WEST VIRGINIA AVENUE PUBLIC WORKS

CAMPUS MASTER PLAN

GOVERNMENT OF THE DISTRICT OF COLUMBIA

FEBRUARY 2016

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EXECUTIVE SUMMARY

WHY INVEST IN A NEW PUBLIC WORKS CAMPUS?

The District of Columbia's population has been growing at a rate of 1,000 residents or more per month since 2010. Population forecasts indicate that our city will again have over 800,000 people by the year 2028. For the District's Department of Public Works (DPW), this growth means its primary functions of waste management, parking enforcement, and fleet management will be taxed and tested. It is critical that the agency plan ahead to modernize and invest in its human and physical capital.

Moreover, the District must manage its property assets to maximize value for District residents. In light of development pressure in Ivy City and at large, the District must use land strategically – particularly its limited industrial land – to accommodate neighborhood growth while also allocating space for government services and community amenities that respond to existing problems and new demands.

The Public Works Campus at West Virginia Avenue presents a tremendous "win-win" opportunity to meet the two key challenges described above – to support DPW with state-of-the-art facilities AND to catalyze development benefits for the surrounding community.

Stakeholders in the area have been clear: they endorse cleaner, healthier, more efficient DPW operations on campus, but also prioritize the creation of industrial spaces for Production Distribution and Repair (PDR) businesses and jobs, public open spaces, and streetscape improvements.

CAMPUS AS A COMMUNITY HUB

All of this points to the creation of a new Campus as a Community Hub: a vision that includes the transformation of an outdated collection of DPW facilities into a showcase for sustainability in the nation's capital, serving not one singular goal but many.

The Campus Master Plan detailed in the pages that follow represents a new approach to light industrial municipal land use, more akin to that of other public assets like parks, office buildings or schools, and seeks to leverage public property as an economic and social engine for community development. The Master Plan calls for the consolidation of DPW's core building program on the West Virginia Avenue south site along the 1900-2000 blocks of West Virginia Avenue NE – a municipal property of approximately 20 acres centered on the intersection with Fenwick Street NE. The West Virginia Avenue south site is ideally positioned for this project as it is centrally located, with good access to New York Avenue NE. It is well buffered by the Mount Olivet Cemetery and is not directly abutting any residential homes.

The West Virginia Avenue south site presently is comprised of surface parking lots for DPW vehicles, with a constellation of old buildings providing maintenance, fueling and storage services to DPW and other agencies. Currently, DPW's administrative functions are scattered over six other sites throughout the District – NOT counting the trash transfer stations, salt domes, and Commercial Driver's License course at RFK Stadium. The new campus, laid out in the Master Plan, combines four of these six locations on one contiguous site to capture synergies for both DPW operations and District real estate.

CORE DPW PROGRAM - MEETING DPW'S NEEDS

The Campus Master Plan recommends the transformation of DPW facilities at the West Virginia Avenue south site including: a new 165,000 square foot maintenance facility, a new 30,000 square foot fueling and vehicle wash station, parking facilities to accommodate 930 light, medium and heavy fleet vehicles, all vehicles under maintenance, and 550 employee vehicles. The new campus facilities will also accommodate a total of 1,370 DPW staff members, who will be there at different times and days, providing a boost to the local restaurant and retail economy.

The Master Plan unites all proposed DPW programs on the West Virginia Avenue south site with the exception of two divisions under the Solid Waste Management Administration (SWMA): the Collections division at W Street NE and the Street Sweeping division at Bryant Street NW. At DPW's request, both personnel and facilities related to these two divisions will remain at their current locations where they can maintain the most operational efficiency.

The new campus will include DPW's first centralized administrative headquarters, which will be housed in two connected buildings on the forefront of green design. The two new administrative buildings will act as DPW's interface with the community, overlooking a new central plaza at the terminus of Fenwick Street. Encompassing 123,000 square feet of program area, these buildings contain all administrative functions for DPW's three major divisions: Solid Waste Management Administration (SWMA), the Parking Enforcement Management Administration (PEMA), and the Fleet Management Administration (FMA). The lower levels of these buildings contain DPW community spaces including a fitness center, cafeteria, library/resource center, computer lab, conference rooms, and training spaces that can also support community classes.

ENHANCED SUSTAINABILITY INVESTMENTS - THE GREENEST CITY

In designing and building new facilities for the DPW campus, the District has the opportunity to incorporate state-of-the-art sustainability features that promote greater health, efficiency, and quality for District government and the surrounding community. The Campus Master Plan incorporates progressive goals for energy use and generation, storm water management, air quality, urban agriculture, and optimal building performance, which align with the District's Sustainable DC Plan.

Specifically the Master Plan proposes to construct buildings that exceed LEED Platinum requirements and minimize energy consumption through a variety of measures (such as Ground Source Heat Pumps for heating and cooling) resulting in a 40 to 50 percent reduction in baseline energy use overall. Additional Master Plan strategies focus on energy generation and energy storage and distribution. Solar panels on roof planes, solar thermal for hot water and heating, and an anaerobic digester to capture compostable waste and convert it to methane can all create energy on-site. The captured energy will satisfy 100% of campus energy demand. Excess energy may be stored in a micro-grid system and redistributed to the community, allowing the District to profit from the sale of renewable energy credits.

The Master Plan also recommends integrating two acres of productive greenhouses into the campus as well as compost collection, moving the District towards both its local Food Production and Zero Waste targets. Further, the campus trades its high percentage of impervious cover for various technologies that capture, treat, and utilize storm water. Most notable is the "green spine," a network of rain gardens and basins threaded between DPW buildings to catch the storm water that causes erosion and washes contaminants into our rivers.

In sum, the DPW campus is poised to go beyond the simple design and certification for single structures and instead address the campus as a resilient and interconnected system, which can mitigate anticipated climate challenges and produce net-positive benefits for the District's environment.

HIGH PRIORITY NEIGHBORHOOD AMENITIES - REVITALIZING THE COMMUNITY

The Master Plan represents an exciting new direction for the use and appearance of municipal light industrial property in the District. The new campus sheds its imposing fencing and opens up to the community with streetscape improvements along West Virginia Avenue. It connects to the neighborhood by offering amenities like public open spaces and services like educational tours or classes. The ground floors in the new DPW office buildings feature dynamic and transparent indoor spaces for DPW lobbies, training functions, community rooms, production and flex spaces, and a limited amount of community-serving retail opportunities.

A new campus gateway at Fenwick Street and West Virginia Avenue will serve as DPW's "front door." The campus entrance will be anchored by a pedestrian plaza with art, landscaping, and architectural design elements. A new two-story glass and metal panel building fronting West Virginia Avenue will offer 27,000 gross square feet of Production, Distribution and Repair (PDR) commercial flex space, which can incubate new businesses and provide much needed training and job prospects to local residents. Above this building, a two-acre community cultural park will be a place for passive recreational use, gatherings, and entertainment for DPW employees and the community. The park and plaza spaces, streetscape improvements, and commercial flex space are all much-needed neighborhood amenities to be enjoyed by DPW employees, local residents, business owners, and the broader community.

FINANCING - CREATIVE SOLUTIONS TO FUNDING

The construction of the Public Works campus is intended to be phased according to capital budget availability and the timing of creative partnerships for financing. The campus is planned to generate strong opportunities for public-private partnerships (P3s) that would infuse private capital into the project, thereby reducing the District's construction cost burden. Given the strong real estate market in the surrounding area, there is great potential for private sector interest and involvement in the redevelopment of the campus.

Many possible funding sources exist to supplement the District's capital investment. Three of the District-owned properties that DPW currently uses have been identified through this planning process as opportunities for sale or ground lease. Environmental incentive programs and partnerships at the local and federal levels may also provide additional funds towards campus construction. Moreover, the design of a modern, centralized campus can achieve operational cost efficiencies over time and yield revenue through the generation and sale of renewable energy.

Altogether, through a range of alternative funding and P3 strategies, it is estimated that the cost to the District's general fund for total campus construction can be reduced in the range of 25-50%.

THE TIME IS NOW

The conditions are right to invest in the West Virginia Avenue Public Works Campus. Development is happening quickly at Florida Avenue Market, along the New York Avenue corridor, and in Ivy City and other nearby neighborhoods. The value of the land where the campus is situated is increasing. DPW faces challenges in its aging capital assets and the growing District population. The District must adapt its land uses and operations to meet new environmental challenges across the city.

By designing the Public Works Campus as a Community Hub, the District can seize opportunities to improve the District's Public Works operations, elevate its sustainability performance, and revitalize the quality of its neighborhood infrastructure all in a holistic fashion. It may also attract partners to share in the costs and benefits of this endeavor.

This Master Plan Report establishes an ambitious concept design and detailed recommendations for a multi-faceted campus development, setting it on a path to become a model for the nation and serving in global leadership.

01

INTRODUCTION

PROJECT VISION

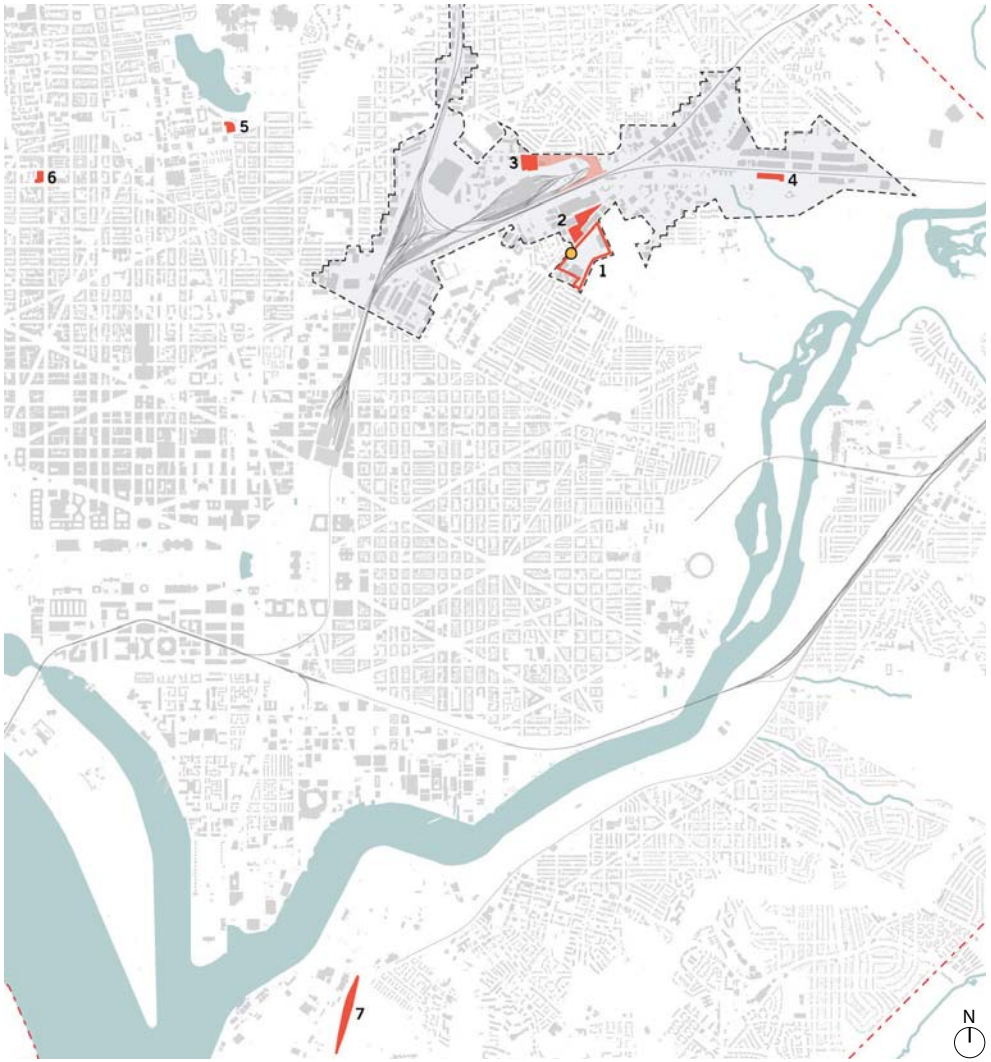
DPW is committed to providing environmentally sound and cost effective municipal services. The following master plan outlines strategies for developing a new state-of-the-art DPW campus on two District-owned properties located along West Virginia Avenue, NE in the City's Ward 5. DPW's new campus will consolidate several divisions into a unified headquarters complex designed to improve its service fleet operations to better serve the District. The new master plan also explores how DPW can leverage design excellence and greater functionality to create a world-class model of sustainable, municipal operations and community development. Drawing from the recent Ward 5 Industrial Land Transformation Study (Ward 5 Works), the new DPW campus will serve as a hub of Production, Repair and Distribution (PDR) in the District – a key, but often overlooked segment of Washington DC's economy.

Now is the right time for DPW to plan its future. This master plan envisions how DPW divisions can better operate, deploy and fuel their extensive service vehicle fleet in a well-planned hub facility. Every year, significant District resources are allocated to maintaining vehicles, equipment and buildings, and these costs increase as DPW vehicles and facilities age. After spending years dispersed across the District with limited resources, a central headquarters will offer DPW the opportunity to plan a holistic new campus, streamline its current operations, and unify several disparate sites into a single campus. This proposed plan also aspires to be DC's next Eco-District, employing sustainable high-performance measures and catalyzing green energy generation in the community.

DPW performs essential operations, ensuring that the District remains clean, safe, and running smoothly. For years, DPW has struggled, burdened by inadequate facilities and numerous relocations to various sites across the District. And yet, all the challenges DPW has faced over the years have made it a more adaptive and resilient agency. Today DPW has great aspirations for improving its sustainable practices, advancing its services, and integrating its diverse administrations into a central, world-class campus.

Boasting the fourth Greenest Fleet in the nation, DPW has taken great strides in recent years to improve its sustainable practices. However, it is encumbered by aging, inefficient facilities and the scattering of the Department across the District. This study evaluates the needs of DPW and explores opportunities for consolidating the DPW management and operations onto one unified campus in an effort to reduce redundancies, improve communication, and enhance operations. By building on DPW's current strengths and combining high-quality design with world-class environmental features, the physical campus and operations will provide national leadership in sustainability while offering much-needed green spaces and sustainable infrastructure to the surrounding community. The Plan also evaluates the financial trade-offs of maintaining some of DPW's existing sites versus completely consolidated operations.

The West Virginia Avenue Campus is located in Northeast DC in the neighborhood of Ivy City. The campus includes two sites, one 6.1 acres and the other 19.4 acres, next to Mount Olivet Cemetery, a few blocks north of Gallaudet University and the Florida Avenue Market. These sites are owned by the District and are among their largest land holdings. The larger site is bordered on the northeast by Mount Olivet Cemetery, south by privately-owned parcels along Mount Olivet Road, and northwest by West Virginia Avenue and is referred to in this study as the West Virginia Avenue south site. The smaller parcel fronts West Virginia Avenue on the south and extends to Fenwick Street to the west and Okie Street to the north. This site is referred to as the West Virginia Avenue north site. These two parcels make up the primary planning area for this study.



EXISTING DPW SITES

PROJECT SITE BOUNDARY

EXISTING DPW SITE

WARD 5 INDUSTRIAL LAND USE BOUNDARY

1 1725 15TH STREET (WEST VIRGINIA AVE SOUTH SITE)

2 1831 FENWICK STREET (WEST VIRGINIA AVE NORTH SITE)

3 1241 W STREET

4 2800B NEW YORK AVENUE

5 201 BRYANT STREET

6 2000 14TH STREET

7 2700 SOUTH CAPITOL STREET

DPW's sites occupy a critical juncture between several emerging neighborhoods - Ivy City, Trinidad, and the Gallaudet/Florida Avenue Market areas. Reflecting on key goals from the Ward 5 Industrial Land Use Transformation Study, this project aims to transform these sites and their edges into vital streetscapes creating urban activity along undeveloped segments of West Virginia Avenue and Fenwick Street.

Today, these streets are largely vehicular, but new development patterns will introduce more pedestrians and cyclists and with it, demand for ground level retail and activities. Many of the longstanding tenants in the area are PDR businesses, while several new users are what are often referred to as "maker" industries, small craft operations who mix light manufacturing with related retail. The DPW master plan envisions how ground floor retail spaces in the new DPW campus can provide a new hub and "front door" for the DC maker community while also providing new jobs, community services, entrepreneurship opportunities and open space amenities in an under-served part of the District.

During the planning process, the DC Office of Planning (DCOP) and consultant planning team identified the following strategies for creating a state-of-the-art, new DPW campus. These design goals provided guidance for the development of the master plan.

DESIGN GOALS

01 Create a highly functional municipal service hub – improving DPW operations

02 Design a resilient campus aligned with District goals to be a sustainable catalyst for the community

03 Provide community with amenities – programs and spaces for community use

04 Create great urban places in an emerging part of the District

05 Explore monetizing satellite sites – generate funding for WVA facilities

06 Reinforce social equity and economic development goals from W5W

07 Protect the unique and dynamic character of Ivy City and its surroundings

08 Weave into the DC fabric – Ivy City, H Street, Florida Ave Market, NoMa

09 Create a front door and hub for the DC PDR Community

VISION STATEMENT

Transform the campus at West Virginia Avenue, NE into a model of sustainable public works operations and a catalyst for community development.

PROJECT GOALS

Improve and optimize public works operations to be more healthy, sustainable, and effective.

Plan for optimal use of limited District-owned industrial land.

Activate the West Virginia Avenue streetscape with active, PDR, maker uses and public amenities.

Incorporate guidance from the Ward 5 Industrial Land Transformation Study and other District plans.

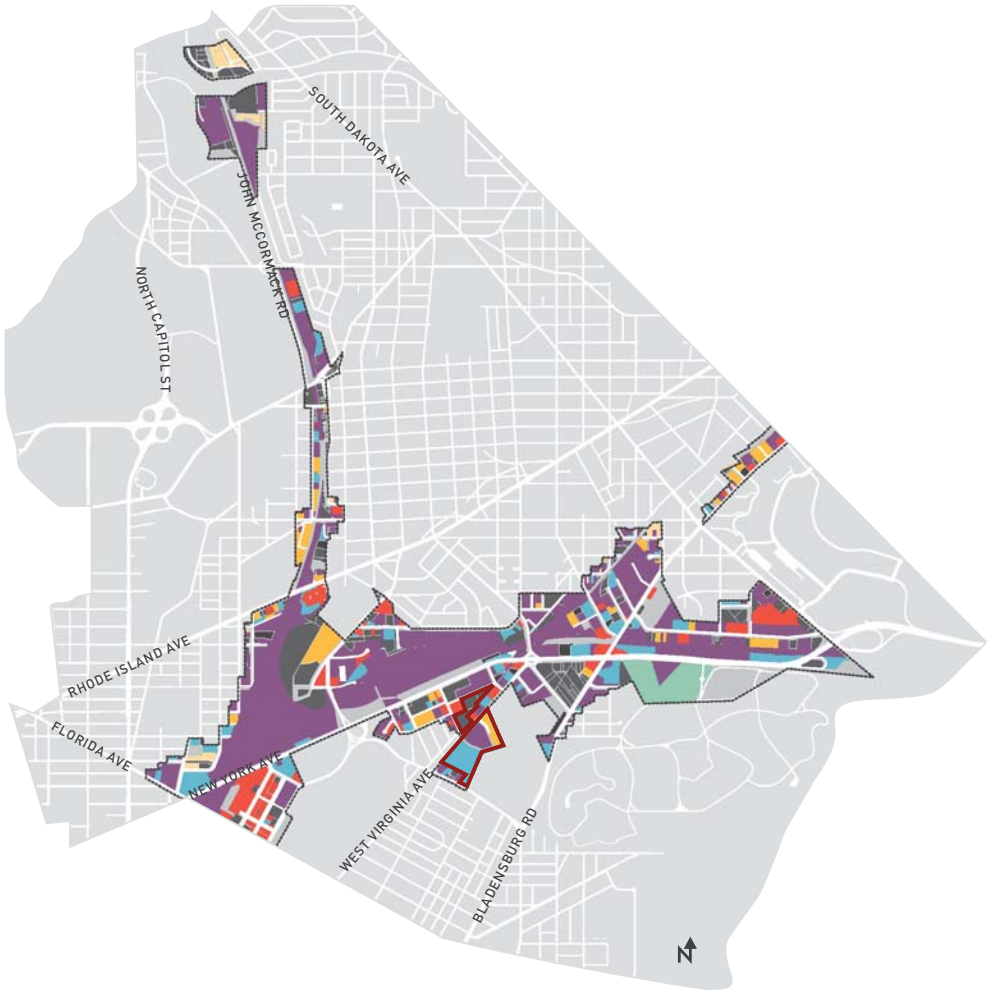
WARD 5 INDUSTRIAL LAND TRANSFORMATION STUDY

Going forward, this facility will play a vital, dual role in the District. On one hand, it must provide the most efficient ways to support DPW's significant workforce in its daily fleet and administrative duties, while also providing a wide range of much needed amenities – jobs, retail, open space – for the neighborhoods surrounding it. Like the campus itself, these amenities will also play a dual role as they serve DPW workers and the community at large.

In August 2014, DCOP released the Ward 5 Works study, exploring the District's network of industrial lands, many of which are concentrated in Ward 5. The District has an opportunity with the DPW Campus Master Plan to reposition Ward 5's industrial land, growing and diversifying its small but vital industrial economy.

Ward 5 Works provides a vision and eight core goals to guide the transformation of these areas. One of the goals, "Serve municipal functions and optimize efficiencies, co-locations" refers directly to improving the DPW campus on West Virginia Avenue. Essential functions provided by DPW are ideally suited to this industrial land. Another priority from the Ward 5 Works study was developing a state-of-the-art municipal campus at this site – not only to optimize DPW operations, but also to provide community amenities and an improved environment in the Ivy City neighborhood. This Master Plan is a key first step in this process.

Ward 5's industrial activity plays an important role in the local economy as it creates quality jobs for many unemployed and underemployed residents. In an effort to promote the key Ward 5 Works goals, this Master Plan explores the strategic integration of DPW operations into the fabric of the Ivy City neighborhood. This area continues to sustain a wide range of PDR businesses – particularly in the food and beverage industries and there are inherent synergies between PDR workers of all types. DPW consolidation will also free up industrial land in other parts of the District for other uses.



LAND USE IN WARD 5

- PDR & TRANSIT-OWNED
- RETAIL
- CIVIC & NON-PROFIT
- RESIDENTIAL
- OPEN SPACE
- VACANT/PARKING LOTS
- COMMERCIAL

A central DPW campus was identified as a key District goal in the Ward 5 Works study. With this in mind, the current site along West Virginia Avenue was selected because it was the largest DC-owned parcel and anchors a neighborhood with many existing industrial uses. DPW's fueling operations and maintenance facilities are already located on the West Virginia Avenue site, and over 60 percent of DPW's employees report to the site daily. The centralization of DPW operations onto this site will transform an underperforming and outdated parcel into a state-of-the-art DPW campus, and create a great municipal anchor to the surrounding neighbors in Trinidad and Ivy City.

These two overarching aspirations for the DPW campus have been promoted throughout this study:

1. Improve and optimize the public works operations to be more healthy, sustainable, and effective.
2. Serve as an anchor to spur community development and amenities on the edges of the campus, including the Ivy City and Trinidad Neighborhoods.

WARD 5 WORKS WEST VIRGINIA AVENUE FUTURE VISION

WARD 5 WORKS VISION

In the next five years, Ward 5 will adapt its existing industrial land to develop a cutting-edge and sustainable production, distribution, and repair industry that diversifies the District's economy, serves as a hub for low-barrier employment, complements and enhances the integrity of neighborhoods, and provides opportunities for arts, recreation and other community amenities.

WARD 5 WORKS GOALS

01
Diversify Economy & Bolster Businesses

02
Grow New & Emerging Businesses

03
Promote Inclusive Job Growth

04
Address Nuisance Issues

05
Improve Environmental Stewardship & Performance

06
Optimize Municipal Functions

07
Provide Community Amenities

08
Create Great Places & Connectivity

DISTRICT PLANS

Several District Plans were consulted throughout the course of this study. The following plans served as a significant resource for this Master Plan:

WARD 5 WORKS

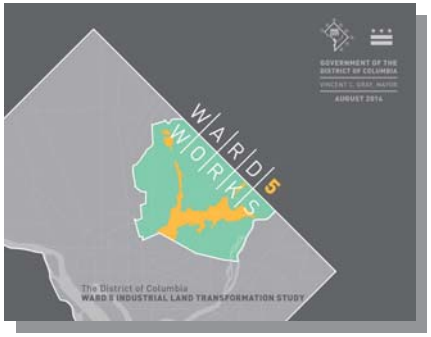
- Grow and diversify the District economy – support innovative sectors
- Retain industrial land and create new production space, good paying jobs for residents with all levels of education and entrepreneurial opportunities
- Educate and prepare the workforce for the new economy

MOVE DC

- Set a 25-year vision for transportation in DC to improve access and mobility for all residents
- Increase investment in DC's bicycle network
- Designate clear freight corridors
- Public realm improvements to support walk-ability and pedestrian safety
- Identifies 36 specific actions to begin the implementation process

SUSTAINABLE DC PLAN

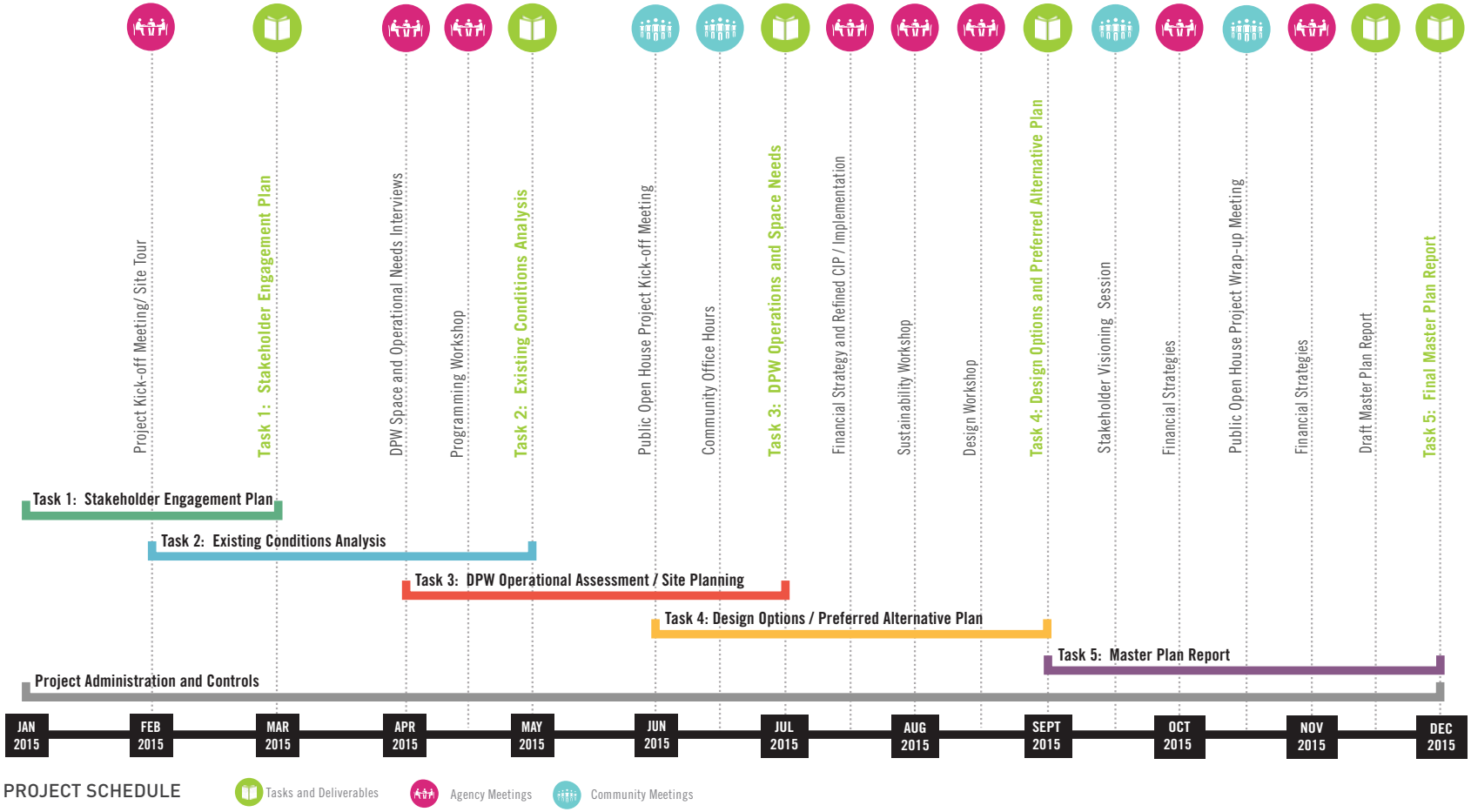
- Create three times the number of small businesses
- Grow five times as many jobs providing green goods and services
- Achieve zero waste and other waste reduction targets
- Reduce greenhouse gas emissions
- Expand the number and range of jobs available to District residents



PLANNING PROCESS

Building off of the Ward 5 Works Plan that was released in August 2014, this plan kicked-off with a joint meeting on February 18, 2015 that involved DC Office of Planning, Department of General Services (DGS), Department of Public Works, and the consultant team. The first phase of the project was an existing conditions analysis that incorporated a wide range of technical experts to gain understanding of the site's context, infrastructure, utilities, environmental conditions, transportation, traffic, circulation, land use, zoning, market forces, topography, local amenities, and more. The analysis of space needs and operations began shortly after the existing conditions analysis was underway. This phase looked critically at DPW's space needs and operations through a series of surveys and interviews completed by DPW and the consultant team.

Once the information from the existing conditions and programming analyses was processed, the consultant team began the community engagement process to inform the design and development of the Master Plan.



COMMUNITY ENGAGEMENT

Continued community involvement and engagement is critical to the success of this plan. As the DPW Campus on West Virginia Avenue is such a large part of the Ivy City and Trinidad communities, the DC Office of Planning (DCOP) conducted a transparent process of ongoing community involvement and engagement. Throughout the campus planning process, there have been four distinct opportunities for community members and stakeholders to help shape the campus:

01 Public Open House Project Kickoff Meeting
02 Community Office Hours
03 Stakeholder Visioning Session
04 Public Open House Project Wrap-up Meeting

01 PUBLIC OPEN HOUSE PROJECT KICK OFF

The first outreach opportunity was a Public Open House Project Kickoff Meeting on June 4, 2015, to introduce the community and key stakeholders to the project and gather feedback on key issues for the study area. The Open House format was two-fold, beginning with a presentation about the project and followed by a gallery walk where informational display boards sparked conversation with subject-matter experts. Comments were captured via "Post-It" notes and one-on-one conversations with key staff.

INTERACTIVE MODEL OF PROGRAM ADJACENCIES

SELECTION OF PROJECT PRIORITY GOALS

GALLERY WALK DISCUSSIONS

STAKEHOLDER VISIONING SESSION

02 COMMUNITY OFFICE HOURS

Community members and stakeholders were also offered the opportunity to participate in Community Office Hours. These were held during the week of June 21-28, 2015. The primary objective of the Community Office Hours was to provide for individual or small group discussions to learn more about the planning process or share insights directly with the Project Team.

03 STAKEHOLDER VISIONING SESSION

The Design Team channeled ideas from the Open House and Community Office Hours into different Master Plan Design Schemes. After iterations with the campus plan working group and input from DPW, the Project Team coordinated the next public engagement opportunity: a Stakeholder Visioning Session. The Visioning Session took place on September 16, 2015, at the Bethesda Baptist Church in Ivy City. A diverse group of community leaders, business owners, and other key stakeholders provided the design team with constructive feedback and perspectives on issues and ideas for the site.

04 PUBLIC OPEN HOUSE PROJECT WRAP UP

The final community meeting on October 15, 2015, presented the preliminary Master Plan and recommendations to the community. The meeting was conducted within the existing DPW campus at 1831 Fenwick Street and consisted of a joint presentation by DGS and DCOP as well as a gallery walk that included information boards depicting design schemes and stakeholder quotes from previous community discussions.

02

EXISTING CONDITIONS

CONTEXT

The West Virginia Avenue Campus is located in Northeast DC in the neighborhood of Ivy City. The site is adjacent to the Mount Olivet Cemetery and industrial businesses, and well buffered from residential, making it an ideal location for consolidation. This largely industrial neighborhood is dominated by warehouses and developed into a vibrant working class neighborhood with the arrival of the B&O Railroad in the mid-1800s. As the rail system declined in the 20th century, Ivy City suffered immensely, but current developments are bringing new life to the neighborhood.

Today, the neighborhood is an industrial area with new major retail stores, a brewery, a distillery, car mechanics, and other new and existing businesses. Recent PUD developments, such as the Hecht Warehouse District along New York Avenue, are giving new life to Ivy City and providing retail and residential opportunities. Despite the recent growth, the neighborhood still lacks many amenities. Community members express a desire for increased retail, expanded green space, improved access, and enhanced infrastructure. The future West Virginia Avenue Campus will provide these amenities to the community, while still supporting DPW operations.

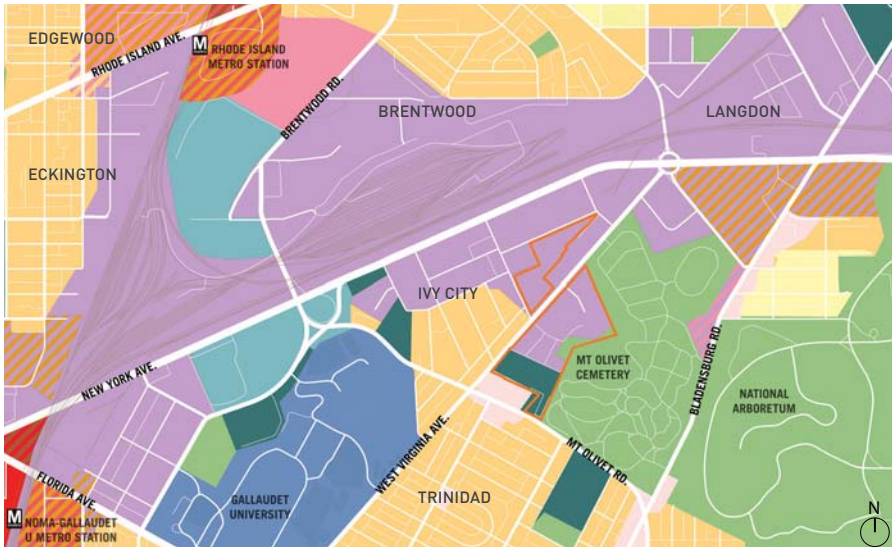
DPW CAMPUS WEST VIRGINIA AVENUE SOUTH SITE

STUDY AREA

Due to the industrial history of the neighborhood, the street network in and around the site is fragmented. Large blocks reduce walk-ability and hinder access. Park space in Ivy City is also limited. While Mount Olivet Cemetery is adjacent to the site, it is not accessible from the West Virginia Avenue Campus and does not provide recreational opportunities. Future connections to the cemetery could be established through the creation of a park on site. A park would extend the regional green network from the site, across Mount Olivet Cemetery, through the National Arboretum to the Anacostia River.

Immediately adjacent to the site are large residential neighborhoods, which often conflict with the industrial nature of some of the parcels in Ivy City. The designated land use for the site is Production, Distribution, and Repair (PDR) with Local Public designated areas at the southern end of the site. The totality of the site falls into the C-M-1 zone, which permits the development of low-bulk commercial and light manufacturing uses to a maximum FAR of 3.0 and a maximum height of three-stories or 40 feet. In order to create a world-class DPW campus with integrated uses and community amenities, the zoning and land use designations must be reevaluated as this project progresses.

The West Virginia Avenue Campus is served by many regional roadways and arterials including Interstate 395, U.S. Route 50, U.S. Route 1, U.S. Route 1 Alternate, Florida Avenue NE, and Mount Olivet Road NE. These routes do not have any heavy vehicle restrictions, with West Virginia being a prominently used corridor for heavy vehicles. Approximately one block away from the site is New York Avenue, which is a heavily trafficked corridor and one of the city's main freight corridors, designated by the MoveDC Plan as a Freight Improvement Corridor. Most of the industrial areas surrounding the site are dominated by surface parking, an indication of the car-centric nature of this area.

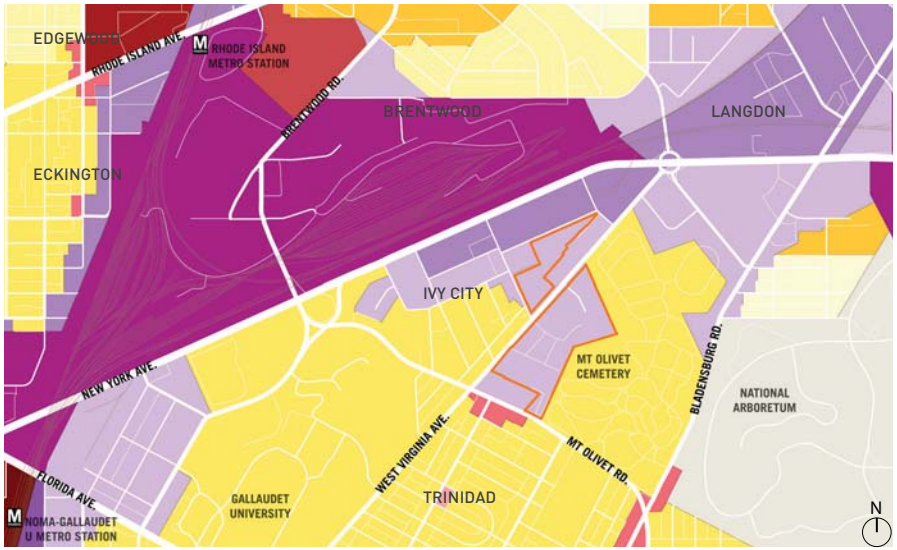


EXISTING LAND USE

- LOW DENSITY RESIDENTIAL
- MODERATE DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- LOW DENSITY COMMERCIAL
- MODERATE DENSITY COMMERCIAL
- MEDIUM DENSITY COMMERCIAL
- HIGH DENSITY COMMERCIAL
- PRODUCTION, DISTRIBUTION, REPAIR
- FEDERAL
- LOCAL PUBLIC FACILITIES
- INSTITUTIONAL
- PARKS, RECREATION, AND OPEN SPACE
- MIXED LAND USE

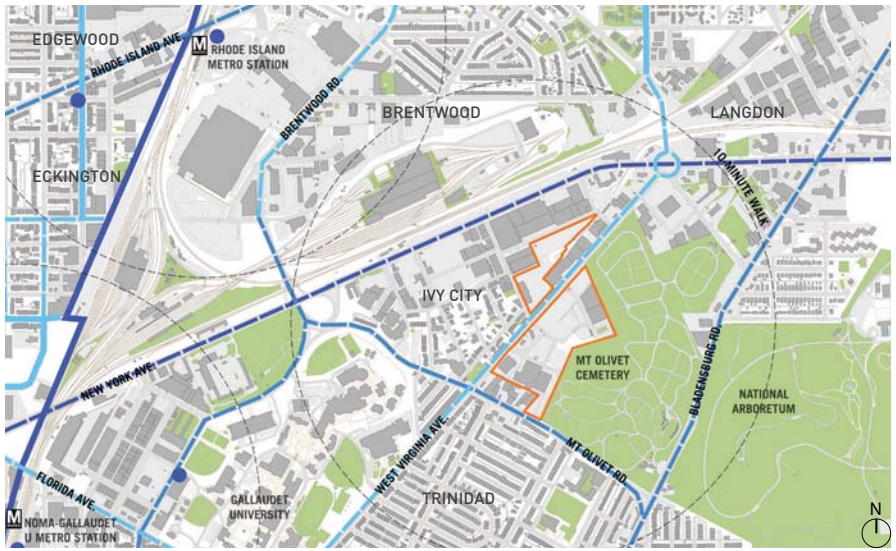
PLANNED MOVE DC CORRIDOR IMPROVEMENTS

- FREIGHT IMPROVEMENT CORRIDOR
- FUTURE HIGH-CAPACITY TRANSIT
- FUTURE HIGH FREQUENCY LOCAL & REGIONAL BUS CORRIDOR
- TOP 20 SAFETY CONCERN INTERSECTIONS



EXISTING ZONING

R-1-B	R-5-B	C-2-C	C-M-2
R-3	R-5-D	C-3-A	C-M-3
R-4	C-2-A	C-3-C	M
R-5-A	C-2-B	C-M-1	UNZONED



PLANNED MOVE DC BIKE NETWORK

- CAPITAL BIKESHARE STATION
- EXISTING TRAIL
- PROPOSED TRAIL
- EXISTING CYCLE TRACK
- PROPOSED CYCLE TRACK
- EXISTING BIKE LANE

PUBLIC TRANSPORTATION

While a wide range of roadways exist around the site, public transit access to the West Virginia Avenue Campus is currently limited. The nearest Metro station is the NoMa-Gallaudet U Metro station, which is approximately a 30-minute walk (over 1 mile) from the site. None of the streets immediately adjacent to the site have existing bicycle facilities, however West Virginia Avenue is considered a "bike-friendly" street due to its narrow width and lower speed limit. Move DC proposes protected bicycle facilities for West Virginia Avenue, New York Avenue, and Mount Olivet Road. There are no bike share or car share stations within a reasonable walking distance, typically one-quarter mile. Sidewalks near the site are in poor condition and are not pedestrian friendly. There is a lack of continuity in the landscape, street lights, trash cans, benches, and bus shelters which interferes with pedestrian movement, rendering walking undesirable.

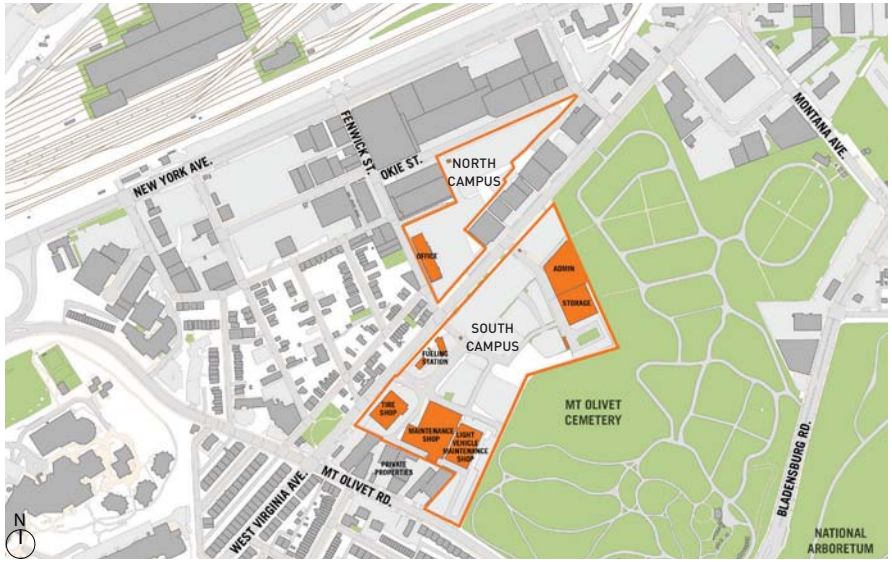
The bus network provides the most transit access to the site aside from personal vehicles. There are 13 bus stops located within a 5-minute walk (one-quarter mile) of the entrance to the site. Six bus routes provide service in proximity to the site.

CAMPUS OPERATIONS

Currently on the West Virginia Avenue south site there are a number of public works functions. The main operations for the Fleet Management Administration and the Parking Enforcement Management Administration are located on this site. There is a car wash, tire shop, fueling station, heavy and light vehicle maintenance shops, DPW and DC Department of Transportation (DDOT) material and equipment storage, employee parking, and fleet parking. The West Virginia Avenue north site is home to a portion of the Street and Alley Cleaning Division, which accommodates administrative functions and daily shift deployments from a 14,500 square foot facility. The remainder of the site is fleet and employee parking.

Between the West Virginia Avenue north and south sites, approximately 1,100 people report to work daily. The majority of these employees are field workers who perform their jobs off site or in the maintenance facilities on site. The remaining employees oversee the administrative functions of each division. Approximately 770 fleet vehicles and parking for roughly 490 employees are accommodated on campus. Generally, the buildings on site are in fair condition but are in need of renovation.

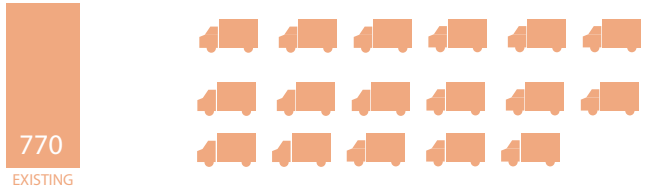
In Fall 2015, DPW relocated the Nuisance Abatement and Solid Waste Management Administration leadership from 2700 South Capitol Street to the West Virginia Avenue south site. The facilities on the South Capitol Street site were planned to be demolished in order to accommodate the relocation of a salt dome. This relocation adds 41 vehicles and 88 employees to the West Virginia Avenue south site.



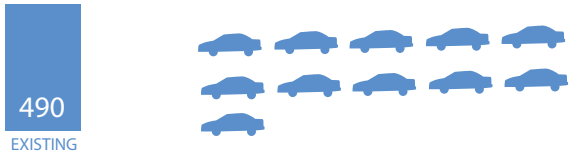
DPW SITES IN IVY CITY

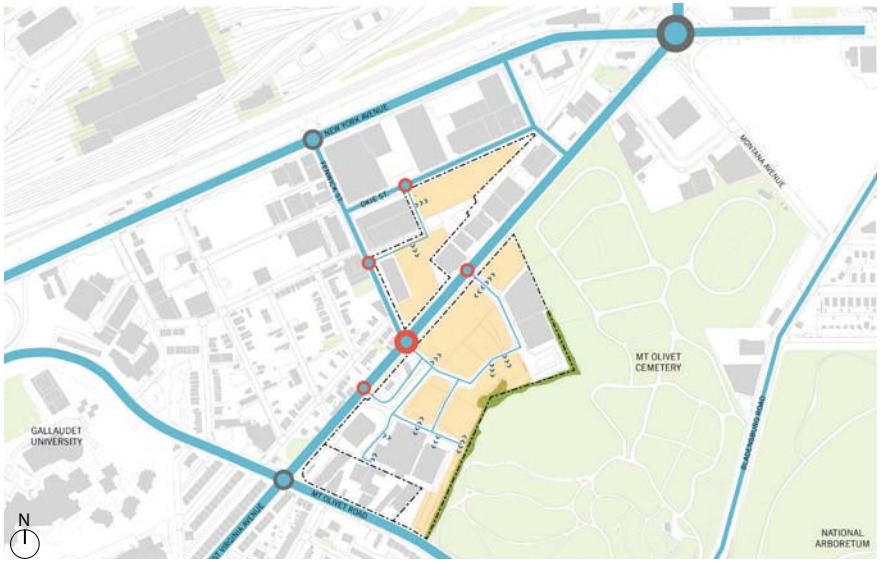
DPW STAFF ON CAMPUS

DPW FLEET VEHICLES



PERSONAL VEHICLES





EXISTING CONDITIONS & ACCESS

- MAIN CAMPUS GATEWAY
- CAMPUS ACCESS
- KEY INTERSECTIONS
- VEHICLE PARKING
- PRIMARY STREET
- SECONDARY STREET
- >>> VEHICLE ACCESS

TOPOGRAPHY

- GRADUAL SLOPES
- STEEP SLOPES

ACCESS

Existing vehicular access to the West Virginia Avenue Campus is from five access points along West Virginia Avenue but the majority of vehicles enter the facility at the West Virginia/Fenwick driveway. With the consolidation of DPW facilities into the West Virginia Avenue Campus, an additional signaled access point along Mount Olivet Road and dedicated separate entrances along West Virginia Avenue for Heavy Duty Vehicles and Passenger Vehicles (for employee and visitor parking) would reduce the strain on the access points during peak operational hours. It is important to note that future access points along West Virginia Avenue and internal circulation routes must be designed to accommodate the turning movements of tractor-trailers.

TOPOGRAPHY

The site is largely used for Fleet parking and is dominated by surface parking. The site slopes from east to west, falling approximately 20-30 feet across the site, which leads to minor flooding at West Virginia Avenue and Mount Olivet Road during major rain events.

STORMWATER MANAGEMENT

Stormwater management is necessary for any project that proposes more than 5,000 square feet of disturbance and a plan must be submitted and approved prior to any building permit issuance. Developments are required to treat stormwater along their public space frontage to the maximum extent practicable and are required to retain approximately the first 1.2 inches of runoff produced by the site. A Green Area Ratio requirement of 0.3 for property zoned C-M-1 is required for all new buildings and additions/renovations where cost exceeds 100% of the assessed building value.

ENVIRONMENTAL FACTORS

A historically industrial site, the West Virginia Avenue Campus was home to a variety of uses throughout recent history. As a result, site contamination is an important consideration for this study. The smokestack of the former Mount Olivet Incinerator still stands on the site today. Since the Incinerator operated prior to the Clean Air Act, there are a number of pollutants that could be present in the soil. The site also has numerous underground storage tanks (USTs) for fueling and other purposes. The DC Department of Energy and the Environment (DOEE) Environmental Services Administration Toxic Substances Division Underground Storage Tank Branch indicates that there are two remaining unresolved leaking UST cases with active Notices of Violation. These leakages could result in soil and/or groundwater contamination and further investigation should be conducted to determine exact impacts. An Environmental Site Assessment prior to the next phase of design will be the most definitive method of identifying what issues are on site and what mitigation or treatment is the best solution.

Per the USDA Natural Resources Conservation Service Web Soil Survey, the site consists of only one soil type, Urban Land (Ub). General properties of this soil type consist of a slope between 0-8%, a depth to restrictive feature of 10-inches, and a very high stormwater runoff rate.

INFRASTRUCTURE AND SUSTAINABILITY

Existing utilities on site are fed from main lines that run along West Virginia Avenue. The existing water, sewer, and storm lines should not be considered a constraint of the ultimate design since they can be removed, abandoned, or relocated. DC Water prefers new utility systems to be located in a public right-of-way, which shifts the maintenance responsibility from a private entity to DC Water.

The DC Clean Rivers Long Term Control Project has underground tunnel and surface improvements directly under and around the project site. The large stormwater holding tunnel is to be located approximately 90 feet below the surface. This project should not pose any restrictions to the site design or layout, but extra coordination and structural review may be required by DC Clean Rivers to determine that no impact will occur.

While very few sustainable practices exist on site today, future development provides many opportunities for improved sustainability campus-wide. Acknowledging that the campus should serve as a national leader in sustainable technologies for Public Works departments, educational components and public awareness initiatives are important to consider. For the West Virginia Avenue Campus, sustainable opportunities include high performance building design; sustainable auto repair; sustainable car and truck wash facilities and practices; renewable energy; microgrids; electric vehicles, charging stations, and alternative fuels; vehicle-to-grid integration; waste grease to fuel programs; vehicles operations strategies; and tree planting programs.

EXISTING FUELING STATION

FUELING STATION VISION

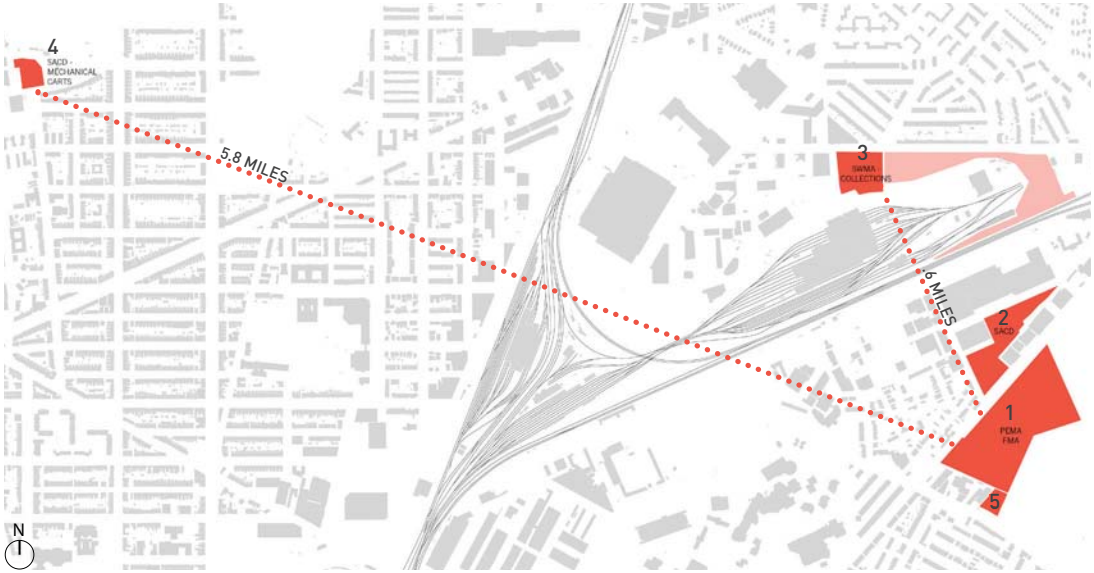
©Repson Petrol Station

1

3

2

4



DISTRICT-OWNED PROPERTIES

DISTRICT-OWNED PROPERTIES

In an effort to understand the trade-offs for the consolidation of DPW onto the West Virginia Avenue Campus, a limited market study and property valuation was completed to assess five key District parcels:

1. District-owned property at West Virginia Avenue, NE
2. District-owned property at 1431 Okie Street, NE
3. District-owned property at 1241 W Street, NE
4. District-owned property at 201 Bryant Street, NW
5. 30,000 sf portion of DPW site along Mt. Olivet Rd, NW

This analysis proved helpful to the design team as the project progressed. The trade-offs associated with this analysis are further discussed in Chapters 3 and 4.

03

DPW OPERATIONS AND SPACE NEEDS

OVERVIEW OF DPW

The Department of Public Works (DPW) is a vital organization to the city of Washington DC. DPW provides municipal services to the District, ensuring clean, safe, and accessible streets and public spaces. There are three major divisions within DPW that perform different services:

- Solid Waste Management Administration (SWMA)
  Ensures the cleanliness of the District's residential neighborhoods, high-visibility commercial areas, gateway corridors and industrial zones through a combination of direct services, education and enforcement.

- Parking Enforcement Management Administration (PEMA)
  Ensures parking opportunities for District residents, businesses and visitors by encouraging voluntary compliance with parking regulations

- Fleet Management Administration (FMA)
  Improves business processes to ensure mission critical equipment will be available for core services for all agencies

Collectively and with the assistance of the DPW administrative group, these three operational units ensure that their mission to provide environmentally healthy municipal services that are both ecologically sound and cost effective is achieved.

The divisions of DPW have grown over time and have been sited on District-owned property as available. Often DPW is asked to relocate when other uses are prioritized. In some cases, the operational efficiencies and desired location of the DPW units are not a part of the equation. Consolidation of DPW onto one campus is viewed as a way to coalesce DPW operations, build the DPW team across divisions, and solidify its presence as a good neighbor in a permanent location.

While the operational divisions within DPW have very little functional overlap, there are some logical adjacencies. One of the most important features of a consolidated campus would be the co-location of the administrative branch with the operational units. This would help build cohesion within the Department and embed the leadership and administrative arm with the operational units. There are also opportunities for more shared space, education and training rooms, and common recreation areas. These spaces could become shared amenities for other District departments, campus tenants, or the larger neighborhood.

SOLID WASTE MANAGEMENT ADMINISTRATION

- Trash Collection
- Recycling Collection
- Household Hazardous Waste & E-cycling-Document Shredding
- Leaf and Holiday Tree Collection
- Graffiti Removal, Street and Alley Cleaning and Litter Can Collection
- Snow Removal and snow.dc.gov
- Sanitation Enforcement
- Litter and Graffiti Prevention
- Solid Waste Education and Enforcement (SWEEP)
- Helping Hand Neighborhood Cleanup

PARKING ENFORCEMENT MANAGEMENT ADMINISTRATION

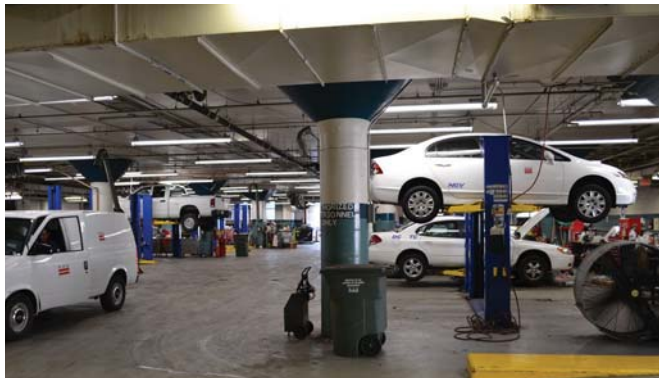
- Ticketing
- Towing
- Booting and Impoundments
- Removal of Abandoned and Dangerous Vehicles

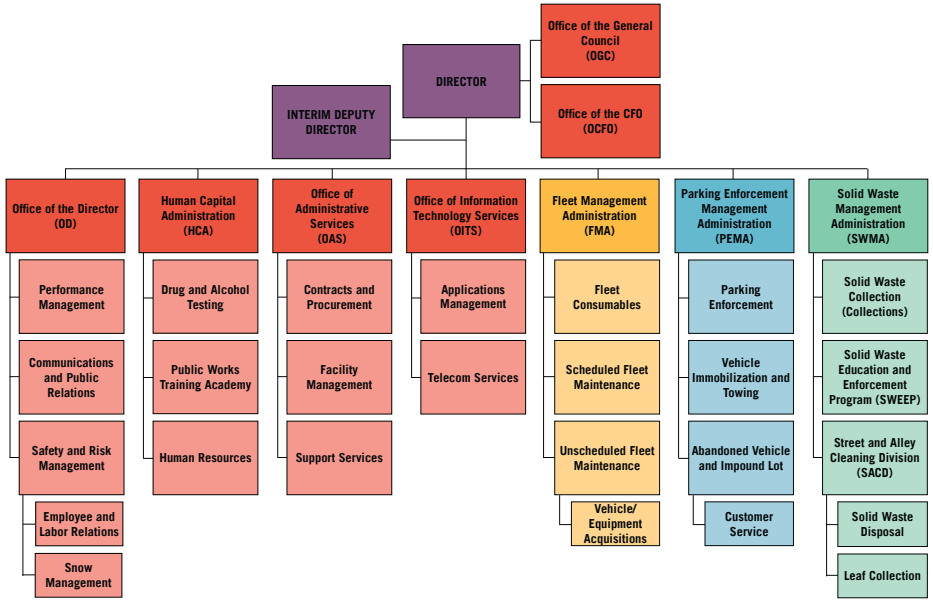
FLEET MANAGEMENT ADMINISTRATION

- Repair and maintenance of 3,000 vehicles for all city services except police, fire, corrections and schools
- Fuel operations for all 6,000 DC government vehicles
- DC government vehicle acquisitions
- Fleet education

SOLID WASTE MANAGEMENT ADMINISTRATION

PARKING ENFORCEMENT MANAGEMENT ADMINISTRATION


FLEET MANAGEMENT ADMINISTRATION



DPW ORGANIZATIONAL STRUCTURE

Washington, DC Department of Public Works

http://dpw.dc.gov/page/who-we-are-dpw> accessed on October 7th, 2015

EXISTING DPW WEST VIRGINIA AVENUE SOUTH SITE PARKING

DPW DIVISIONS

Efficiency and effectiveness in DPW operations is paramount to the organization's ability to perform its services. With such a wide range of operations, each division is broken down into subdivisions. These subdivisions each have their own internal hierarchy and perform different tasks. For example, SWMA's Collections group collects all trash and recycling, while SWMA's SWEEP team enforces all sanitation regulations for the District. These two subdivisions have very different tasks, but both reside under SWMA's umbrella.

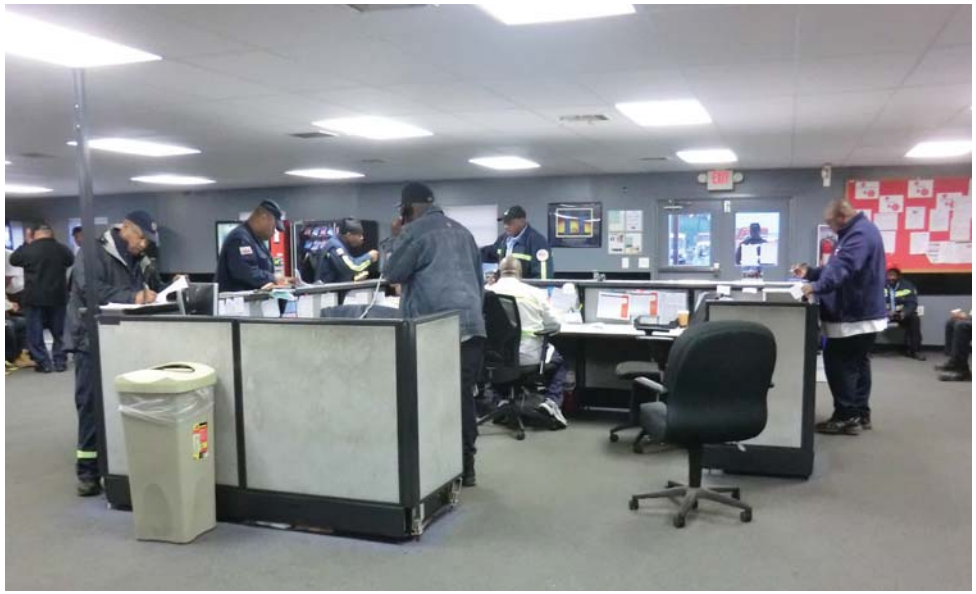
The program analysis for this study identifies existing and future space needs, ways of optimizing office space, and opportunities for improved operational efficiencies. This assessment is a crucial component to this study to determine if and how DPW divisions can be co-located at the West Virginia Avenue site.

PROCESS

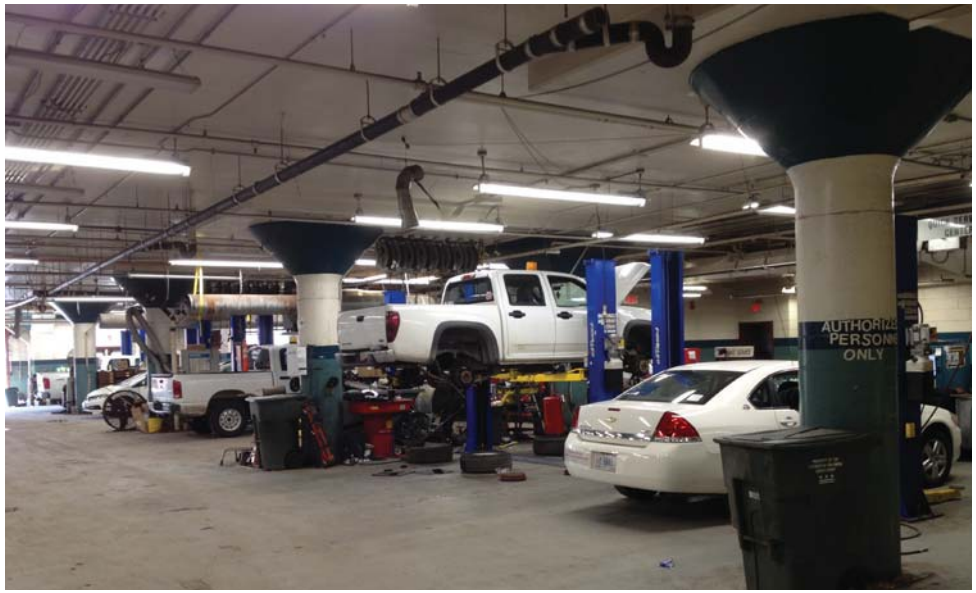
Preliminary data gathered in the Ward 5 Industrial Land Transformation Study provided the planning team with a starting point for the space needs analysis. Knowing these numbers were estimates of what currently exists at each DPW site, it was important to refine them and identify growth opportunities and efficiencies for DPW. In order to do this, the planning team compiled a questionnaire and conducted interviews with the DPW divisions to discuss existing and future space needs.

Fourteen DPW units were identified for further space needs analysis:

- DPW Administration
  - Human Capital Administration (HCA)
  - Office of Administrative Services (OAS)
  - Office of the Chief Financial Officer (OCFO)
  - Office of the Director (OD)
  - Office of the General Counsel (OGC)
  - Office of Information and Technology Services (OITS)
- Fleet Management Administration (FMA)
- Parking Enforcement Management Administration (PEMA)
- Solid Waste Management Administration (SWMA)
  - Solid Waste Collections (Collections)
  - Mechanical and Mechanized Carts (Mech. Carts)
  - Nuisance Abatement (Nuisance)
  - Solid Waste Education & Enforcement Program (SWEEP)
  - Solid Waste Management Administration (SWMA Admin)
  - Street and Alley Cleaning Division (SACD)



EXISTING OFFICE SPACE



EXISTING MAINTENANCE SPACE

Leaders from these units completed questionnaires that documented current and future space needs in terms of the number of private offices, workstations, reception areas, conference rooms, break rooms/kitchens, work rooms, office storage, shared space, and locker rooms. Existing and projected numbers of employees and parking spaces as well as special building needs and adjacencies were also articulated in the questionnaire. Certain amenities such as lockers, meeting spaces, kitchens, ice machines, water coolers/drinking fountains, and bulletin boards are required per Union agreements.

In an effort to confirm the questionnaire responses and tour existing spaces, the planning team conducted interviews with each group. This provided a better understanding of the operations and space needs unique to each division. Simultaneously, interviews were conducted with the PEMA Fleet Coordinator and the following subdivisions of the Fleet Management Administration to better understand DPW's fleet and maintenance needs:

- Fleet Business Operations
- Fleet Inventory & Asset Management
- Fleet Management and Repair
- Fleet Service Center Customer Service
- Fleet Service Operations
- Fuel Management
- Heavy Duty Shop
- Light Duty Shop
- Office of the Administrator
- Packer Shop
- Parts Management and Supply
- Small Engine
- Sweeper Shop
- Tire and Towing
- Welding and Fabrication

Upon gathering information confirming space needs information with DPW, the planning team compiled a space needs summary for office space, parking, and maintenance needs. The generation of the office space needs was based on the questionnaire and interview results, which counted the number of offices conference rooms, and other areas. Using these totals, average space allotments articulated in the Department of General Services (DGS) Workplace Design Guidelines were applied to determine appropriate space allocations for each space type. The result was the net square footage of office space needed by division and space type, which was multiplied by a grossing factor of 1.5 to account for circulation, cores, structure, and utility spaces. This process effectively right-sized DPW's office space, an important step for the project since much of DPW's existing space is located in buildings not initially designed to accommodate office space. This process revealed a number of inefficiencies and areas for improvement in terms of office configuration and spatial organization.

The fleet parking needs were determined by identifying the number and type of fleet vehicles within each division. Using these numbers, the planning team tested various parking scenarios and generated grossing factors for small, medium, and heavy fleet vehicles. These grossing factors provide an average square footage needed for each vehicle and include access and circulation to the vehicles. Employee parking counts were estimated by division leaders during the interviews and used to estimate that roughly 70 percent of DPW employees currently drive to work and park on site.

The fleet maintenance needs were determined by touring the existing maintenance spaces, conducting interviews with the major functional units of FMA, and identifying operational improvements. Once documented, the consultant team was able to determine an estimated need based on the number of vehicles maintained by FMA and estimated Vehicle Equivalency Units (VEUs), which are technician-to-vehicle ratios. Given these numbers, the consultant team determined the number of employees and maintenance bays needed to support the vehicles maintained by FMA.

EXISTING PEMA CHARGING SPACE

EXISTING PEMA SEGWAY STORAGE

FLEET MAINTENANCE AND REPAIR SPACE NEEDS

The fleet maintenance and repair space needs assessment identifies the need for 88 maintenance and repair bays in a new FMA fleet maintenance shop. Upon laying out these bays, the total estimated square footage for the maintenance shop is roughly 170,000 sf. It is important to note that this total may vary based on circulation and site configurations.

In addition to the footprint of the maintenance shop, there are parking needs directly associated with the shop for vehicles before and after maintenance. Roughly 48 heavy duty and 117 light duty parking spaces should be directly adjacent to the maintenance shop to accommodate this need.

A fueling station, light duty wash, heavy duty wash, and wash rack are needed on site as well. Collectively, these program elements equate to roughly 290,000 sf. During the planning process, the team was asked about the viability of acquiring the maintenance responsibilities for other District vehicles such as DC Public Schools, Metropolitan Police Department, and Fire and EMS Departments. Based on the space required for DPW alone, these acquisitions are not feasible.

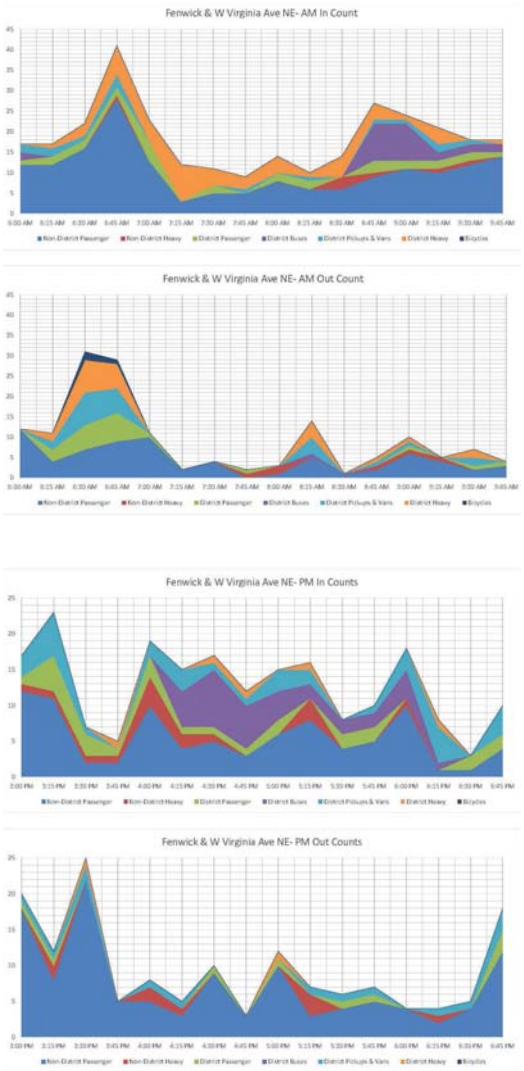
VEHICULAR SPACE NEEDS

In order to operate effectively, DPW relies on the use of different vehicles to perform daily tasks, whether it be trash collection, parking enforcement, street sweeping, or graffiti removal. As a result, fleet vehicle parking has the largest space demand for the site. Given the size of the fleet, 12.5 acres of parking is needed to accommodate 323 heavy vehicles, 255 medium vehicles, 562 light and small vehicles. This would consume 65 percent of the 19-acre West Virginia Avenue south site if all vehicles were parked on-grade.

Separate from the fleet vehicle space needs are the private vehicle parking demands. Currently, the majority of DPW employees drive to work and park on site, totaling roughly 1,100 vehicles. This is mainly due to the fact that most of DPW's field workers must be at work before public transportation starts operating. Additionally, most of the sites DPW currently occupies are not served by the Metro and have limited bus and bicycle connectivity.

In order to determine traffic volumes and flow, traffic counts were conducted at multiple DPW sites across DC to provide the planning team with estimated vehicular influx and outflow that a consolidated DPW campus might experience. The following trends were discovered when data collected from the satellite sites were overlaid:

- The AM peak hour is from 6:15-7:15 AM;
- The PM peak hour is from 3:00-4:00 PM;
- Non-District owned vehicles (assumed to be DPW employees) entering DPW facilities peak between 6:15-6:30 AM;
- The fueling station attracted an average of 46 trips per hour in the AM and 25 trips per hour in the PM.



EXISTING TRAFFIC COUNTS

	ADMIN	FMA	PEMA	SWMA	ALL
NUMBER OF STAFF	125 people	170 people	398 people	1,075 people	1,768 people
NUMBER OF FLEET VEHICLES	8 vehicles	203 vehicles	186 vehicles	743 vehicles	1,140 vehicles
ACRES OF FLEET PARKING	0.1 acres	1.8 acres	1.8 acres	8.8 acres	12.5 acres
TOTAL WORKSPACE GSF	41,382 sf*	23,625 sf*	31,695 sf*	81,330 sf*	178,032 sf*
TOTAL SHOP/ FUELING/WASH GSF	—	290,000 sf**	—	—	290,000 sf**

* All workspace square footages are based on room counts provided by DPW with DGS Office Space Standards applied. A 1.5 grossing factor is employed to account for circulation and cores.
** Total square footage needed for the maintenance shop and associated parking, fueling station, and car washes. Number includes access and circulation within each facility.

EXISTING VEHICLES

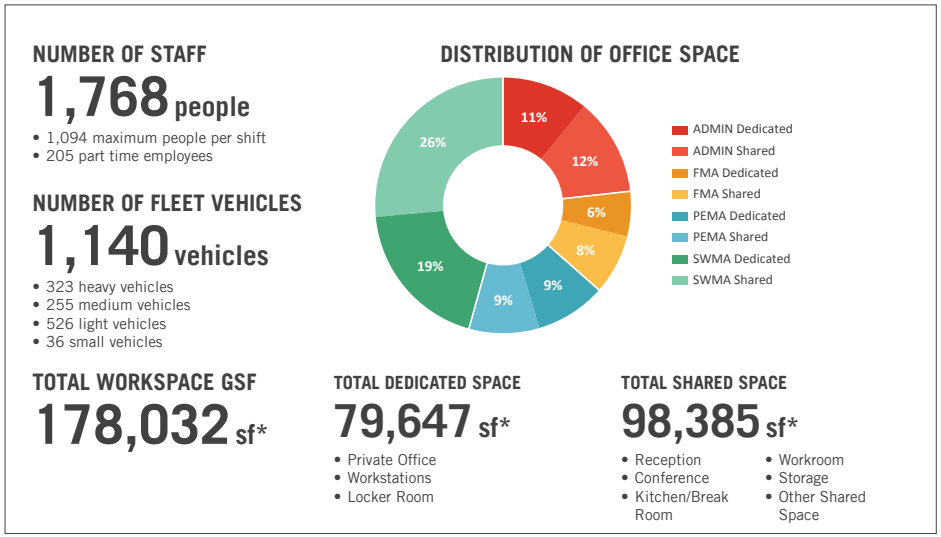
DPW STREET SWEEPERS

EXISTING SWMA VEHICLE

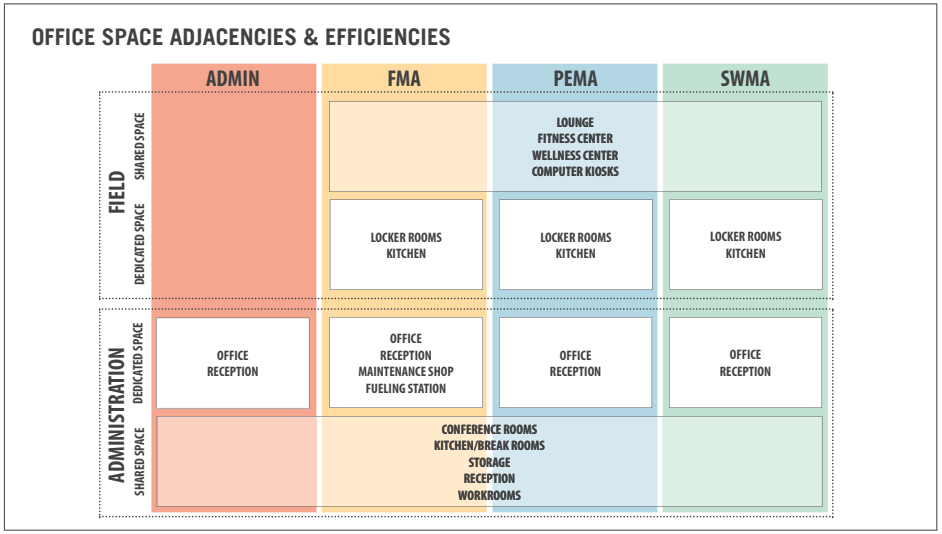
OFFICE SPACE

The overall office space needs for DPW can be accommodated on the West Virginia Avenue site. In fact, the office space needs have the smallest space demand on the site and are well suited to vertical distribution, unlike many of the Fleet operations. The following figures highlight key office space needs information for each major division and are organized into the three major operational divisions with a separate category for the Administrative functions (HCA, OAS, OCFO, OD, OGC, and OITS). From this analysis, it is evident that SWMA has the largest office space demand at 81,330 sf and FMA has the smallest demand at 23,625 sf.

The office space numbers reflect the application of DGS's Workplace Design Guidelines, account for a 1.5 grossing factor for circulation and cores, and differentiate between shared and dedicated office space. Dedicated spaces are private offices, workstations, and locker rooms where an employee does not share space with another employee or division. Conversely, shared space such as reception areas, conference rooms, kitchens/break rooms, workrooms, and storage can be shared within the division and sometimes between divisions. For example, since SWMA is located across a number of sites, co-locating their operations at the West Virginia Avenue site will allow subdivisions to share spaces such as conference rooms and kitchens. The shared space totals documented in the figures represent DPW's current amounts and could be further refined at a later phase of the project when more specific opportunities to share space between divisions are identified.



OVERALL OFFICE SPACE NEEDS



CATEGORIZATION OF SHARED AND DEDICATED SPACE TYPES

NUMBER OF STAFF

125 people

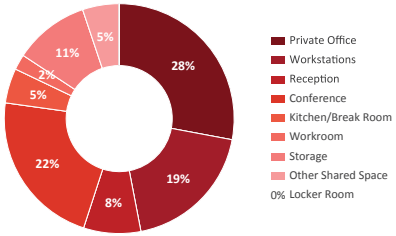
- 112 maximum people per shift
- 12 part time employees

NUMBER OF FLEET VEHICLES

8 vehicles

- 0 heavy vehicles
- 0 medium vehicles
- 8 light vehicles
- 0 small vehicles

DISTRIBUTION OF OFFICE SPACE



TOTAL WORKSPACE GSF

41,382 sf*

TOTAL DEDICATED SPACE

19,437 sf*

- Private Office
- Workstations
- Locker Room

TOTAL SHARED SPACE

21,945 sf*

- Reception
- Conference
- Kitchen/Break Room
- Workroom
- Storage
- Other Shared Space

* All numbers are based on room counts provided by DPW with DGS Office Space Standards applied. A 1.5 grossing factor is employed to account for circulation and cores.

West Virginia Avenue Public Works Campus Master Plan — **ADMIN**

ADMINISTRATIVE OFFICE AND FLEET PARKING NEEDS

NUMBER OF STAFF

398 people

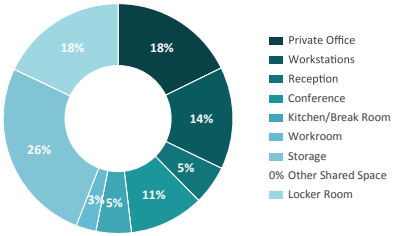
- 262 maximum people per shift
- 0 part time employees

NUMBER OF FLEET VEHICLES

186 vehicles

- 41 heavy vehicles
- 1 medium vehicles
- 137 light vehicles
- 7 small vehicles

DISTRIBUTION OF OFFICE SPACE



TOTAL WORKSPACE GSF

31,695 sf*

TOTAL DEDICATED SPACE

15,870 sf*

- Private Office
- Workstations
- Locker Room

TOTAL SHARED SPACE

15,825 sf*

- Reception
- Conference
- Kitchen/Break Room
- Workroom
- Storage
- Other Shared Space

* All numbers are based on room counts provided by DPW with DGS Office Space Standards applied. A 1.5 grossing factor is employed to account for circulation and cores.

West Virginia Avenue Public Works Campus Master Plan — **PEMA**

PEMA OFFICE AND FLEET PARKING NEEDS

NUMBER OF STAFF

170 people

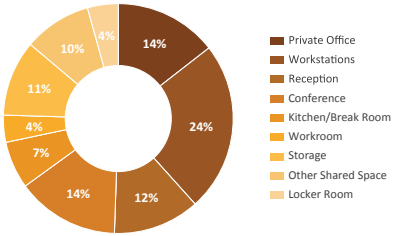
- 122 maximum people per shift
- 8 part time employees

NUMBER OF FLEET VEHICLES

203 vehicles

- 24 heavy vehicles
- 20 medium vehicles
- 145 light vehicles
- 14 small vehicles

DISTRIBUTION OF OFFICE SPACE



TOTAL WORKSPACE GSF

23,625 sf*

TOTAL SHOP/FUELING/WASH GSF
+188,000 sf**

TOTAL DEDICATED SPACE

10,080 sf*

- Private Office
- Workstations
- Locker Room

TOTAL SHARED SPACE

13,545 sf*

- Reception
- Conference
- Kitchen/Break Room
- Workroom
- Storage
- Other Shared Space

* All numbers are based on room counts provided by DPW with DGS Office Space Standards applied. A 1.5 grossing factor is employed to account for circulation and cores.
** Total square footage needed for maintenance shop, fueling station, and car washes. Number includes access and circulation within each facility.

West Virginia Avenue Public Works Campus Master Plan — **FMA**

FMA OFFICE AND FLEET PARKING NEEDS

NUMBER OF STAFF

1,075 people

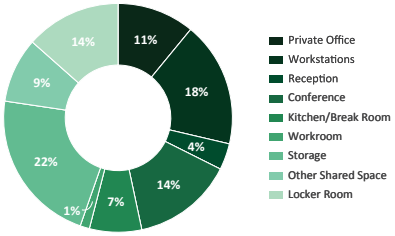
- 598 maximum people per shift
- 185 part time employees

NUMBER OF FLEET VEHICLES

743 vehicles

- 258 heavy vehicles
- 234 medium vehicles
- 236 light vehicles
- 15 small vehicles

DISTRIBUTION OF OFFICE SPACE



TOTAL WORKSPACE GSF

81,330 sf*

TOTAL DEDICATED SPACE

34,260 sf*

- Private Office
- Workstations
- Locker Room

TOTAL SHARED SPACE

47,070 sf*

- Reception
- Conference
- Kitchen/Break Room
- Workroom
- Storage
- Other Shared Space

* All numbers are based on room counts provided by DPW with DGS Office Space Standards applied. A 1.5 grossing factor is employed to account for circulation and cores.

West Virginia Avenue Public Works Campus Master Plan — **SWMA**

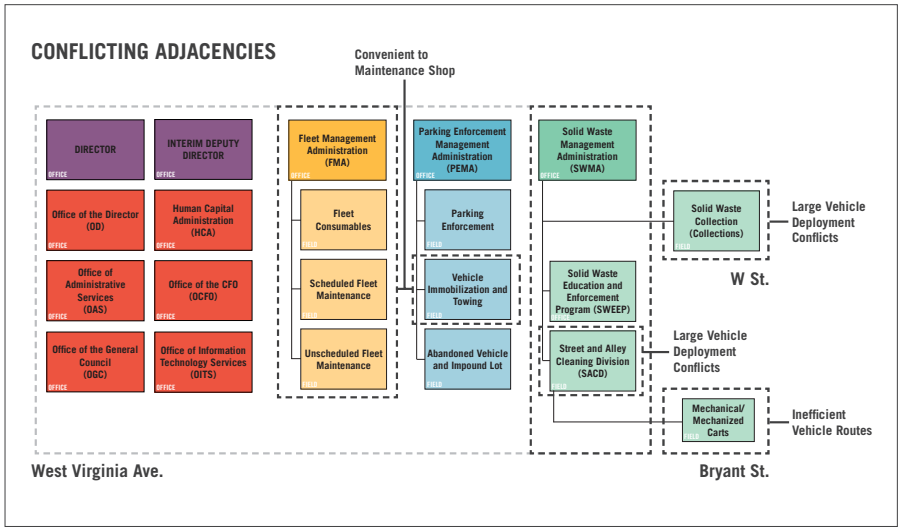
SWMA OFFICE AND FLEET PARKING NEEDS

DPW OPERATIONS

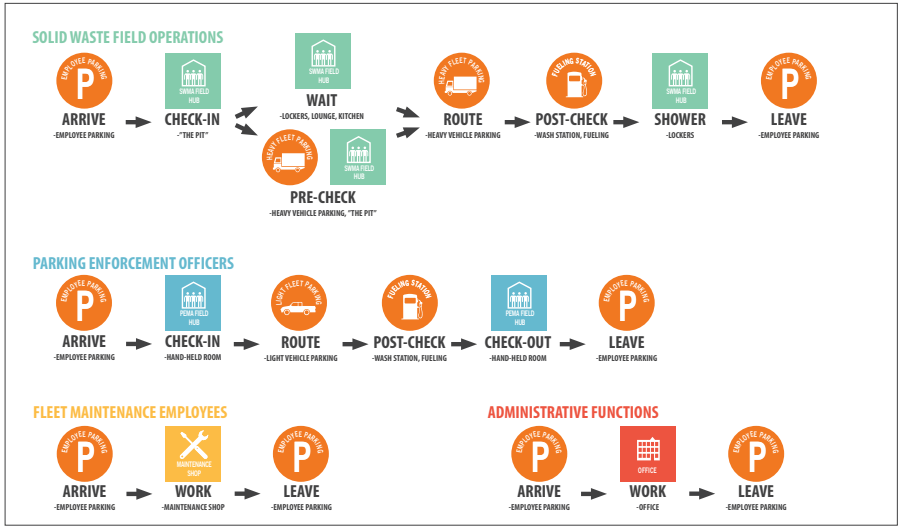
The interview process provided insight into how various DPW operations function. Each division has different needs when it comes to daily operations. Consolidating DPW onto one site could pose issues such as traffic congestion, circulation complications, personnel conflicts and more if it is not planned effectively. Ensuring DPW can efficiently perform its duties is critical to its operations. There are many nuances within DPW and this study attempts to capture the major operational concerns expressed and observed during the interviews. The following figures illustrate ideal DPW operational flows and potential conflicts to be addressed in this master plan.

Acknowledging DPW's complex structure and variety of operations, there are some subdivisions that may not benefit from relocating to the West Virginia Avenue site. The figure to the right shows potential conflicts between divisions as expressed in the interviews. Large vehicle deployment conflicts between Collections and SACD, vehicle route inefficiencies for Mechanical/Mechanized Carts, and maintenance shop adjacencies are all critical components to be addressed in the design phase of this project.

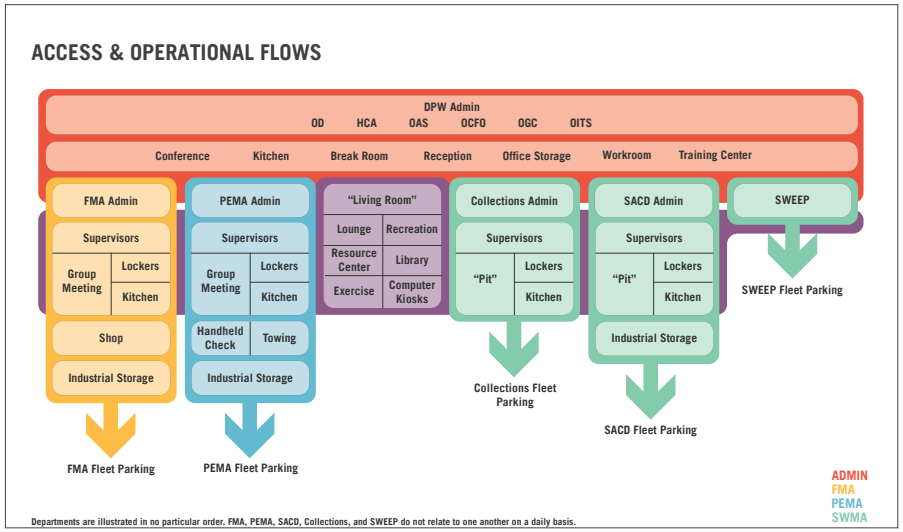
The "Division Operations" figure illustrates the relationship that the DPW Administration has with each division and how each division operates independently under the Administrative umbrella. Within SWMA, Collections, SACD, and SWEEP have different operations that should be clearly articulated during the design phase. Creating a common space to accommodate exercise, recreation, employee resources, computer kiosks, and lounge areas could help unite DPW and provide a respite from the difficult jobs most employees perform every day. The lighter bubbles in this diagram represent different space needs within each division. For example, PEMA administration needs a designated office area, which might be separate from, but adjacent to the supervisors, hand-held room, and storage areas. The supervisors within PEMA need direct connections to the



CONFLICTING DPW ADJACENCIES



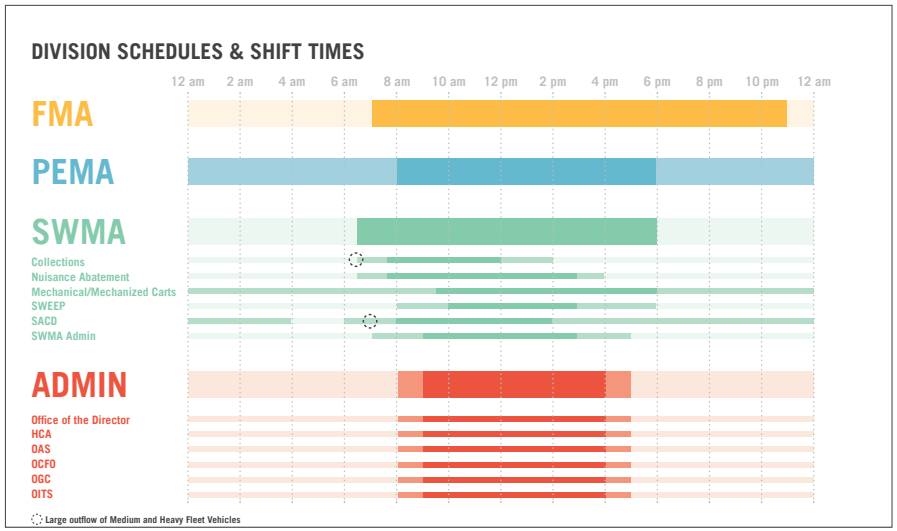
DIVISION OPERATIONS



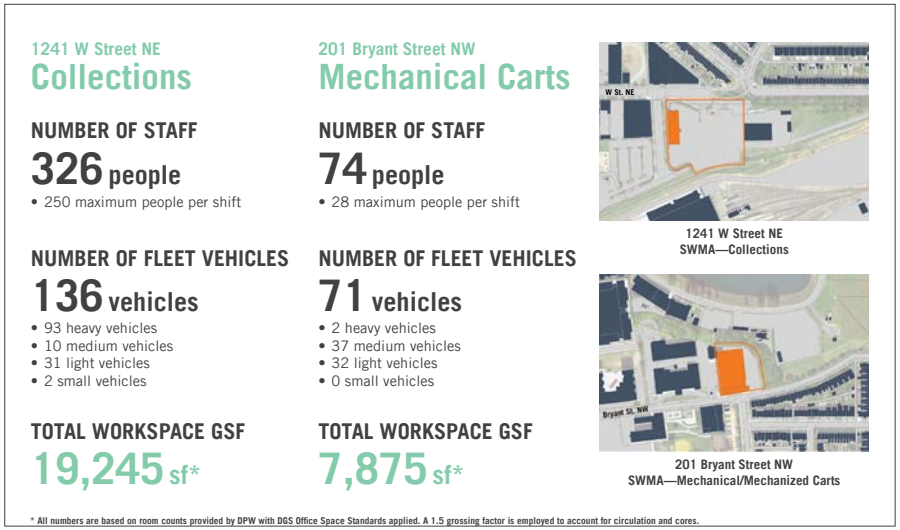
ACCESS & OPERATIONAL FLOWS

field employees, who also need locker rooms, kitchen/break rooms, and a group meeting or roll call space. From there, field employees need to check out a hand-held device, pick up towing equipment, or grab a bike/Segway/Vespa from storage prior to going into the field. Shift timing also plays a role in potential operational conflicts across the site. Collections and SACD both deploy a large number of heavy vehicles between 6:30am and 7:00am. Understanding these flows and designing an environment to optimize them is critical to the next phase of this project.

While consolidation of DPW onto one site is the main goal, this may not be feasible due to operational or spatial conflicts. Two units have been identified to stay where they are: Collections at 1241 W Street NE, and Mechanical/Mechanized Carts (street sweepers) at 201 Bryant Street NW. Collections is a good candidate to remain at W Street because it includes a large number of heavy vehicles, is not conflicting with neighbors on W Street, and occupies a relatively low value site. Mechanical/Mechanized Carts is another potential candidate to stay in place since they are located close to their central north-south routes. The equipment is slow moving and relocating to the West Virginia Avenue site would add more time to their routes and more wear and tear on the equipment.



DIVISION SCHEDULES & SHIFT TIMES



COLLECTIONS & MECHANICAL CARTS

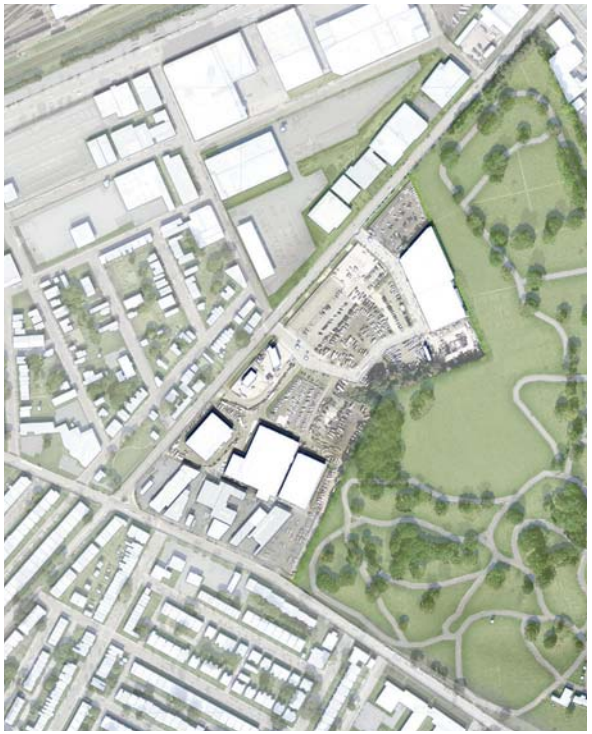
04

DESIGN PROCESS

INTRODUCTION

DPW currently operates on independent sites scattered across the District. The design process of this study explores options for how to reorganize and rethink the campus as one unified place on the West Virginia Avenue north and south sites, all while creating a healthy work environment that optimizes DPW's daily operations.

The consolidation will accommodate most of DPW critical District functions on one site; including parking enforcement, waste education and enforcement, street and alley cleaning, fleet repair services, snow removal, nuisance abatement, and administrative services. DPW functions with specific geographic needs and time-sensitive operations, such as Mechanical and Mechanized Carts (street sweepers) and Collections will not be relocating. The proposed West Virginia Avenue Campus Master Plan serves to redefine the ambitions of a sustainable municipal agency and acts as a catalyst for public activity within the Ivy City neighborhood.



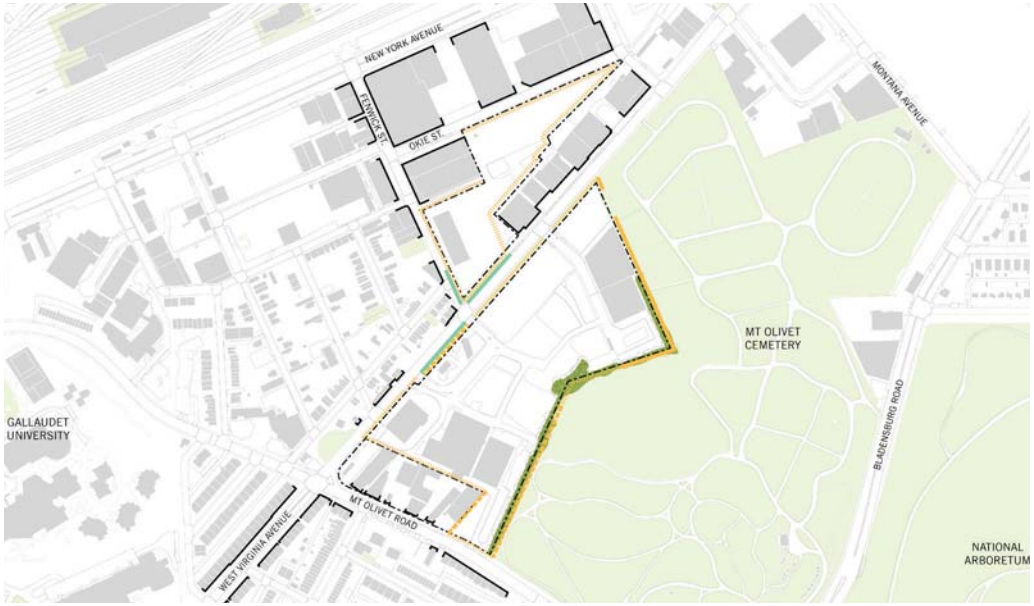
EXISTING DPW CAMPUS ON WEST VIRGINIA AVENUE

URBAN DESIGN – EXISTING CONTEXT

At present, 60% of all DPW employees report to two properties within the study area, the proposed location for full DPW consolidation. The larger parcel – West Virginia Avenue south site— encompasses 19.4 acres and features two maintenance facilities, a tire repair shop, an open fueling structure, administration offices, and numerous storage areas both open-air and enclosed. The most prominent feature of the existing site are the surface parking lots.

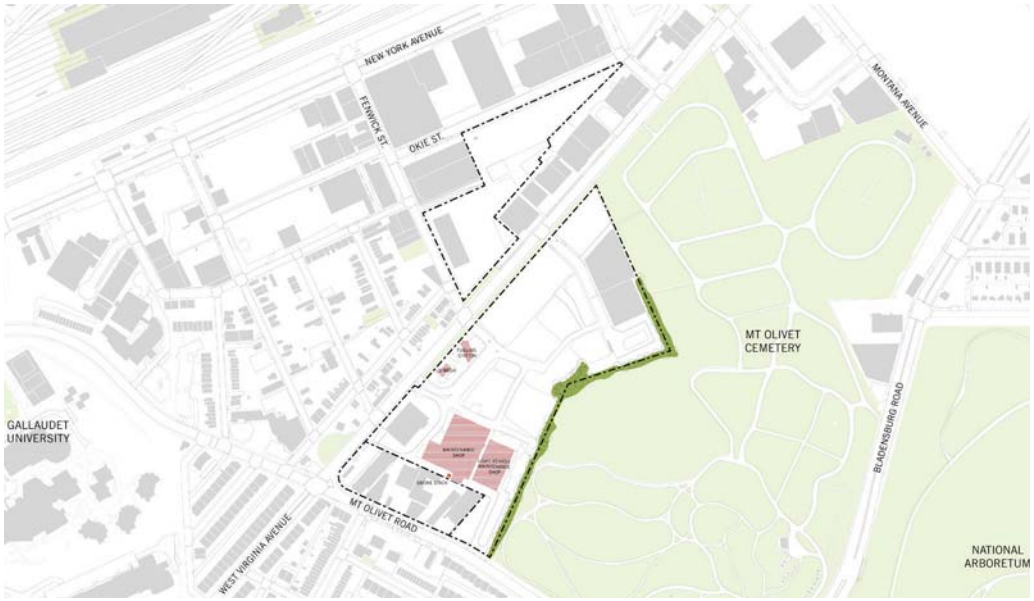
The West Virginia Avenue south site features several curb cuts along West Virginia Avenue with a primary access point at the Fenwick Street intersection. Along West Virginia Avenue, the site lacks active street frontage. Currently, the street edge is bordered by broken street walls, grass berms, and oversized setbacks to the campus; these features wrap the entire property keeping it private but also making it uninviting. These conditions leave the site largely without public activity or street life. A small segment of the West Virginia Avenue south site extends down to Mt. Olivet Road and contains a former curb cut not presently being utilized. This extension of the site offers the opportunity for a new site entry point to reduce site traffic along West Virginia Avenue, an already overly congested and heavily trafficked road within the neighborhood.

The West Virginia Avenue south site slopes from a low point along West Virginia Avenue to high points along the northern and eastern edges which overlook the Mt. Olivet Cemetery. There is no current or anticipated physical access from the site to the cemetery, but the site boundary does feature a relatively lush green edge, something uncommon for the neighborhood. The southern boundary abuts several existing, single-story buildings facing onto Mt. Olivet, incorporating the more commercial and industrial characteristics of the adjoining neighborhoods.



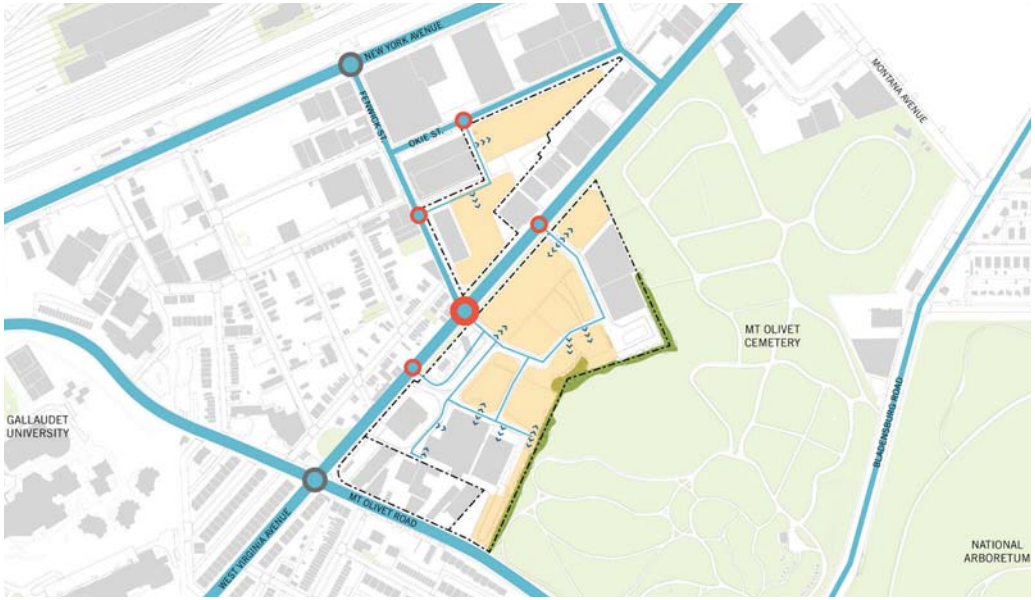
STREET EDGE CONDITIONS

- CONCRETE WALL
- COMBINED WALL / FENCE
- EXISTING BUILD-TO LINE
- FENCE
- GRASS BERM



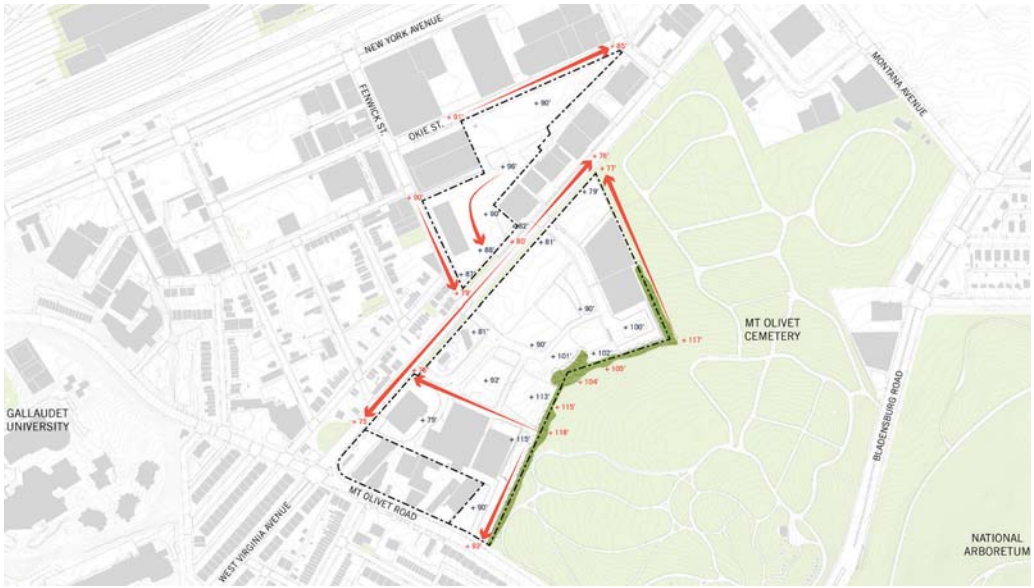
PROGRAM & STRUCTURES TO REMAIN

- STRUCTURE TO REMAIN
- FUNCTION TO REMAIN IN OPERATION DURING CONSTRUCTION



EXISTING CONDITIONS & ACCESS

- MAIN CAMPUS GATEWAY
- CAMPUS ACCESS
- KEY INTERSECTIONS
- VEHICLE PARKING
- PRIMARY STREET
- SECONDARY STREET
- VEHICLE ACCESS



TOPOGRAPHY & SLOPES

- SLOPE DIRECTION
- + 00' SITE SPOT ELEVATION
- + 00' ADJACENT CONTEXT SPOT ELEVATION

The northern parcel – West Virginia Avenue north site - is the smaller of the two, encompassing 6.12 acres. Covered almost entirely in surface parking lots and featuring similar street frontage conditions and lack of public activity, the West Virginia Avenue south site presents challenging constraints due to its highly irregular site configuration. Unlike the West Virginia Avenue south site, the site does not feature any permanent buildings, but does house a collection of prefabricated trailers in the southeast corner. The West Virginia Avenue north site sits adjacent to several active development projects that are reshaping the Ivy City neighborhood, including housing and retail redevelopment associated with the Hecht's warehouse. The West Virginia Avenue north site is significantly higher than West Virginia Avenue, sloping downward from west to east. It is accessed from Fenwick Street, with additional curb cuts along Okie Street, primarily for the heavy vehicles that are parking on the site.

KEY URBAN DESIGN GOALS + PROCESS

District-owned property currently abuts three sides of the intersection at West Virginia Avenue and Fenwick Street, an area considered an essential node to the future of the Ivy City neighborhood. The proposed strategies for the DPW Campus Master Plan aim to transform this intersection into a community and DPW hub, serving as a highly visible example of how public and municipal uses can work together and serve a defining role in development throughout the District. Central to the proposed plan are urban design strategies that aim to reinforce street frontages while connecting the site back to Ivy City and the surrounding neighborhoods. The following sequence of diagrams illustrates how the new, world-class campus proposes to accomplish this:

1 West Virginia Ave as a Key Development Spine
After decades as a secondary thoroughfare, West Virginia Avenue is poised to become a significant development and mobility corridor serving both the emerging Ivy City neighborhood and broader industrial land areas as referenced in the Ward 5 Industrial Land Transformation Study. A strong, new public face for the community along West Virginia Avenue will reinforce this key spine.

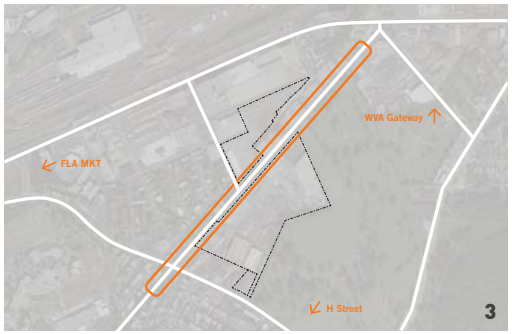
2 New York Avenue and Fenwick St as Key Site Gateways
New York Avenue and Fenwick Street are critical development and circulation corridors that serve the District-owned properties and greater Ivy City neighborhood. With additional growth projected for the neighborhood, specifically along these corridors, New York Avenue and Fenwick Street are positioned as key gateways to new DPW Campus.

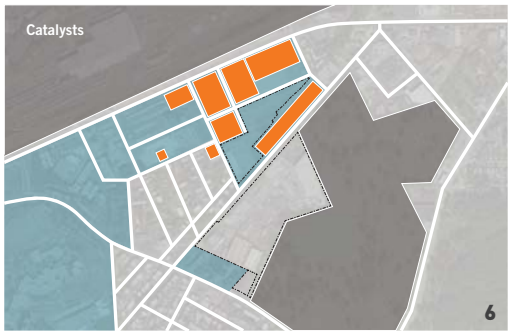
3 District Connectivity
Nearby emerging neighborhoods are starting to take shape in the city, creating a prime opportunity to enhance connectivity from Ivy City to other growing parts of the District. Neighborhoods such as the Union Market area, the H Street corridor, NoMa, and the anticipated redevelopment of Union Station are all experiencing growth within a short walk of the campus.

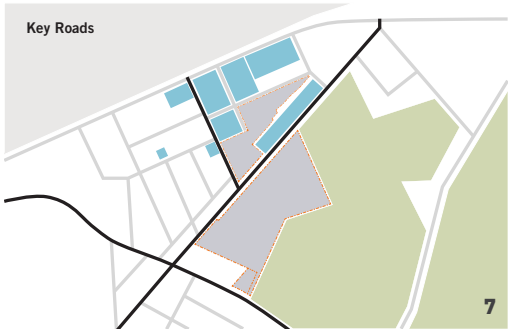
4 Local Street Patterns
The local street grid and block structure of the neighborhood serve as potential limiting factors of development around the site due to their shape, size, and irregularity. Sites of this nature typically support small-scale or specialized building types and uses, often remaining vacant for extended periods of time. The proposed DPW campus will set the stage for further development in the area, with the intent of activating its surroundings.

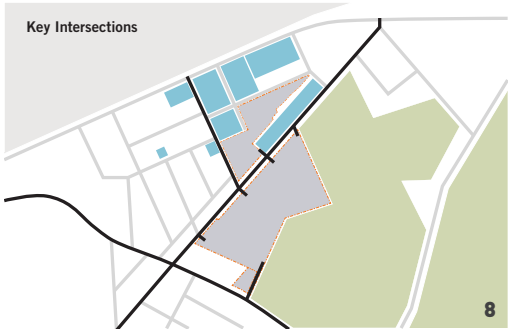
5 Existing Neighborhood Voids
Greater development in the area has been impeded by two very large swaths of land, Mount Olivet Cemetery and the rail yards along New York Avenue, acting as "voids" of activity near the West Virginia Avenue Campus. Both of these sites encompass land uses that do not contribute to the urban energy of the neighborhood creating a condition that has not promoted future development. To remedy the situation, development opportunity is needed in Ivy City's remaining development sites to foster urban vitality and re-energize the neighborhood.

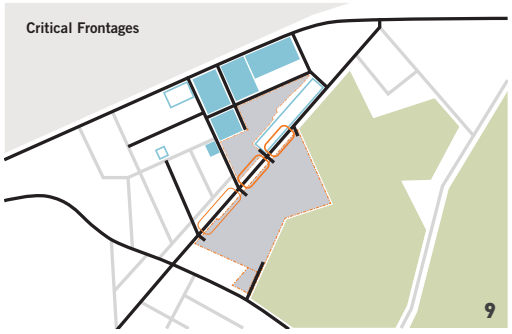
6 Existing Neighborhood Anchors
Several sites surrounding the study area, such as Union Market and the Hecht Warehouse, are catalyzing future growth, pushing transformation in the neighborhood. Any future development at the corner of New York Avenue and Bladensburg Road will also have an enormous impact on the dynamics of the area leading to a change in pedestrian and vehicular traffic.

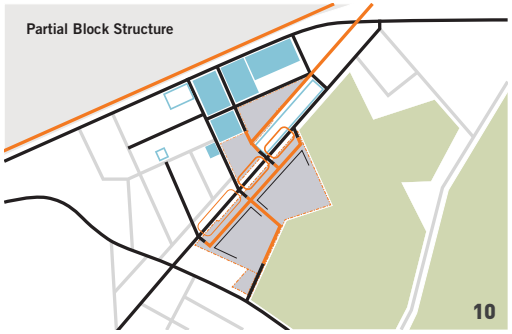












7 Fenwick Street as a Key Public Space Spine

A key urban design strategy is reinforcing the intersection of Fenwick Street and West Virginia Avenue to serve as the central node and gateway into the new campus. This strategy also reinforces the goal of tying the campus back to the broader urban fabric of Ivy City. While Fenwick Street itself does not extend into the site, the visual and pedestrian connections allow the street to become a more prominent gateway feature within the neighborhood while also reinforcing internal site circulation patterns critical for the operational efficiency of DPW.

8 Key New Intersections

Five key intersections in the master plan delineate site entries along West Virginia Avenue and Mount Olivet Road. These intersections will not aim to form new "blocks" but rather connection points and gateways into the various DPW facilities while tying into the surrounding street grid across West Virginia Avenue.

9 Key Street Frontages

Street frontages along West Virginia Avenue are critical to activating the Ivy City neighborhood and the Master Plan should reinforce these frontages with a continuous street wall. Along West Virginia Avenue, to the north of Fenwick Street, development is focused on DPW use with potential flexible PDR spaces, relating to the industrial nature of the adjoining parcels across the street. Development of street frontages to the south of Fenwick Street are community focused uses with a lower scale and character to relate to the building massing across West Virginia Avenue.

10 Future Neighborhood Change Agents

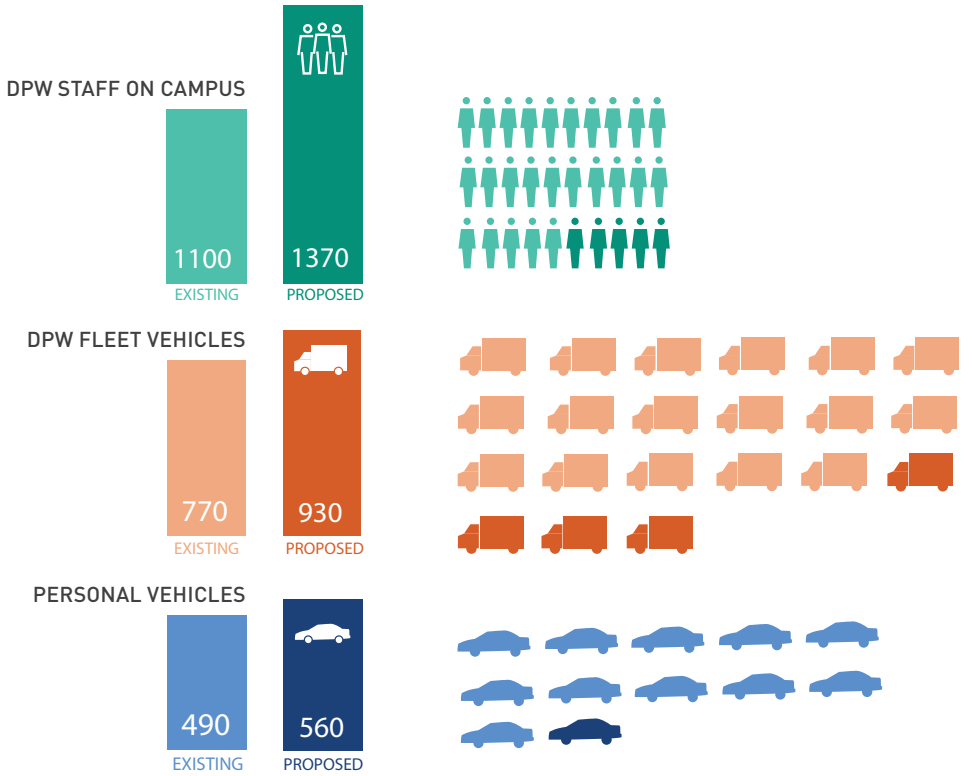
Over the next 5 to 10 years, several existing and proposed uses will have major impacts on this site, all of which are welcomed by the local community. Developments in Ivy City and near Gallaudet University will generate a higher degree of accessibility, visibility, and marketability, leading to an increase in pedestrian and bike traffic. The site and proposed master plan are designed to reflect this.

UNDERSTANDING THE PROGRAM

As outlined in Chapter 3, DPW has many complex uses that will be accommodated on the West Virginia Avenue north and south sites. The detailed space needs analysis and programming informed the space requirements for the facilities proposed in the consolidated DPW site options. As mentioned, the largest program demand for campus is for fleet parking, which is constrained by the need to locate the heavy fleet vehicles on grade to prevent high structural costs for multi-level parking.

Due to the requirements of public works facilities, particularly the parking requirements for heavy and light vehicles, most municipalities elect for strategies that encompass large areas of land and result in single-story structures. Collectively, the footprint for DPW's consolidated program significantly exceeds the available land area of the West Virginia Avenue north and south sites. As a result, the new facilities require multi-story strategies to accommodate most of the DPW program. This approach necessitates design strategies with added complexity and costs compared to other municipalities, but reflects the challenges of locating public works and maintenance facilities in a major metropolitan area. The resulting design is a proposed campus that addresses these challenges and delivers a world-class DPW facility to lead as an example for future municipal development.

UNDERSTANDING THE PROGRAM

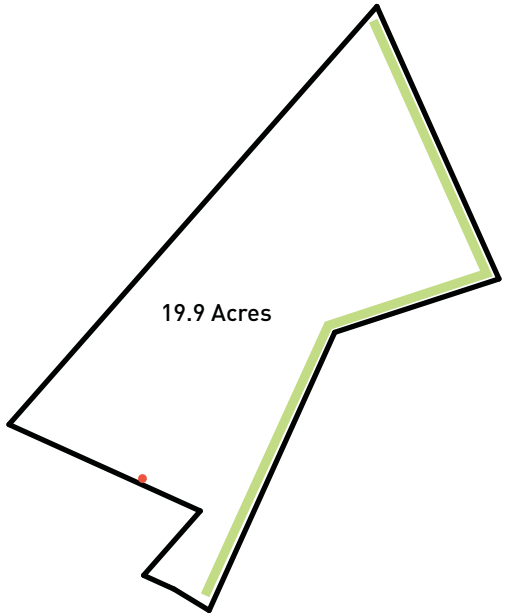


POTENTIAL CAMPUS DESIGN FEATURES

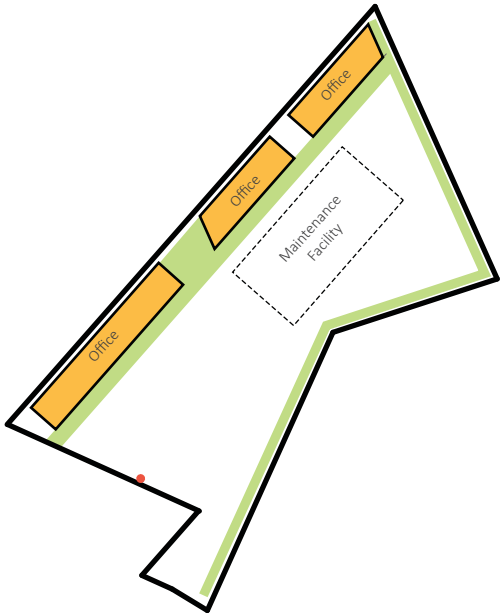
ADMINISTRATIVE OFFICES AND OUTDOOR SPACE
©Monash University Biomedical Science Building

STRUCTURED PARKING WITH GREENSCREEN
©Mission Bay Parking Garage

UNDERSTANDING THE PROGRAM

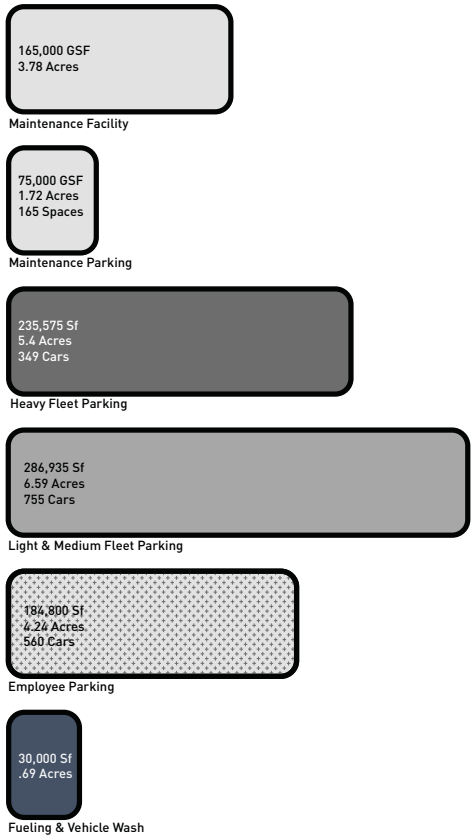


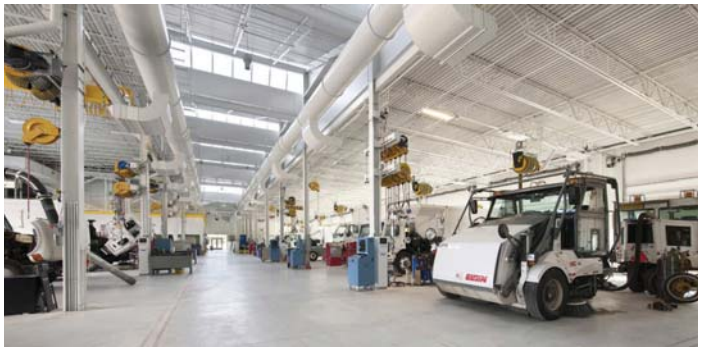
SITE AREA



POSSIBLE BUILDING FOOTPRINTS

Total Parking / Maintenance Program Areas
22.42 Acres





MAINTENANCE FACILITY
©Denver Central Platte Campus

ELECTRIC VEHICLES
©Boston University Medical Campus

POTENTIAL FUELING STATION
©Repsol Service Stations

PLAN ALTERNATIVES

The planning team synthesized the programming, analysis and design strategies into a series of conceptual campus design alternatives. These alternatives assume the majority of the DPW core programs and future facilities will be located on the West Virginia Avenue sites as the agency's central campus and front door, while spurring additional growth and public activity in the surrounding neighborhoods.

Building upon these assumptions, three distinct alternatives emerged for accommodating the proposed DPW program in the study area. Broadly stated, these alternatives center on whether DPW chooses to locate all of its proposed facilities entirely on the West Virginia Avenue south site, or instead, chooses to locate some portion of these programs on other parcels including the West Virginia Avenue north site or current District-owned, DPW properties on W Street and Bryant Street.

OPTION 1

Assumes all DPW functions occupy a vertically stacked network of facilities and parking, that fits entirely on the West Virginia Avenue south site. It is the most expensive option but is the highest use of the land. Defining features of Option 1 include a two-story heavy vehicle parking garage and a major vehicular access point at the intersection of West Virginia Avenue and Fenwick Street, which would be the location for the fueling station and vehicle washes. Option 1 is the only option that consolidates all DPW programs including Collections and the street sweepers on one site.

OPTION 2A

Assumes that certain DPW functions, specifically additional office and parking structures, spread out horizontally to occupy the southeast half of the West Virginia Avenue north site. Collections vehicles would remain on the W Street site, allowing all other heavy vehicles on the West Virginia Avenue site to fit on a single level of parking on grade. In Option 2A, the frontage along the southern portion of the West Virginia Avenue north site accommodates additional parking bays.

OPTION 2B

Option 2B shares the same base approach as Option 2A. In Option 2B the frontage along the southern portion of the West Virginia Avenue north site accommodates an additional office building.

OPTION 3

Option 3 assumes that additional DPW functions further spread out to occupy the entire West Virginia Avenue north site, with additional area for other potential office and program functions. It is the most cost effective solution but also occupies the most land. Option 3 also assumes that the Collections division of SWMA, would remain in their current location on W Street, and all other heavy vehicles would remain on a single level on grade between the two sites.

DESIGN FEATURES

While the options have different capacity constraints, there were many design strategies applied to the options that are indicative of best practices in urban design today. For example, the buildings are dynamic and outward-facing with strong connections to both the campus and the community. The dedicated street frontage for the DPW administrative buildings and ground level PDR/flex/commercial facilities that face directly onto West Virginia Avenue are common throughout all options. The ground level vision includes DPW office lobbies, PDR tenants, training facilities, and community retail that emphasizes a high-level of interaction with the public.

Directly southeast of the office buildings, an internal street runs along a "Green Spine." The "Green Spine" will be a sustainability focal point for the campus, highlighting a variety of stormwater management features to mitigate the sites impact on the municipal stormwater system and create a green screen buffering between the office building and the maintenance facility. The internal street north of the "Green Spine" contains vehicular access to the maintenance facility, fueling station, vehicle washing, and parking facilities that occupy the balance of the site extending southeast toward the cemetery. These design features are shared in all of the options.

Also common to all three options are vehicular access points at both the northern and southern site boundaries on West Virginia Avenue. These intersections, along with the internal street and green spine, form a road network that accommodates all heavy duty fleet vehicles. Vehicles accessing the site for fueling, washing and maintenance will enter the campus from these two points. Similarly, all three options also provide a multi-story, prefabricated garage over the heavy fleet vehicle parking areas. These garage options will house medium and light vehicles and are served by a separate site access point on Mt. Olivet Road. This circulation and parking strategy separates heavy vehicle traffic from light vehicle traffic and will minimize traffic congestion during peak hours on site by spreading vehicular access points along the perimeter of the parcel.

Each design option provides significant green space above the various program elements enabling a strong connection to the surrounding neighborhood and providing much needed park space for community use. The extensive roofscapes directly adjacent to the cemetery would function as green space.

OPTION 1

OPTION 2A

OPTION 2B

OPTION 3

CASE STUDY

CENTRAL PLATTE CAMPUS, DENVER CO

The Denver Central Platte Campus (DCP) is a seven-building, $29 million, 18-acre facility that serves as command central for the city's civic services. The campus—which includes a vehicle garage, a fuel-and-wash facility, and a massive salt dome, among other structures—totals nearly 112,000 square feet. Of Denver's 20 LEED-certified buildings owned by public agencies, DCP's LEED Gold fleet maintenance building and Gary Price Operations Center are the only municipal facilities that made the list.

To make the best use of their prominent, highway-side site, RNL topped the 29,000-square-foot operations center with a saw tooth roof. Panes of translucent polycarbonate on the roof's north-facing sides provide ample interior daylight, while the south-facing slopes of each "tooth" accommodate photovoltaic (PV) panels.

© Wakely & Santec, courtesy of RNL

CASE STUDY

SACRAMENTO MUNICIPAL UTILITY DISTRICT (SMUD), SACRAMENTO CA

The East Campus Operations Center, or EC-OC, includes 350,000 square feet of building space on a 51-acre site located southeast of downtown Sacramento, California. Buildings include a six-story office building and several one to two story maintenance and operation buildings. The campus was planned to be a multi-use expansion that would serve as a smart grid nerve center, corporate yard, and much-needed office space for SMUD employees. Its central location put line crews and troubleshooters in a more centralized location to more quickly respond to power outages.

The building features a state-of-the-art energy efficiency design and systems as well as renewable power generation sources that enables the building to generate as much power as it uses. For this the U.S. Green Building Council certified it LEED Platinum. The EC-OC project helped the regional economy with the influx of 300 construction jobs. Thirty-three of the 35 subcontractors hired were locally based. And local small businesses were subcontracted for more than $30 million worth of work.

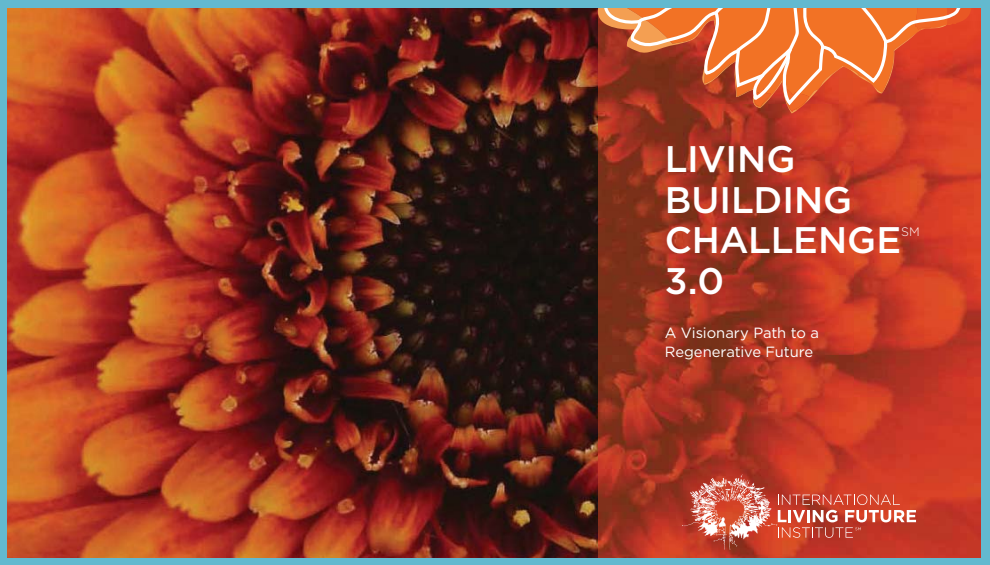
© Ed LaCasse, courtesy of RNL

GUIDELINE

LIVING BUILDING CHALLENGE 3.0

The Living Building Challenge establishes a framework for buildings to not only achieve high sustainability standards, but to create symbiotic relationships with nature and people. This framework reaches far beyond mainstream sustainable methods, pushing designers to consider how buildings can become assets to their environment.

Generated by a collaborative group of architects, engineers, planners, interior designers, landscape architects, and political activists, the Living Building Challenge thinks holistically about the built world and how manmade features can live harmoniously with their surroundings. In order to achieve Living Certification, newly constructed buildings are required to meet all twenty imperatives, which fall into seven categories: place, water, energy, health & happiness, materials, equity, beauty.



CASE STUDY

NATIONAL RENEWABLE ENERGY LAB (NREL), RESEARCH SUPPORT FACILITY – GOLDEN, CO

Built in two phases, the NREL Research Support Facility building is the largest zero net energy (ZNE) building in the world. The building is meant to serve as a blueprint for a net-zero energy future and influence others in the building industry to pursue low energy and net-zero energy performance. NREL is using the Research Support Facility building as a living laboratory, using real-time performance data to study energy use and analyze cost versus benefit structures.

The facility incorporates a range of high performance design features to reduce energy consumption and generate clean renewable energy. In addition to the 2.5 MW solar PV rooftop and parking canopy renewable energy generation system, a partial list of high performance strategies also includes orientation of the building to minimize heat gain and maximize daylighting, operable triple-glazed windows, hydronic heating and cooling using thermal slabs, and demand-controlled outside air system with energy recovery. In addition, the building incorporates water efficient landscaping and recycled, rapidly renewable, and local materials.

05

MASTER PLAN

VISION

The preferred plan, a variation of Option1, is the culmination of extensive workshops between the planning and consultant teams led by District agency stakeholders and informed by community focus groups. The design combines aspects of the various options to maximize efficiencies and operations with new facilities located on a combination of the West Virginia Avenue and existing DPW sites. The plan considers the rapidly-changing local real estate conditions by integrating land uses feasible from a development perspective and providing much needed neighborhood amenities. Most proposed DPW programs will be located on the West Virginia Avenue South Site, with the exception of two SWMA units—the Collections division, which will remain on the W Street Site and the Mechanical/Mechanized Carts Division, which performs street sweeping for the city and will remain on Bryant Street. Vehicles, personnel, and facilities related to these two groups will remain at their current locations where they can maintain the most operational efficiency.

This preferred plan positions DPW to become a global leader in sustainable municipal facilities anchored by the greenest fleet in the nation. Consolidating multiple DPW divisions on a unified campus promotes department-wide synergies, increases urban density, and supports DPW's green operations. It aligns with key District initiatives to provide a more healthy and sustainable environment for DPW and the greater community. This state-of-the-art campus targets net-zero, self-sustained DPW operations to improve health, efficiency, and vibrancy for the agency and its community.

PROPOSED DPW CAMPUS ON WEST VIRGINIA AVENUE

THREE-TIER APPROACH

This plan represents a scalable, three-part approach to the full-build of the West Virginia Avenue site. All programs that meet DPW's current and projected functional needs are identified as the DPW Core Program. Meanwhile additional facilities that specifically address the District's broader environmental goals are proposed as Enhanced Sustainability Investments. And additional proposed facilities that specifically address the need for community resources and programs are identified as High Priority Neighborhood Amenities. Collectively, these three programs add up to a truly world class facility that meets the District's wide-ranging project goals. Importantly, the programs also enable the District to tap different potential partners and funding streams to implement its ambitious vision.

PARTNERSHIP STRATEGIES

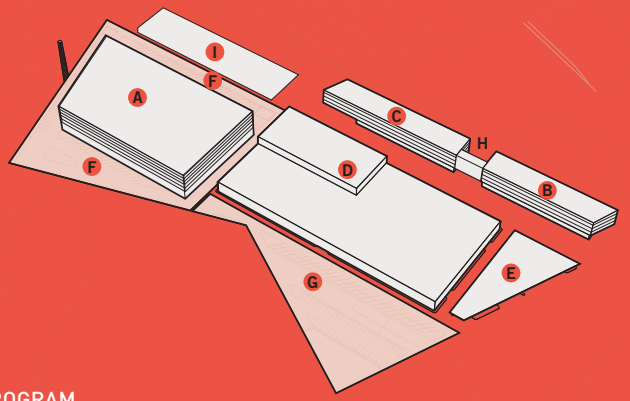
1 Land Disposition - The sale of City properties to offset development costs. Three City-owned sites have been identified with a high opportunity for sale: 1431 Okie Street NE, 201 Bryant Street NW, and the portion of the West Virginia Avenue parcel that borders Mt. Olivet Road.

2 Ground Lease - An agreement in which a developer is permitted to develop a piece of property during a 99-year lease period, after which the land and all improvements are turned back over to the City. This arrangement allows the City to capitalize on the market value of a site while retaining long-term control of strategically-located properties.

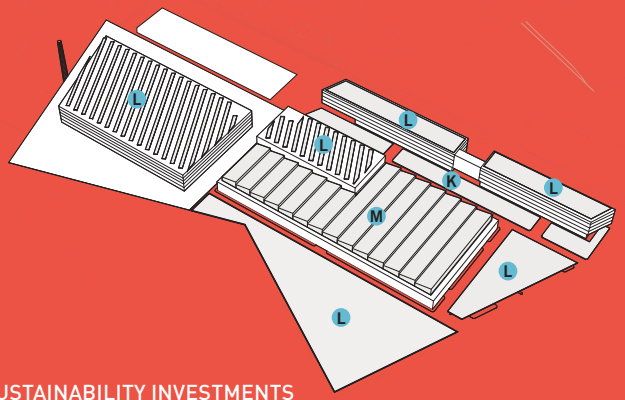
3 Private DFBOM - An agreement in which a private party designs, finances, builds, operates, and maintains a facility. This may apply to buildings, such as the West Virginia Avenue offices, and to infrastructure, such as campus solar panels.

4 Green Infrastructure - There are numerous partnership structures in which the City can generate renewable energy or reduce energy consumption. Future revenues or savings can be converted into up-front capital through a power purchase agreement or via "cap and trade" structures.

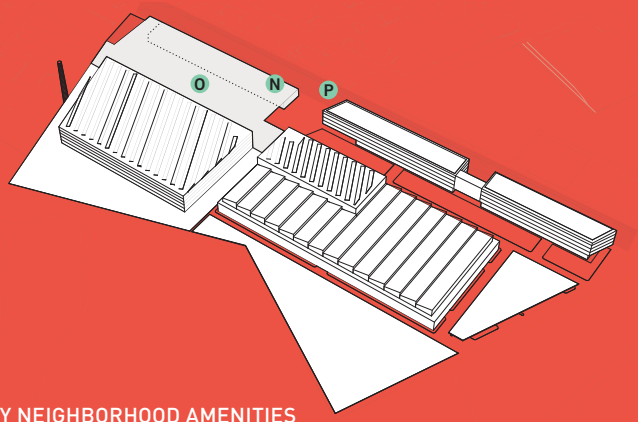
5 Supplemental Funding - The above four mechanisms can directly reduce the general fund expenditure needed to finance campus construction. Supplemental funding sources can help cover the remaining costs. The most obvious mechanism is city bonds, but there are a range of other supplemental sources, including a variety of DC sustainability-oriented funding sources.



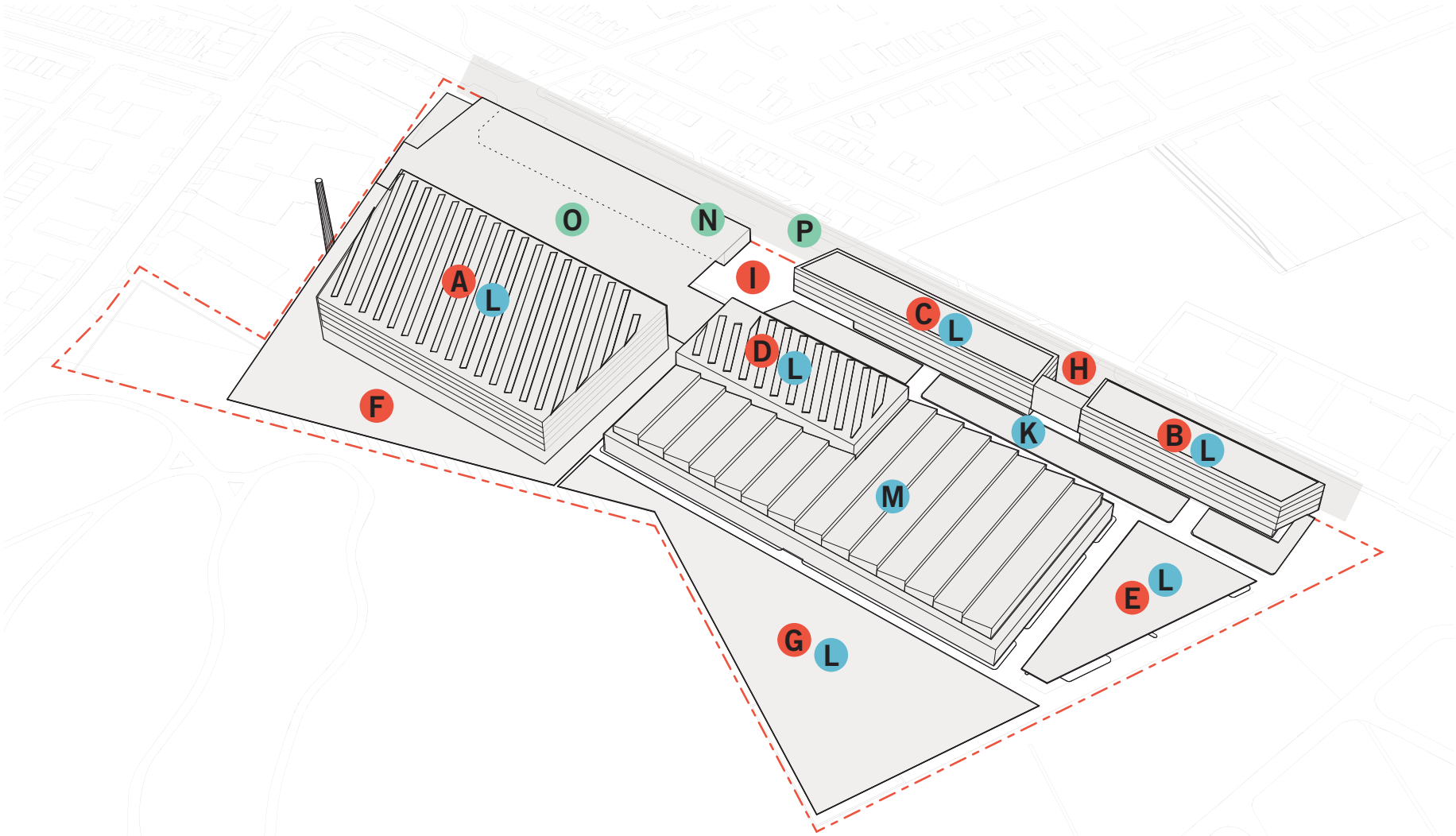
DPW CORE PROGRAM



ENHANCED SUSTAINABILITY INVESTMENTS



HIGH PRIORITY NEIGHBORHOOD AMENITIES



CAMPUS HUB

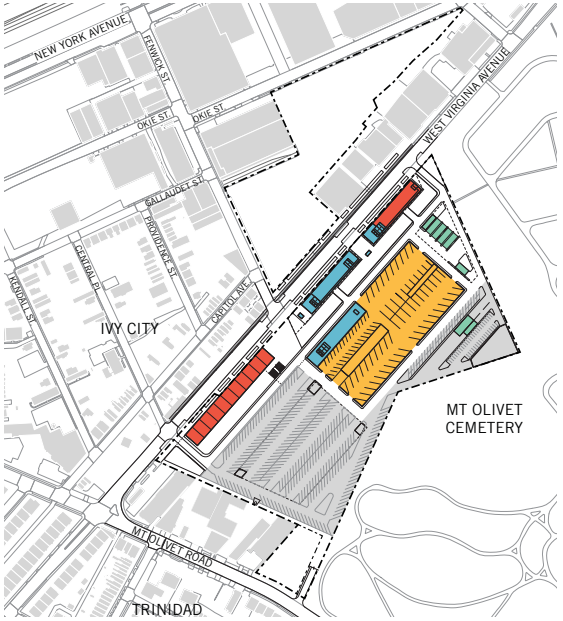
MASTER PLAN AXON

A - 6 LEVEL PARKING GARAGE
B - DPW OFFICE BUILDING 1
C - DPW OFFICE BUILDING 2
D - MAINTENANCE FACILITY
E - FUELING / VEHICLE WASH
F - COVERED PARKING - GREEN ROOF
G - COVERED PARKING - METAL CANOPY
H - LINK BETWEEN OFFICES
I - COMMUNITY PLAZA
J - SITEWORK
K - GREEN SPINE
L - SOLAR PANELS
M - GREENHOUSES
N - PDR / FLEX / COMMERCIAL
O - COMMUNITY PARK
P - WEST VIRGINIA AVE. STREETSCAPE

DPW CORE PROGRAM

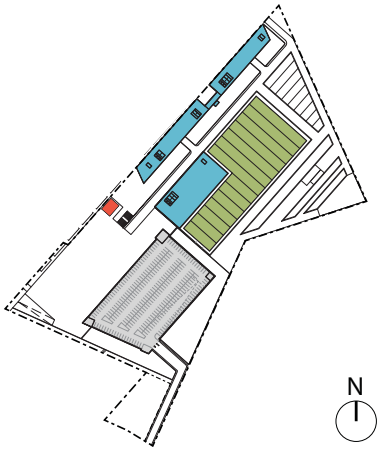
The new DPW campus aims to be a progressive campus that meets the current and future needs of the agency. Given the complexity of DPW's functions, their prospective locations and adjacencies are critical to the campus' success. The site is organized into two zones with public facing components such as the PDR/commercial flex spaces, community plaza, and an elevated park along West Virginia Avenue and the more industrially aligned components such as the maintenance facility, parking and fueling facilities located in the site's interior. These functions are separated by an internal street running the length of the site that features bioswales designed to capture and treat stormwater runoff with biomass such as trees and vegetation to screen industrial uses and improve air quality. Envisioned as both a complete streetscape and an internal landscape amenity, the green spine also acts as the primary pedestrian link connecting DPW administrative and operational functions.

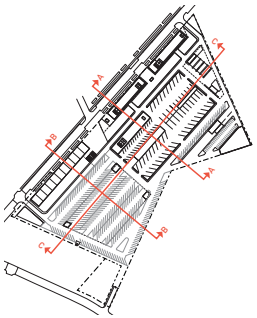
DPW's two new administrative office wings will be some of the most advanced and sustainable buildings in the District reflecting new models for net-zero commercial office strategies that mandate narrower building footprints of 65 feet for daylighting, low-impact HVAC systems, and higher ratios of solid wall to glazing. These parameters give the buildings a distinctive character, which coupled with the use of zinc and wood cladding systems, evoke the prevailing industrial aesthetic of Ivy City. These buildings serve as DPW's "front door" overlooking the new central campus plaza. Encompassing 123,000sf of program area, these wings accommodate all administrative functions for DPW's three major divisions; SWMA, PEMA, and FMA, in addition to the overarching DPW administrative units. The lower levels of these two buildings feature DPW uses that can be shared with the community such as a fitness center, cafeteria, library / resource center, computer lab, conference rooms, and training spaces that can also support community classes.



MASTER PLAN PROGRAM DIAGRAM

- DPW OFFICE / DPW USE
- MAINTENANCE FACILITY
- FUELING STATION & VEHICLE WASHES
- VEHICLE PARKING
- PDR / FLEX / COMMUNITY
- GREENHOUSES



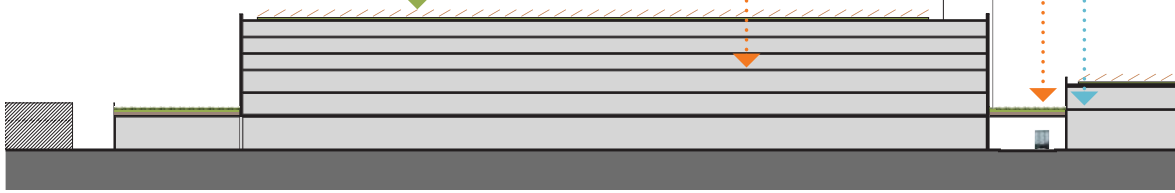


solar photovoltaics
converts sunlight into electricity to power the campus

covered vehicle parking
protects vehicles from weather reducing maintenance costs and extending life of fleet

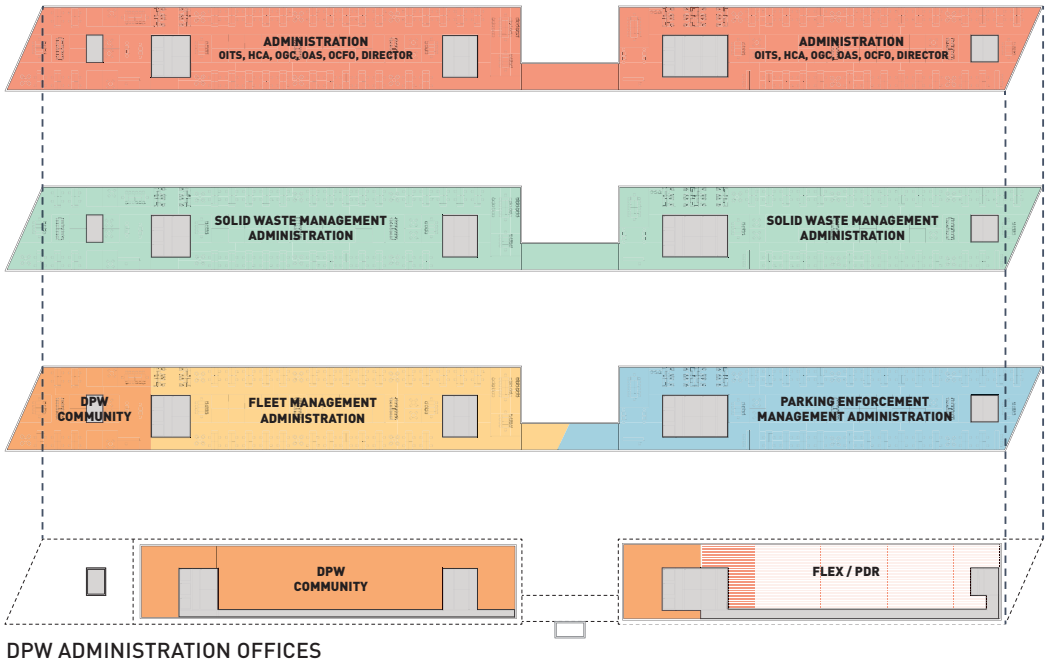
training & education
training programs increase employee productivity promote personal advancement

access & connectivity
enhanced access from fleet to offices and maintenance optimizes operations

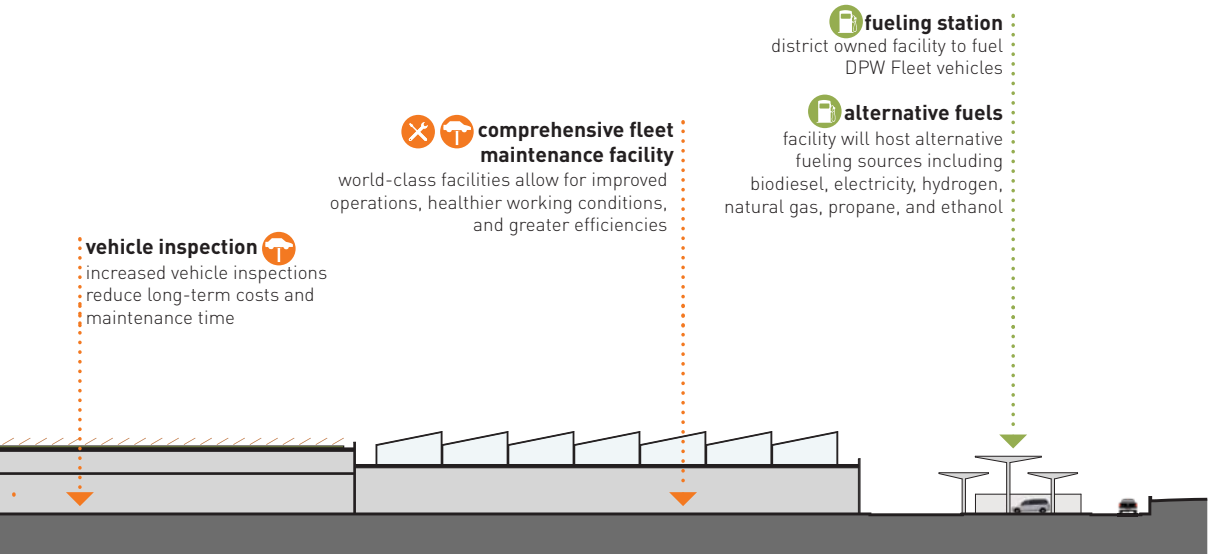


SITE SECTION - OPERATIONS

- EFFICIENT OPERATIONS
- REDUCED MAINTENANCE
- TRAINING & EDUCATION
- SUSTAINABLE INITIATIVES



DPW ADMINISTRATION OFFICES



Across the green spine from the office wings, DPW's new maintenance, fueling, washing, and parking structures reflect best practices in municipal services, allowing DPW to optimize departmental relationships, support operational efficiencies, and consolidate spaces for DPW operations.

A new 165,000sf fleet maintenance facility features expanded maintenance bays and shop support, as well as a 35,000sf DPW hub space dedicated for field employees. The hub space is located on the second floor and creates a central gathering area for DPW employees providing check in areas, multi-purpose rooms, locker rooms, kitchens, lounge areas, deployment support, and storage space.

The site also features three new vehicle washing stations and a fueling station adjacent to the maintenance facility in the campus core, away from the existing street edge. This fueling station provides alternative fuels including bio-diesel, hydrogen, ethanol, natural gas, and propane, as well as the capacity to support future electric charging stations.

Major vehicular entrances from West Virginia Avenue at both ends of the Green Spine serve DPW fleet vehicles accessing the grade-level maintenance, fueling, and parking facilities. South of the maintenance facility is a parking structure to accommodate roughly 930 DPW fleet vehicles, DPW equipment, and 550 employee vehicles. All heavy fleet vehicles occupy grade-level parking while lighter vehicles occupy the upper levels of a garage on the southern side of the site tucked away from the community on West Virginia Avenue and along Mt. Olivet. This garage houses both fleet and personal vehicles and is accessed from Mt. Olivet Rd. By separating light and heavy vehicle entries, traffic and vehicular conflicts are minimized both within the site and across the community.

MASTER PLAN

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LEVEL ONE