# 2 PURPOSE AND NEED

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# Chapter 2 → Purpose and Need

The purpose of the project is to provide premium transit service between Union Station and Georgetown, utilizing high-quality transit that offers improved reliability and mobility. The needs for the project are:
> Provide efficient east-west transit connectivity in the corridor
> Improve transportation system mobility
> Improve the reliability of transit in the corridor
> Improve transit system capacity and reduce congestion
> Support existing and future land use

## A.    PROVIDE EFFICIENT EAST-WEST TRANSIT CONNECTIVITY IN THE CORRIDOR

H, I, K, and L Streets serve as the most direct east-west roadways through the study area, with I Street westbound only and H Street eastbound only. The streets in the study area currently experience congestion, affecting automobiles, buses, bicyclists, and pedestrians. East-west transit service through the CBD is served primarily by Metrobus and DC Circulator bus service. The Metrobuses and DC Circulator buses are subject to the same traffic congestion as automobiles, but have longer travel times because of frequent stops. The Metro subway provides some east-west travel through the study area along the Blue, Orange and Red Lines. However, there is a lack of efficient east-west transit service between Union Station and Georgetown. Premium transit service in the study area would give east-west travelers a greater choice of travel modes, improve transit travel times, offer a more reliable service than local buses, fill in gaps between Metro Stations, and reduce the distance for pedestrians to access efficient transit.

## B.    IMPROVE TRANSPORTATION SYSTEM MOBILITY

Travel choices in the study area are currently subject to crowding whether it is in congested streets or a packed Metro subway. Cars, Metrobuses, Commuter buses, and Circulator buses are all using the same congested streets, and as a result transit users experience reduced mobility, lower reliability and long travel times in the study area during heavily congested peak periods.

K Street at 22nd Street, looking east



K Street is a heavily traveled arterial with high-density residential and commercial activities throughout much of its length into downtown. The traffic flow patterns on H, I, K, and L Streets, reflect the nature of these streets as the main roadways through the CBD, with peak-period congestion, slow travel speeds, and numerous and closely spaced traffic signals along the length of the study area.

Automobile travel in the peak periods is slow, with the slowest travel times approaching and around Washington Circle. For example, in the AM peak hour during the most congested conditions, it takes about 13 minutes to travel eastbound on K Street NW from 27th Street to 11th Street. East of the Washington Circle, travel time to 11th Street under the worst congestion is about 14 minutes. It takes about 15 minutes to travel westbound on K Street NW from 11th Street to 27th Street during the busiest part of the PM peak hour. Traveling from 11th Street to 27nd Street during the most congested part of the AM peak hour takes about 12 minutes. These are the slowest observed AM and PM peak hour travel times; the average travel times based on multiple runs during these periods are slightly shorter.

## C.  IMPROVE THE RELIABILITY OF TRANSIT IN THE CORRIDOR

The MWCOG regional model was used to estimate the total number of transit trips in the DC Core. The results are summarized by transit mode in Table 2-1.

Table 2-1: 2013 Estimated Transit Trips by Mode in the DC Core

| Transit Mode | Total Number of Trips |
|---|---|
| Bus – including local buses, DC Circulator, Streetcar, Premium Bus | 18,835 |
| Metrorail | 72,843 |
| Commuter Bus – alone and in combination with local bus and/or Metrorail | 244 |
| Bus-Metrorail – used in combination | 6,350 |
| **TOTAL Estimated Transit Trips in 2013** | **98,272** |

The MWCOG model projects under the 2040 No Build condition the total number of transit trips will be 103,415, an increase in 5,143 transit trips over the projected 2013 total.

K Street at 21st Street, looking north



There is a demand for transit in the study area. However, buses in the study area are subject to the same traffic congestion as automobiles, but have longer travel times because of frequent stops. For most bus routes, speeds during the busiest travel times average only about 3 mph. In 2040, the average bus speed is estimated to improve to 7 mph due to the K Street Transitway. Transit reliability could improve in the corridor with premium transit service with limited stops and some dedicated right-of-way.

## D.    IMPROVE TRANSIT SYSTEM CAPACITY AND REDUCE CONGESTION

As noted in the Purpose and Need chapter of the *DC's Transit Future System Plan*, "many DC Metrobus routes and all Metrorail lines face overcrowding during peak periods; in some cases overcrowding continues into non-peak periods, including weekends. Overcrowding is a serious challenge facing Metro – it limits the number of potential patrons the system can serve, cause additional wear on transit infrastructure and vehicles, and reduces the quality of service," (page 2-8).

According to *Momentum: The Next Generation of Metro Strategic Plan* 2013-2025, January 2013, between 2010 and 2040, rail ridership on the Metro system is projected to grow from 750,000 today to 1.05 Million, an increase of 40 percent. Whereas, bus ridership is expected to grow, but is constrained to some extent by traffic congestion (page 12).

M Street near intersection with Pennsylvania Avenue



Residents, employees, students and, visitors traveling to destinations throughout the study area generate a wide variation in pedestrian traffic. For example,

> North Capitol St at H Street – Over 6,400 pedestrian crossings during daytime peak periods
> 7th and H Streets NW – Over 23,600 pedestrian crossings during daytime peak periods
> Connecticut Avenue at I and K Streets – Between 4,000 and 5,000 pedestrians
> Wisconsin Ave and K Street NW – Just over 900 pedestrian crossings during daytime peak periods

Premium transit is needed in the study area to sustain growing ridership and transit demand.

## E.    SUPPORT EXISTING AND FUTURE LAND USE

The majority of the study area is developed with commercial properties as the dominant land use. According to the *Land Use Plan for the District of Columbia Streetcar System Plan* by the District of Columbia Office of Planning, more than one third of all jobs in the District are within the study corridor (page 47).

Major destinations within the study area include: Union Station, Washington Convention Center, Verizon Center, and the Georgetown Waterfront. There are also several Universities and Schools within the study area including:
> Georgetown University - Main Campus with approximately 7,000 undergraduate students and 9,100 employees; Georgetown University Law School with 1,860 students; and a new Downtown Campus opening in the Fall of 2013
> George Washington University with 25,078 students
> University of the District of Columbia Community College with 2,335 students (2009)
> Gonzaga College High School – 960 students

The study area also encompasses five BIDs: Georgetown, Golden Triangle, Downtown, NoMA, and Capitol Hill. The Mount Vernon Triangle Community Improvement District is also included within the study area. The project would support local and regional plans and goals for transportation and land use, and support economic development and redevelopment opportunities in the study area.

Improved transit connections and services could support existing developments and encourage new development around transit stations through increased transit access and visibility. Multi-use development at a transit station can provide many daily commuter needs and services without the use of a car. Market forces and other variables that are not directly related to transit strongly influence development patterns. However, an improved transportation network could enhance currently unrealized opportunities for growth and redevelopment within existing communities in the study area.