

# 4 Existing Conditions

Note: All data in the chapters that follow reflects the available and most current information as of October 1, 2009.

## 4.1 Traffic

The roadway system adjacent to Union Station is a basic grid system with a limited number of major diagonal avenues. Most of the roadways in the study area are classified as collector roads, which serve the function of collecting traffic from smaller roads and land uses and feeding higher-classification roadways. The higher-classified roadways in the study area include North Capitol Street (principal arterial), H Street (principal arterial), Louisiana Avenue (principal arterial), Massachusetts Avenue (principal arterial west of North Capitol Street and minor arterial east of North Capitol Street), and E Street (minor arterial). According to DDOT, daily traffic volumes on roadways classified as arterial above and near the study area are:

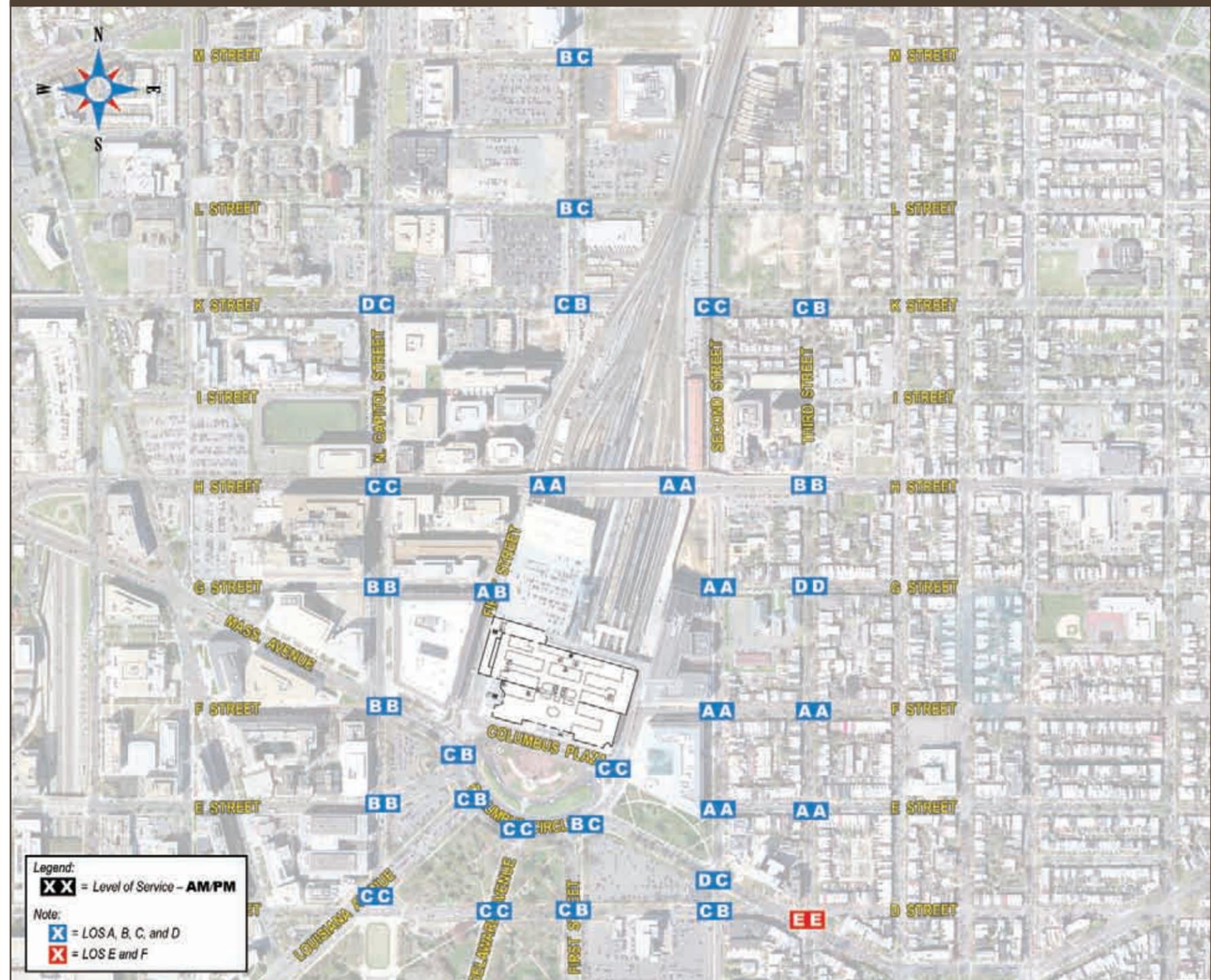
- North Capitol Street: 21,000 vehicles per day
- H Street: 27,000 vehicles per day
- Massachusetts Avenue: 23,000 vehicles per day
- Louisiana Avenue: 8,000 vehicles per day
- E Street: 11,000 vehicles per day
- Interstate 395: 48,000 vehicles per day
- Constitution Avenue: 21,000 vehicles per day

## 4.2 Existing Street Network

To support more detailed analysis of traffic operations, vehicular turning movement counts were conducted at 26 intersections within the study area. These traffic counts were conducted at each location for a consecutive 30-minute period between 7 a.m. and 9 a.m. and between 4 p.m. and 6 p.m. (coinciding with the morning and evening peak traffic flows). Data collection was conducted between March 11, 2008 and March 28, 2008 on various Tuesdays, Wednesdays, and Thursdays. Counts were taken on these mid-week days to best represent typical weekday traffic, when pre- and post-weekend traffic spikes are avoided. Within the study area, traffic flows demonstrate directional peaking, where inbound traffic is heavier in the morning peak and outbound traffic is heavier in the evening peak.

**Figure 4-1** shows levels of service (LOS) at key intersections in the study area, as a standard traffic engineering method of grading roadway operations. LOS methodologies use a grading scale from A to F, with A representing excellent traffic flow with minimal delays, E representing operations at or near capacity, and F representing failure in traffic operations and very high levels of delay. In general, LOS D or better are considered desirable. The discussion below summarizes traffic volumes and operations during the morning and afternoon peak periods in the vicinity of Union Station.

Figure 4-1 Intersection Levels of Service



### 4.3 Circulation

Many different transportation modes are accommodated by the current circulation plans and patterns near Union Station, with varying levels of success. The schematic in **Figure 4-2** illustrates typical circulation patterns outside Union Station; in it, there is a particular focus on circulation through both Columbus Circle and Columbus Plaza. LOS and traffic operations are a particular concern in this area as travel demand in Union Station grows and development near the station ensues. However, circulation issues around the station currently relate more to the somewhat confusing and indirect travel patterns than to high levels of peak-period traffic congestion. It can be anticipated that these issues will amplify over time, unless improvements are made to the infrastructure to enable better traffic flow.

Vehicular access to Columbus Plaza is currently gained via an inlet on the east side of Columbus Circle. Once inside the plaza, three lanes are available for use by various transportation modes. The lane closest to the station is reserved for taxis, the middle lane is for passenger pick-up and drop-off by the general public, and the lane furthest from the station is used by buses and for traffic going through and bypassing the passenger pick-up area. The most common path for egress for passenger cars and taxis requires completing the interior loop around the plaza, exiting at the east end, and then joining westbound traffic on Columbus Circle to Massachusetts Avenue.

A bi-directional circulation road, used by all forms of vehicular traffic, surrounds the west, north, and east sides of Union Station, and provides access to the parking garage north of the station, as well as to First Street NE, just west of the station. The circulation road can be accessed where Columbus Plaza separates from Columbus Circle, on the east side of the station; on the west side, it can be accessed from Columbus Plaza near the southwest corner of Union Station; and north side access can be gained directly from the parking garage. Columbus Circle continues past the point where Columbus Plaza and the circulation road separate and leads directly into eastbound F Street NE.

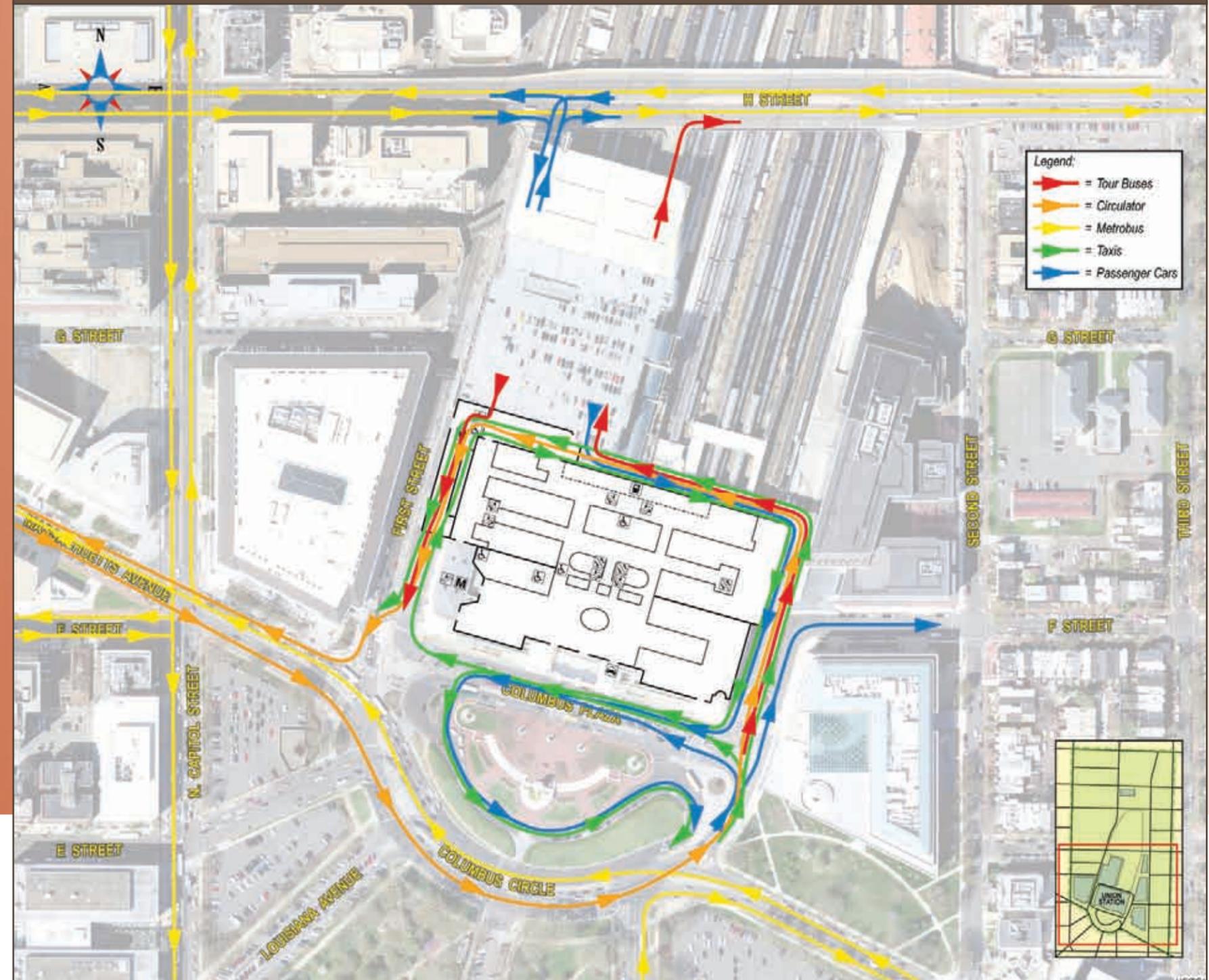
#### Morning Peak

During the morning peak hours, H Street, Massachusetts Avenue/Columbus Circle, and North Capitol Street carry the heaviest traffic through the study area with peak-hour volumes in excess of 1,000 vehicles per hour. Traffic flow is heaviest in the southbound direction along North Capitol Street and in the westbound direction along H Street and Massachusetts Avenue/Columbus Circle. The LOS results show that intersections along the high-volume corridors generally operate at LOS B or C during the morning peak.

#### Afternoon Peak

During the afternoon peak, H Street, Massachusetts Avenue/Columbus Circle, and North Capitol Street carry the heaviest traffic through the study area with peak-hour volumes in excess of 1,000 vehicles per hour along the major corridors; however, the travel direction is the reverse of what is experienced in the morning peak period, as traffic flow is heaviest in the northbound direction along North Capitol Street and in the eastbound direction along H Street and Massachusetts Avenue/Columbus Circle. The operational analysis for afternoon peak conditions shows that intersections along the high-volume corridors

Figure 4-2 Typical Vehicular Circulation Patterns



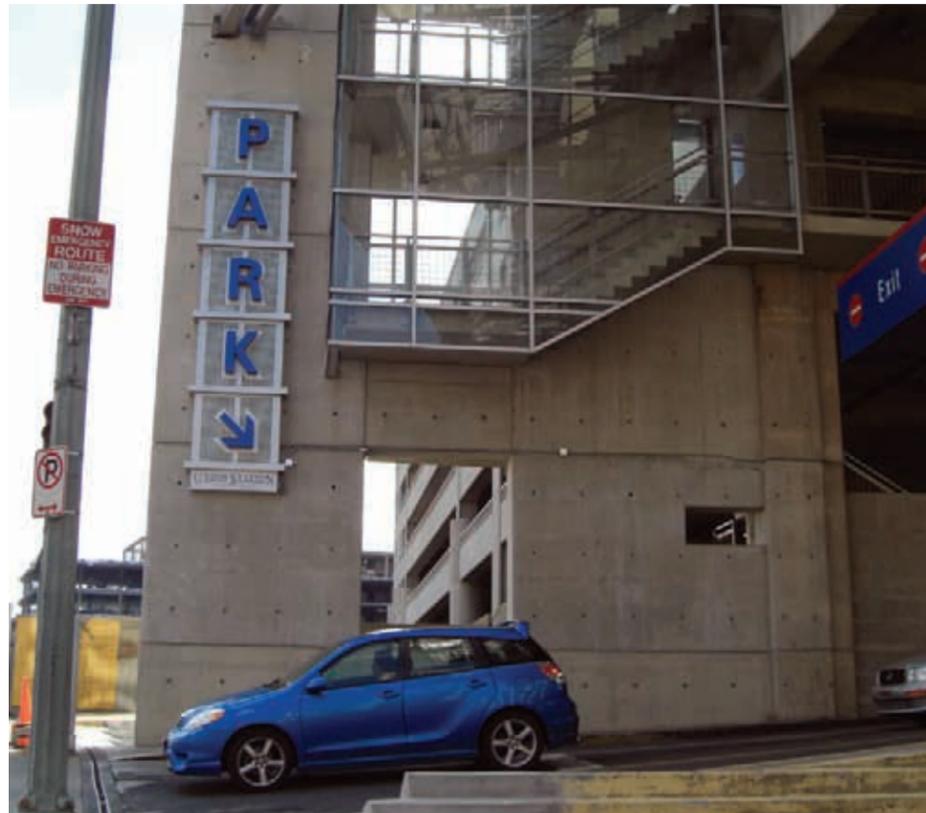
generally operate at LOS B or C, though slightly better than the morning peak conditions, primarily due to overall lower-traffic volume.

## 4.4 Parking

Parking is an integral feature for many modes of transportation at Union Station. Garage spaces, short-term waiting areas for taxis, and layover locations for buses are all needs associated with parking. Currently the parking at Union Station enables longer-term parking for those taking trains out of D.C.; mid-term parking for those using Union Station as the origin for their travel within D.C.; shorter-term parking for those visiting the shops, restaurants, and movie theater in Union Station; and immediate-term holdover parking for taxis, buses, and deliveries.

The predominant parking facility at Union Station is the parking garage located directly north of the station. The garage is a five-level structure with the four upper floors designated for passenger vehicles and the lowest floor reserved for buses. Its total capacity is 2,194 parking spaces, 90 of which are bus spaces. The garage is open to the public and offers a reduced fare to Union Station patrons with validated tickets.

Parking data provided by USRC shows that the parking garage experiences an overall average occupancy rate of 77 percent (leaving 505 spaces available) during a typical week. Its highest parking volume currently occurs on Wednesdays, with an average occupancy rate of about 83 percent (373 available spaces). Conversely, the Union Station parking garage experiences



its lowest parking volume on Mondays, with an average occupancy rate of about 66 percent (746 available spaces). Passenger car parking does not show any significant seasonal trends; the parking garage is accessed about 49,600 times per month, or about 1,600 times per day. Bus parking, on the other hand, experiences a dramatic increase during the spring tourist season.

Additionally, on-street parking is currently available near Union Station, with metered parking available on Columbus Plaza and First Street, as well as many other streets in the study area, most with two-hour limits (the Columbus Plaza rehabilitation project, however, includes planned removal of meters). Unmetered parking is available, predominantly on residential streets such as Second and Third Streets, also with a two-hour limit, unless a Zone 6 resident parking permit is provided. In total, on-street parking, which is illustrated in **Figure 4-3**, provides about 440 metered parking spaces and about 570 non-metered parking spaces within the study area. The non-metered spaces total approximately 330 resident permit spaces and 240 other spaces found in loading zones, school zones where parking may be restricted on school days, and other zones where parking is not permitted during busy traffic periods. Additionally, just south of the study area, nearly 350 street parking spaces are available to special permit holders.

## 4.5 Pedestrian Activity

### 4.5.1 ADA Issues

Outside of Union Station, some features in the nearby area make navigation difficult for those with physical disabilities. For instance, curb ramps are currently of poor quality, with narrow, ill-aligned passages and inadequate markings and in some places, uneven paving on and around the ramps. Additionally, many of the curb-cuts are old, although those within and around Columbus Circle will be improved during the upcoming rehabilitation.

Inside Union Station, on the main level, the floor is level from station entrances to the rail gates. However, between levels, narrow escalators make circulation challenging for those with mobility aids. There are also ten elevators within the station, but only four are accessible to the public; the others are private and serve Amtrak offices and baggage transport. These limited facilities may pose a

risk in the event of an emergency situation and it is critical that ADA issues such as these are considered when planning for emergency egress.

In February 2009, AMTRAK released "A Report on Accessibility and Compliance with the Americans with Disabilities Act of 1990 (ADA)," indicating planning, design, and construction work is underway in D.C. to improve ADA compliance, as well as customer service. Thus far, Amtrak has made its ticketing kiosks ADA compliant and offers electric cart service to help passengers with limited mobility access trains at Union Station.

### 4.5.2 External Pedestrian Movements

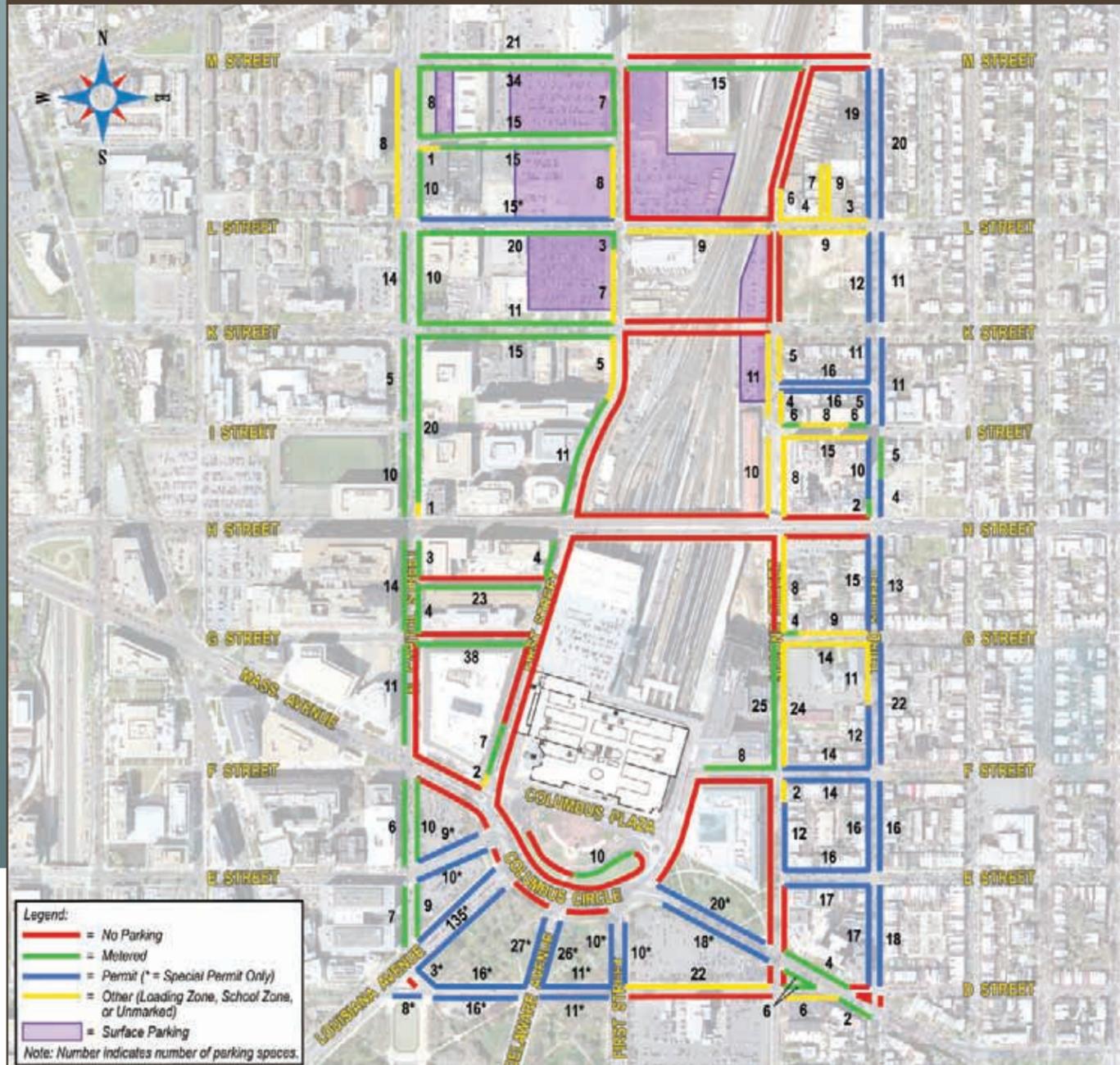
Pedestrians are constantly moving in and around Union Station and their trips include shifts between modes as they travel through the station and the surrounding area. Some of the existing issues related to pedestrian travel in Union Station result from mixing different types of foot traffic. For example, there is concentrated, highly directional, and relatively fast pedestrian traffic in peak periods, as commuters make their way to and from work; while other patrons, such as shoppers and Amtrak passengers, move at a more leisurely pace.

Morning peak periods typically experience pedestrian flows moving away from Union Station in nearly all directions; this trend is reversed in the evening rush period. Delaware Avenue and the western portion of First Street NE are the two most heavily utilized pedestrian routes.

Car exiting the Union Station parking garage (bottom left), pedestrian traffic walking toward Union Station (below), and a passenger using an Amtrak ticketing kiosk (bottom right).



Figure 4-3 On-Street Parking in the Vicinity of Union Station



Massachusetts Avenue (in both directions) and E Street NE also carry significant pedestrian volumes in the morning. Delaware Avenue and the other streets south of Union Station experience considerable foot traffic in the afternoon, as pedestrians return to the station from the Capitol Hill area. Two locations where patterns are opposite the morning-outbound/evening-inbound trend are the sidewalks along F Street NE and the Thurgood Marshall Federal Judiciary Building north of Massachusetts Avenue. In the morning, both of these paths carry pedestrian traffic from the residential areas east of the

station to the station itself and employment areas beyond; later in the evening the trends reverse, though the paths along the Thurgood Marshall Building remain heavily traveled throughout the day.

Figure 4-4 shows pedestrian counts that highlight the heavy pedestrian flows on First Street NE, in both directions on Massachusetts Avenue and to/from E Street.

In an emergency situation, all known conflicts between pedestrian traffic and vehicular transportation outside the station will be exacerbated, as modes attempt to egress using the same space. These heightened conflicts should be anticipated and addressed in an Emergency Evacuation Plan.

### 4.5.3 Internal Pedestrian Movements

Inside Union Station, pedestrian movements may appear somewhat random at first glance, but distinct patterns can be discerned upon closer examination. A significant portion of pedestrian traffic within Union Station occurs in waves, as foot traffic comes off VRE, MARC and Amtrak trains and Metrorail. Smaller groups of people coming from tour buses also move through the station, albeit with patterns that are much more sporadic than those of commuters. These waves in pedestrian traffic may range in size from 20 to 50 people from a commuter or intercity train. Tour groups also create pedestrian traffic waves. Predictably, the majority of commuters go toward First Street, Massachusetts Avenue, or the U.S. Capitol, while tour groups move

much less consistently than intermodal transfer groups and their movements focus primarily around the food court.

The schematic diagrams in Figures 4-5 and 4-6 illustrate some of the major flow paths and highlight some of the potential areas of pedestrian congestion internal to Union Station.



Pedestrian and bus traffic east of Union Station (above) and pedestrians leaving Union Station to catch Metrobuses (below).

### Internal Conflicts

Though passageways become congested with high pedestrian densities when groups of people move through the station, significant issues arise when the mass of people encounters choke points within the station. Common bottlenecks inside Union Station include escalators and stairways, merge points for groups of unloading train passengers, and passageways blocked by idle tour groups or queued passengers.



Figure 4-4 One-Hour Pedestrian Volumes on Roads Adjacent to Union Station



Figure 4-5 Morning Rush Period Pedestrian Paths

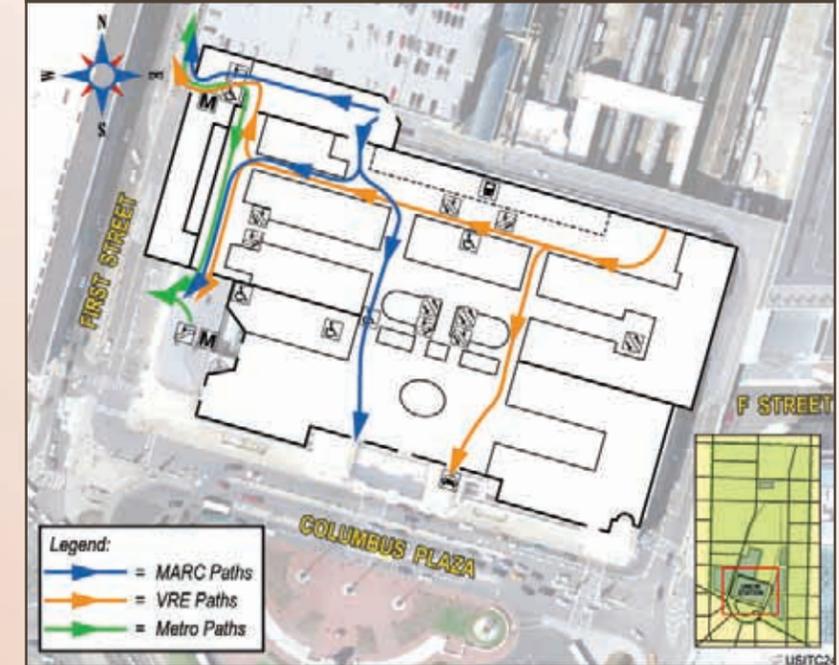
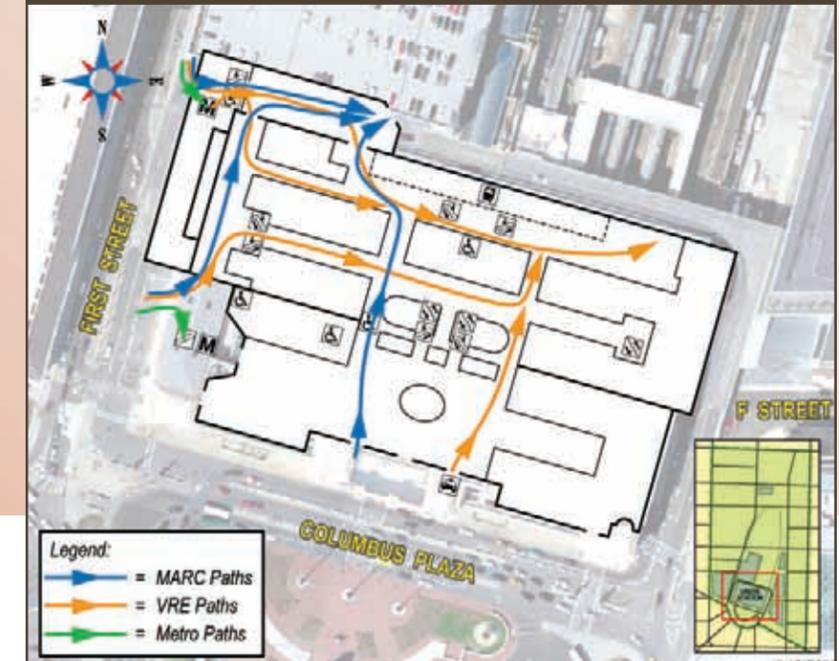
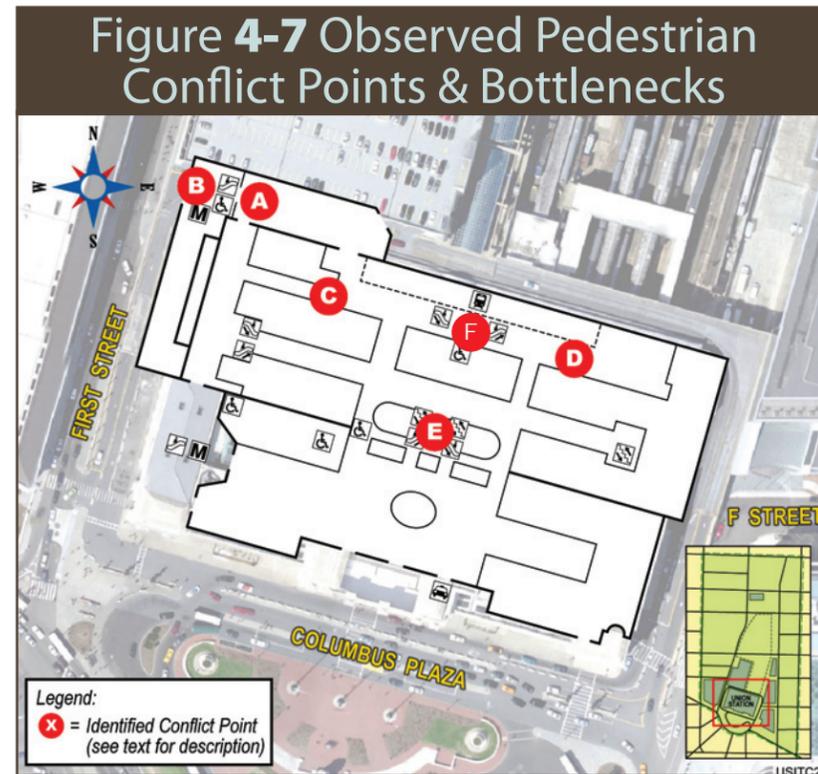


Figure 4-6 Evening Rush Period Pedestrian Paths



The observed pedestrian flow conflicts and choke points within Union Station throughout the day are shown in **Figure 4-7** and illustrated in the photos to the right, They include:

- Location A - Escalators to North Metrorail
- Location B - Escalators from North Metrorail
- Location C - Main East-West Corridor West End
- Location D - Main East-West Corridor East End
- Location E - Access to Food Court
- Location F - Northern End of Mezzanine Level



Union Station has an Emergency Evacuation Plan that is managed by a Station Action Team (SAT). The SAT is comprised of Amtrak, USRC, Jones Lang LaSalle, WMATA, and the Metropolitan Police Department.

In the event of an emergency situation, previously observed bottlenecks and choke points within Union Station pose a serious risk to pedestrian safety. It is standard procedure, in an emergency, for the building alarm to sound within the station, then for police and contract security to evacuate the building. In these conditions, it is especially challenging that the majority of pedestrian traffic will exit the station south toward the Capitol, as in the event of an emergency at the Capitol, evacuation plans direct



pedestrians north toward Union Station. While emergency events at both locations are unlikely through natural circumstances, such as fire or flood, a terrorist event in the vicinity of either would likely create chaos instead of ordered evacuation.

Given this, it is critical to improve emergency access and egress, both to and from rail platforms, as well as to and from the station as a whole. Currently, in the event of an emergency, platforms are evacuated back through Union Station and out to Columbus Plaza. However, should something happen within the station, an alternate route needs to be identified. **Figure 6-9** in Chapter 6 illustrates the existing and proposed exits at Union Station that could be utilized in an emergency situation.

The realization of recommended improvements to existing facilities at Union Station (as detailed in Chapter 6) would mitigate a number of internal conflicts, by providing new means of pedestrian circulation and egress. For instance, creating emergency access from rail platforms to the H Street tunnel would direct more foot traffic north and alleviate some of the concern of southbound congestion. Building the North-South Concourse, as well as the North Pedestrian Walkway and the Rail Concourse Connector Tunnel, would double the existing evacuation opportunities, as well as provide much needed pedestrian connections between transportation modes and between Union Station and First and H Streets.

## 4.6 Transportation Modes at Union Station

To provide a snapshot of the audience served by various transportation modes at Union Station, it is important to point out that the station is part of a transportation network that includes the nation's fifth largest bus system (Metrobus) and its second largest rail transit system (Metrorail). These systems serve a population of 3.5 million people in a 1,500-square-mile area. According to the Metropolitan Washington Council of Governments, forty-two percent of those who work in D.C.'s central core (and parts of Arlington) use these systems to commute to and from work. Given these conditions, it is necessary to explore the existing conditions found across transportation modes at Union Station, as modes are connected by ridership and can anticipate similar needs as transportation demands continue to grow, both in D.C. and the region. **Table 4-1** provides a snapshot of the transportation modes served by Union Station.

**Table 4-1 Transportation Modes at Union Station**

MODE	FACILITIES	OPERATIONS	RIDERSHIP	CONTEXT
<b>Bicycles</b>	A Bikestation has recently been constructed at Union Station that includes sheltered parking for approximately 150 bicycles.	The Bikestation facility will include bicycle repair, rentals, and accessories for sale.	Data collected around Union Station showed as many as 20 to 30 bikes per hour headed toward the station and up to 40 per hour moving away from the station.	Proposed bike-friendly improvements near Union Station include bike lanes along Massachusetts Avenue, and connecting the Metropolitan Branch Trail to First Street.
<b>Metrobus</b>	Major bus stop and layover space exists in Columbus Plaza. Other highly utilized facilities in the study area include Columbus Circle and North Capitol Street.	Operated by WMATA, Metrobus provides service throughout the day, with significant increases during peak commuting times. At off peak times, buses dwell, or wait, at Columbus Plaza before returning to service.	There are 13 major D.C. Metrobus routes that stop near Union Station. The majority of these routes see over 100,000 riders in a normal workweek and most buses that service both H Street and Union Station have been observed to have higher ridership near the station.	Currently, morning peak operations require 591 buses of the Metrobus fleet, while the afternoon peak requires 571. However, during midday, the number of buses required to run routes dips to 275.
<b>D.C. Circulator</b>	D.C. Circulator buses use Metrobus stops to load and unload passengers.	The D.C. Circulator service consists of five routes. Service runs from 7 a.m. to 9 p.m. during the week, with a scheduled headway of 10 minutes throughout the day.	Ridership on the D.C. Circulator increases noticeably during peak periods. The Union Station to Georgetown line is the most heavily used of its three routes, with more than 155,000 trips and approximately 6,200 daily riders in April 2008.	The Circulator's sole function is to move people within the core of the city.
<b>Commuter Bus</b>	Union Station has no facilities dedicated exclusively to commuter bus services. Services to Union Station, therefore, use public space areas outside of the Union Station complex.	Five commuter bus operations service the study area: Maryland Transit Administration (MTA Maryland) has 60 commuter bus runs; Potomac and Rappahannock Transportation Commission (PRTC) OmniRide has two bus runs; Loudoun County (LC) has 43 commuter bus runs; Quick's Bus Company has two bus runs; Shenandoah Valley- Valley Connector (VC) has one bus run.	Conventional peak traffic periods see the vast majority of commuter bus volumes, while activity tapers off during midday. Detailed ridership of commuter buses was not available specifically at Union Station. However, broad level estimates show that the average commuter bus servicing Union Station is half to three quarters full on any given day of the week.	Commuter buses cater to a market segment different from local city buses or intercity buses, bringing in commuters from various suburbs surrounding D.C. over longer distances, with buses that are optimized for infrequent boardings and alightings.
<b>Tour Bus</b>	The 1981 Redevelopment Act for the rehabilitation of the Union Station complex provided for the inclusion of 95 spaces for tour buses on the first level of the Union Station parking garage.	Although some tour buses begin and end service at Union Station, most buses use the facility as a waystation to allow tourists to eat and shop at Union Station.	Tour and commuter bus population observations near down-town D.C. on May 15, 2008, totaled 501 tour or commuter buses and 64 school buses.	Observations have shown that tour bus populations peak during the spring months, which includes the popular Cherry Blossom Festival.
<b>Intercity Bus</b>	Intercity bus lines operate from a facility a half mile north of the main Union Station complex at First Street and L Street NE. Greyhound is in discussions with USRC regarding relocation of the operations facility closer to Union Station.	Intercity bus service to and from the study area is provided by Greyhound and Peter Pan Bus lines. Buses arrive 24 hours a day, with headways of approximately 30 minutes. The depot handles more than 60 buses per day. Service declines during nighttime hours.	Daily Greyhound ridership in the District is estimated at around 3,500 passengers.	Although intercity bus ridership to the D.C. area is increasing, benefits from the increase may be limited for Union Station — despite serving passengers with many of the same characteristics and needs as Amtrak passengers — due to the remote location of the bus depot.
<b>Streetcar</b>	In D.C., streetcar track is being laid along the H Street corridor. It is possible to extend this track along H Street to the west side of Union Station, but planning for the streetcar would require creating a maintenance facility, streetcar tumbback, and platforms.	Operation of the proposed streetcar has not yet begun, as construction is not complete.	Ridership for the streetcar would likely come from existing commuters who currently utilize an alternate mode of transit.	The streetcar track is being laid as a component of a larger H Street redevelopment program. Streetcars are desirable because they use lighter and faster construction techniques than similar, higher-capacity light rail service and generally have higher ridership than comparable bus services.
<b>Metrorail</b>	Union Station's Metrorail station is located below the station's lower level, along the west side of the building next to First Street NE. It has three connections to Union Station: an outdoor entrance in the southwest corner of Union Station, with escalators from street level leading to the Metrorail station mezzanine level; an entrance from Union Station's lower level, connecting to the same mezzanine level as the entrance above; an entrance at the northwest corner of Union Station's main level.	Metrorail is operated by WMATA. From Union Station, the Red Line extends west and northwest toward Gaithersburg, Maryland; and northeast toward Glenmont, Maryland. This line runs up to 25 trains in either direction during peak periods.	Approximately 34,000 trips on the Metrorail system originate at Union Station every day; at least 3,350 and 3,850 people per hour, in morning and evening, respectively, board a Metrorail train at Union Station. Likewise, at least 4,150 people alight from a Metrorail train in the morning peak hour and at least 3,500 in the evening peak hour.	While only served by the Red Line, Union Station maintains the distinction of being the highest-volume station in the Metrorail system.
<b>Commuter Rail</b>	MARC trains serve both high- and low-level platforms and operate from the westernmost tracks. VRE trains operate from the easternmost tracks, which are low-platform tracks.	Commuter rail service at Union Station is provided by two separate services, MARC and VRE.	More than 30,500 riders use the MARC system on an average weekday, while over 15,000 riders use the VRE system on an average weekday.	By their nature, commuter trains, like commuter buses, operate with distinct work-based peak periods, bringing people into D.C. in the morning, and taking them back home in the evening.
<b>Intercity Rail</b>	Amtrak trains share both high- and low-level platforms, throughout the 20 available tracks at Union Station, with MARC and VRE trains.	Long distance rail service from Union Station is provided by Amtrak, whose service is more evenly distributed than the distinct morning and evening peaks of commuter rail.	Approximately 85 Amtrak trains arrive and depart each day at Union Station; however, ridership is difficult to measure as each train has a different number of cars with a different number of seats.	Based on schedule and ridership, Amtrak service is much more similar to airline service than commuter rail service.
<b>Taxi/Motor Vehicles</b>	Columbus Plaza and the traffic lanes/ramps leading to the Union Station parking garage are the primary facilities for taxis and motor vehicles.	There are 120 registered taxi cab companies representing over 8,000 cabs in District of Columbia. Of that 8,000, 2,000 serve Union Station per day.	Over 2,000 taxis per day travel to and from Union Station.	Improvements to Columbus Plaza are planned as part of a rehabilitation project and improvements to the north taxi lane are recommended as part of this study.

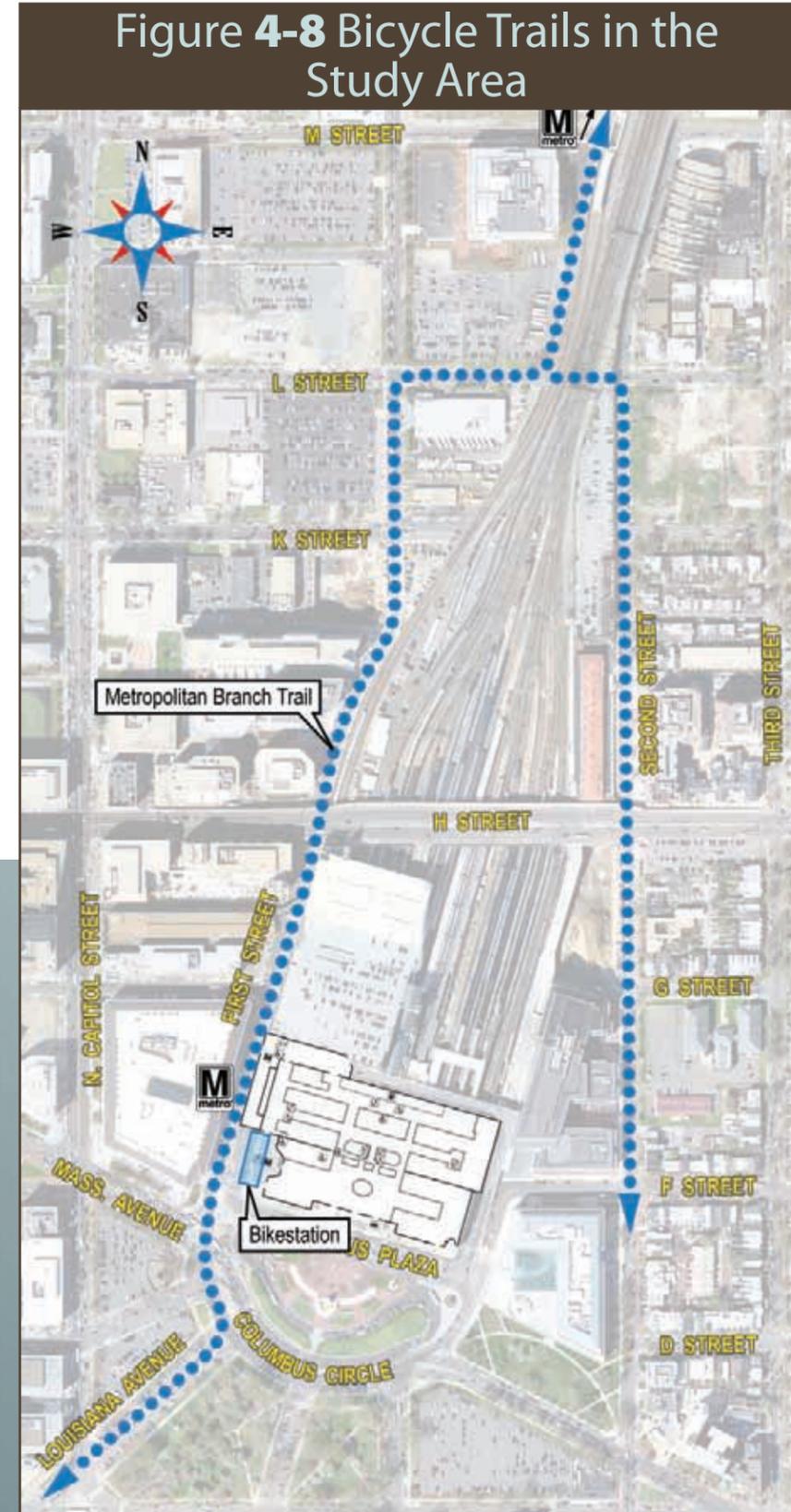
## 4.6.1 Bicycles

Current bicycle parking is located at the southwest corner of Union Station, with storage provided for a maximum of about 50 bicycles. However, cramped conditions limit the number of bicycles that can actually be parked. To alleviate these bicycle parking issues, a new Bikestation has recently been constructed and is scheduled to open in the fall of 2009. Additionally, it is proposed that

The new Bikestation under construction with the U.S. Capitol in the distance.



the Metropolitan Branch Trail be connected to Union Station, with a terminus at the new Bikestation, in order to promote safe, regional bike travel as shown in **Figure 4-8**.



Current Bicycle parking at Union Station (above) and Metrobus exiting Columbus Plaza at Union Station (below).

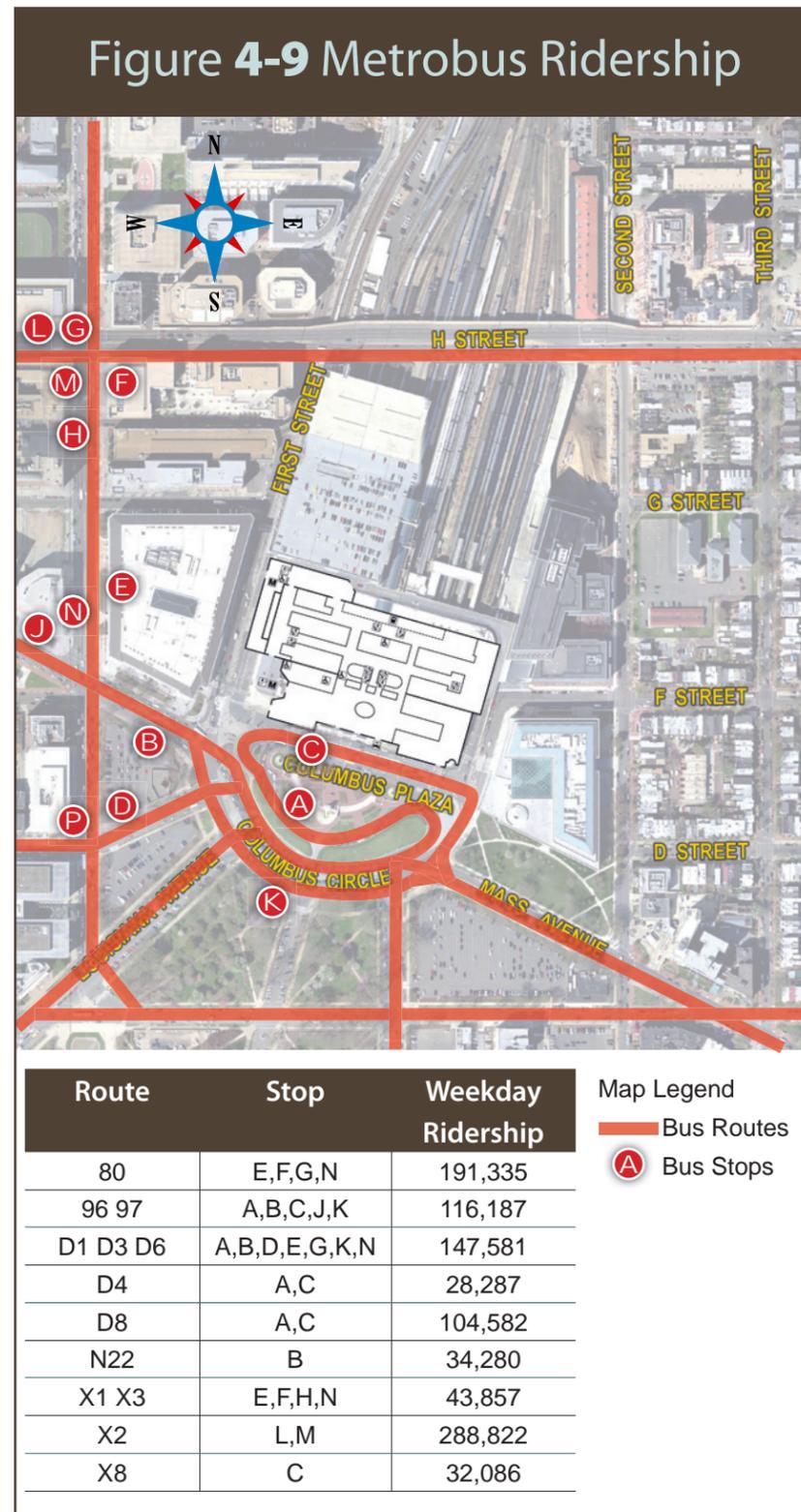
## 4.6.2 Metrobus

There are fourteen Metrobus stops in the study area, most of which serve multiple Metrobus routes. The highest volume routes, in terms of ridership, see over 100,000 riders in a normal workweek (Monday-Friday) and include routes 80, 96, 97, D1, D3, D6, D8, and X2. Within the study area, the intersections with the highest observed volume in Metrobus ridership include:

- North Capitol Street and H Street
- Columbus Circle/Massachusetts Avenue and First Street NE
- Columbus Plaza (near the southwest corner of Union Station)
- North Capitol Street and Massachusetts Avenue



Figure 4-9 shows the ridership in these areas, in addition to other intersections with significant ridership. The information in the figure was obtained by WMATA in October 2008.



Circulator bus circling Columbus Plaza at Union Station.

### 4.6.3 D.C. Circulator

The D.C. Circulator system is relatively new, and as such, the buses are bold, modern, and very distinct from Metrobuses. D.C. Circulator service includes five routes between:

- Union Station and Navy Yard Metro;
- Woodley Park, Adams Morgan, and McPherson Square Metro;
- Convention Center and the southwest Waterfront;
- Georgetown and Union Station; and
- the Smithsonian loop.

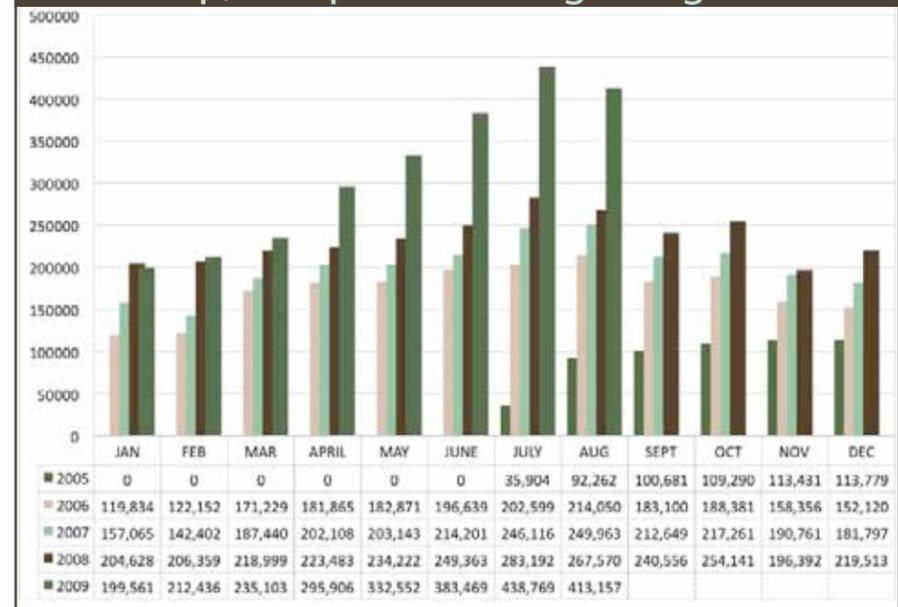
Though the Circulator bus caters to both tourists and District residents alike, its operations near Union Station are heavily commuter in nature. Service to Union Station runs from 7 AM to 9PM during the week, with a scheduled headway of 10 minutes throughout the day. While frequency of operation does not change, ridership on the Circulator makes a marked increase during peak periods in the day. Additionally, ridership experiences a seasonal peak in the summer months of June, July and August when schools are out and tourism swells. In April 2009, ridership spiked due to the addition of two new routes.

D.C. Circulator service has seen a steady increase in ridership each year (per a monthly comparison). Figure 4-10 shows the monthly ridership for the D.C. Circulator service from inception through August 2009.

### 4.6.4 Commuter Buses

Commuter bus service is an intercity transit service that provides commuters from outside the D.C. metropolitan area an alternative means of getting to/from work each day. Commuter buses, while represented by substantially smaller numbers than Metrobuses, also have a role in moving passengers to and from Union Station. Commuter buses provide a constant stream of bus traffic into the city, predictable by time of day and uninfluenced by season.

### Figure 4-10 D.C. Circulator Monthly Ridership, Inception Through August 2009



Conventional peak traffic periods see the vast majority of commuter bus volumes, while midday sees activity taper off.

Table 4-2 shows the ridership for commuter bus routes servicing Union Station. Note that the table does not reflect ridership specifically at Union Station but rather near the station.

### Table 4-2 Ridership<sup>1</sup> of Commuter Buses which Serve the Union Station Area

	MTA Maryland <sup>2</sup>	Loudon County <sup>3</sup>
Average daily ridership for route servicing Union Station	2,153	1,865
Resulting average bus occupancy servicing Union Station	36	43

1 Of those systems for which ridership data could be obtained (PRTC was not available)  
 2 Average daily ridership for FY2008, up to April 2008 for 903, 922, and 950 routes obtained from phone conversation with Glen Hoge of MTA, 5/8/08  
 3 Ridership for bus routes servicing Union Station area, May 2008, from <http://www.loudoun.gov/Default.aspx?tabid=969>

### 4.6.5 Tour Buses

Tour buses take visitors sightseeing, with routes around tourist attractions. Tour buses are a common sight around the District, shuttling tourists across the city to experience the history and culture of the nation's capital. As shown in Table 4-3, the majority of tour buses are focused on the National Mall, as well as locations with quick access to the Mall area. Street parking is available for buses along Maine Avenue and Water Street, as well as Ohio Drive and the Hain's Point area. These "first come-first serve" areas seem to be



Reston intercity bus in Columbus Circle.

popular destinations for empty tour buses laying over while passengers explore the museums and monuments downtown. These streets provide not only free parking for a certain period of time, but also relatively easy access to the major tourist destinations.

**Table 4-3 Combined Tour and Commuter Bus Population Observed Near Downtown Washington, D.C.**

Location	Tour Or Commuter Buses	Touring School Buses
Hain's Point, Ohio Drive	83	30
Streets adjacent to RFK Stadium parking lots	2	2
Anacostia bus parking lot	13	0
Maine Avenue, Water Street	83	0
National Mall and nearby street network	256	32
Near old Convention Center parking lot	9	0
Union Station parking garage	55	0
<b>Total</b>	<b>501</b>	<b>64</b>

Source: Parsons Transportation Group field data collection: May 15, 2008



#### 4.6.6 Intercity Bus

Although intercity bus ridership to the D.C. area is increasing, benefits from the increase may be limited for Union Station due to the remote location of the bus depot. New intercity bus services, such as MegaBus, operated by Stage Coach; Bolt Bus, operated by Greyhound; and the various coach buses serving the Gallery Place-Chinatown neighborhood are increasingly choosing to provide service from various curbside stops throughout the D.C. area. Few of these curbside stops are located near Union Station; operators instead choose locations throughout D.C. convenient to Metrorail or other regional transit points, including Gallery Place-Chinatown, Tenleytown, and Dupont Circle.

#### 4.6.7 Streetcar

Unlike other modes of transportation in existence at Union Station, streetcar has not yet been introduced. However, given that the streetcar is envisioned as an integral part of the rehabilitation of H Street NE, it can be expected to help foster development and realize a high level of ridership, connecting surrounding neighborhoods to Union Station. While accommodation for a tensioned overhead catenary system has been built into the H Street rehabilitation project, communications and power distribution systems are not currently included in the project plans. These systems, in addition to a streetcar maintenance facility, turnback, and platforms, are critical components that will need to be addressed as planning and development of the streetcar infrastructure ensues.



Union Station Metrorail entrance at First Street (left) and Amtrak train leaving Union Station (right).

#### 4.6.8 Metrorail

Union Station plays a large role in Metrorail's operations. While only served by the Red Line, Union Station maintains the distinction of being the highest-volume station in the system, with approximately 725,000 people entering the Metro system through the station each month.

**Table 4-4** shows that more than two-thirds of the ridership from Union Station occurs during the peak periods, with ridership slightly higher in the evening period as compared to the morning.

**Table 4-4 Volumes of Weekday Metrorail Trips Beginning or Ending at Union Station**

	Metrorail Trips Originating at Union Station		Metrorail Trips Finalizing at Union Station	
A.M. peak (opening to 9:29 a.m.)	10,253	30%	12,259	36%
A.M. off-peak (9:30 a.m. to 2:59 p.m.)	6,255	19%	7,086	21%
P.M. peak (3 p.m. to 6:59 p.m.)	13,268	39%	12,033	36%
P.M. off-peak (7 p.m. to 12 a.m.)	3,875	12%	2,285	7%
<b>Total peak</b>	<b>23,521</b>	<b>70%</b>	<b>24,292</b>	<b>72%</b>
<b>Total off-peak</b>	<b>10,130</b>	<b>30%</b>	<b>9,371</b>	<b>28%</b>
<b>Total</b>	<b>33,651</b>	<b>100%</b>	<b>33,663</b>	<b>100%</b>

Source: WMATA, October 2008 Passenger Survey

### 4.6.9 Rail at Union Station

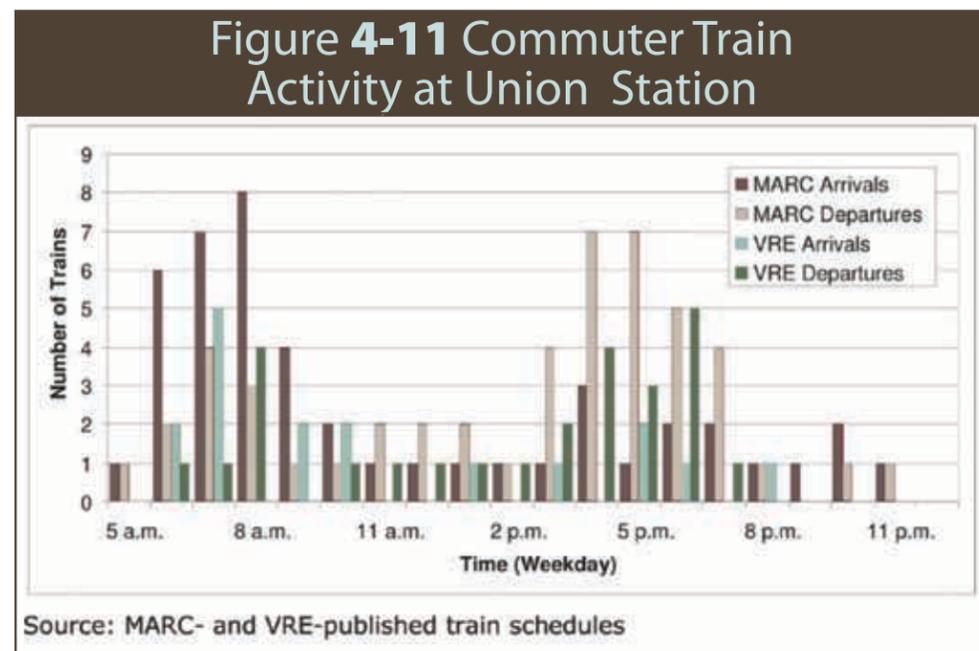
The historical transportation function of Union Station is as a rail terminal. Twenty tracks serve the station, carrying both commuter and intercity rail traffic. Seven tracks continue through the station, carrying traffic from the north to Virginia and other points south. Union Station is the terminus of two of Amtrak's most popular services, Acela Express and the Northeast Regional, as well as five commuter rail lines (described in the following section).

Rail passengers at Union Station make use of common passenger facilities, including waiting areas, ticketing, and a first class rail lounge, that were built along the north edge of the building as part of the development activities associated with the 1981 Redevelopment Act.

### 4.6.10 Commuter Rail

Commuter rail service at Union Station is provided by MARC and VRE. MARC trains operate on three lines, extending to Perryville, Maryland; Martinsburg, West Virginia; and Baltimore, Maryland; with Union Station being the terminus and only D.C. station. VRE operates two separate lines, running from Manassas and Fredericksburg, Virginia, with service in D.C. at L'Enfant Plaza and Union Station.

**Figure 4-11** displays the frequency of commuter rail operations service at Union Station.



### 4.6.11 Intercity Rail

Long-distance rail service from Union Station is provided by Amtrak. The majority of Amtrak's trains passing through Union Station are part of the Northeast Corridor rail service, which extends north to Philadelphia, New York City, and Boston. Schedules are focused primarily on the densely populated East Coast; however, a limited number of options are available for traveling as far south as Miami and as far west as Seattle and San Francisco. Additionally, some of Amtrak's operations accommodate the suburban Washington-region commuters by allowing VRE and MARC fares to be accepted on select trains with payment of a small step-up fare.

Approximately 85 Amtrak trains arrive and depart each day at Union Station with the volumes illustrated in **Figure 4-12**.

