



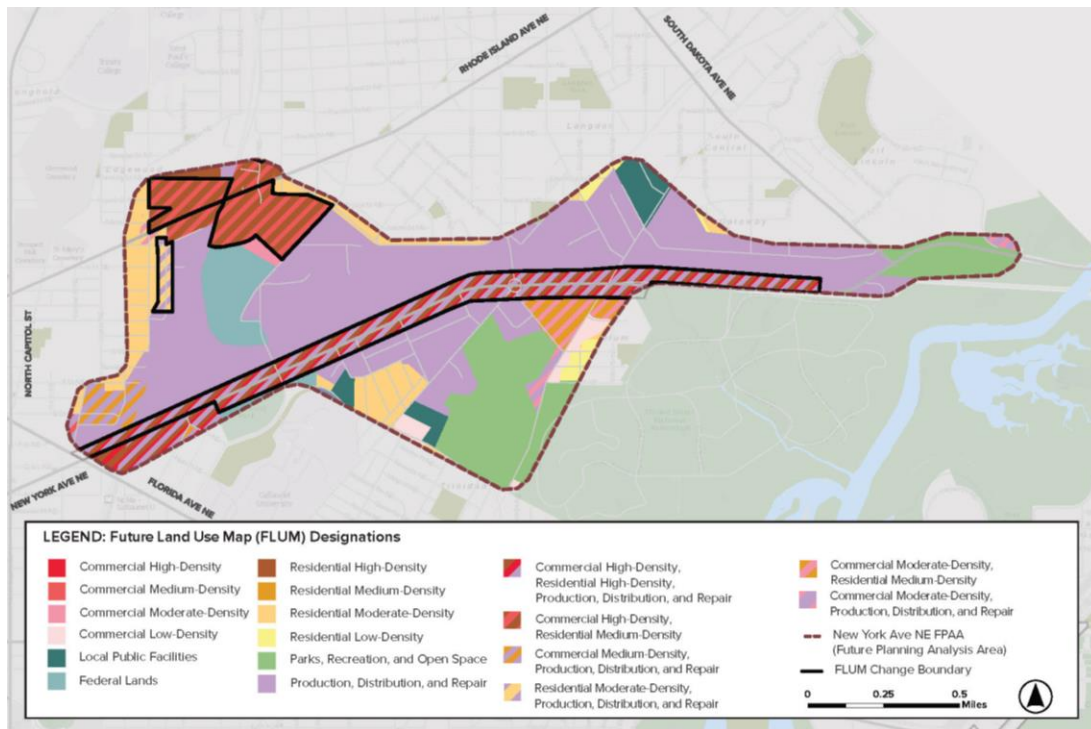
New York Avenue NE Vision Framework: Infrastructure Assessment

February 2024

Executive Summary

This Infrastructure Assessment,¹ prepared in connection with the New York Avenue NE Vision Framework, evaluates infrastructure demand and capacity in the New York Avenue NE Corridor. The Comprehensive Plan (Comp Plan) future land use policy will lead to an increase in population, households, and jobs within the study area. These new residents and workers will increase the demand for electricity, water, multimodal transportation, and solid waste management.

Figure 1: Map of New York Avenue NE Vision Framework Study Area and Future Land Use Policies.



The increased demand for infrastructure identified in this assessment is not anticipated to occur within the next twenty years, the time horizon of the District's long-range population, households, and jobs forecast.² Infrastructure is planned over the long term (a period that can range from ten years to more than fifty years depending on the system) and plans are updated on an annual basis as needs evolve.

When comparing future demand to existing infrastructure, it is important to note:

- Infrastructure planning occurs through well-established processes that the District and regional utilities use to ensure infrastructure systems are continually improved to meet demand.
- The District has a six-year Capital Improvement Plan (CIP) that funds transportation improvements and waste management facilities. The CIP is updated annually.
- Regional utilities and authorities, including WMATA, Pepco, and DC Water, use long-range population and employment forecasts to ensure the District's current and future residents and businesses can access clean water, electricity, and public transportation.

This assessment does not account for the economic feasibility of construction or market conditions that will affect when development occurs. Additionally, this assessment does not consider how changes in technology or consumer preference could impact future infrastructure demand. For these reasons, this assessment should not be interpreted as a development forecast but rather as an exercise to evaluate infrastructure improvements that could be needed over the long term.

Analysis Overview

This assessment has two components:

- Demand Assessment – an evaluation of how new real estate development could impact infrastructure demand. OP conducted this assessment.
- Capacity Assessment – an evaluation of existing infrastructure to determine if it can accommodate potential new demand. Utilities and District agencies provided OP with information about the capacity of the infrastructure they manage.

The assessment looks at three scenarios to understand how potential new development could impact infrastructure:

1. The Baseline Scenario evaluates the study area's existing conditions. OP estimated the current population, and the number of households and jobs based on gross building area (GBA) within the study area. Using industry-standard factors, OP also used GBA to estimate current infrastructure demand based on area, density, and occupancy by each parcel's land use classification.
2. The Theoretical Full Buildout Scenario estimates households, populations, jobs, and infrastructure demand using the theoretical maximum GBA under the 2021 Comp Plan's Future Land Use Map (FLUM) for every property with any additional building capacity within the study area. For this scenario, future GBA estimates are derived from OP's land use capacity analysis. This scenario is very unlikely to occur because many of these sites will not be financially beneficial to redevelop as this scenario envisions, and redevelopment of some sites will be limited by factors that are not considered, such as challenging site conditions including steep slopes and irregular parcel shapes.
3. The 2021 FLUM Buildout Scenario estimates households, populations, jobs, and infrastructure demand generated by properties within the study area where FLUM land use designations were updated as part of the 2021 amendment to the Comp Plan (see Figure 1). These are the areas where land use policy is most likely to result in changes in use and intensity. For this scenario, the future theoretical GBA estimates are derived from a massing model produced through the planning process, which reflects the most likely way these parcels might be developed.

Scenarios two and three include large redevelopment projects currently planned or under construction within the study area, including the Montana Triangle Development (at the intersection of New York Avenue NE and Montana Avenue NE and the Brookland Manor Redevelopment (also known as the *Mid-City Financial Corporation, Brentwood Associates, LP & MCF Brentwood SC, LLC PUD*). The estimates generated for both future scenarios are greater than the District's long-range forecast, which covers a 30-year period (2020-2050). The growth in population, households, jobs, and infrastructure demand included in this assessment would likely extend beyond 2050.

Demand Assessment:

OP estimated infrastructure demand for the *New York Avenue NE Vision Framework* study area. Metrics used to evaluate infrastructure demand include:

- Electricity Demand – *Kilowatts (KW)*³
- Water Demand – *Gallons consumed per day (gal/day)*
- Waste Generation – *Pounds produced per day (lbs./day)*
- Trip Generation and Attraction⁴ – *Frequency of person trips per day.*⁵ Trips includes mode split during peak hours for trips made by transit (bus and metro), walking, biking, and vehicles.⁶

Tables 1 and 2 provide of overview of the demand assessment results for the Baseline, Theoretical Full Buildout, and 2021 FLUM Buildout scenarios.

Table 1: *Infrastructure demand by scenario. All estimates are rounded to the nearest hundreds place.*

Scenario	Households	Population	Jobs	Electricity (KW)	Water (gal/day)	Waste (lbs./day)	Trip Gen (person trips/day)
1. Baseline	4,000	12,000	18,000	95,000	1.9 M	433,700	85,800
2. Theoretical Full Buildout	38,000	65,000	61,000	406,000	11.2 M	1.7 M	488,300
% Change from Baseline	850%	442%	239%	327%	489%	292%	469%
3. 2021 FLUM Buildout	12,000	22,000	21,000	174,000	5.3 M	546,700	215,500
% Change from Baseline	200%	83%	17%	83%	179%	26%	151%

Table 2: Trip generation and attraction with mode split by scenario. All estimates are rounded to the nearest hundreds place.

Mode	Transit (people/day)	Walk (people/day)	Bike (people/day)	Vehicle (vehicles/day) ⁷
Mode Split	30%	17%	3%	50%
Scenario				
1. Baseline	25,800 ⁸	14,600	2,600	35,400
2. Theoretical Full Buildout	146,500	166,000	14,600	206,900
Net Increase from Baseline	120,700	151,400	12,000	171,500
3. 2021 FLUM Buildout	67,300	35,600	6,500	91,300
Net Increase from Baseline	41,500	21,000	3,900	55,900

Capacity Assessment:

For the capacity assessment, OP requested input from District agencies and utilities to understand current system capacity for each infrastructure category and the process for capital improvement planning that can meet future demand.

Pepco (electricity capacity): Pepco anticipates that the current infrastructure in the New York Avenue Vision Framework NE study area as provided would require upgrades to ensure there is adequate capacity to supply the load growth for both scenarios presented based on the demand assessment developed by the Office of Planning. Pepco conducts an annual forecast of the distribution system by analyzing the predicted load versus capacity for each feeder and substation to identify any planning criteria violations within the next ten years and determines actions to mitigate the violations, if any. Some ways Pepco mitigates those violations are with the addition of new substations, transformers, feeders, and non-wire alternatives.

DC Water (sewer and water capacity): DC Water anticipates that the increase in demand presented in the theoretical full buildout scenario would require additional capacity for sewer and water systems. However, the increased water demand modeled in the 2021 FLUM buildout scenario is within manageable limits of existing systems. Wastewater generated by future developments may impact some local sanitary sewers. For adequate future capacity, DC Water recommends developers consider upgrading existing water mains, local sewers, and water lines in affected areas.

District Department of Transportation (DDOT) (transportation systems capacity): These land use changes could require additional multimodal transportation capacity over the long-term. DDOT's Development Review Program will evaluate the impacts of land development actions on the District's multimodal transportation network as specific properties develop in the future.

DC Department of Public Works (DPW) (waste management capacity): The new development considered in this analysis would not have a serious impact on current waste management capacity. DPW manages solid waste removal for residential structures with four or fewer units. New development would almost exclusively produce buildings with more than four units or buildings with commercial, industrial, and civic uses. Property owners for these new buildings would be responsible for procuring private waste management services, which are readily available.

¹ The District's Comprehensive Plan (Comp Plan) calls for planning within Future Planning and Analysis Areas (FPAAs) to evaluate how changes to the Future Land Use Map (FLUM) could affect infrastructure at full buildout. For this analysis, "full buildout" refers to a property maximizing the available gross building area based on the lot size and floor-area ratio (FAR) allowed under existing or future land use designations. See Appendix A for the Study Area Geography and Future Land Use Policy Maps. See appendix A for the Study Area geography and future land use policy maps.

² OP prepares a [long-range \(30 year\) forecast](#) of job, household, and population growth approximately every two years for the Metropolitan Washington Council of Governments' (COG) regional transportation planning efforts.

³ OP developed estimates for existing and future electricity demand, in kilowatts, using general electricity demand rates typically used in the Washington DC area.

⁴ The demand assessment for transportation utilizes trip generation and trip attraction, which differs from Annual Average Daily Traffic (AADT). AADT Takes in all vehicle trips on a segment of road or highway during a yearlong interval in both directions and then divides the total by 365 days to arrive at the average number of daily trips. On the other hand, trip attraction and trip generation predict the number of trips originating or destined for a particular area.

⁵ DDOT's multi-modal approach to site-level development is to view trip generation in terms of person-trips rather than vehicle-trips..

⁶ DDOT provided OP with estimations for mode split for the New York Avenue Corridor.

⁷ Vehicle trips per day assume a vehicle occupancy rate of 1.18 passengers per vehicle based on DDOT's [Guidance for Comprehensive Transportation Review](#) manual

⁸ Baseline transit trips are not based on the WMATA ridership data from Metro or bus services. Additionally, these estimates do not account for the significantly reduced ridership in 2021 due to the COVID-19 pandemic.