripe existing crosswalks on all four legs of the intersection (complete),
  - Reconstruct ADA ramps on all four corners of the intersection (complete), and
  - Install pedestrian countdowns for all four legs of the intersection (complete).
    - It should be noted that the pedestrian head on the southwest corner of the intersection, for pedestrians crossing north to south, is turned and not visible.
    - It should also be noted that upon reaching seven seconds, the countdown head remains on “7” for several seconds along the south leg of the intersection, for pedestrians crossing west to east.

The main pedestrian access to the site will be provided at the northwest corner of the building, and a staff entrance will be provided along K Street, as shown on Figure 2. A reading porch and sidewalk connecting 3<sup>rd</sup> Street and Wesley Place will be provided along the northern façade of the building.

The Library is a short walk to nearby bus stops and the Waterfront Metro station. As shown on Figure 4, sidewalks and crosswalks are present along the routes to the nearest bus stops and Metro station.

### Bicycle Facilities

The District of Columbia Bicycle Master Plan (the Bicycle Plan) seeks to create a more bicycle-friendly city by establishing high-quality bicycle facilities and programs that are safe and convenient. The Bicycle Plan identifies areas and corridors that are barriers to cyclists. These barriers include “freeways, railroad and highway grade separations, neighborhoods with heavy traffic, and other impediments to bicycle travel.” No such barriers exist in the vicinity of the site.

I Street within the study area is currently striped with bike lanes in the eastbound and westbound direction. West of the site, 4<sup>th</sup> Street also is striped with bike lanes in the northbound and southbound direction. The bike route from the Southwest Neighborhood Library is shown on Figure 5.

### Capital Bikeshare

Capital Bikeshare is an automated bicycle rental or bicycle sharing program that provides over 3,000 bicycles at over 400 stations across Washington, DC, Maryland, and Virginia.

Membership, which is required to use Capital Bikeshare, includes five options for joining: single trip (\$2), 24 hours (\$8), three days (\$17), 30 days (\$28), or one year (\$85). Under any membership option, the first 30 minutes of use are free; users then are charged a usage fee for each additional 30-minute period. Bicycles can be returned to any station with an available dock.

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As shown on Figure 3, the closest Bikeshare station is located within 1,000 feet of the site at 4<sup>th</sup> Street SW/M Street SW. This station includes 23 docks. No additional Bikeshare stations are located within ¼ mile of the site; however, three additional Bikeshare stations are located roughly within a ½ mile radius of the site. The number of docks at each station is shown on Figure 3.

### Car Sharing Services

Three car-sharing providers currently operate in the District. Zipcar requires a \$25 application fee and members can choose from three plans: occasional driving plan - \$70 per year (pay as you go based on the standard hourly or daily rate), monthly plan - \$7 per month (pay as you go based on the standard hourly or daily rate), or extra value plan - \$50 per month and receive 10 percent discount on driving (after the \$50 is used, you pay as you go based on a discounted hourly or daily rate). Cars must be returned to the same designated parking spaces from which they were picked up.

As shown on Figure 3, the nearest Zipcar is located adjacent to the site with three Zipcars at the 1001 Waterfront Apartments development. Eight Zipcars are located within an approximate ½ mile of the site, as shown on Figure 3.

Maven is a new car-sharing service in the District. Cars can be rented by the hour (for as low as \$8 per day) or by the day. The rental includes 180 miles per day. Currently, Maven does not charge a membership fee. Cars must be returned to the same designated parking spaces from which they were picked up. As shown on Figure 3, one Maven vehicle is located southwest of the library at 1100 4<sup>th</sup> Street SW.

Car2Go requires a one-time \$35 application fee. Once registered, a member card is issued, which enables members to access an available car. No reservation is required, and car usage is charged by the minute, with hourly and daily maximum fees. Unlike Zipcar and Maven, a Car2Go vehicle does not have to be returned to its original location; a Car2Go vehicle can be parked in any unrestricted curbside parking space, in any metered/pay station curbside parking space (without paying meter/pay station fees), or in any residential permit parking space. Car2Go currently has 500 vehicles in the District.

## SITE ANALYSIS

### Site Trip Generation

The library currently is open from 9:30 AM to 9:00 PM, Monday through Thursday; 9:30 AM to 5:30 PM, Friday and Saturday; and from 1:00 PM to 5:00 PM on Sunday.

The number of vehicle trips generated by the Southwest Library were calculated based on counts conducted at the library's driveways on Friday, February 9, 2018. Counts were conducted from 8:00 to 10:00 AM and from 4:00 to 7:00 PM. Based on the data collected, the number of vehicle trips generated by the library is just nine vehicle trips during the AM peak hour and just six vehicles trips during the PM peak hour. Traffic counts are included in Attachment A.

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Table 3  
Vehicle Trip Generation Summary

AM PEAK HOUR			PM PEAK HOUR		
Enter	Exit	Total	Enter	Exit	Total
8	1	9	0	6	6

Due to the abundance of transportation options available in close proximity to the site, a significant portion of trips to/from the site are made by non-auto modes of transportation.

The library conducted a mode split survey of its patrons, to which 248 patrons responded. Based on the survey results, approximately 92 percent of patrons walk to the library, five percent drive, and two percent bike. The library also conducted a mode split survey of its employees on March 1, 2017. The library has 11 employees, with eight working at any given time. Based on the survey, 63 percent (seven employees) use transit and 34 percent (four employees) drive to/from work. On average, the employees who drive, work one day of the week at the same time.

### Proposed Parking

#### Site Access

Access to the site is proposed via the existing curb cut on K Street. At the recommendation of the District Department of Transportation (DDOT) during the Preliminary Design Review Meeting (PDRM), the width of the curb cut will be reduced from 21 feet to 18 feet in order to increase the spacing between the curb cut and 3<sup>rd</sup> Street. DDOT's Design and Engineering Manual requires curb cuts to be 60 feet from the nearest intersection measured from edge line of road to edge line of driveway. With the reduction in width of three feet, the distance from the edge of driveway to the edge of 3<sup>rd</sup> Street would be 49.18 feet.

At the request of DDOT, the Applicant has evaluated the feasibility of constructing a curb extension, or bulb out, on the northwest corner of the 3<sup>rd</sup> Street/K Street intersection in order to increase the distance from the edge of 3<sup>rd</sup> Street to the edge of the driveway (the bulb out would effectively push the curb line on 3<sup>rd</sup> Street further to the east). A review of the northwest corner of the intersection indicates that two inlets would need to be relocated, three manholes would need to be adjusted to new grades, an existing fire hydrant would need to be relocated, and the existing sidewalks would need to be regraded since the new curb line will be higher than the existing curb. A photograph illustrating these issues is included as Attachment B.

The Applicant also evaluated the feasibility of using a curb cut on 3<sup>rd</sup> Street. The current location of the curb cut on 3<sup>rd</sup> Street cannot be used since it would conflict with the proposed pedestrian terrace, which provides east-west pedestrian connectivity between the Library and the Southwest Duck Pond. Shifting the driveway further south on 3<sup>rd</sup> Street also is problematic since it would reduce the number of parking spaces from seven to four spaces (two of which would be compact spaces). A graphic showing the impacts of providing a curb cut on 3<sup>rd</sup> Street is included in Attachment C.



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### Vehicular Parking

Based on parking requirements prescribed in ZR16, a minimum of nine parking spaces are required for the proposed development. A summary of the parking required for the library is provided in Table 4.

Table 4  
Parking Summary

Land Use	Required Parking
Government, local	0.5 per 1,000 SF in excess of 2,000 SF = $0.5 \times (20,792 - 2,000) / 1,000$ <b>9 spaces</b>

The proposed project is located within ½ mile of the Waterfront metro station. However, since it is located in a residential zoning district, the project is not eligible for the 50 percent parking reduction. The proposed redevelopment will provide seven parking spaces and, therefore, will require relief from the parking requirements. As discussed above, just five percent of the library patrons drive to the library. Based on average daily visitor data provided in Table 5, on average, the number of visitors who drive to the library per day ranges from seven to 19.

Table 5  
Southwest Neighborhood Library Daily Visitors

Day of Week	# of Visitors <sup>‡</sup>	# Drivers <sup>†</sup>
Sunday	255	13
Monday	140	7
Tuesday	311	16
Wednesday	331	17
Thursday	364	19
Friday	271	14
Saturday	230	12
<b>Overall Daily Average</b>	<b>272</b>	<b>14</b>
<sup>‡</sup> # of visitors is the average daily from October 1, 2016 through September 29, 2017, as provided by the Library. <sup>†</sup> # of drivers assumed to be 5.2% of the daily patrons based on mode split survey conducted by the Library.		

In the event that some patrons would need to park on the street from time-to-time, an inventory of the adjacent parking supply and restriction in effect was undertaken. As shown on Figure 6, the four blocks immediately surrounding the site include 58 standard parking spaces and four motorcycle parking spaces. Parking on both sides of Wesley Place is metered parking (except for the motorcycle parking). Two of the 15 parking spaces are reserved for “Handicapped Visitors.” Note that as indicated on Figure 6, contradictory signs are present in the area signed for “Handicapped Visitors.” The meters in this location also are not red-topped meters, which typically indicated metered spaces reserved for vehicles with handicap tags.

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The seven spaces on the south side of I Street and the 11 spaces on both sides of K Street also are metered. The eight spaces on the north side of I Street and the eight spaces on the west side of 3<sup>rd</sup> Street are designated as Resident Only Parking and, therefore, would not be open to library visitors, unless they had a Zone 6 permit. The nine spaces on the east side of 3<sup>rd</sup> Street are limited to two-hour parking, except for Zone 6 permit holders.

With the closure of the existing curb cut on 3<sup>rd</sup> Street, one additional parking spaces will be obtained on the west side of 3<sup>rd</sup> Street.

### Bicycle Parking

The proposed redevelopment would also be required to provide long-term and short-term bicycle parking. Long-term bicycle parking is intended for use by employees and must be located on the first level below grade or on the ground floor of the library. Short-term bicycle parking is intended for use by visitors to the site and should be located in public space with input from the District Department of Transportation during the public space process. The required bicycle parking for the development is summarized in Table 6 below.

Table 6  
Bicycle Parking Summary

Land Use	Required Parking	
	Long-term	Short-term
Government, local	1 per 7,500 SF =20,792/7,500 <b>3 long-term</b>	1 per 40,000 SF, with no less than 6 spaces <b>6 short-term</b>

The proposed redevelopment will provide three long-term bicycle parking spaces on the first floor of the proposed reconstruction using vertical storage. As a result, the Applicant is seeking relief from ZR16 §805.9, which requires 50 percent of the provided long-term bicycle spaces to be horizontal spaces.

Ten short-term spaces also will be provided. As shown on Figure 2, six of the short-term spaces are proposed on private property near the main entrance to the library and four are proposed in public space along Wesley Place.

### Proposed Loading

Per ZR16, no loading is required for local government buildings with less than 30,000 SF; therefore, loading is not being provided.

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### CONCLUSIONS

The conclusions and recommendations of this transportation assessment are as follows:

- The reconstruction of the Southwest Library would include a new building of approximately equal gross floor (20,792 square feet) area with a slightly larger footprint (in lieu of a basement).
- Due to the larger footprint, the existing surface parking lot will be reduced in size. As a result, only seven parking spaces can be provided, which is two fewer spaces than required by ZR16.
- The majority of library patrons (92 percent) walk to the library. Just five percent drive. The library currently generates nine vehicle trips during the AM peak hour and six vehicle trips during the PM peak hour.
- Seven of the library's 11 employees take transit to work. The remaining four employees drive to work.
- Vehicular access to parking will be provided via the existing curb cut on K Street. As recommended by DDOT, the width of the driveway would be reduced from approximately 21 feet to 18 feet in order to increase the distance to the nearest intersection at 3<sup>rd</sup> Street.
- The existing curb cut on 3<sup>rd</sup> Street will be abandoned, resulting in one additional on-street parking space on the west side of 3<sup>rd</sup> Street.
- The proposed reconstruction would include three long-term bicycle spaces, and eight short-term bicycle spaces. All three of the long-term spaces are proposed to be vertical spaces. As such, relief from ZR16 §805.9 is being sought to allow more than 50 percent of the spaces to be vertical.

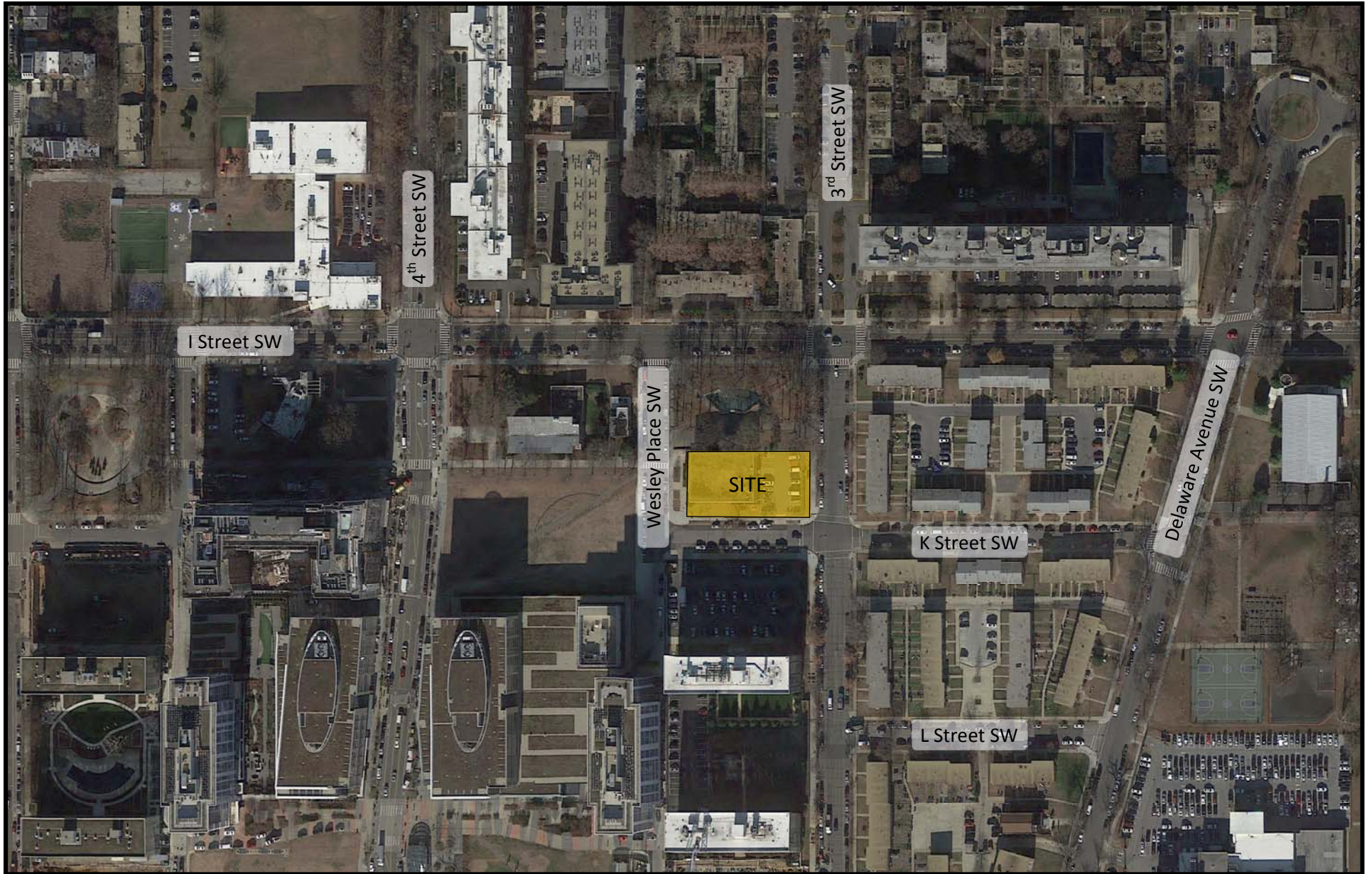
Due to the high percentage of visitors and employees who take non-auto modes of transportation to/from the library, the requested parking relief is not anticipated to have an adverse impact on the surrounding roadway network.

- The requested long-term bicycle parking relief also is not expected to have an adverse impact on the traffic operations surrounding the site. The number of provided long-term bicycle spaces meets the requirement and will be sufficient to meet the needs of employees who bike to work (currently no employees bike to work).

We trust that this memorandum provides you with sufficient information regarding the traffic impacts of the proposed redevelopment of the Southwest Library. Should you require any additional information, please do not hesitate to contact Jami Milanovich at 703-917-6620 or [jlmilanovich@wellsandassociates.com](mailto:jlmilanovich@wellsandassociates.com).

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## FIGURES



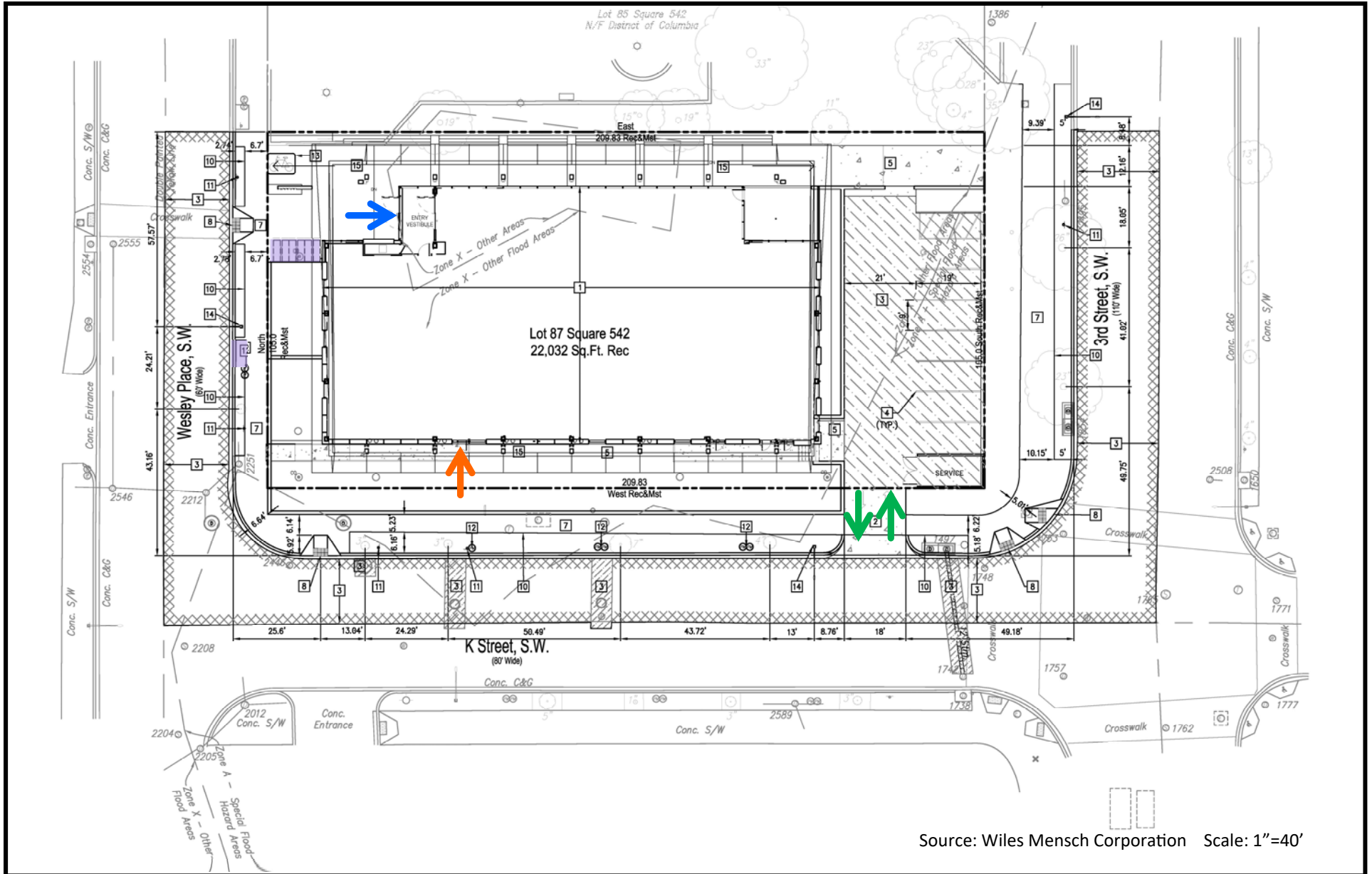
**Figure 1**  
Site Location  
900 Wesley Place, SW



NORTH





Southwest Library  
Washington, DC





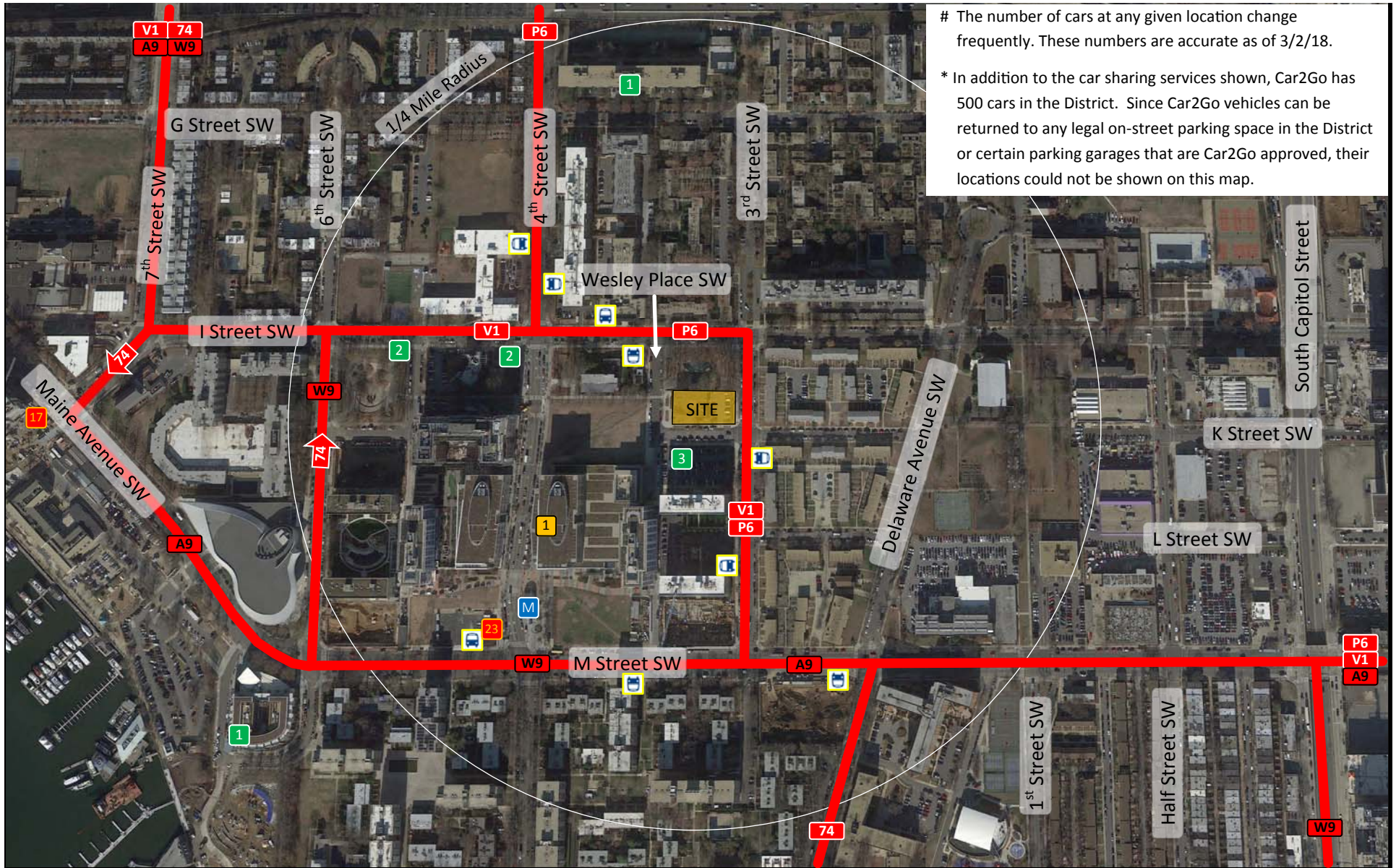
Source: Wiles Mensch Corporation Scale: 1"=40'

**Figure 2**  
Site Plan  
900 Wesley Place, SW

-  Visitor Pedestrian Access
-  Employee Pedestrian/Bicycle Access
-  Vehicle Access
-  Short-term Bicycle Parking

  
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Southwest Library  
Washington, DC





# The number of cars at any given location change frequently. These numbers are accurate as of 3/2/18.

\* In addition to the car sharing services shown, Car2Go has 500 cars in the District. Since Car2Go vehicles can be returned to any legal on-street parking space in the District or certain parking garages that are Car2Go approved, their locations could not be shown on this map.

**Figure 3**  
Multi-modal Transportation Options  
900 Wesley Place, SW

- # Zipcar Locations (Number of Zipcars)
- # Maven Locations (Number of cars)
- # Capital Bikeshare Locations (Number of Docks)
- M Waterfront-SEU Metrorail Station (Green Line)
- XX Metrobus Route
- XX MetroExtra Route
- Bus Stop



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