Frederick Law Olmsted was appointed by Congress in 1874 to develop and improve the Capitol Grounds. He included the Summerhouse in response to complaints that visitors to the Capitol Building could not find water or a place to rest on their journey. In addition, he designed it as a setting for decorative vegetation.

Effects Evaluation: No physical effects to the Summerhouse would occur because of project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The property's integrity of feeling and association are connected directly to the landscape design and association with historic events and would be unaffected. All Action Alternatives may be visible from the sidewalk surrounding the Summerhouse; however, views to the Project are minimal and screened by dense vegetation within the Senate Parks. The integrity of setting would not be affected by any minor visual changes due to the Project because the visual connection of the Summerhouse with the U.S. Capitol, U.S. Capitol Grounds, and Senate Parks would be unaffected. Similarly, the integrity of setting would not be affected by noise, vibration, or traffic related to the Project's construction and operation. The structure is outside both the Operational and Construction Noise and Vibration Study Areas and is not located at or adjacent to thoroughfares that would be impacted by Project-related traffic.

Based on this evaluation, all Action Alternatives would have no effect on the Summerhouse.

33. Thurgood Marshall Federal Judiciary Building

Thurgood Marshall Federal Judiciary Building, view looking east

View from the west elevation of the property looking northeast towards the WUS headhouse and Project Area

The Thurgood Marshall Federal Judiciary Building is located approximately 100 feet east and adjacent to the Project Area at 1 Columbus Circle NE between Massachusetts Ave NE and F Street NE. It was constructed in 1992 and occupies a trapezoidal site across from Union Station. It is faced in white granite to complement the Station and City Post Office on the west side of the circle and features a large glass atrium. It was designed and developed by a team of Edward Larraby Barns, John M.Y. Lee & Partners, and Boston Properties. The site has been

owned by the Federal Government since the 1920s and prior to its development was used as a parking lot. [65] The building is under the jurisdiction of the AOC and is thus exempt from NRHP designation; however, it is listed as an AOC Heritage Asset and is therefore treated as a historic property subject to Section 106.

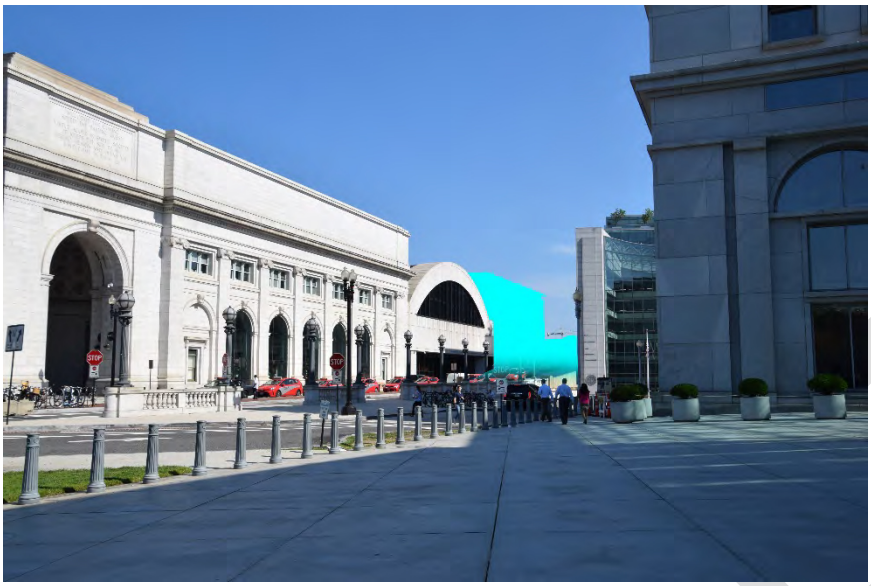
Effects Evaluation: No physical effects to the Thurgood Marshall Building would occur because of project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The building's integrity of feeling and association are connected directly to the building's design and would be unaffected. All Alternatives would be visible. The Action Alternatives would have low visibility and moderate sensitivity resulting in potentially minor visual effects. However, visual effects would not affect the integrity of the building's setting, which is characterized by the existing institutional buildings to the north, open space to the west, and the visual connection to the WUS headhouse, Columbus Plaza, and the AOC campus to the south.

Similarly, the building's integrity of setting would not be affected by noise, vibration, or traffic related to the Project's construction and operation. The building is within the Operational and Construction Noise and Vibration Study Areas, and noise and vibration analysis conducted for the DEIS indicates that the Thurgood Marshall Federal Judiciary Building would likely experience temporary moderate construction noise effects and temporary construction vibration effects, causing human annoyance. Analysis indicates that if spoils are removed by trucks moderate temporary noise effects would likely occur; however, if trains are used then no noise effects would likely occur. Finally, there would likely be no operational noise and vibration effects to the building. Regardless, moderate temporary construction noise and vibration effects would not diminish the architectural characteristics or association with the AOC that determine its listing as a heritage asset. The incremental increase in operational traffic volumes along Columbus Circle Drive (a minor arterial street intended to interconnect and augment principal arterial streets) from Action Alternatives would not alter the busy, traffic-heavy urban setting in which the property is located.

Based on this evaluation, all Action Alternatives would have no adverse effect on the Thurgood Marshall Federal Judiciary Building.

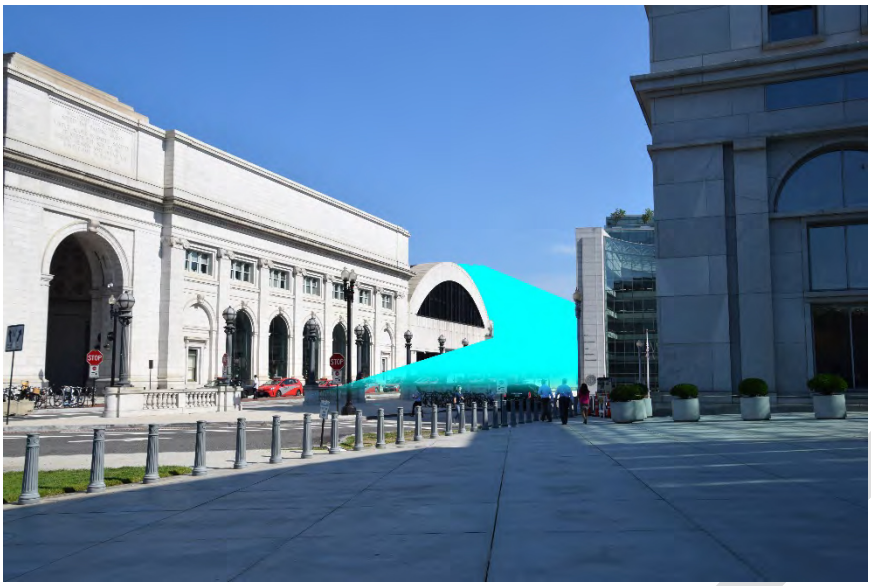
[65] "Thurgood Marshall Federal Judiciary Building." Architect of the Capitol. https://www.aoc.gov/capitol-buildings/thurgood-marshall-federal-judiciary-building (accessed May 24, 2018).

Visual Assessment from the front plaza of the Thurgood Marshall Building.

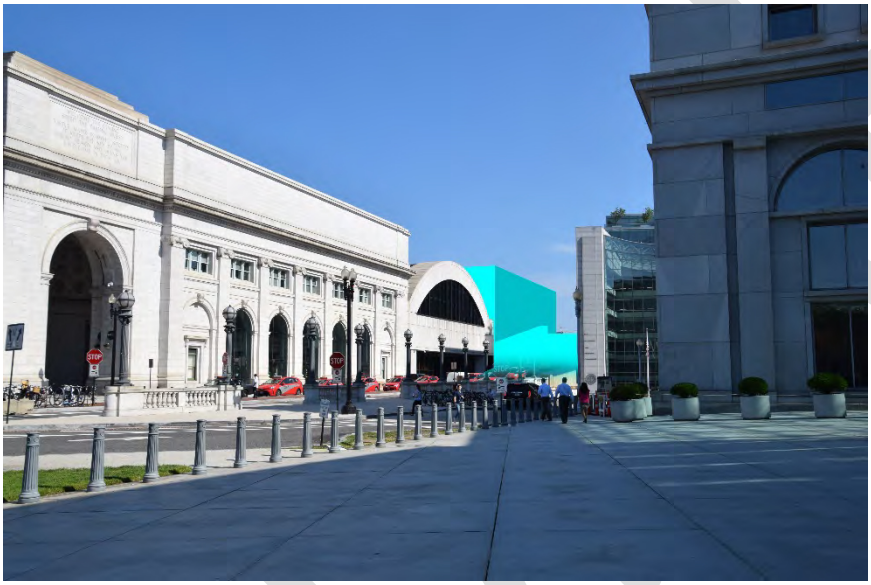


Visual Assessment for Alternative A and Alternative B

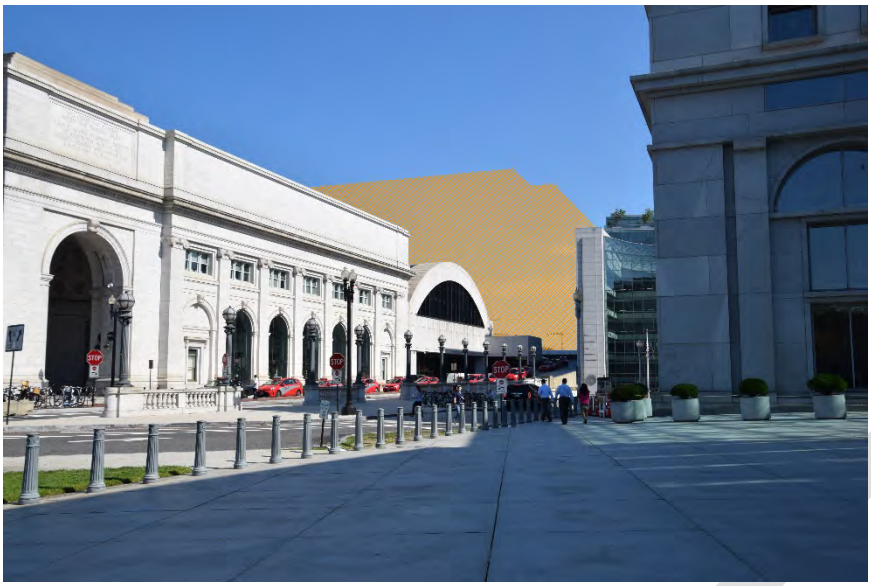
Visual Assessment for Alternative C (East and West Options)



Visual Assessment for Alternative D and Alternative E



Visual Assessment for Alternative A-C



Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

34. Topham's Luggage Factory (Former)

Topham's Luggage Factory (former), view looking northwest

View from the south elevation of the property looking west towards the REA Building and Project Area along Eye Street NE

The former Topham's Luggage Factory is located approximately 175 feet east of the Project Area at 220 Eye Street NE. The two-story brick building was originally constructed in 1928 as a luggage manufacturing facility and showroom for local trunk and leather goods company Topham's. It is an example of Art Deco design. The Topham's Luggage Factory is potentially eligible for NRHP listing and listing in the DC Inventory under Criterion A for its association with commercial development and industry in the District and with the trunk and leather goods

company Topham's. James S. Topham established the eponymous trunk and harness manufacturing business in Washington, DC, in 1855. The factory building was designed by esteemed local architect George T. Santmyers. The building has since been converted for use as office space.

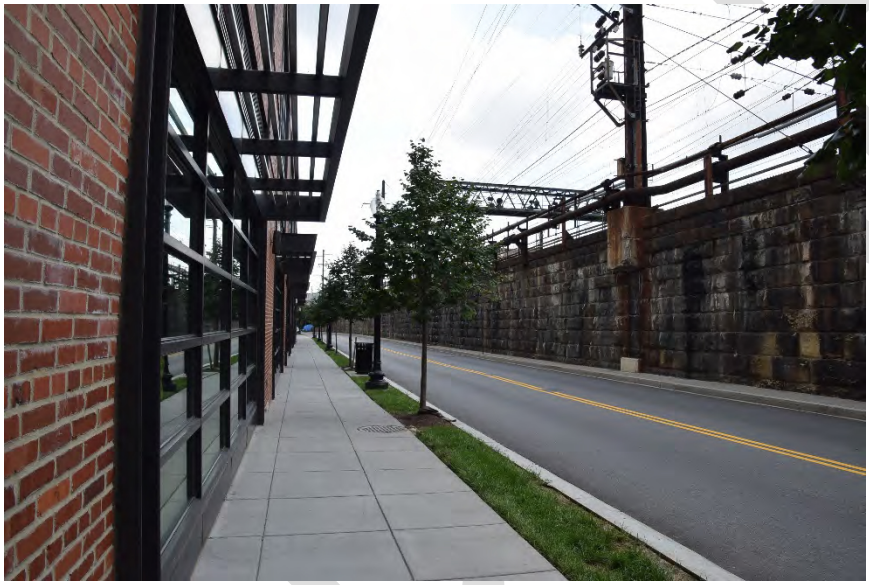
Effects Evaluation: No physical effects to the former Topham's Luggage Factory would occur because of project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The building's integrity of feeling and association are connected directly to the building's design and would be unaffected. Only the Alternative C-East would be visible looking west along Eye Street, similar to the view looking towards the REA Building. Alternative C-East would have moderate visibility and sensitivity, resulting in a potential moderate visual effect. However, visual effects would not affect the integrity of setting or significance of the building, which is derived from its association with commercial development and the Topham's factory.

Similarly, the building's integrity of setting would likely not be affected by noise, vibration, or traffic related to the Project's construction and operation. The building is within the Operational and Construction Noise and Vibration Study Areas, and noise and vibration analysis conducted for the DEIS indicates that the building would likely experience temporary moderate to severe construction noise effects. No temporary construction vibration effects would likely occur. The building likely would not experience operational noise and vibration effects. Moderate to severe temporary construction noise effects would not affect the integrity of property or setting, which is determined by its historic association with commercial development and industry in Washington, DC and has already been impacted by the surrounding multi-story residential and mixed-use developments described in the effects evaluation for historic property No. 27 Square 750. Traffic studies support that the property, which is not located at or adjacent to thoroughfares, would not be affected by Project-related traffic.

Based on this evaluation, all Action Alternatives would have no adverse effect on the former Topham's Luggage Factory.

35. Uline Ice Company Plant and Arena Complex

Uline Ice Company Plant and Arena Complex, view looking southwest



View from the west elevation looking south towards the Project Area along Second Street NE

The Uline Ice Company Plant and Arena Complex (Uline Arena), also known as the Washington Coliseum, is located approximately 40 feet east of the Project Area at 201 M Street NE (also 1140 Third Street NE), at the intersection of M Street NE and Second Street NE. The building was originally constructed in 1931 to serve as an ice plant for the Uline Ice Company. The adjacent arena was completed in 1940.

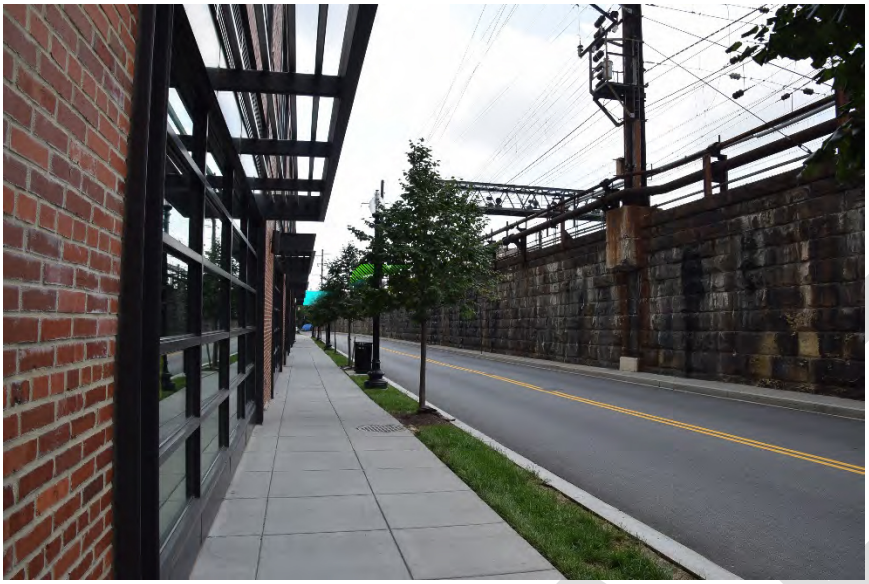
The Uline Arena is listed in the NRHP and the DC Inventory (NR listing May 17, 2007; DC listing November 16, 2006). The building is listed under NR Criterion A for its association with the early development of the area; Criterion B for its association with the Beatles, as the site of their first performance in the United States in 1964; and Criterion C as one of the first thin-shell concrete buildings in the nation. The arena complex uses the Zeiss-Dywidag system and reflects the experimental nature of such early developments in concrete following the steel shortage post-WWI. These innovations allowed the Uline to house one of the largest indoor hockey rinks in the country. The Uline Arena has been converted to retail and commercial space.

Effects Evaluation: No physical effects to the Uline Ice Company Plant and Arena Complex would occur because of project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The building's integrity of feeling and association are connected directly to the building's design and would be unaffected. All Alternatives would be visible from the southwest corner of the property, looking south along Second Street. The Action Alternatives have low visibility and low sensitivity resulting in potential negligible visual effects. However, the visual effects of the Alternatives would not undermine the property's integrity of setting because its significance is not defined by its view to the Project Area. The significance of the Uline Arena is retained as its association with the early development of the neighborhood and the physical integrity of its thin-shell concrete architecture would not be altered by the Project.

Similarly, the building's integrity of setting would likely not be diminished by noise or vibration effects related to the Project's construction and operation. The building is within the Operational and Construction Noise and Vibration Study Areas, however, noise and vibration analysis conducted for the DEIS indicates that the building would not experience temporary construction noise and vibration effects. Consistent with FRA and FTA guidance and with FHWA regulations, operational noise and vibration effects to the property were not assessed because the building, as a commercial property, does not have a sensitive use. Regardless, any potential noise and vibration effects would not affect the significance or integrity of the property, which is determined by its architectural and structural design, association with the development of the neighborhood, and association with the Beatles. The property is not located at or adjacent to thoroughfares that would be impacted by traffic and is outside the Transportation Study Area, which was developed in coordination with DDOT. Therefore, traffic effects would not be anticipated at this location and the significance and integrity of the building would not be affected.

Based on this evaluation, all Action Alternatives would have no adverse effect on the Uline Ice Company Plant and Arena Complex.

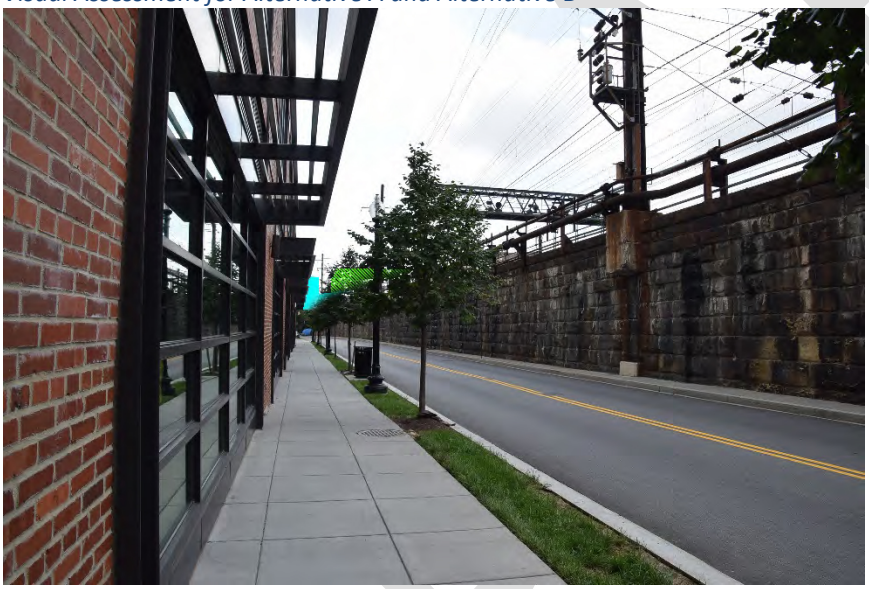
Visual Assessment from the west elevation of the Uline Arena looking south along Second Street NE



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

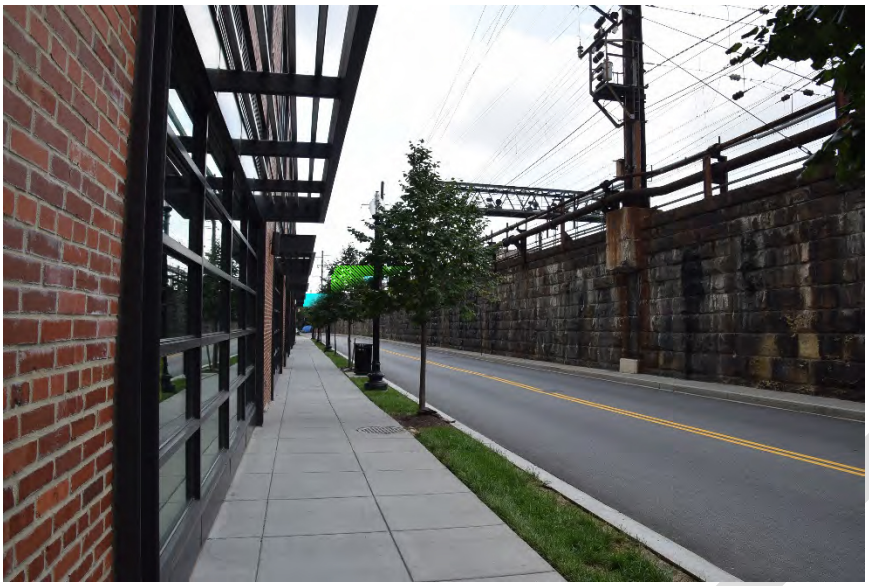
Visual Assessment for Alternative A and Alternative B



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

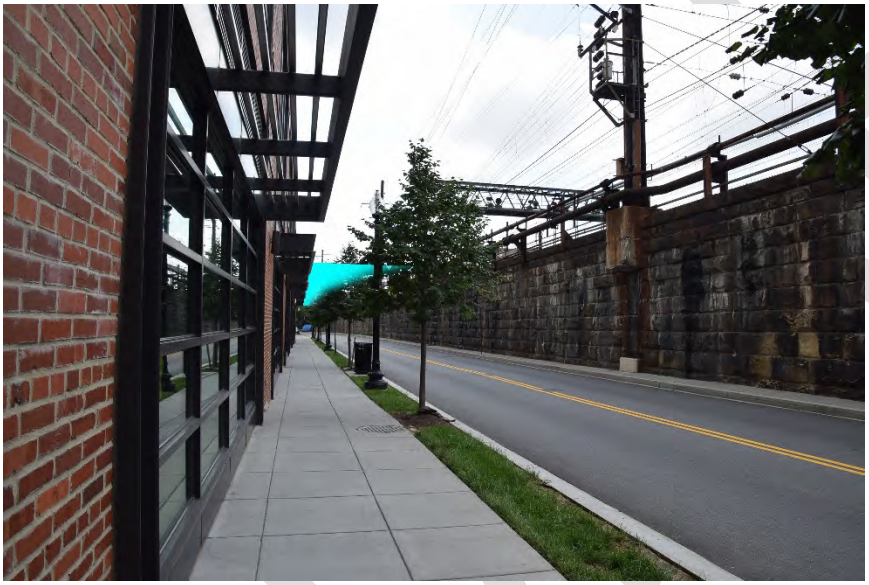
Visual Assessment for Alternative C-East Parking Option



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

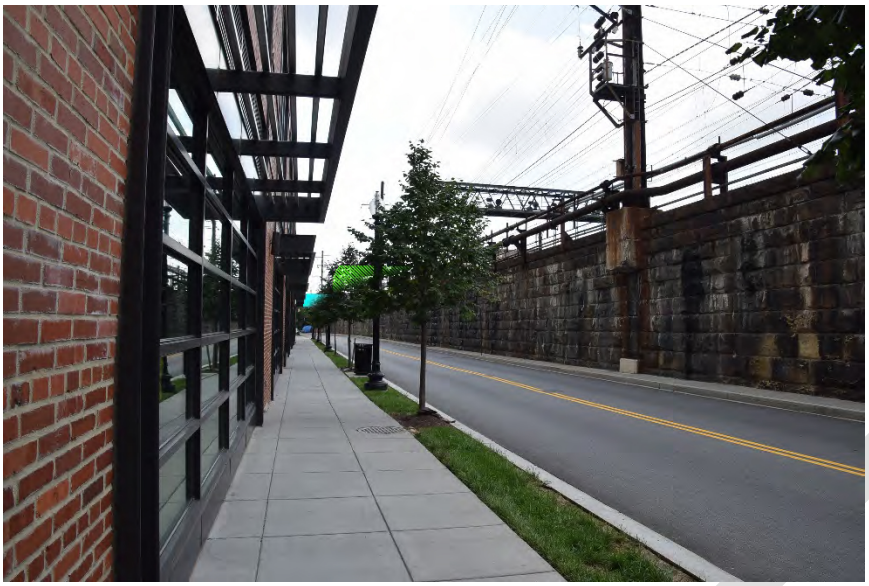
Visual Assessment for Alternative C-West Parking Option



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

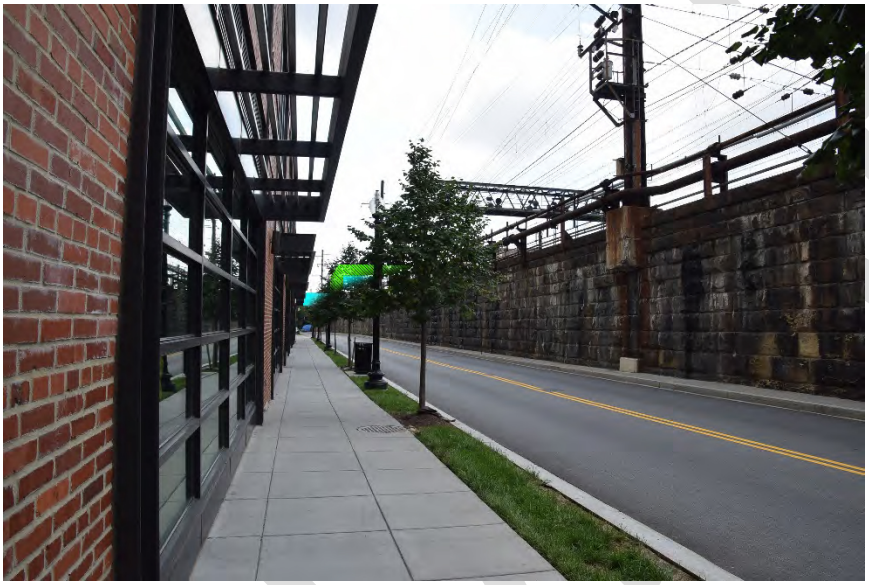
Visual Assessment for Alternative D



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

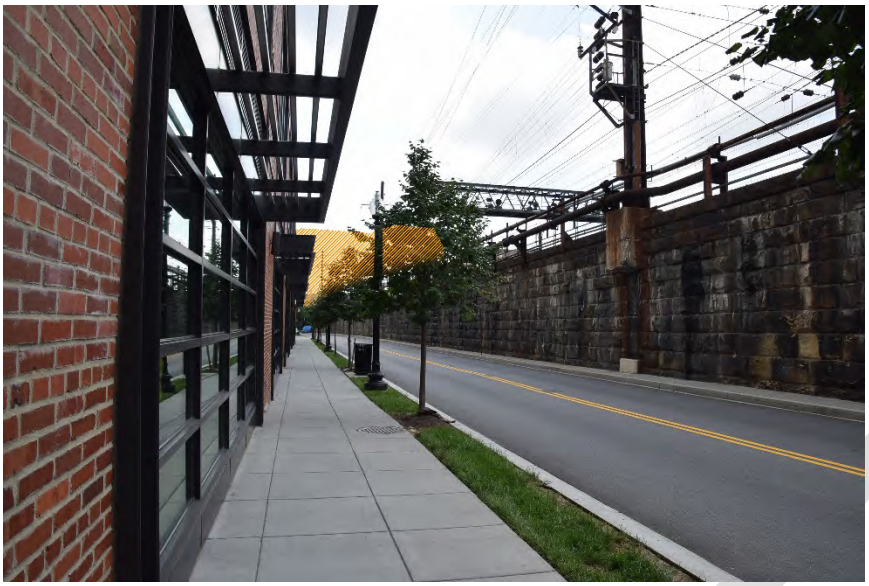
Visual Assessment for Alternative E



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C



Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

36. United States Capitol

United States Capitol, view looking west

View looking north towards the Project Area from the east side of the Capitol

The United States Capitol is located approximately 2300 feet south of the Project Area and is the primary focal point of the L'Enfant-McMillan Plan. The location of the Capitol building is the center around which the diagonal axes and urban grid of the Plan are centered. The Capitol was constructed primarily between the years 1793 and 1865 to the designs of an extraordinary series of leading 19th-century architects, including William Thornton, Benjamin Henry Latrobe, Charles Bulfinch, Robert Mills, and Thomas U. Walter. It is the symbol of the American people and their government as well as an international symbol of democracy. While exempt from

listing in the NRHP under the purview of the AOC, the U.S. Capitol was designated a National Historic Landmark (NHL) in 1960, meeting criteria A and C, and was listed in the DC Inventory in 1964.

Effects Evaluation: No physical effects to the Capitol would occur because of Project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The property's integrity of feeling and association are connected directly to the architectural design and association with historic events and would be unaffected. All Action Alternatives would not be visible as the development would be screened by the large expanse of the Senate Parks, and the integrity of setting would not be affected. (Visual effects to the culturally significant viewshed from the Capitol Dome are assessed separately in this report as historic property No. 53 U.S. Capitol Dome.) Similarly, the integrity of setting would not be affected by noise, vibration, or traffic related to the Project's construction and operation. The building is outside both the Operational and Construction Noise and Vibration Study Areas and is not located at or adjacent to thoroughfares that would be impacted by Project-related traffic.

Based on this evaluation, all Action Alternatives would have no effect on the U.S. Capitol.

37. United States Capitol Square

United States Capitol Square, view looking northeast from the grounds west of the Capitol

View looking northeast towards the Project Area from the west lawn of the Capitol grounds

View looking north towards the Project Area from the east side of the Capitol

The grounds immediately surrounding the U.S. Capitol are known as U.S. Capitol Square. This area, spanning approximately 68 acres is located approximately 2100 feet south of the Project Area and is bordered by a stone wall, is bounded by Independence Avenue on the south, Constitution Avenue on the north, First Street NE/SE on the east, and First Street NW/SW on the west. U.S. Capitol Square is located on Federal land under the jurisdiction of the Office of the Architect of the Capitol. Originally designated Reservation No. 3 by L'Enfant, these grounds encompass a rectangular area bounded by Constitution Ave NW/NE, First Street NE/SE, Independence Avenue, and First Street NW/SW. This area includes the landscape and elements designed by Frederick Law Olmsted and constructed between 1874 and ca. 1888. It is comprised of the West Terraces and Steps (1874-1875); landscape structures such as the Spring Grotto/Summerhouse (c. 1879), which is evaluated separately as historic property No. 32; Trolley Shelters/Herdic Stations (c. 1876); lamp standards, fountains, retaining, walls, and curbing (c. 1877); and ventilation towers (c. 1888).

The U.S. Capitol Square was listed in the DC Inventory in 1964. As a property under the purview of the AOC, it is exempt from listing in the NRHP and is considered a historic property subject to the Section 106 process as an AOC Heritage Asset.

Effects Evaluation: No physical effects would occur because of Project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The property's integrity of feeling and association are connected directly to the landscape design and association with historic events and would be unaffected. All Action Alternatives would not be visible as views to the Project Area are few and are screened by the

expanse of Senate Parks to the north. Similarly, the integrity of setting would not be affected by noise, vibration, or traffic related to the Project's construction and operation. The property is outside both the Operational and Construction Noise and Vibration Study Areas and is not located at or adjacent to thoroughfares that would be impacted by Project-related traffic.

Based on this evaluation, all Action Alternatives would have no effect on the U.S. Capitol Square.

38. United States Supreme Court

United States Supreme Court, view looking northeast

View from the Supreme Court forecourt looking northwest towards the Project Area. WUS and the Project Area are not visible.

The U.S. Supreme Court is located approximately 2000 feet south of the Project Area at One First Street NE. Its grounds are bordered by First Street NE, East Capitol Street NE, Second Street NE, and Maryland Ave NE. After six years of construction, the building was completed in 1935. The building was designed by prominent American architect Cass Gilbert, and he drew upon the form of a Roman temple, creating a building more reserved than the nearby Library of Congress. The marble and steel framed structure features a grand entrance stair and a

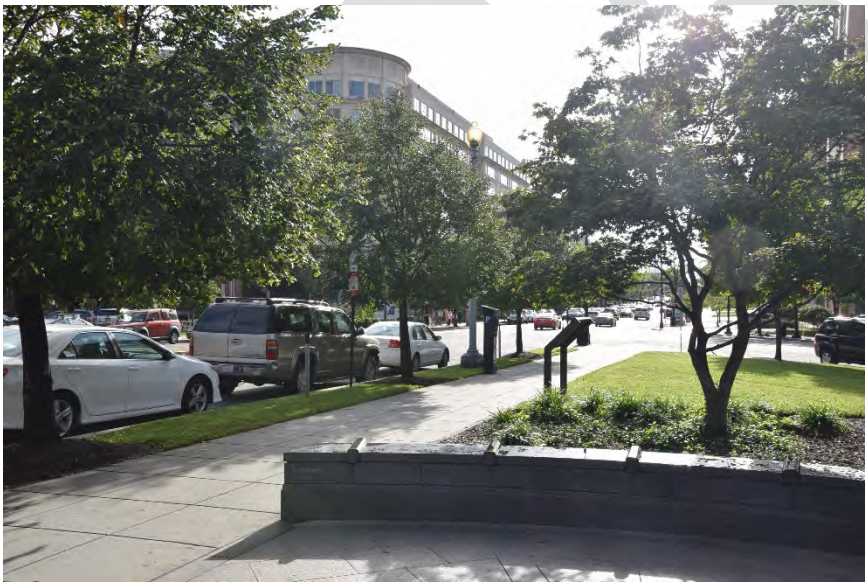
monumental portico with elaborate entablature and tympanum supported by 16 Corinthian columns. Four interior courtyards provide the building with sources of light and air. As a property under the purview of the AOC, it is exempt from listing in the NRHP but is considered a historic property for the Section 106 process as an AOC Heritage Asset.

Effects Evaluation: No physical effects would occur because of Project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The property's integrity of feeling and association are connected directly to its architectural design, association with historic events, and symbology of American justice and democratic government and would be unaffected. All Action Alternatives would not be visible from the property. Similarly, the integrity of setting would not be affected by noise, vibration, or traffic related to the Project's construction and operation. The building is outside both the Operational and Construction Noise and Vibration Study Areas and is not located at or adjacent to thoroughfares that would be impacted by Project-related traffic.

Based on this evaluation, all Action Alternatives would have no effect on the U.S. Supreme Court.

39. Victims of Communism Memorial

Victims of Communism Memorial, view looking southeast



View from the east side of the memorial, looking east towards the Project Area along Massachusetts Ave NW

The Victims of Communism Memorial is located approximately 1300 feet west of the Project Area at the intersection of Massachusetts Avenue NW, New Jersey Avenue NW and G Street NW. The monument occupies a triangular plot of land at the intersection. The Victims of Communism Memorial, completed in 2007, is dedicated to all those who have suffered under Communism. The memorial features a bronze replica of the "Goddess of Democracy" statue, erected by Chinese students in Tiananmen Square in 1989. The property is located within a reservation of the L'Enfant and McMillan Plan and is managed and maintained by the NPS. In consultation with the DC SHPO and other Consulting Parties, it was determined that all monuments and memorials under the purview of NPS National Mall and Memorial Parks are considered to be historic properties and are assessed in the Section 106 process for this Project.

Effects Evaluation: No physical effects to the Victims of Communism Memorial would occur because of Project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The memorial's integrity of feeling and association are connected directly to the memorial's design and would be unaffected. Furthermore, all Action Alternatives would have no effect to the visual setting of the property as there are no direct lines of sight towards the Project Area. Similarly, the integrity of setting would not be affected by noise, vibration, or traffic related to the Project's construction and operation. The property is outside both the Operational and Construction Noise and Vibration Study Areas, and the incremental increase in operational traffic volumes along Massachusetts Ave NW (a principal arterial street intended to carry significant amounts of traffic) from the Action Alternatives would not alter the busy, traffic-heavy urban setting in which the property is located.

Based on this evaluation, all Action Alternatives would have no effect on the Victims of Communism Memorial.

40. Washington Union Station (Station Building)

Aerial view of WUS with Columbus Plaza in foreground, view looking northeast

Union Station is an impressive example of Beaux Arts architecture designed by D.H. Burnham & Company. It is divided into three primary spaces: the historic headhouse (1908); the original passenger concourse (1908), currently used for retail and Amtrak ticketing; and the current passenger concourse, referred to as the Claytor Concourse, completed in 1988. The station is significant for its association with railroad transportation improvements facilitated by the Washington Terminal Company—a consolidation of the B&O and PRR railroad companies in Washington, DC – which established a monumental landscape befitting the capital city, allowed for increased safety and future rail growth, and initiated the twentieth-century development and urban design of Washington, DC. The location, design, setting, materials, workmanship, feeling, and association of the Beaux-Arts building contribute to the understanding of the station as a prominent transportation hub and monumental gateway to Washington DC.

Contributing and character-defining features of the station building include its monumental exterior façade, which is defined by the spatial arrangement, alignment with Delaware Ave NE, landscape, and architectural design; the historic headhouse, including the General Waiting Room/Main Hall, west and east wings serving the original ticket lobby and baggage room, the original dining room, serving room, lunch room, ladies waiting room, and smoking room; the State Reception Room/Presidential Suite; and the original passenger concourse, including its arched roof featuring plaster coffer panels and skylights, plaster cornice, and sections of original glazed brick and terracotta wall.

Union Station was listed in the NRHP on March 24, 1969 as a property of national significance meeting NRHP criteria A and C. Columbus Plaza and the Columbus Memorial Fountain were added to the station listing on April 9, 1980, which was further amended with additional documentation on October 12, 2007. Both Washington Union Station and Columbus Plaza were also listed in the DC Inventory on November 8, 1964. In 2012, an amendment was submitted, which includes more detailed descriptions of interior spaces and began to address the significance of the rail terminal and northern approach.

In 2019, FRA prepared a determination of eligibility (DOE) amendment to WUS, which includes the station building, Columbus Plaza, First Street Tunnel, and the Terminal Rail Yard. The effects evaluation directly below pertains only to the station building. See No. 41 of this report for the assessment of effects to Columbus Plaza, and No. 49 for the WUS Historic Site, which includes the Terminal Rail Yard and the First Street Tunnel.

Effects Evaluation: The physical effects of all Action Alternatives include the removal of the Claytor Concourse, construction of a new passenger concourse and train hall, and the removal of original columns in the portion of the First Street Tunnel below the Retail and Ticketing Concourse (historic passenger concourse). Work to remove the Claytor Concourse and construct the new passenger concourse and train hall would impact the north façade of the original passenger concourse. The Claytor Concourse was constructed in 1988 as an addition to the original passenger concourse, which was renovated to serve retail and ticketing functions. The extent of original fabric remaining at the north elevation of the original passenger concourse is unclear. The original construction featured an immense opening leading to the tracks and platforms that was punctuated by a colonnade of nine steel-plated Doric columns with cast-iron capitals spaced evenly along its length. The view from the original passenger concourse was therefore of the rail yard. Views looking south from the rail yard were not public and only rail workers would have experienced full views of the north elevation of WUS. Currently, a section of the entablature, supported by the Doric columns, is the only original fabric visible from within the Claytor Concourse. It is possible that the Doric columns remain in situ but are encapsulated by the Claytor Concourse construction. Until further design for the Project is conducted after the NEPA Record of Decision (ROD), the extent of physical effects to the north elevation of the original passenger concourse cannot be determined. However, should the removal of the Claytor Concourse and construction of the new train hall cause physical effects or fail to preserve the distinctive features, materials, and finishes of the original passenger concourse, then an adverse effect would occur. Regardless, the construction of the new train hall would affect the overall design of WUS, substantially increasing the mass of the station and adversely affecting the integrity of the building's design.

The work to remove the columns in the First Street Tunnel would involve accessing the tunnel from above and rebuilding approximately 15,000 square feet of the Retail and Ticketing

Concourse (original passenger concourse) floor. While the current marble finish of the floor was installed in the 1980s, the floor structure is original. Constructed of a steelwork frame and terracotta tile arches, the demolition of the original floor structure and removal of the original steel columns would affect the integrity of design, materials, and workmanship, although in a manner that would not be visible to the general public.

Other unknown physical effects related to the design of the Project, especially any physical interior changes that impact the historic materials, design, workmanship, or circulation flow have the potential to result in adverse effects to WUS if the Secretary of the Interior Standards are not followed. Such effects would be identified and resolved as Project design continues and is guided by ongoing consultation and review as prescribed in the PA.

Visual effects of the Action Alternatives would affect the integrity of setting, feeling, and association by altering the visual connection of the station building with the Terminal Rail Yard and the various contributing features within the WUS Historic Site. Similarly, views of the station from various vantage points of the L'Enfant-McMillan Plan, specifically those from the radial streets to the south of the station, including Delaware Ave and First Street NE, would be changed, affecting the setting and visual character of the station, which is defined by the uninterrupted silhouette of the station roofline and the visual symmetry of the station's monumental Beaux Arts design. Due to the height of the Project elements and/or the potential Federal air-rights development, such character-defining features would be altered.

As shown in the visual simulations below, the Action Alternatives would not change the character of the view towards the station from the west side of Columbus Circle. The Action Alternatives would have moderate visibility and low sensitivity, resulting in potential minor visual effects. Furthermore, the view looking north along First street NE would have beneficial effects because the Alternatives would reopen the view that is currently truncated by the projecting mass of the exiting parking garage. From the east side of Columbus Circle, Alternatives A, B and C would have low visibility and sensitivity, resulting in potential negligible visual effects, while Alternatives D, E, and A-C would have moderate visibility and low sensitivity, resulting in potential minor visual effects.

The Action Alternatives would have moderate to high visibility and sensitivity, resulting in potential moderate to major visual effects to the station building from views from Delaware Ave NE, Louisiana Ave NE, First Street NE, E Street NE, and the H Street Bridge. From Delaware Ave, looking north from both C and D Streets NE, all Action Alternatives would have high visibility and high sensitivity from the program elements and potential Federal air-rights development rising above the west wing of the station and interrupting the roofline of the barrel vault roof, resulting in potential major visual effects to WUS. The program elements would only be slightly visible in Alternatives A and A-C. Otherwise, the visual effect is largely the result of the potential Federal air-rights development.

From the intersections of Louisiana Ave and D Street NW and E Street and Columbus Circle NE, all Action Alternatives would have moderate visibility and moderate sensitivity, resulting in potential moderate visual effects. From the intersection of First Street and C Street NE, the potential Federal air-rights development in Alternatives C, D, E, and A-C would interrupt the silhouette of the barrel vault roof, causing greater visual effects than Alternatives A and B. As such, Alternatives A and B would have moderate visibility and sensitivity, resulting in potential moderate visual effects, while Alternatives C, D, E, and A-C would have high visibility and sensitivity, resulting in potential major visual effects from that view.

While not a historic view, the view from the center of the H Street Bridge looking south towards the north elevation of the station, for Alternatives A and B, would have high visibility and sensitivity, resulting in potential major visual effects. These Alternatives would significantly change the scale and charter of development along the bridge with the north-south train hall dominating the view and obscuring the visual connection from the bridge to Concourse A and the historic station. Alternatives C, D, E, and A-C would have high visibility and moderate sensitivity, resulting in potential moderate visual effects. Unlike Alternatives A and B, in which the north-south train hall dominates the view, Alternatives C, D, E, and A-C would feature a smaller H Street headhouse, providing access from the bridge to the station via the new concourses constructed below. The diminishing scale of the H Street headhouse in these Alternatives as well as the visual connection to the new train hall and historic station, if provided by a visual access zone, would moderately change the scale and character of development along the bridge and the view to the new east-west train hall at the station.[66]

Unlike the views from Delaware Ave NE, Louisiana Ave NE, and First Street NE, the view from the H Street Bridge was not established by the L'Enfant-McMillan Plan and did not exist prior to the construction of the H street Bridge in 1976. This, and the fact that the view does not celebrate the monumental Beaux-Arts design of the station, signifies that the visual significance of WUS is not dependent on the view of the station from the H Street Bridge or the back of the station. This is reiterated in the use of brick instead of granite and simplified profiles that characterize the north elevation of the station. Instead, WUS was designed and constructed to have a monumental visual presence from the southern radial streets of the L'Enfant-McMillan Plan, including Delaware Ave NE, Louisiana Ave NE, and First Street NE. These streets provide a direct connection to the U.S. Capitol and the monumental core of Washington, D.C. The potential major visual effects of all Action Alternatives to the view of the station from Delaware Ave NE and the potential major visual effects of Alternatives C, D, E, and A-C to the view of the station from the intersection of First and C Streets NE would affect the visual character and integrity of design, setting, and feeling of WUS and would cause an adverse effect.

[66] The Alternative does not preclude the private developer from designing an area in which a visual connection from the H Street Bridge to the Station may be realized.

Visual effects of the Project to the interior of the historic station building may also occur depending on the design of the program elements – especially the train hall – and other related interior renovations that may or may not impede important interior views. Changes that would significantly alter the visual character of the interior of the station have the potential to affect the integrity of design, setting, and feeling and result in a potential adverse effect.

In terms of noise and vibration effects, the construction of all Action Alternatives would involve vibration-generating equipment. Vibratory pile driving and drill rigging may occur within approximately 10 feet of the north elevation of WUS, resulting in vibration levels of up to approximately 0.8 inches per second (in/s) in Alternatives B and E and up to 0.67 in/s in Alternatives A, C, D, and A-C. The Federal Transit Administration (FTA) thresholds for potential structural damage to buildings from vibration range from 0.5 to 0.12 in/s, depending on the type of building construction. Although the historic station building was designed to facilitate train operations and may be capable of withstanding vibration levels that exceed the thresholds, its sensitivity to vibration has not been specifically determined at this stage of Project planning. Given the long duration and the proximity of construction activities to the station, the effect of vibration on the building would need to be monitored to ensure structural damage does not occur.

WUS would likely experience moderate to severe temporary noise impacts from construction, regardless of the method employed to remove excavation spoils. Such temporary noise effects, while above the FTA threshold for noise impacts, would not adversely affect the significance of the building, which is defined by its architectural design, association with transportation development, and contribution to the planning and development of Washington DC. WUS has always been a site of great activity and noise.

All Action Alternatives would result in the incremental increase in operational traffic volumes surrounding the station, especially within Columbus Circle Drive, and along Massachusetts Ave, North Capitol Street, and H Street NE (all principal or minor arterial streets intended to carry significant amounts of traffic). Such increases, however, would not alter the busy, traffic-heavy urban setting in which WUS is located and there would be no adverse effect to the integrity of the setting, feeling, or association.

Based on this evaluation, all Action Alternatives would have an adverse effect on Washington Union Station.

Visual Assessment from the west side of Columbus Circle Drive

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Outline of Existing Parking Garage to be Removed

Visual Assessment for Alternative A

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Outline of Existing Parking Garage to be Removed

Visual Assessment for Alternative B

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Outline of Existing Parking Garage to be Removed

Visual Assessment for Alternative C

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Outline of Existing Parking Garage to be Removed

Visual Assessment for Alternative D and Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Outline of Existing Parking Garage to be Removed

Visual Assessment for Alternative A-C

No-Action Alternative – Provided for Visual Comparison

Note in this view the private air-rights development is not visible as it would be obscured by the existing parking garage, which would remain in the No-Action Alternative.

Visual Assessment from the east side of Columbus Circle Drive

Station Expansion

Visual Assessment for Alternative A and Alternative B

Station Expansion

Visual Assessment for Alternative C

Station Expansion

Visual Assessment for Alternative D and Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Visual Assessment from Delaware Avenue and D Street NE

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative B

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D and Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Visual Assessment from Delaware Avenue and C Street NE

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative B

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D and Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Visual Assessment from First Street and C Street NE

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A and Alternative B

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D and Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Visual Assessment from Louisiana Avenue and D Street NW

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative B

Visual Assessment for Alternative C

Visual Assessment for Alternative D and Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Visual Assessment from E Street and Columbus Circle Drive

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Outline of Existing Parking Garage to be Removed

Visual Assessment for Alternative A

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Outline of Existing Parking Garage to be Removed

Visual Assessment for Alternative B

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Outline of Existing Parking Garage to be Removed

Visual Assessment for Alternative C

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Outline of Existing Parking Garage to be Removed

Visual Assessment for Alternative D and Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Outline of Existing Parking Garage to be Removed

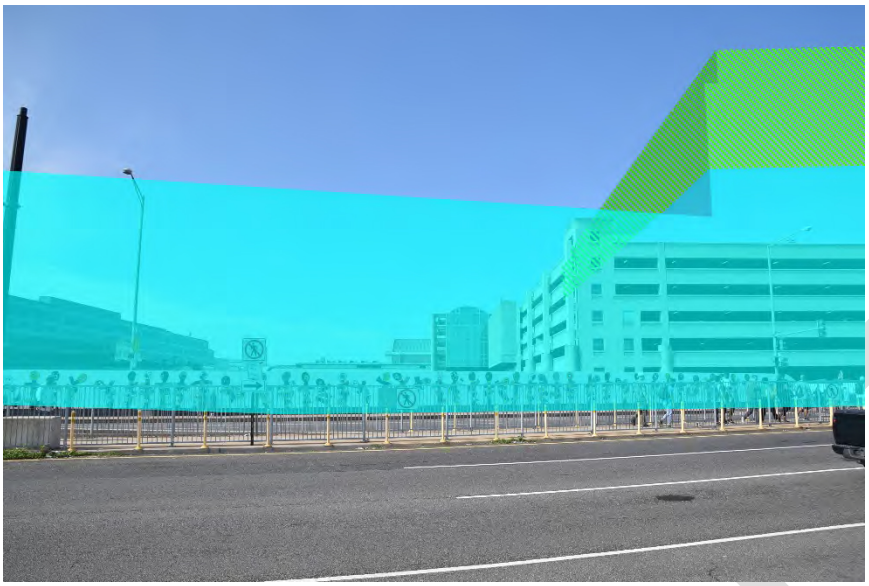
Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

In this view the private air-rights development is partially obscured by the existing parking garage, which would remain in the No-Action Alternative.

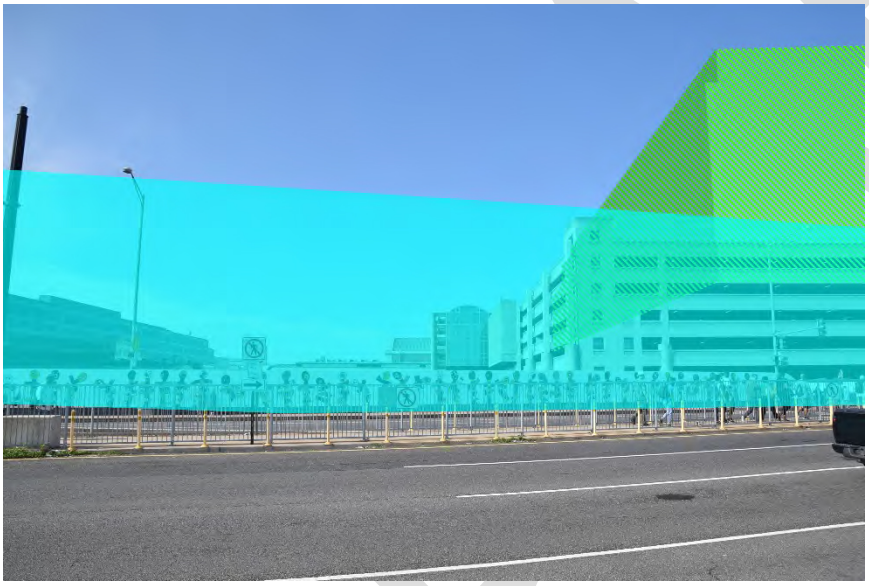
Visual Assessment from the Center of the H Street Bridge Looking South



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

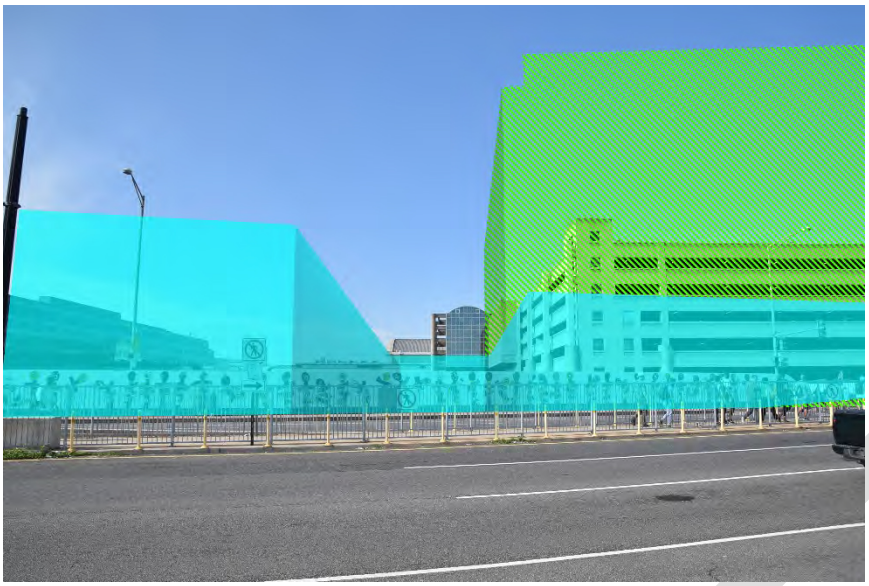
Visual Assessment for Alternative A



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

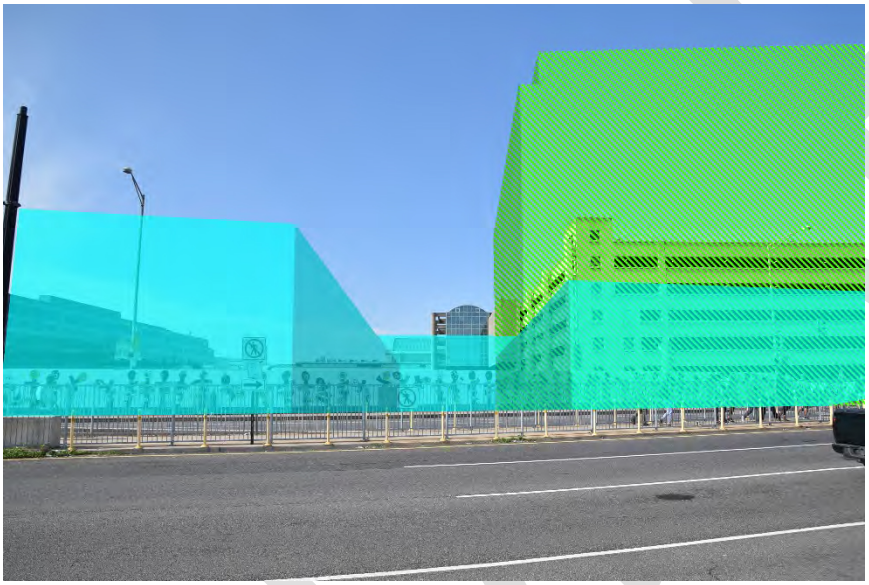
Visual Assessment for Alternative B



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

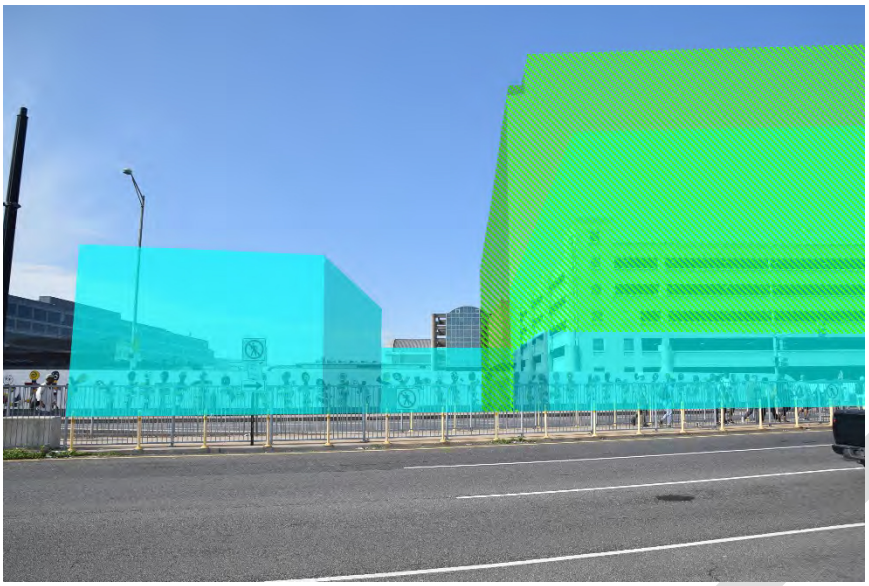
Visual Assessment for Alternative C



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

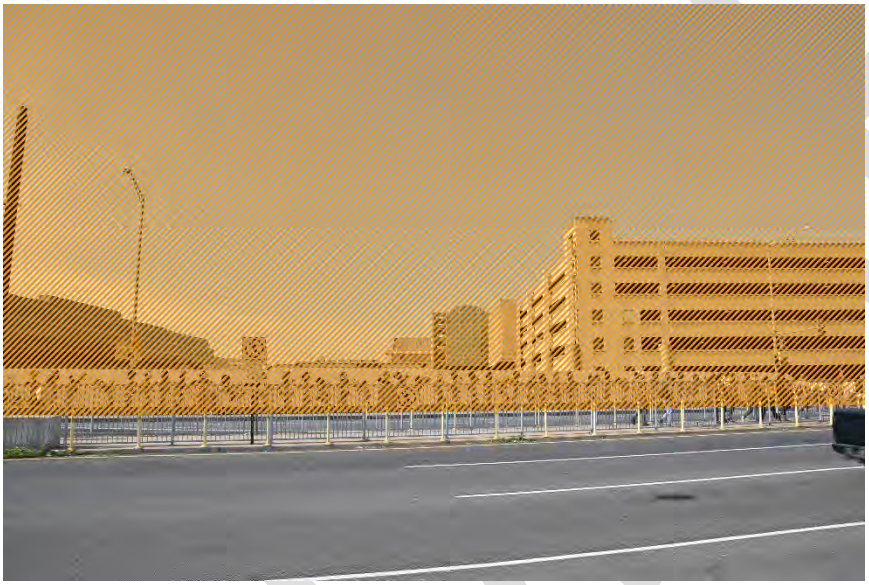
Visual Assessment for Alternative D and Alternative E



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C



Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

41. Washington Union Station Plaza (Columbus Plaza and Columbus Fountain)

Columbus Fountain is the focal point of Columbus Plaza, view looking north

Washington Union Station Plaza, also called Columbus Plaza, is located within the Project Area and serves as a grand forecourt to WUS. It was designed by Daniel Burnham and Peirce Anderson of D.H. Burnham & Company and was built in conjunction with Union Station, although it was not completed until 1912. The semicircular plaza consists of brick pavement and lawn panels and is surrounded by a roadway for traffic. The focal point of the plaza is the Columbus Fountain, flanked on either side by curvilinear granite steps that transition to balustrades. The Columbus Fountain was sculpted by artist Lorado Z. Taft (1860-1936) and completed in May of 1912. The Columbus Plaza and Fountain were listed on the DC Inventory November 8, 1964 and were included in the amended WUS NRHP listing (April 9, 1980), meeting criterion C as an expression of Beau-Arts design associated with Daniel Burnham and Lorado Taft. The plaza is managed by and under the jurisdiction of the National Park Service.

Effects Evaluation: No physical effects to Columbus Plaza or Columbus Fountain would occur because of Project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The property's integrity of feeling and association are connected to its design and relationship to WUS, which would also be unaffected. The plaza would continue to be the forecourt for the main entrance to the station in all Alternatives.

The potential Federal air-rights in Alternatives A, B, and A-C would have low visibility and moderate sensitivity resulting in potential minor visual effects. Alternatives C, D, and E would not be visible from Columbus Plaza. However, the visual effects of Alternatives A, B, and A-C

would not affect the property's integrity of setting, which is derived from its design and spatial relationship as the forecourt to WUS, which would remain unchanged.

Additionally, the plaza's integrity of setting, feeling, or association would not be adversely affected by noise, vibration, or traffic related to the Project's construction and operation. The plaza is approximately 200 feet from the Project Area and is located within the Operational and Construction Noise and Vibration Study Areas; however, noise and vibration analysis conducted for the DEIS indicates that the site would not experience operational or temporary construction noise and vibration effects. Columbus Circle is sufficiently far away from construction that vibration levels would be well below the thresholds of structural damage for even the most sensitive structures. Any potential noise and vibration effects would not affect the significance or integrity of the property, which is characterized by its design as a monumental forecourt to WUS. Similarly, the incremental increase in operational traffic volumes along Columbus Circle Drive (a minor arterial street intended to interconnect and augment principal arterial streets) from the Action Alternatives would not alter the busy, traffic-heavy urban setting in which the property is located.

Based on this evaluation, all Action Alternatives would have <u>no adverse effect</u> on Columbus Plaza and Columbus Fountain.

Visual Assessment from Columbus Plaza

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A and Alternative B

Visual Assessment for Alternative C, Alternative D, and Alternative E. The Project would not be visible from this vantage point.

Visual Assessment for Alternative A-C

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

42. Woodward and Lothrop Service Warehouse

Woodward and Lothrop Service Warehouse, view looking north

Approximation of the view from the south elevation of the building, which is inaccessible. Image was taken from the Metropolitan Bike Trail, adjacent to the Woodward and Lothrop Service Warehouse looking south towards the Project Area

The Woodward and Lothrop Service Warehouse is located approximately 160 feet west of the Project Area and was constructed from 1937-1939 and designed by Abbott, Merkt & Company, an architectural and engineering firm noted for their commercial and industrial buildings and infrastructure. It is an excellent and rare local example of a department store warehouse

combining the functions of storage, service, and delivery in a large, purpose-built facility. According to the 2005 NRHP nomination, a rail spur connecting the WUS Terminal Rail Yard is evident adjacent to the south façade of the building and was utilized for unloading train shipments. The spur, however, was not visible during site survey. The architectural style is of New Deal era stripped classicism, illustrating the influence of streamlined modernism, or Streamline Moderne, on traditional forms. Its design is a unique example of architectural detail for a warehouse building. For this reason, the building received DC Inventory designation January 27, 1993 and was listed in the NRHP February 15, 2005, meeting criteria A and C. The building was owned by Woodward and Lothrop until 1995. In 2000-2003 the building was rehabilitated in accordance with the Secretary of the Interior's *Standards for Rehabilitation* to serve as commercial office space.

Effects Evaluation: No physical effects to the property would occur because of Project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The building's integrity of feeling and association are connected to its design and similarly would be unaffected.

The view from the property could not be determined as the south and east elevations, which face the Project Area, are inaccessible. However, the view from the Metropolitan Bike Trail, adjacent to the south elevation of the property indicates that the Action Alternatives would likely be visible and would likely result in potential minor visual effects. Potential visual effects from the Action Alternatives would not affect the property's integrity of setting because the significance of the building is not derived from its visual connection to Union Station. Additionally, the relationship of the building to the rail terminal would be retained as the development over the rail terminal would terminate south of K Street NE.

Additionally, the building's integrity of setting would likely not be affected by noise, vibration, or traffic related to the Project's construction and operation. While the building is within the Operational and Construction Noise and Vibration Study Areas, noise and vibration analysis conducted for the DEIS indicates that the building would likely not experience operational or temporary construction noise and vibration effects. Furthermore, any potential noise and vibration effects would not affect the significance or integrity of the property, which is characterized by the building's architectural design. The property is not located at or adjacent to thoroughfares that would be impacted by traffic and is outside the Transportation Study Area, which was developed in coordination with DDOT. Therefore, traffic effects would not be anticipated at this location and the significance and integrity of the building would not be affected.

Based on this evaluation, all Action Alternatives would have no adverse effect on the Woodward and Lothrop Service Warehouse.

43. 901 Second Street, NE

901 Second Street, view looking northeast

View from the corner of 901 Second Street, view looking west towards the REA Building and Project Area

901 Second Street, NE, is located approximately 100 feet east of the Project Area and was designed by Alfred B. Mullett & Company and built by R. Humphrey as a commercial lunchroom

in 1907.[67] Its construction appears to have been directly influenced by the construction of WUS, catering to local residents, WUS construction workers, and later employees working in the WUS Terminal Rail Yard.[68] Other masonry commercial buildings associated with the rail terminal were constructed adjacent to 901 Second Street, including the "milk depot" at 911 Second Street, which was demolished in 2015. According to a review of Sanborn maps, the building continued to function as a restaurant until at least 1959. It was later used as a house of worship and currently houses an office. The masonry structure is composed of brick foundations, walls, a parapet, and stringcourse. Sanborn maps indicate that the brick addition on the east side of the building was constructed between 1928 and 1959. Six historic openings along the south and west elevations were filled with brick at an unknown date. Modern openings, which are filled with fixed windows and paired modern glass and metal doors, were cut into both elevations at an unknown date. The extension features a modern steel utility door surmounted by a wide transom of glass block. The main entrance of the building is located at the corner and features a pair of metal exterior doors surrounded by a transom and sidelights of glass block.

The HPP for WUS prepared by BCA identifies 901 Second Street as a potentially eligible resource under Criterion A for its association with the patterns of residential development related to the late 19th-century growth and development of the northeast quadrant of Washington, DC.[69]

Effects Evaluation: Activity related to all Action Alternatives would occur to the west of the property. No physical effects to 901 Second Street would occur because of Project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. It should be noted that 901 Second Street has lost much of its integrity of design and materials due to prior interventions and alterations in addition to the recent and planned developments adjacent to the property. The building's integrity of feeling, association, and setting are connected to its design and development as a commercial building intended to serve railroad workers and have similarly been impacted by physical alterations to the property and by the demolition of 911 Second Street, another early 20th century commercial building constructed in connection with the construction and operation of the Terminal Rail Yard. Overall, the property has lost its integrity.

Alternative C-East would be visible from the southwest corner of the property. Alternative D would also be visible (although it is not visible in the vantage point shown in the visual simulation below). Alternative C-East and Alternative D would have moderate visibility and

[67] BCA, *Washington Union Station Historic Preservation Plan: Volume III* (2015), 125.
[68] BCA, *Washington Union Station Historic Preservation Plan: Volume I* (2015), 161.
[69] Ibid, 159-160.

moderate sensitivity resulting in potential moderate visual effects. However, such visual effects would cause no additional loss of integrity of feeling, association, and setting as prior alterations and adjacent developments including the new multi-story condo building at 911 Second Street to the north and the multi-story Landmark Lofts at Senate Square residential complex to the south, have significantly altered the character of the original neighborhood and have impacted the integrity of the property.

The building's integrity of setting would likely not be affected by noise, vibration, or traffic related to the Project's construction and operation. The building is within the Operational and Construction Noise and Vibration Study Areas, and noise and vibration analysis conducted for the DEIS indicates that the property would likely experience moderate to severe temporary construction noise effects. However, there would likely be no temporary construction vibration effects. Finally, there would likely be no operational noise and vibration effects. Temporary construction noise effects would not affect the significance or integrity of the building, which is defined by its association with the early 20th century development of the neighborhood and has already been impacted by recently constructed and planned multi-story residential and mixed-use developments. Transportation analysis found that the street network surrounding the property building would not be impacted. Therefore, traffic volumes would not have the potential to affect the integrity of setting, feeling, or association of the building.

Based on this evaluation, all Action Alternatives would have no adverse effect on 901 Second Street, NE.

Visual Assessment from the 901 Second Street looking southwest.

Station Expansion

Visual Assessment for C-East. Note: Though not visible from this vantage point, Alternative D would also be visible from the southwest corner of the property resulting in a similar visual effect. All other Action Alternatives would not be visible.

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

HISTORIC DISTRICTS AND SITES

44. Capitol Hill Historic District

Capitol Hill Historic District, view looking northeast from the intersection of F Street and Third Street NE. The character of the district is defined by its mostly late 19th and early 20th century residential rowhouses and tree-lined streets

View from the intersection of Sixth Street NE and F Street NE looking west towards the WUS headhouse and Project Area

The Capitol Hill Historic District is roughly bounded by the Capitol precinct on the west, F Street, N.E., on the north, 13th and 14th Streets on the east, and the Southeast Freeway on the south, with an expansion area south of the Southeast Freeway bounded by Seventh, M, 10th, and 11th

Streets SE (see Figure 21). A 2015 NRHP expansion of the district (called Swampoodle) encompasses most of the lots from Second to Fourth Street NE and F Street to H Street NE. The APE includes only a section of the district, encompassing Maryland Ave and Stanton Park at the south and Sixth Street NE at the east. The district's closest point to the Project Area is along Second Street NE and is approximately 225 feet from the Project Area.

One of the oldest and most architecturally diverse communities in the District, Capitol Hill reflects the social diversity and economic growth of the early capital that spans the development of the city. The district is significant under NRHP Criteria A and C for its historical and architectural contributions to the development of the nation's capital. The district is also listed under Criterion D as a property that is likely to yield information important in prehistory and history. Its history includes early residential development clustered near the Capitol and Navy Yard, and late 19th and early 20th century housing for mostly middle-class workers. Its principal period of growth occurred between 1880 and 1893, and there is a great variety of housing types, with elaborate ornamental pressed-brick structures adjacent to simple, unadorned frame buildings and small apartment houses. Many row houses were built either in long uninterrupted blocks or in small groups, whose imaginative facades reflect the aspirations of the builders and residents. The predominant architectural styles include Federal, Italianate, Second Empire, Romanesque, Queen Anne, and Classical Revival. In addition to row houses there are many apartment, institutional, religious, and commercial buildings. There are approximately 8,000 primary contributing buildings dating from circa 1791 to 1945.

The historic district was listed on the DC Inventory on June 19, 1973, with a boundary expansion amendment on January 20, 1976. It was listed in the NRHP under criteria A, C, and D on August 27, 1976 with a boundary expansion submission on February 7, 2002 (effective April 21, 2002) and listing in the NRHP July 3, 2003, for which the period of significance was extended. A nomination to expand the Capitol Hill Historic District boundaries to include all of Squares 753 and 778 and portions of Squares 752 and 777 (most of the four-block area north of F Street NE and G Street NE between Second and Fourth Streets NE) was filed in December 2014 and was designated on May 28, 2015.

Effects Evaluation: The determination of effect assesses the physical, visual, noise, vibration, and traffic effects of all Action Alternatives to the Capitol Hill Historic District. Individually, such effects are found to be "not adverse" as evaluated in the following paragraphs. The assessment concludes that cumulatively, such effects may potentially result in an adverse effect to the historic district.

No physical effects to the Capitol Hill Historic District would occur because of Project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur.

All Action Alternatives would have limited visibility from select views within the historic district, including from the intersection of First Street NE and Constitution Avenue NE, from Massachusetts Ave and Second Street NE, from G Street and Third Street NE, and from F Street and Third Street NE (reference the visual simulations below). From First Street NE and Constitution Avenue NE, all Action Alternatives would have low visibility and moderate sensitivity, resulting in potential minor visual effects. From Massachusetts Ave and Second Street NE, Alternatives A, B, and A-C would have low visibility and low sensitivity, resulting in potential negligible visual effects, while Alternatives C, D, and E would not be visible and would have no visual effects. From G and Third Streets NE, all Action Alternatives would have low visibility and low sensitivity, resulting in potential negligible visual effects. Finally, from F and Third Streets NE, none of the Action Alternatives would be visible.

Overall, all Action Alternatives would have potential minor visual effects. However, the potential visual effects of the Action Alternatives would not adversely affect the integrity of the district. The character of the existing views, which are exemplified by the small scale residential and commercial buildings in the foreground surrounded by large institutional and commercial buildings along Second Street NE in the background, would not change because of the Project. Furthermore, the integrity of the historic district's setting, feeling, and association, which is characterized by the architectural design of the predominately 19th and early 20th century buildings and their relationship to the streets of the L'Enfant Plan, would remain intact despite the potential minor visual effects.

The northeast corner of the Capitol Hill Historic District, between Second and Third Streets NE and Massachusetts Ave and H Street NE, is located within the Operational and Construction Noise and Vibration Study Areas. Noise and vibration analysis conducted for the DEIS indicates that the buildings along Second Street NE, especially 701, 603-607, and 521-527 Second Street NE, would experience moderate temporary noise effects during the construction of the Action Alternatives if excavation spoils are removed by trucks. However, if trains are used to remove excavation spoils during construction, no temporary noise effects would likely occur. Vibration analysis shows that temporary vibration effects from construction would result in an "annoyance impact" to properties at 701 and 603-607 Second Street NE and 205 F Street NE but would not cause structural or physical effects.

Although construction of the Project would occur over a long period of time – ranging from 11 years and 5 months for Alternatives A and A-C, 12 years 3 months for Alternatives for C and D, and 14 years 4 months for Alternatives B and E – noise effects would not be continuous, and would cease after excavation operations are finished. The Project would be constructed in four phases, moving east to west across the rail yard. Therefore, Phase 1 of Project construction would most affect noise conditions along Second Street. Phase 1 has the shortest excavation period. In all Action Alternatives, it would last approximately 5 months (out of a total phase duration of 2 years and 5 months). The Phase 2 excavation period for all Alternatives is approximately 8 months (out of a total phase duration of approximately 2 years and 5 months), and the Phase 3 excavation period for all Alternatives is a little over a year (out of a total phase duration of approximately 2 years and 6 months). Phase 4 has the longest excavation period ranging from 1 year and 5 months to 2 years and 7 months, depending on the Alternative. However, as Phase 4 will occur on the west side of the rail yard, it is also the phase furthest from the Capitol Hill Historic District. The moderate temporary noise and vibration impacts from construction of the Action Alternatives would not adversely affect the significance and integrity of the historic district. Such effects would not diminish the late 19th and early 20th century architectural characteristics of the district or its association with the development of Washington DC in that period. The integrity of setting has constantly evolved as the city continues to grow and develop, and temporary noise and vibration in an already heavily trafficked and urban environment would not diminish the architectural and historic characteristics that qualify the district for inclusion in the NRHP.

According to the noise and vibration analysis, operational noise or vibration effects would likely not affect properties within the historic district. Receptors throughout the district were assessed to have no operational impact because operational train noise would be shielded by the deck and adjacent buildings and because the rail terminal is an established part of the setting. While there would be an increase in operational vehicular traffic to the east of the station, which would result in a small increase in noise, it is not enough to have a noise impact, and the integrity of setting and significance of the district would remain intact. It is unlikely that there would be noticeable noise impacts within the APE outside the Operational Noise and Vibration Study Area. The analysis shows that it would take a doubling of operational vehicular traffic volumes to increase noise more than three dB to be a noticeable impact. According to projections as recorded in Chapter 5, Section 5 *Transportation* of the DEIS, traffic would increase by 30% east on Massachusetts Ave NE east of Second Street NE. None of the traffic projections undertaken in the DEIS transportation analysis indicate that traffic volumes would double.

Potential increases in operational traffic volumes along nearby streets may cause traffic-related effects including visual changes, conflicts with pedestrians and bicyclists, and other disturbances impacting access to properties that may potentially affect the integrity of the district's setting, feeling, and association. All Action Alternatives would cause an increase in traffic volumes in the vicinity of WUS, caused by greater station activity. Traffic impact modeling conducted for the DEIS transportation analysis indicates that traffic impacts would largely be concentrated along a few major thoroughfares, including North Capitol Street and H Street as well as, to a lesser extent, K Street and Massachusetts Avenue.

The assessment of potential traffic impacts is informed by the traffic analysis conducted for the DEIS, the methodology of which was coordinated with DDOT. That analysis studied and modeled traffic within or at the edge of the historic district at various intersections along H Street NE, Massachusetts Ave NE, and Second Street NE. The six intersections within or immediately adjacent to the Capitol Hill Historic District include, H and Third Street NE, H and Fourth Street NE, Second and G Street NE, Second and F Street NE, Second and Massachusetts Ave NE, Second and D Street NE, and Fourth and Massachusetts Ave NE. These key intersections are part of the roadway network adjacent to the Project Area on which vehicles are known to travel to and from WUS. As described in Chapter 5, Section 5 *Transportation* of the DEIS, the traffic analysis modeled the projected intersection activity and estimated the level of service (LOS), queuing, and increases in average delay (seconds per vehicle), in the Project Area. The traffic analysis did not account for the reactive and discretionary behavior of drivers diverting their course from the known travel routes. Therefore, it is not known whether there would be potential traffic increases to the network of residential streets outside of the studied intersections. The following summaries discuss the studied and inferred traffic increases that may potentially affect the northwest section of the historic district.

In all Action Alternatives, the pick-up and drop-off area on Second Street NE would generate additional operational station-related traffic along this street, which forms the northwestern edge of the historic district south of H Street. During peak hours, traffic on Second Street NE between Massachusetts Avenue and H Street would increase by approximately 22 percent relative to existing conditions, from approximately 1,400 trips to approximately 1,700 trips. Of the 300 additional trips, approximately 135 would be due to the Project operation. It is important to note that the affected segment of Second Street is a designated collector road largely, though not exclusively, characterized by commercial and institutional uses.[70] As such,

[70] Collector roads serve both land access and traffic circulation in residential and commercial/industrial areas; penetrate residential neighborhoods; and distribute and channel trips between local roads and arterials (derived from: FHWA, *Highway Functional Classification Concepts, Criteria and Procedures, 2013 Edition*. Accessed from:

Second Street is accustomed to elevated levels of traffic, compared to the residential streets of the district, and therefore, may not experience the same levels of traffic-related effects.

In all Action Alternatives, the new east ramp, providing access from the deck to F Street NE, would also cause an increase in operational traffic traveling eastbound along F Street across the historic district except from 4 to 6:30 PM, when non-local traffic would continue to be required to turn left or right onto Second Street. During peak time, traffic on F Street NE east of Second Street would increase by approximately 37 percent relative to existing conditions, from approximately 550 trips to approximately 750 trips. Of the 200 additional trips, approximately 135 would be due to the Project operation. It is important to note that the part of F Street between WUS and Sixth Street NE is also a designated collector road. As such, F Street is accustomed to elevated levels of traffic, compared to the undesignated streets of the district, and therefore, may not experience the same levels of traffic-related effects.

Additionally, the increased traffic along H Street and Massachusetts Avenue east of WUS as modeled in all Action Alternatives, and the resulting congestion and delays, may potentially prompt drivers to seek alternative routes that would take them through residential streets of the historic district, such as Third Street, Fifth Street, or G Street. As described above, the modeling conducted for the DEIS transportation analysis does not account for this type of reactive and discretionary behavior by drivers. Therefore, it is not known whether these potential increases would occur and, if they did, by how much they would change traffic volumes along those affected streets.

The historic significance of the Capitol Hill Historic District (as characterized in the National Register of Historic Places nomination) is primarily derived from its architecture and contribution to the development of the District of Columbia. NPS guidelines state that historic districts or components of historic districts lose significance if they contain so many alternations or new intrusions that they no longer convey a sense of historic environment.[71] Therefore, increased traffic alone would not likely affect the historic district in such a way as to diminish its architectural or historical significance and affect its ability to remain listed in the National Register.

However, considered cumulatively, moderate temporary noise effects to buildings along Second Street NE (especially 701, 603-607, and 521-527 Second Street NE) during construction if excavation spoils are removed by truck; temporary vibration effects during construction to

https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/. Accessed on January 2, 2020.

[71] National Park Service. "National Register Bulletin: How to Apply the National Register Criteria for Evaluation." Accessed at https://www.nps.gov/nr/publications/bulletins/nrb15/. Accessed on June 1, 2018.

properties at 701 and 603-607 Second Street NE and 205 F Street NE; and the potential visual effects, conflicts with pedestrians and bicyclists, and other disturbances impacting access to properties from increased traffic volumes may detract from the residential character of the district and have the potential to adversely affect the integrity of setting and feeling of the historic district. To the extent that potential adverse effects may occur, it is anticipated that the PA, developed in consultation with the SHPO and the Section 106 Consulting Parties, would identify measures to avoid, minimize, or resolve them.[72]

Based on this evaluation, all Action Alternatives may have a potential adverse effect on the Capitol Hill Historic District.

Visual Assessment from First Street NE and Constitution Avenue NE

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A and Alternative B

[72] Mitigation measures that are being considered to avoid traffic and noise and vibration impacts are identified as part of the NEPA process. They include developing policies and infrastructure to control traffic access, ensuring best management practices, and developing and implementing a construction noise and vibration control plan. More information is provided in Chapter 5, Section 5 *Transportation* and Chapter 5, Section 10 *Noise and Vibration* of the DEIS.

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D and Alternative E

Visual Assessment for Alternative A-C

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Private Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment from Massachusetts Avenue and Second Street NE

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A and Alternative B

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C, a very small portion of the Federal air-rights development is slightly visible to the left of the Thurgood Marshall Federal Judiciary Building roof line

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D and Alternative E. The Project would not be visible from this view.

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Visual Assessment from G Street and Third Street NE

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A and Alternative B

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D and Alternative E

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Visual Assessment from F Street and Third Street NE

Visual Assessment for all Action Alternatives. The Project would not be visible from this view.

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

45. L'Enfant-McMillan Plan

View looking north along Delaware Ave NE towards the Project Area is a significant viewshed established by the L'Enfant-McMillan Plan

View looking northeast along Louisiana Ave NE towards the Project Area is a significant viewshed established by the L'Enfant-McMillan Plan

The Plan of Washington was initially designed in 1791 by Pierre L'Enfant and mapped the following year. It is the sole American example of a comprehensive baroque city plan with a coordinated system of radiating avenues, parks, and vistas overlaid upon an orthogonal grid of streets, and it defines the physical character of the national capital through a symbolic and commemorative arrangement of buildings, structures, and views. The plan is intimately related

to the establishment of the United States and the creation of a symbolic and innovative capital city for the Federal republic. For nearly a century, the realization of physical changes to the plan were gradual, until the McMillan Commission expanded the plan in 1901, resulting in one of the most elegant realized examples of City Beautiful tenets in the nation. The plan is significant to the work of numerous other persons and groups important to the landscape architecture, urban design, civil engineering, and urban planning. It has served continuously as the setting for national political expression and nationally significant events and has influenced subsequent American city planning and other planned national capitals.

The plan is characterized by the series of diagonal avenues superimposed on a grid of regular orthogonal streets designated numerically and alphabetically within four quadrants with the U.S. Capitol occupying the center point. The junction of the diagonal and orthogonal thoroughfares creates a system of circles and squares that serve as parks, open space, and vistas amongst the design. Although many streets have been crossed by overpasses, elevated walkways, roadways, or railroad tracks and many blocks have been closed to conventional traffic because of the construction of buildings, conversion to pedestrian malls, or the installation of railroad tracks, in most instances, the historic spatial corridor remains intact. Contributing streets include those limited to pedestrian traffic if the open space is preserved.

Major elements of the plan were designated in the DC Inventory on January 19, 1971. The DC designation was expanded on January 23, 1997 to include virtually all extant components of the historic city plan, incorporating formerly separate listings of the Eight Street Vista (DC listing March 7, 1968), Franklin Square (DC listing March 7, 1968), Rawlins Park (DC listing November 8, 1964), and East Capitol Street (DC listing November 8, 1964, extended June 19, 1973), but excludes L'Enfant Reservations 10, 11, and 12 (intended as Bank and Exchange Squares). The L'Enfant-McMillan Plan was listed in the NRHP on April 24, 1997 under NRHP Criteria A, B, and C.

Effects Evaluation: No physical effects to the L'Enfant McMillan Plan would occur because of Project implementation. Therefore, no effects to the property's integrity of location, design, materials, and workmanship would occur. The site's integrity of feeling and association are connected to its design, which is characterized by the relationships between the diagonal and orthogonal streets, the open space geometries, and the views and vistas created by the streets and open space. Such relationships would not be affected by the Alternatives.

While many of the street views within the L'Enfant-McMillan Plan would experience visual changes from the Alternatives, the visibility and sensitivity of such changes would vary according to the street and distance from the Project Area. Overall, the following views

associated with the L'Enfant-McMillan Plan would experience visual effects to the south, west, and east of WUS.

South of WUS, all Alternatives would have moderate to high visibility and sensitivity, resulting in potential moderate to major visual effects, to views from First Street NE looking north, Delaware Ave NE looking north/northeast, and Louisiana Avenue NE looking northeast. As illustrated in the example visual simulations below, the Project elements (in blue) of Alternatives A and A-C would have moderate visibility from Delaware Ave NE, however the Project elements in the other Action Alternatives would not be visible. The Potential Federal air-rights (in green), however, would have high visibility and high sensitivity, resulting in potential major visual effects for all Action Alternatives.

From Louisiana Ave NE, all Action Alternatives would have high visibility and moderate sensitivity resulting in a potential moderate visual effect. As shown and described in the analysis for Washington Union Station property above, all Action Alternatives would have potential major visual effects to the view from First Street NE and C Street NE.

From the west side of Columbus Circle Drive looking north, all Action Alternatives would have low visibility and sensitivity. However, because, the existing parking garage, which obstructs the view from Columbus Circle Drive along First Street NE, would be removed in the Action Alternatives, a potential beneficial visual effect would occur. From the east side of Columbus Circle Drive, all Action Alternatives would have low to moderate visibility and low sensitivity resulting in potential negligible to minor visual effects.

West of WUS, the Alternatives would cause visual changes to views from G, H, and K Streets NW, looking east, and First Street NE, looking south. Alternatives A, B, and A-C would have moderate visibility and low sensitivity, resulting in a potential minor visual effect. Alternatives C, D, and E would have low visibility and sensitivity. Because the visual presence of the Project Alternatives would be less noticeable than the existing parking garage, Alternatives C, D, and E would have a potential beneficial visual effect on the view from G Street NW. All Action Alternatives would have low to moderate visibility and low sensitivity, resulting in potential negligible or potential minor visual effects. Finally, from First Street NE looking south, all Action Alternatives would have high visibility and moderate sensitivity, resulting in potential moderate visual effects.

East of WUS, the Alternatives would cause visual changes to the views from Second Street NE looking south, K, I, H, G, and F Streets NE looking west, and Massachusetts Ave NE looking northwest. From Second Street NE, Alternative D would have high visibility and moderate sensitivity, resulting in potential moderate visual effects. However, Alternatives A, B, C, E, and

A-C would have low visibility and sensitivity, resulting in potential negligible visual effects. From K Street NE, all Action Alternatives, except for Alternative D, would have moderate visibility and low sensitivity, resulting in potential minor visual effects. Alternative D would have high visibility and moderate sensitivity, resulting in potential moderate visual effects. From I Street NE, all Action Alternatives would not be visible, except for Alternative C-East, which would have moderate visibility and sensitivity, resulting in a potential moderate visual effect.

From H Street NE, all Action Alternatives would have moderate visibility and low sensitivity, resulting in potential minor visual effects. All Action Alternatives would have low visibility and low sensitivity, resulting in potential negligible visual effects. From F Street NE, no Alternatives would be visible. Finally, from Massachusetts Ave NE, Alternatives A, B, and A-C would have low visibility and low sensitivity, resulting in potential negligible visual effects, while Alternatives C, D, and E, would not be visible.

Overall, such visual effects would not diminish the L'Enfant-McMillan Plan's significance or integrity. While various Alternatives would have potential major visual effects from several contributing streets, including Delaware Ave and First Street NE, the setting of the L'Enfant-McMillan Plan, which is connected to the site's architectural design and the resulting vistas, would not change from the existing conditions. No spatial corridors or vistas along the contributing streets and avenues would be obstructed. In fact, in the Action Alternatives, the existing parking garage, which obstructs the view along First Street NE looking north, would be removed, reestablishing the view.

Noise, vibration, and traffic effects related to the Project's construction and operation would be limited and would likely not affect the site's significance and integrity. While the Project Area is immediately adjacent to elements of the L'Enfant-McMillan Plan, especially First Street NE, Second Street NE, Columbus Circle, and Florida Ave, and the site is located within both the Operational and Construction Noise and Vibration Study Areas, the noise and vibration analysis conducted for the DEIS indicates that limited effects would occur. Operational noise effects from the Action Alternatives are limited to small sections mostly to the east of the Project Area along H Street NE, K Street NE, and Second Street NE. Severe temporary construction noise effects would occur along First Street NE, between G and K Streets NE; and Second Street between H and K Streets NE. Additionally, moderate temporary construction noise effects would likely occur along portions of Second Street NE, between E and H Streets NE, and along K Street NE, between Second and Fourth Streets NE. Temporary construction vibration effects would likely cause human annoyance but would not cause physical effects, predominately along Second Street NE between F Street and K Street NE.

Based on the noise and vibration analysis conducted for the DEIS, it is determined that noise and vibration effects would not affect the significance or integrity of site and would not result in an adverse effect. Similarly, the incremental increase in operational traffic volumes, especially along North Capitol Street, H Street, and Massachusetts Ave, from the Action Alternatives would not alter the property's setting. Noise, vibration, and traffic effects would not diminish the historic and architectural characteristics that qualify the L'Enfant-McMillan Plan for inclusion in the NRHP and DC Inventory. The integrity of setting has constantly evolved as the city continues to grow and develop. Increased noise, vibration, and traffic in an already heavily trafficked and urban environment would not diminish the L'Enfant-McMillan Plan's design of diagonal and orthogonal thoroughfares, vistas, parks, and open spaces.

Based on this evaluation, all Action Alternatives would have no adverse effect on the L'Enfant-McMillan Plan.

Visual Assessment from Delaware Avenue and C Street NE

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative B

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D and Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Visual Assessment from Delaware Avenue NE and Constitution Avenue NE

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative B

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D and Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Visual Assessment from Louisiana Avenue and D Street NW

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative B

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D and Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

46. National Mall Historic District

View of the National Mall Historic District looking west from the Capitol Reflecting Pool

View looking northeast towards the Project Area from the intersection of First Street NW and Pennsylvania Ave NW

The National Mall Historic District includes some of the oldest and most iconic public lands in the United States, reflecting the two seminal historic plans for the Federal city—the L'Enfant Plan of 1791 and the 1901-02 McMillan Commission Plan. It is the nation's foremost commemorative landscape, designed with monuments and memorials that symbolize the country's collective values and ideals. Its open space defines the setting of the executive and

legislative branches of government and provides essential civic space for historic events of national significance. The APE includes the Peace Monument and Garfield Memorial approximately 2700 feet southwest of the Project Area at the intersection of Pennsylvania Ave, Maryland Ave, and 1st Street NW/SW. These areas are crucial to the historic extent and design of the National Mall Historic District although they are exempt from inclusion in the NRHP as properties under the jurisdiction of the Architect of the Capitol. These areas are included on the historic district map, although the defined boundary of the district begins at Reservation No. 6 at Third Street NW/SW, between Constitution and Independence Avenues and continues west to the President's Park, Washington Monument Grounds, and the Tidal Basin.

The National Mall was planned in 1791 and 1901, and it was first listed on the DC Inventory November 8, 1964. The Mall was listed on the NRHP on October 15, 1966, which was expanded in 1981. On October 4, 2016, the DC Inventory listing was amended to revise, update, and expand the NRHP nomination to include museum and government buildings, recently constructed memorials and monuments, cultural landscapes, and archaeological sites. The National Mall Historic District is listed on the NRHP under criteria A, C, and D.

Effects Evaluation: No physical effects to the National Mall Historic District would occur because of Project implementation. Therefore, no effects to the district's integrity of location, design, materials, and workmanship would occur. All Action Alternatives would have no effect to the visual setting of the district as there are no direct lines of sight towards the Project Area. Similarly, the integrity of setting would not be affected by noise, vibration, or traffic related to the Project's construction and operation. The historic district (measured from the Peace Monument) is approximately 2500 feet from the Project Area and is located outside both the Operational and Construction Noise and Vibration Study Areas. Thoroughfares that would be impacted by Project-related traffic are also not located within the property's boundary.

Based on this evaluation, all Action Alternatives would have no effect on the National Mall Historic District.

47. Pennsylvania Avenue National Historic Site

View of the Pennsylvania Ave National Historic Site looking northwest from Pennsylvania Ave NW

View looking northeast towards the Project Area from the intersection of First Street NW and Pennsylvania Ave NW

The Pennsylvania Avenue National Historic Site is roughly bounded by G Street NW to the north, Constitution Avenue to the south, 15th Street NW to the west and Third Street NW to the east. Measured from the Peace Monument, its closest point to the Project Area, the site is approximately 2700 feet south. The site encompasses Pennsylvania Avenue between the White

House and Capitol. The APE includes only a small section of the site at the Peace Monument and surrounding circle at the intersection of Pennsylvania Avenue and First Street NW.

The Pennsylvania Avenue National Historic Site is listed in the NRHP and the DC Inventory, under NRHP Criteria A and C. The site is historically significant as one of Washington's most prominent and famous avenues. The site is also architecturally significant for its association with significant Washington landmarks within its boundaries, including the Old Post Office Building designed by Willoughby J. Edbrooke and completed in 1899, as well as the District Building by Cope and Stewardson, completed in 1909.

Effects Evaluation: Activity related to the WUS Expansion Project would occur to the northeast of the site. No physical effects to the Pennsylvania Avenue National Historic Site would occur because of Project implementation. Therefore, no effects to the site's integrity of location, design, materials, and workmanship would occur. All Action Alternatives would have no effect to the visual setting of the site as there are no direct lines of sight towards WUS. Similarly, the integrity of setting would not be affected by noise, vibration, or traffic related to the Project's construction and operation. The historic district is outside both the Operational and Construction Noise and Vibration Study Areas, and though the district is at the edge of the Transportation Study Area it is not located at or adjacent to thoroughfares that would be impacted by Project-related traffic.

Based on this evaluation, all Action Alternatives would have no effect on the Pennsylvania Avenue National Historic Site.

48. Union Market Historic District

View of the Union Market Historic District looking northeast from the intersection of Morse Street NE and Fourth Street NE. The buildings are those within the APE.

View from the intersection of Morse Street NE and Fourth Street NE looking west towards the Project Area, which is not visible

The Union Market Historic District is located approximately 500 feet east of the Project Area and encompasses the core group of warehouse buildings, constructed between 1929-1939, that are associated with Union Market Terminal. The district includes 70 contributing properties and is comprised of predominantly concrete-frame, brick, two-story buildings with flat roofs

and loading docks. The Union Market Terminal was sited in proximity to Union Station for strategic access to railroad lines. Historically, rail spurs connected the warehouses to the station freight lines, which are no longer used or have been removed. The district is generally bounded by Penn Street NE to the north, Florida Avenue NE to the south, Fourth Street NE to the west and Fifth Street NE to the east. The several buildings to the west of Fourth Street north of Morse Street fall within the APE.

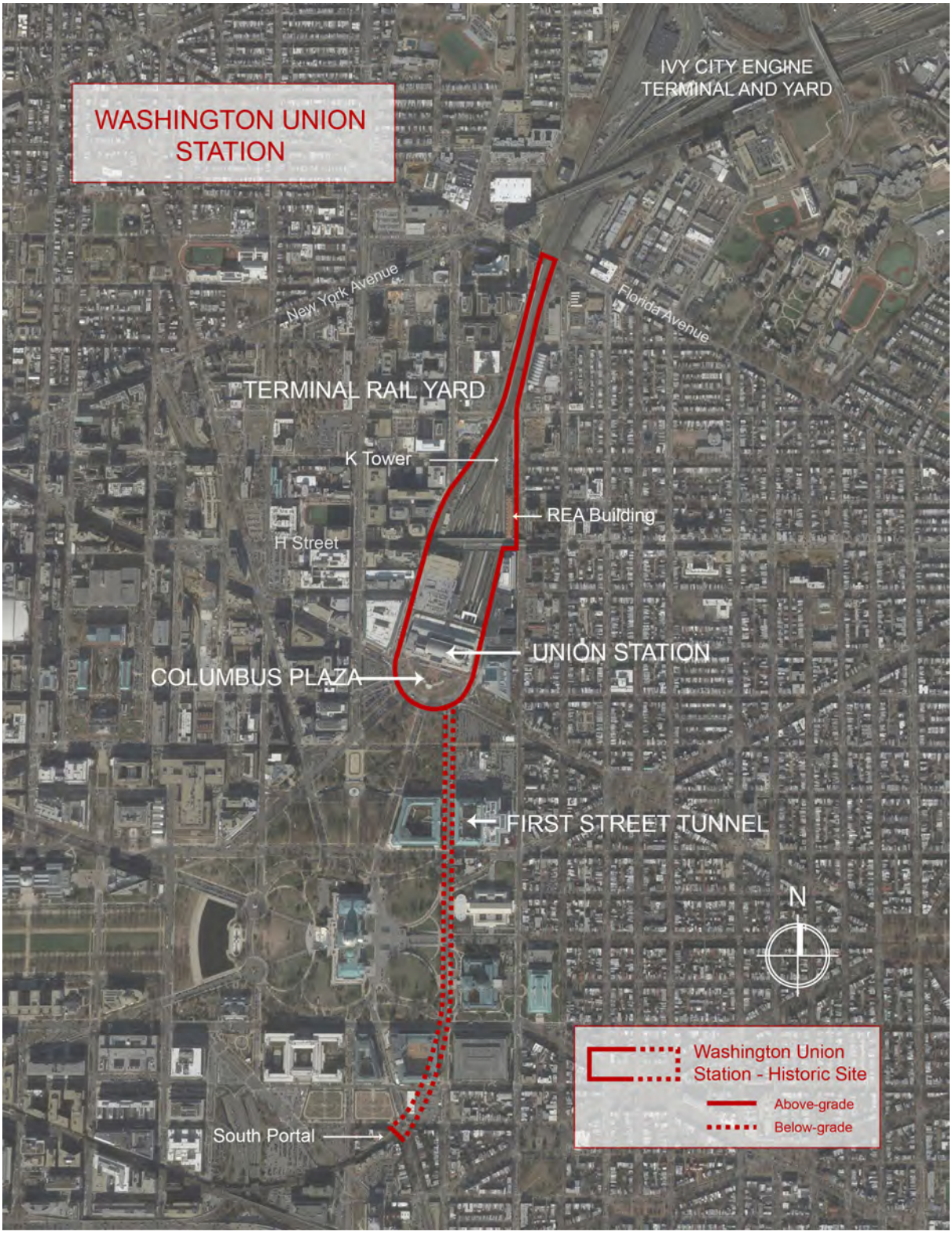
The district was listed on the DC Inventory under Criteria A and C in November 2016. In addition to its historic significance tied to the district's legacy of public markets, the district is architecturally significant as a collection of Classical Revival-style warehouses. Approximately eight million square feet of space have been approved for redevelopment surrounding the district, increasing density and providing mixed use residential, commercial, and institutional/cultural space.

Effects Evaluation: No physical effects to the Union Market Historic District would occur because of Project implementation. Therefore, no effects to the district's integrity of location, design, materials, and workmanship would occur. The district's integrity of feeling and association are connected directly to the building's design and would be unaffected. The Project would have no effect to the visual setting of the property as there are no direct lines of sight towards the Project Area.

Additionally, the site's integrity of setting would likely not be affected by noise, vibration, or traffic related to the Project's construction and operation. While the buildings of the district within the APE (at the corner of Morse Street NE and Fourth Street NE) are located within the Operational and Construction Noise and Vibration Study Areas, noise and vibration analysis conducted for the DEIS indicates that the Union Market Historic District would likely not experience operational or temporary construction noise and vibration effects. Furthermore, any potential noise and vibration effects would not affect the significance or integrity of the property, which is defined by its architectural design and association with the development of Washington, DC's public markets. The historic district is outside the Transportation Study Area and is not located at or adjacent to thoroughfares that would be impacted by Project-related traffic.

Based on this evaluation, all Action Alternatives would have no adverse effect on the Union Market Historic District.

49. Washington Union Station Historic Site (Expanded Boundary)



Photograph of Columbus Plaza, Union Station, and the Terminal Rail Yard behind, looking north. Source: "Aerial view of Union Station" 1980. Photograph. From the Library of Congress, https://www.loc.gov/item/2011634160/

Photograph of the Terminal Rail Yard showing existing conditions of "K" Tower and several original single catenaries, looking north

In 2019, FRA prepared a determination of eligibility (DOE) amendment to WUS, which includes the station building and Columbus Plaza in addition to the First Street Tunnel and the Terminal Rail Yard (referred to as the rail terminal). The DOE documents the history and development, provides a design narrative, identifies character-defining features, and establishes the national significance of the entire site that was owned and operated by the Washington Terminal Company. Like the NRHP nomination for WUS, the DOE determined that the WUS Historic Site is eligible for the DC Inventory and NRHP under criteria A and C due to its association with

railroad transportation improvements, the twentieth-century development and urban design of Washington, D.C., Beaux-Arts architecture, and notable architects and artists including Daniel Burnham.

WUS is delineated by the extent of the First Street Tunnel and Columbus Circle NE to the south, First Street NE and the Metropolitan Branch Trail to the west, and the northern edge of Florida Avenue NE to the north. The eastern boundary follows Union Station Drive NE and the rail terminal north to H Street, Second Street NE between H and L Streets NE, Delaware Avenue NE to M Street NE, and the rail terminal to Florida Avenue NE. Physically, the site is largely bordered on the east and west by masonry retaining walls, known as the Burnham Walls, which were constructed to hold the fill required to elevate the rail terminal above the existing east-west running streets.

WUS is one of the most significant examples of railroad infrastructure in the United States. It is historically and architecturally significant for its contribution to the urban development of Washington, DC, representing advancements in transportation and engineering, and is an excellent example of Beaux Arts design. It comprises approximately 60 acres and consists of four areas: Columbus Plaza, Union Station, the Terminal Rail Yard, and the First Street Tunnel. Daniel Burnham (1846-1912) and his assistant, Peirce Anderson (1879-1924), of the renowned architecture firm D.H. Burnham & Company, designed Union Station, Columbus Plaza, and the main structures and buildings within the Terminal Rail Yard. While WUS has been substantially altered over the past 110 years to accommodate changing operations and technologies, many historic elements remain, preserving the historic context and integrity of the historic property.

Because effects to the station building and Columbus Plaza are discussed individually as historic properties No. 40 and No. 41 of the AOE Report, respectively, the assessment below specifically addresses effects to the Terminal Rail Yard and First Street Tunnel.

The Terminal Rail Yard is 760 feet wide at its greatest extent, immediately north of Union Station, and narrows along its length to 135 feet wide at its narrowest point at Florida Avenue. The length of the rail terminal from the station to Florida Avenue is approximately 3,725 feet or 0.7 mile. Terminal Rail Yard was originally constructed to accommodate 33 tracks, several platforms for passengers and baggage, as well as other rail terminal buildings and structures. The rail terminal narrows beginning at H Street NE and is 450 feet wide at its intersection with K Street NE. There are many contributing buildings, structures, and objects that date to the rail terminal's original construction in 1903-1907 and to the electrification project of the 1930s. Such resources include the REA Building (assessed as individual property No. 22 in the AOE Report); K Tower; umbrella sheds and platforms dating from 1903-1935; retaining walls (known as the Burnham Walls); bridge underpasses and associated infrastructure; Signal Bridges H, J, and K; Single Catenaries dating from 1903-1935; a catenary with cross beam; P&W Ownership Marker; and pneumatic switch valves dating from 1903-1935. In addition to the visible

contributing buildings, structures, and objects in the Terminal Rail Yard, archaeological resources may exist below-ground (further explained in Section 3.3 of this report).

The First Street Tunnel extends 4,033 feet from the north face of Union Station to the intersection of New Jersey Avenue SE and D Street SE. The tunnel was completed in 1906 to serve the PRR rail lines south of Washington, DC and runs below the station along First Street NE and SE until C Street SE where it turns west towards its terminus. The tunnel features several components, including the eight-low-level run-through tracks below the station, a bellmouth, and a two-tube tunnel, which continues to the south portal at D Street SE.[73] The character-defining features of the First Street Tunnel include the north and south tunnel portals faced with rusticated Potomac stone, eight tunnel tracks below Union Station, the bellmouth, and the two-tube tunnel with masonry dividing wall.

Effects Evaluation: The Action Alternatives would cause extensive physical effects within the Terminal Rail Yard, including the reconstruction of all tracks, platforms, and associated railroad infrastructure to meet future intercity and commuter ridership requirements, operational criteria, and modern design standards (ADA and Life Safety requirements). The two options for the platform and track layout immediately north of the WUS headhouse provide for 19 tracks: 12 stub-end tracks and 7 run-through tracks divided by a concourse. The track layout for the Terminal Rail Yard would continue to be divided between the stub-end tracks and run-through tracks, maintaining the rail terminal's general layout. The reconstruction of the rail terminal would require the removal of K Tower, all existing platforms, umbrella sheds, the original retaining wall dividing the run-through tracks from the rest of the rail terminal, catenary poles, catenary with cross beam, signal bridges, and pneumatic switch valves throughout the historic site. In addition, the excavation and reconstruction of the Terminal Rail Yard may cause effects to potential significant archaeological resources if present.

Bridge underpasses at H Street NE and K Street NE would also experience physical effects. In all Action Alternatives, the H Street Underpass (which was closed and used to support WUS after the construction of the H Street Bridge in 1976) would be removed and converted to a concourse. In Alternatives B, C, D, and E, new vehicular access points would be added in the walls of the K Street Underpass. In addition, the ventilation intake required for the operation of all Action Alternatives may require the potential reconstruction and the insertion of vents at the southwest portion of the Burnham Wall. Due to the removal of the majority of character-defining features within the Terminal Rail Yard, all Action Alternatives would affect the WUS Historic Site's integrity of location, design, materials, setting, workmanship, feeling, and association.

[73] In rail terminology, a bellmouth is a widening of an underground rail tunnel in preparation for connection or expansion of service.

Physical effects to the First Street Tunnel would also occur in all Action Alternatives, as described above in the determination of effect for WUS (historic property No. 40). The work to remove columns in the First Street Tunnel in order to accomplish the proposed new tracks and platforms would affect the integrity of design, materials, and workmanship, although in a manner that would not be visible to the general public.

Visual effects of the Action Alternatives would adversely affect the integrity of setting, feeling, and association by altering and obstructing the visual connection of the various contributing features within the WUS Historic Site. Existing views from within the Terminal Rail Yard would be non-existent, and views from the REA Building to WUS would be obstructed.

Visual effects to views from Louisiana Ave, Delaware Ave, and First Street NE, Columbus Circle Drive, and H Street Bridge – as discussed in the determination of effect for WUS (historic property No. 40) – would have the same visual effects to the WUS Historic Site. Additional visual effects from the Action Alternatives to the WUS Historic Site, especially the Terminal Rail Yard, would affect views from Second Street NE, First Street NE (between H and K Streets NE), the New York Avenue Bridge.

As shown in the visual simulations below, from 888 First Street NE (between H and K Streets NE), all Action Alternatives would have high visibility and moderate sensitivity, resulting in potential moderate visual effects. The sensitivity of the visual change would be moderate because the development would be in keeping with the scale of the existing development of the surrounding buildings and the existing WUS parking garage. Such visual effects would not adversely affect the WUS historic site.

From New York Avenue Bridge, all Action Alternatives would have high visibility and moderate to high sensitivity. All would obstruct the view of the Terminal Rail Yard. All Action Alternatives would partially obstruct the view of WUS, although a portion of the WUS headhouse would be visible in all except Alternative D. All Alternatives, except Alternatives A and B, would also obstruct the view of the U.S. Capitol Dome. Such visual effects would not adversely affect the WUS historic site.

From the intersection of Second and K Streets NE, the Action Alternatives would have low visibility and sensitivity, resulting in potential negligible visual effects, except for Alternative D, which would have high visibility and moderate sensitivity, resulting in potential moderate visual effects. However, such visual effects would not adversely affect the WUS historic site.

Overall, the visual effects, obstructing the visual connections to the contributing features within the historic site, would affect the significance and integrity of setting of the WUS Historic Site. Furthermore, the potential major visual effects of all Action Alternatives to the view of the station from Delaware Ave NE, and the potential major visual effects from Alternatives C, D, E, and A-C to the view of the site from First and C Streets NE would affect the visual symmetry of

the station's monumental Beaux Arts design, a character-defining feature of WUS and the WUS historic site, and would cause an adverse effect.[74]

The DEIS noise and vibration analysis indicates that noise and vibration from the operation of the Action Alternatives would not affect WUS Historic Site. However, analysis indicates that there would likely be temporary moderate to severe noise effects from construction as well as vibration effects that may result in structural and human annoyance impacts. Construction would involve vibration-generating equipment. Preliminary constructability analysis indicates vibratory pile driving and drill rigging may occur within approximately 10 feet of the north elevation of the station building, resulting in vibration levels of approximately 0.67 in/s and 0.35 in/s, for pile driving and drill rigging respectively, which are above the threshold to cause human annoyance and may cause structural effects. The sensitivity of the historic station to vibration levels cannot be specifically determined at this phase of the design. Although the station is historic, it was specifically designed to facilitate train operations and may be capable of withstanding vibration levels which exceed the lowest thresholds. However, given the long duration and the proximity of construction activities to the station, the effect of vibration on the building would need to be monitored to ensure structural damage does not occur.

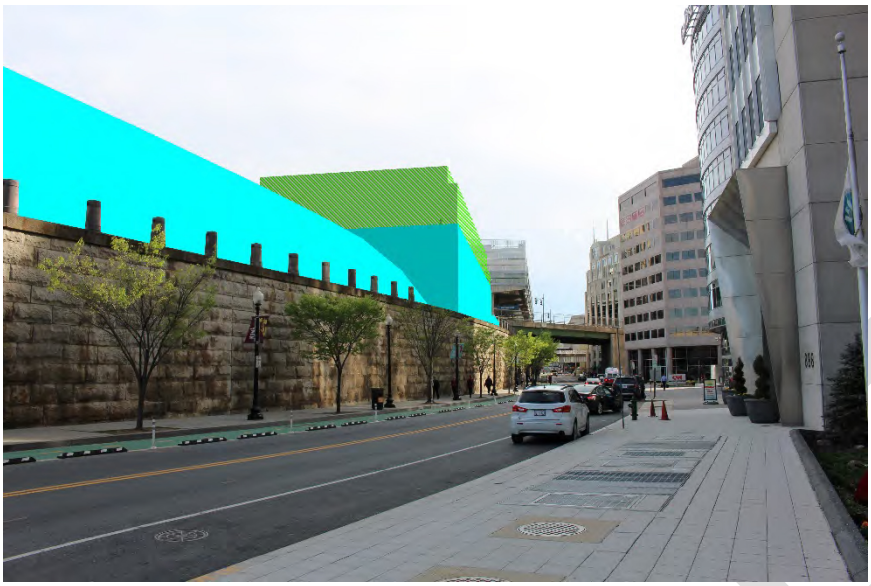
The WUS Historic Site would likely experience moderate to severe temporary noise effects from construction, regardless of the method employed to remove excavation spoils. Temporary noise effects, however, would not adversely affect the significance or integrity of the site, which is defined by its architectural design, association with transportation development, and contribution to the planning and development of Washington DC. Furthermore, the site has never been defined by its quiet setting and has always been a site of great activity and noise.

All Action Alternatives would result in the incremental increase in operational traffic volumes surrounding the historic site, especially within Columbus Circle Drive, and along Massachusetts Ave, North Capitol Street, and H Street NE (all principal or minor arterial streets intended to carry significant amounts of traffic). Such increases, however, would not alter the busy, traffic-heavy urban setting in which the WUS Historic Site is located and there would be no adverse effect to the integrity of the setting, feeling, or association.

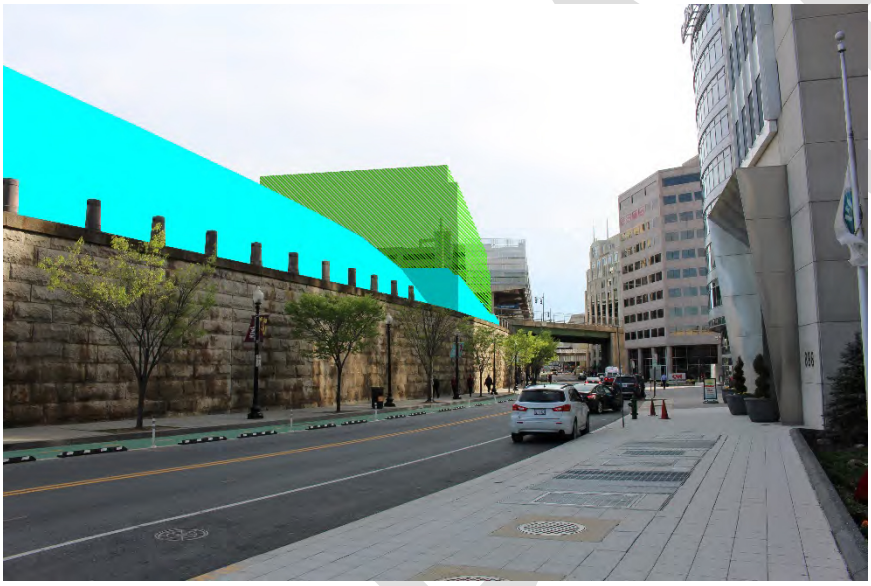
Based on this evaluation, all Action Alternatives would have an adverse effect on Washington Union Station Historic Site.

[74] It should be noted that the private air-rights development may provide visual balance and symmetry behind the station, thus minimizing the potential major visual effects of the Action Alternatives.

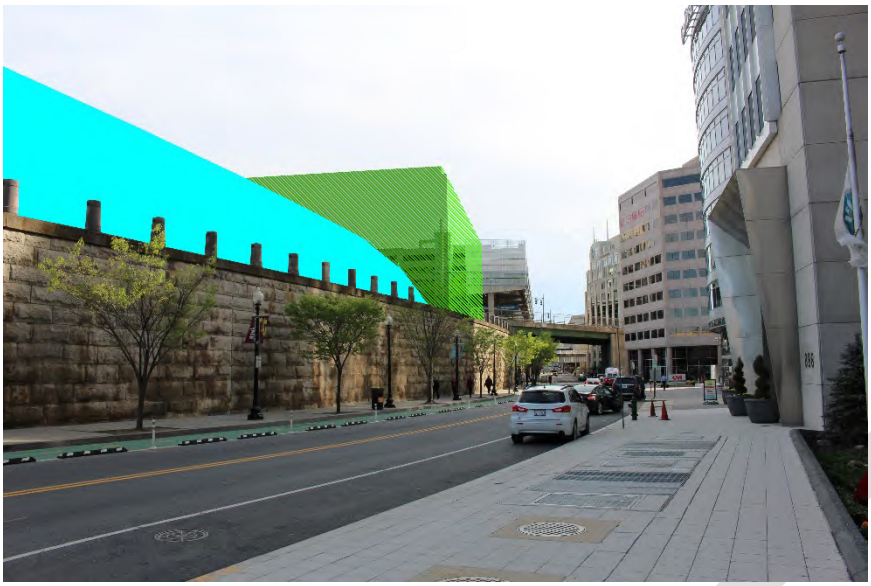
Visual Assessment from 888 First Street between H and K Streets NE



Visual Assessment for Alternative A



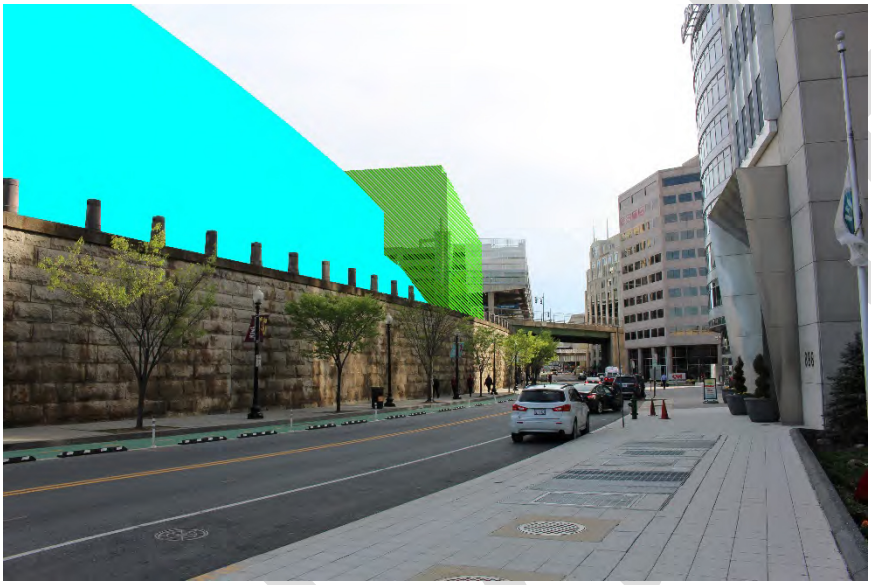
Visual Assessment for Alternative B



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

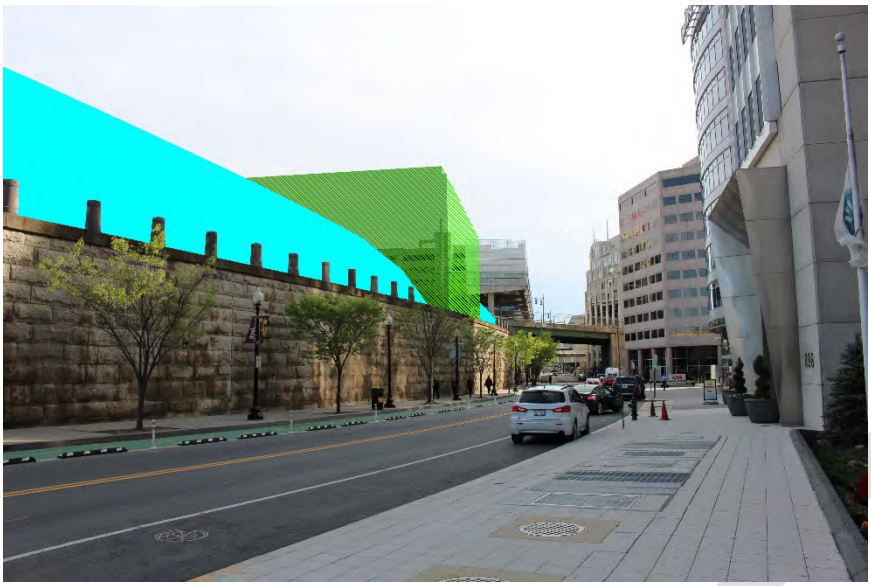
Visual Assessment for Alternative C-East



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

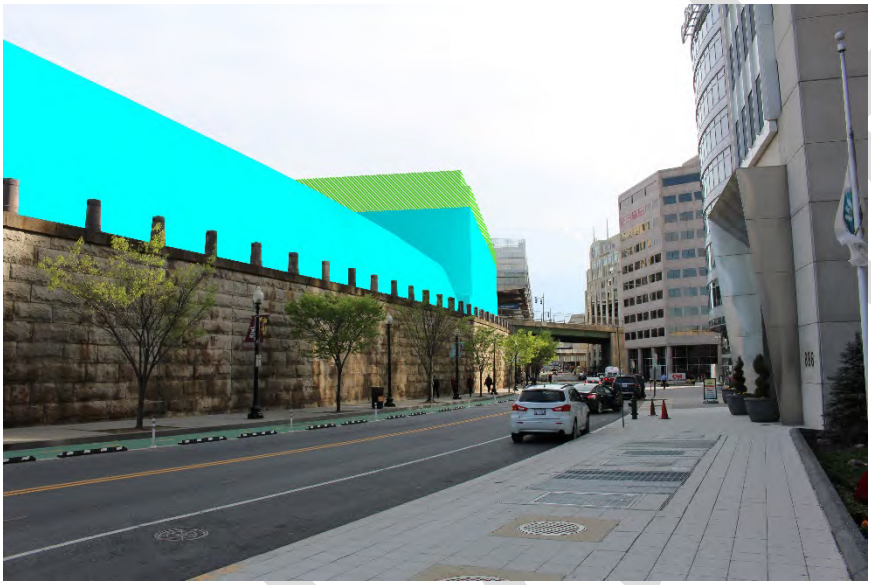
Visual Assessment for Alternative C-West Parking Option



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

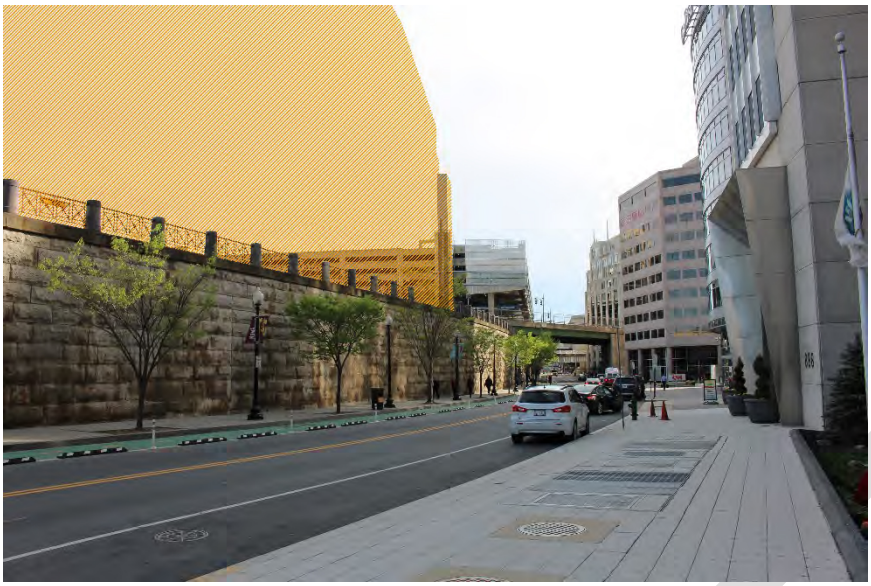
Visual Assessment for Alternative D and Alternative E



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

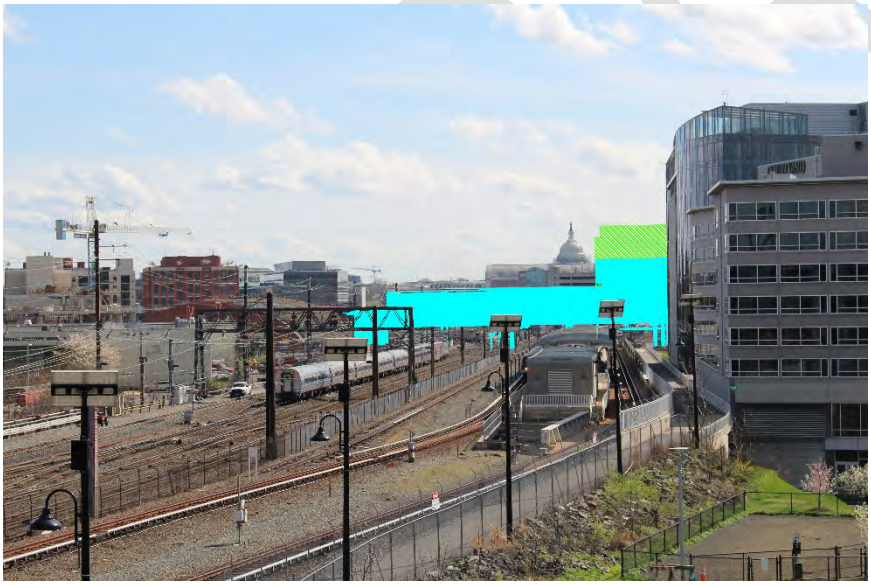
Visual Assessment for Alternative A-C



Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

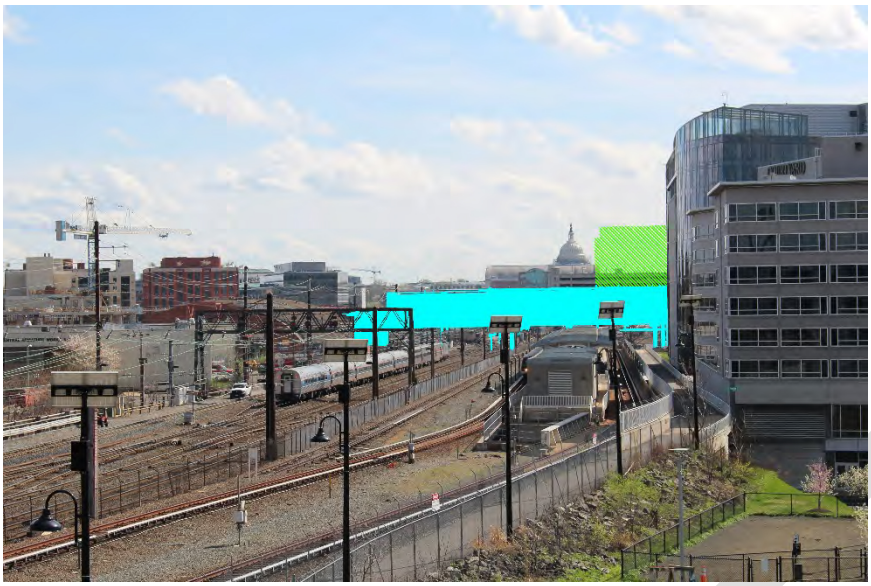
Visual Assessment from the New York Avenue Bridge



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative B

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C-East

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C-West Parking Option

Station Expansion

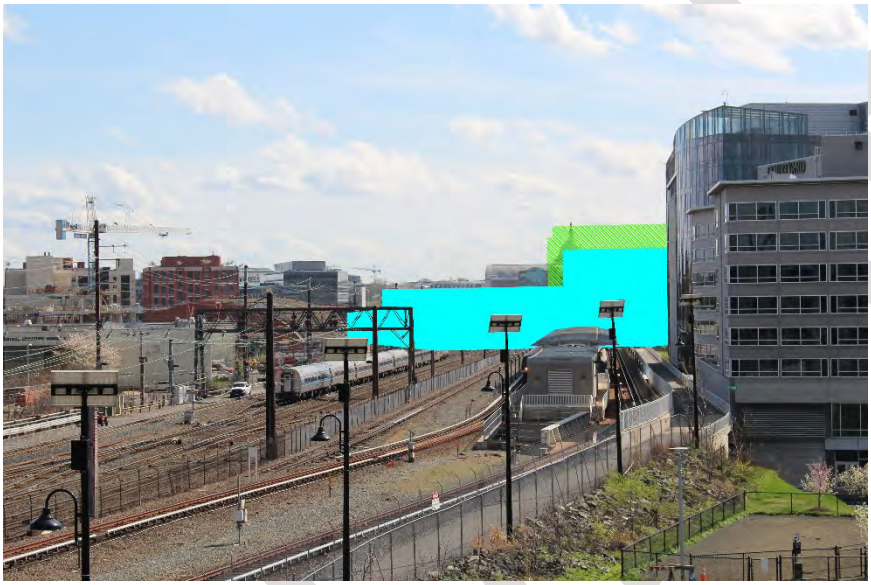
Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

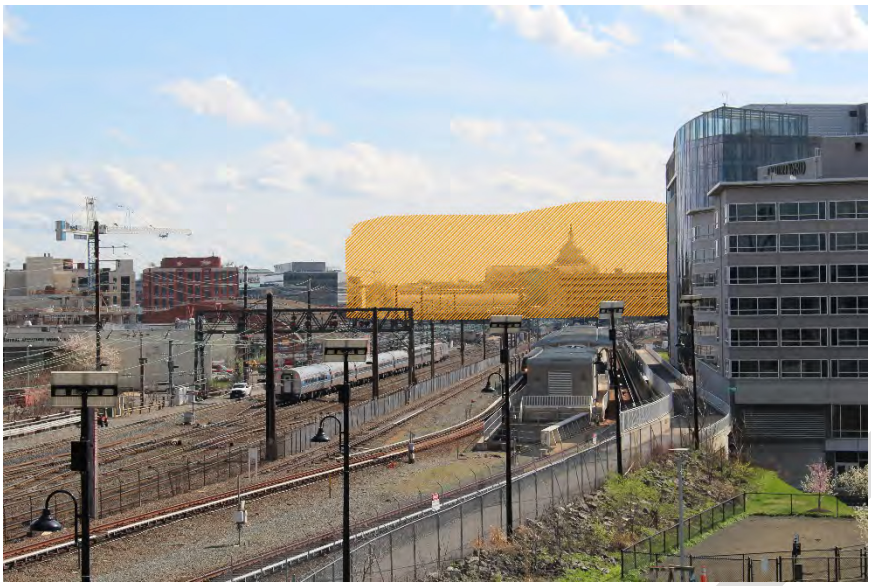
Visual Assessment for Alternative E



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C



Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

Visual Assessment from Second Street NE and K Street NE

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A and Alternative B

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C-East

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C-West Parking Option

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D

Station Expansion

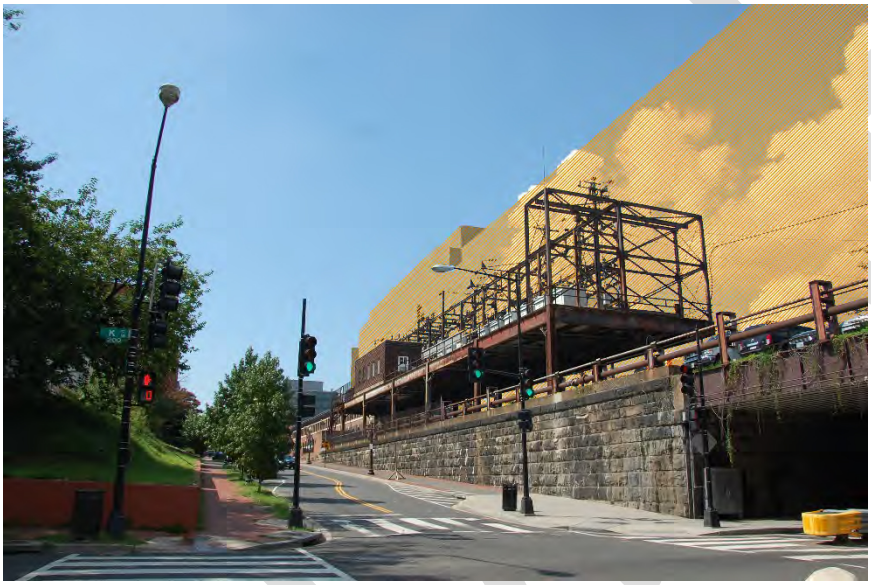
Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative E

Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C



Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

As part of the No-Action Alternative, Substation 25A, located above the Burnham Wall in the center of the photograph and a contributing element to the WUS Historic Site, would be demolished and relocated.

CULTURALLY SIGNFICANT VIEWSHEDS

As described above, six culturally significant viewsheds, were also considered part of the APE, though discontiguous, and visual effects from the viewsheds were assessed and a determination of effect, based on visual effects was made.

50. Arlington National Cemetery

View from Arlington National Cemetery looking east towards WUS and the Project Area, which is not visible to the naked eye.

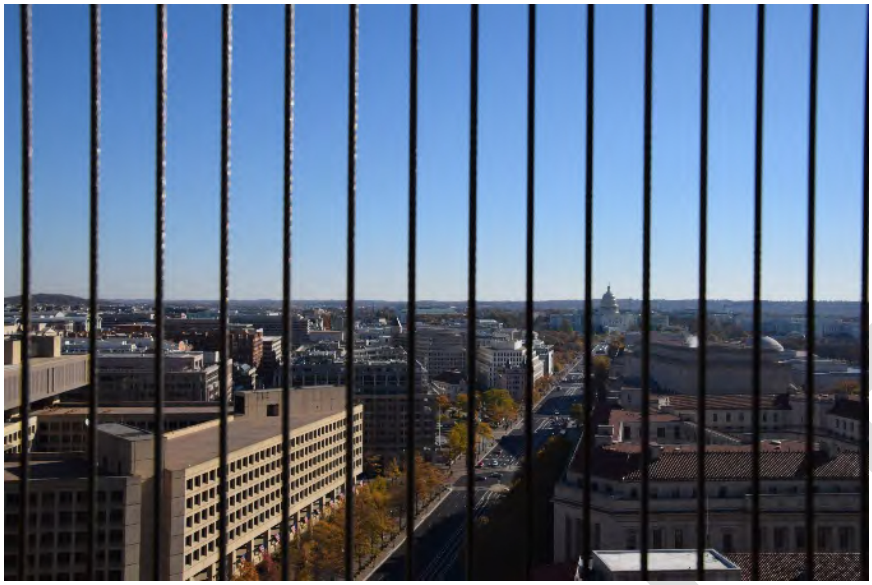
View from Arlington National Cemetery looking east towards WUS and the Project Area with a zoom lens camera

The view from the Arlington House lawn at Arlington National Cemetery is characterized by the expanse of the cemetery in the foreground and by the strong presence of Memorial Bridge, which visually connects the cemetery to the city skyline beyond. Height limitations have created a uniform skyline, which draws the eye to some of the most significant buildings in DC, including the Washington Monument, the U.S. Capitol, and the Old Post Office Building Tower. Public access to Arlington National Cemetery and Arlington House is not restricted.

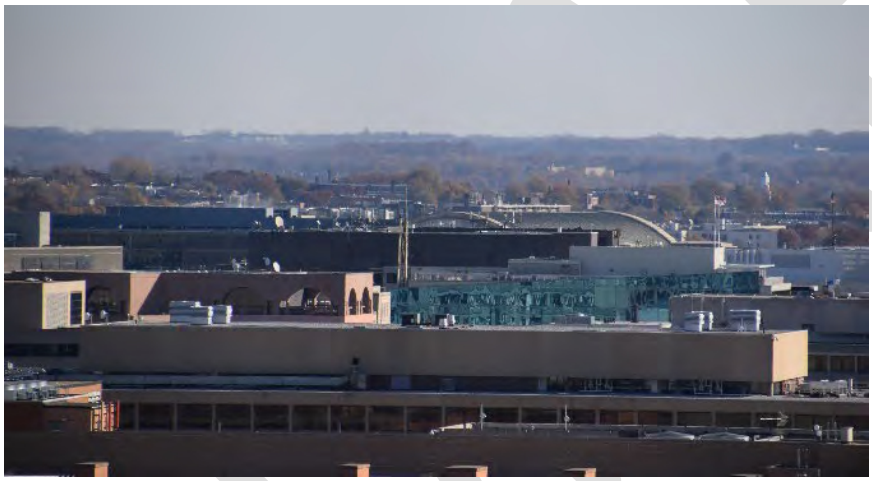
Effects Evaluation: Based on visual survey and visual assessment simulations that superimpose the proposed built forms of the Action Alternatives on existing condition photographs, the Project Area is not visible in plain sight. It is only with the use of binoculars or a zoom lens camera that one can differentiate the barrel arch roof of WUS and the Project Area beyond. Therefore, there would be low visibility and low sensitivity, resulting in potential negligible visual effects from all Action Alternatives. The qualities characterizing the existing view would not be altered.

Based on this evaluation, all Action Alternatives would have no effect on the Arlington National Cemetery Viewshed.

51. Old Post Office Building



View from the Old Post Office Building looking east towards WUS and the Project Area, which is not easily visible to the naked eye.



View from the Old Post Office Building looking towards WUS and the Project Area with a zoom lens camera

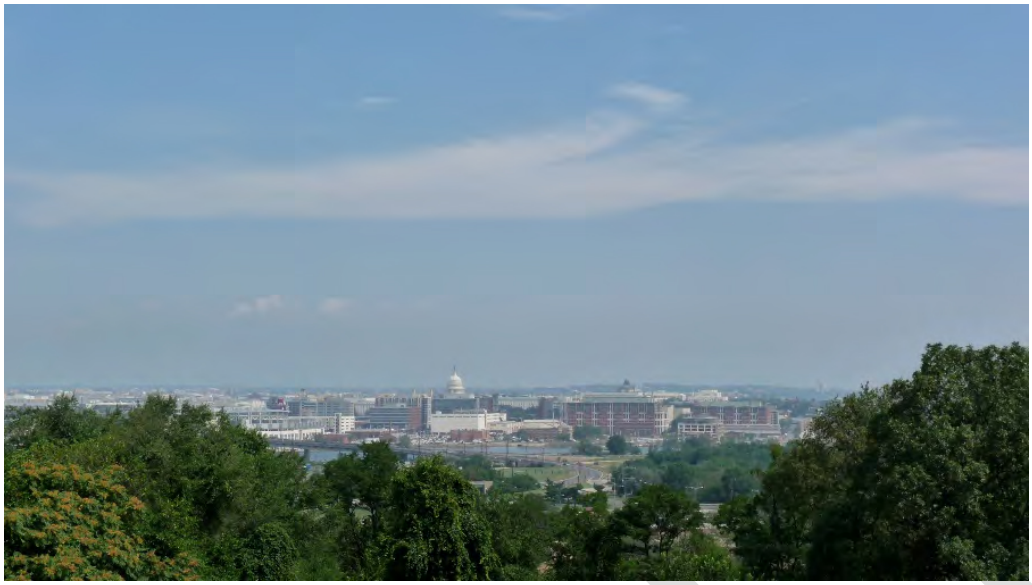
The view from the tower at the Old Post Office Building towards the Project Area is characterized by the city skyline along Pennsylvania Ave and the strong visual presence of the U.S. Capitol to the southeast. Height limitations have created a uniform skyline, which draws the eye to the U.S. Capitol, and the natural topography of northeast and the National Arboretum. Public access to the Old Post Office Building Tower is not restricted.

Effects Evaluation: Based on visual survey and visual assessment simulations that superimpose the proposed built forms of the Action Alternatives on existing condition photographs, the

Project Area is not visible in plain sight and it is only with the use of binoculars or a zoom lens camera that one can differentiate the barrel arch roof of WUS and the Project Area beyond. Therefore, there would be low visibility and low sensitivity, resulting in potential negligible visual effects from all Action Alternatives. The qualities characterizing the existing view would not be altered.

Based on this evaluation, all Action Alternatives would have no effect on the Old Post Office Building Viewshed.

52. St. Elizabeths West Campus



View from St. Elizabeths West Campus looking northwest towards WUS and the Project Area, which is not visible.

The view from the St. Elizabeths West Campus towards the Project Area is characterized by the city skyline and the strong visual presence of the U.S. Capitol with Navy Yard in the foreground. Height limitations have created a uniform skyline, which draws the eye to the U.S. Capitol, and the dome of the Library of Congress Thomas Jefferson Building. Public access to St. Elizabeths West Campus is limited due to the secure nature of the site, which serves as the campus for the U.S. Department of Homeland Security.

Effects Evaluation: Based on visual survey, WUS and the Project Area is not visible. Therefore, **all Action Alternatives would have no effect on St. Elizabeths West Campus Viewshed.**

53. U.S. Capitol Dome

View from the U.S. Capitol Dome looking north towards WUS and the Project Area.

The view from the U.S. Capitol Dome towards the Project Area is characterized by the city skyline and streetscape to the north. The axial views established by the L'Enfant-McMillan Plan along North Capitol Street NW and Delaware Ave NE are especially prominent, as are the views towards the WUS headhouse, Columbus Plaza, and the Russell Senate Office Building in the foreground. Height limitations have created a uniform skyline, and no one building is more visually prominent due to height. Public access to the U.S. Capitol Dome is limited to those with special access or escort.

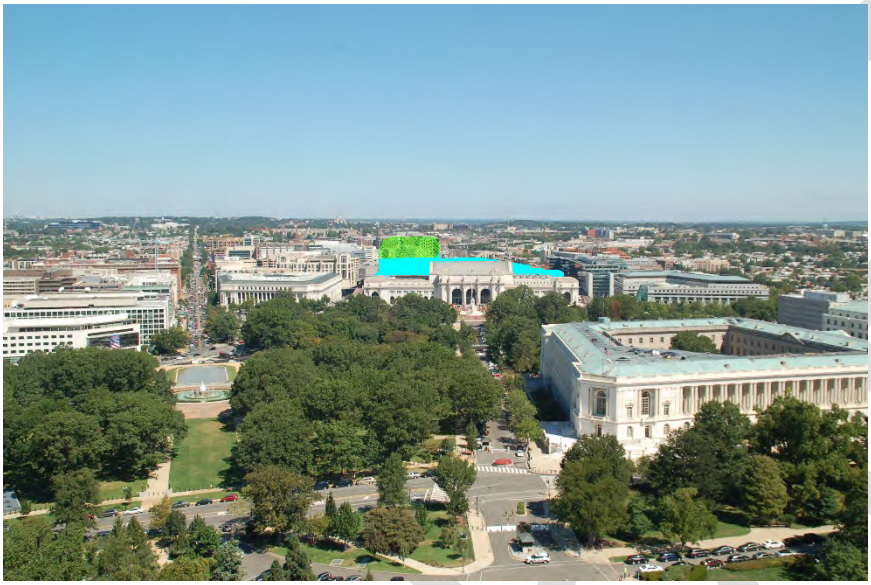
Effects Evaluation: Based on visual survey and visual assessment simulations that superimpose the proposed built forms of the Alternatives to existing condition photographs, all Action Alternatives would cause a visual effect compared to existing conditions. In Alternatives A, C-East, D, and A-C, the Project elements (in blue) would have moderate visibility while those in Alternatives B, C-West, and E would have low visibility due to the extent of the potential Federal air-rights (in green). However, when considering the visual effects of the Project elements and the potential Federal air-rights, all Action Alternatives would have high visibility and moderate sensitivity, resulting in potential moderate visual effects. Visual sensitivity to the Action Alternatives would be moderate because while the Project elements and potential Federal air-rights would be taller than adjacent buildings within the existing skyline, they would not rise above the horizon line.

Furthermore, the qualities characterizing the existing view from the U.S. Capitol Dome would not be altered. The Alternatives would not interrupt the views along North Capitol Street NW

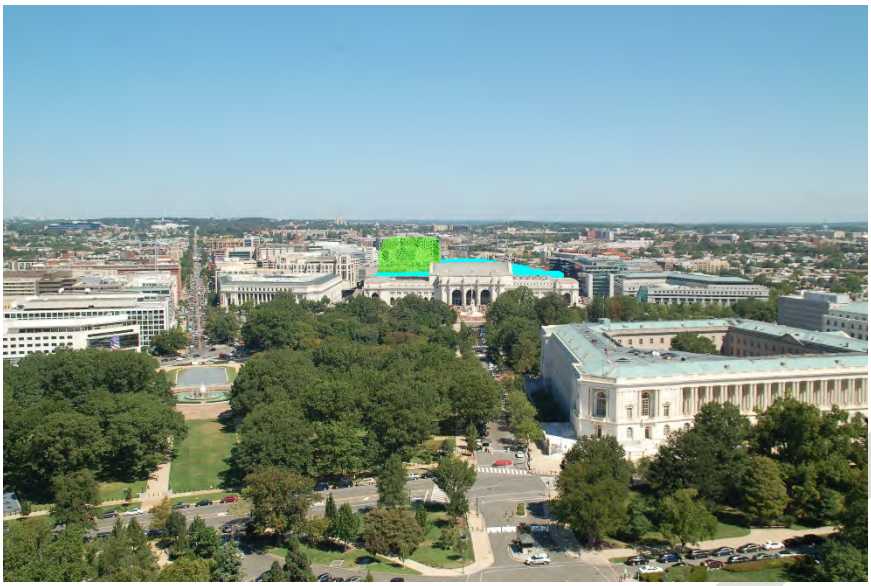
and Delaware Ave NE to Columbus Plaza and the WUS headhouse, as established by the L'Enfant-McMillan Plan. Additionally, there would be no visual effects to the U.S. Capitol Grounds and associated buildings and sites, including the Russell Senate Office Building and the Senate Parks, Underground Garage, and Fountains.

Based on this evaluation, all Action Alternatives would have <u>no adverse effect</u> on the U.S. Capitol Dome Viewshed.

Visual Assessment from the U.S. Capitol Dome



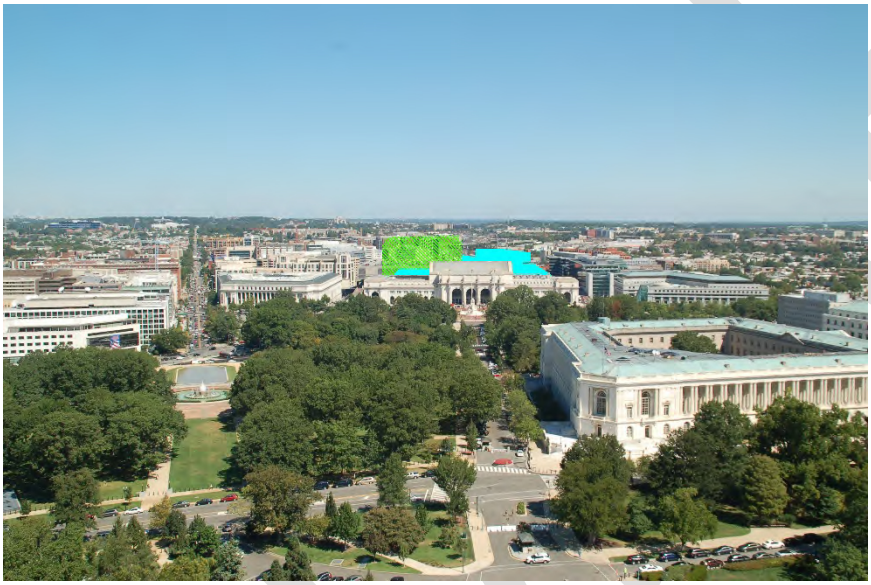
Visual Assessment for Alternative A



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

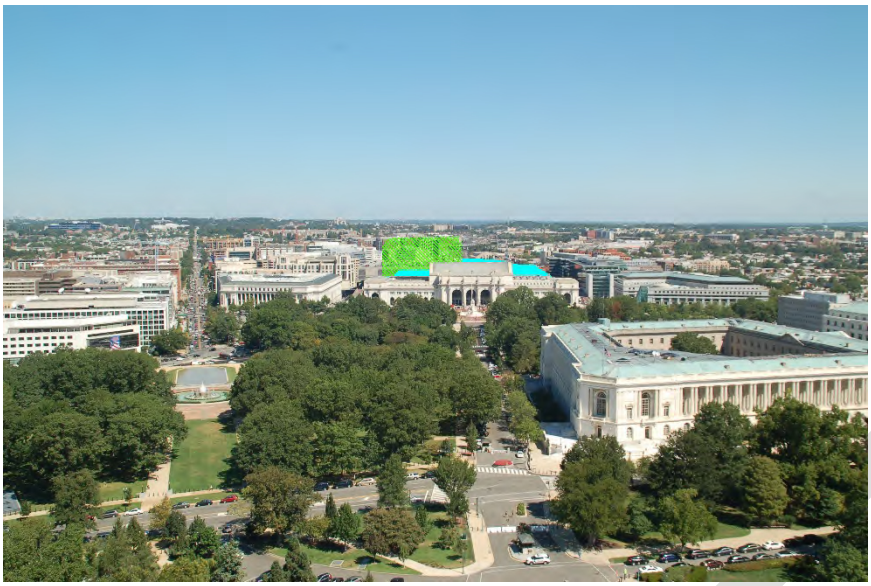
Visual Assessment for Alternative B



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

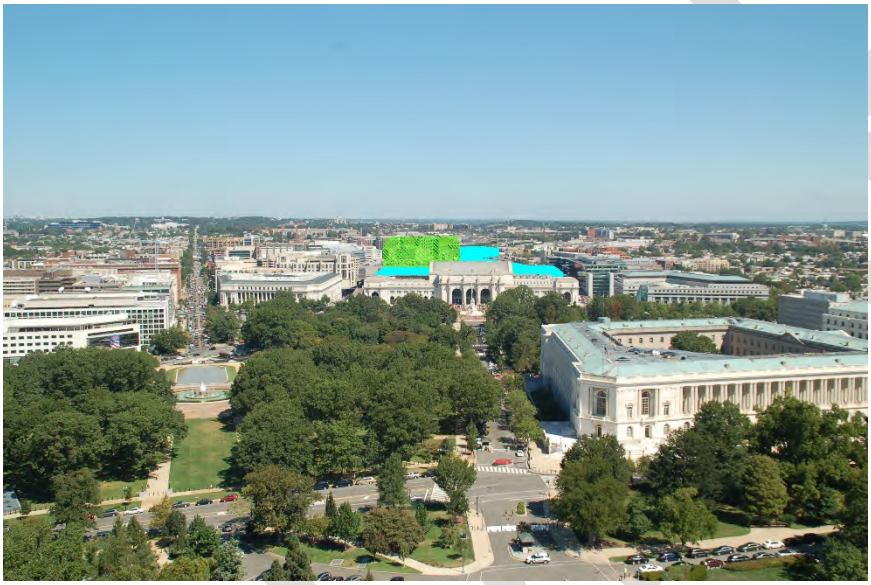
Visual Assessment for Alternative C-East



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

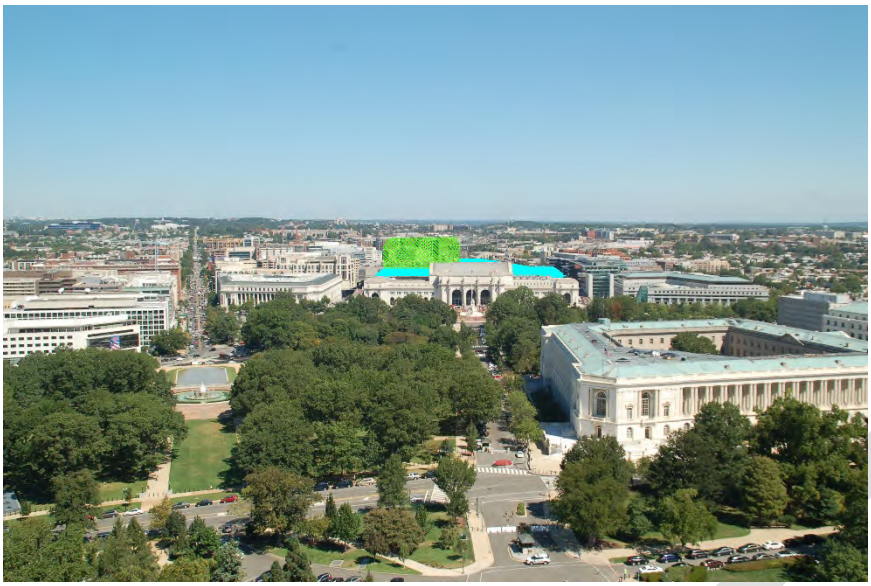
Visual Assessment for Alternative C-West Parking Option



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

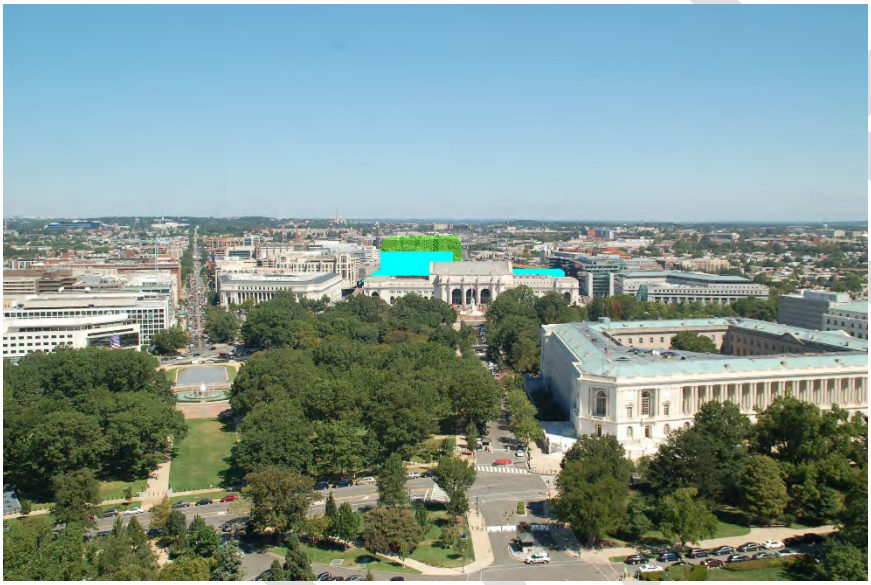
Visual Assessment for Alternative D



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

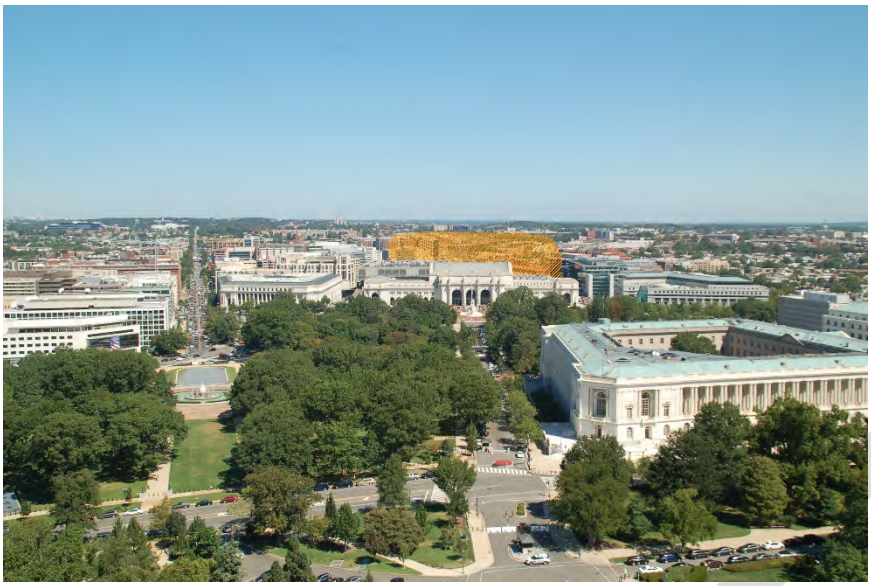
Visual Assessment for Alternative E



Station Expansion

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

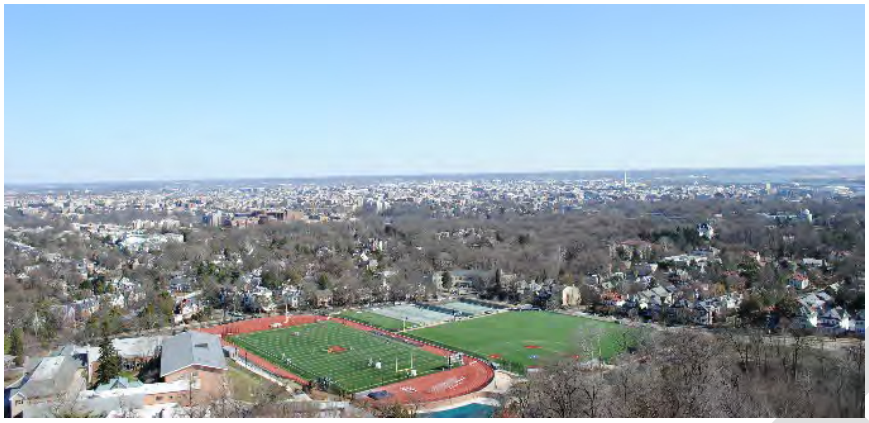
Visual Assessment for Alternative A-C



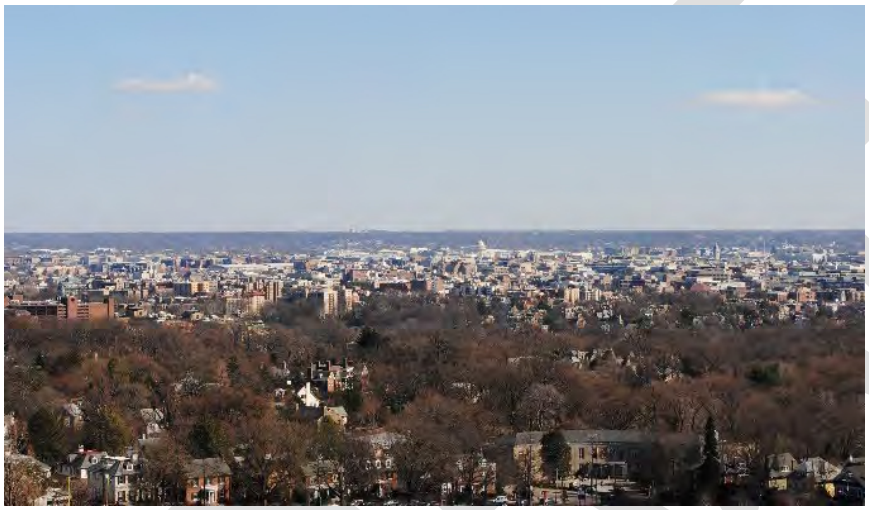
Private Air-Rights Development (maximum buildable volume including penthouse)

No-Action Alternative – Provided for Visual Comparison

54. Washington National Cathedral



View from Washington National Cathedral looking southeast towards WUS and the Project Area, which is not easily visible to the naked eye



Slightly zoomed in view from Washington National Cathedral looking southeast towards WUS and the Project Area, which remains difficult to distinguish

The view from the tower of the Washington National Cathedral towards the Project Area is characterized by the playing fields in the foreground and the city skyline beyond. Height limitations have created a uniform skyline, which draws the eye to the Washington Monument and the U.S. Capitol. Public access to the Washington National Cathedral tower is limited to those with special access and permission.

Effects Evaluation: The Project Area is not visible in plain sight and it is only with the use of binoculars or a zoom lens camera that one can begin to differentiate the barrel arch roof of WUS and the Project Area beyond. There would be no visibility and no sensitivity from any visual change caused by the Action Alternatives. The qualities characterizing the existing view

would not be altered. **Based on this evaluation, all Action Alternatives would have <u>no effect</u> on the Washington National Cathedral Viewshed.**

55. Washington Monument

View from Washington Monument looking east towards WUS and the Project Area, which is not easily visible to the naked eye

The view from the Washington Monument towards the Project Area is characterized by the expanse of the National Mall, flanked on either side by civic and institutional buildings leading towards the U.S. Capitol. Height limitations have created a uniform skyline, which does not detract from or visually promote one area over another and creates visual symmetry to the north and south of the National Mall. Access to the Washington Monument is available by timed ticket entry when the monument is open to the public.

<u>Effects Evaluation:</u> Based on visual survey and visual assessment simulations that superimpose the proposed built forms of the Action Alternatives on existing condition photographs, the Project Area is difficult to distinguish in plain sight. It is only with the use of binoculars or a zoom lens camera that one can see the detail of the barrel arch roof of WUS and the Project Area beyond. Therefore, there would be low visibility and low sensitivity, resulting in potential negligible visual effects from all Alternatives. The visual distinctions between the Action Alternatives are difficult to distinguish at such a distance, and the qualities characterizing the existing view would not be altered.

Based on this evaluation, all Action Alternatives would have <u>no effect</u> on the Washington Monument Viewshed.

Visual Assessment from the Washington Monument

Proposed Alternative

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A

Proposed Alternative

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative B

Proposed Alternative

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative C

Proposed Alternative

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative D and Alternative E

Proposed Alternative

Potential Federal Air-Rights Development (maximum buildable volume including penthouse)

Visual Assessment for Alternative A-C

Private Air-Rights Development (maximum buildable volume including penthouse)

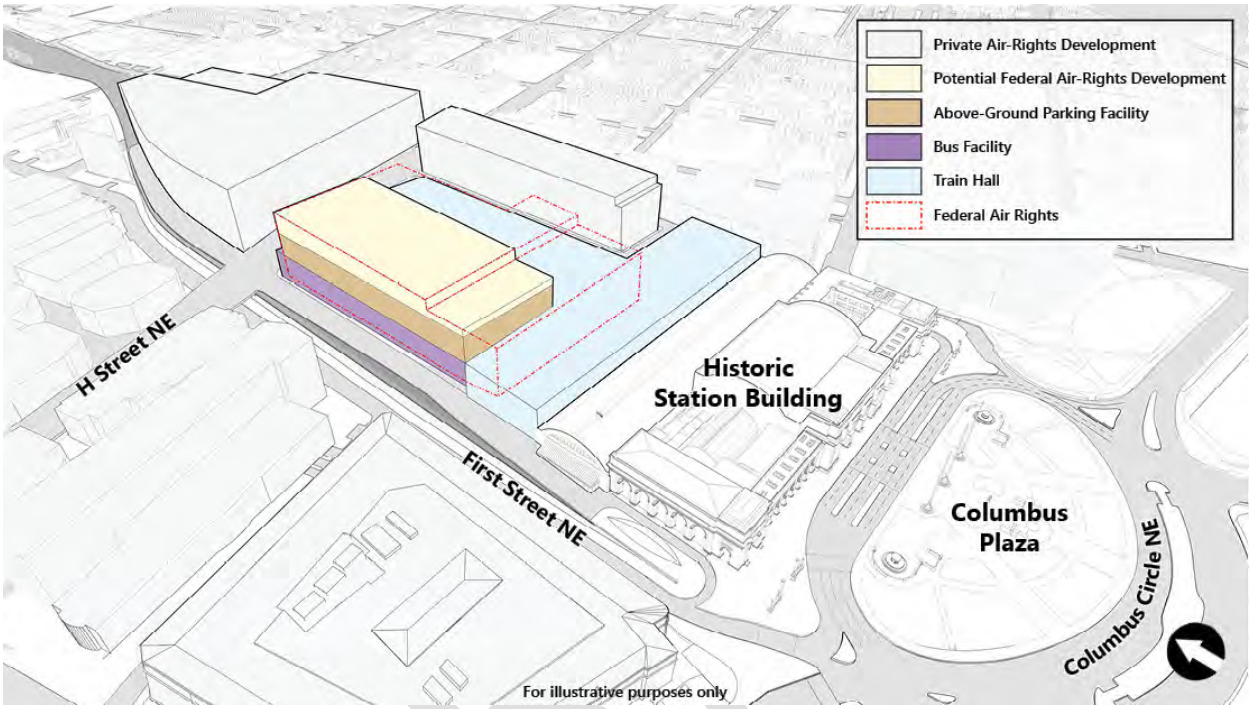
No-Action Alternative – Provided for Visual Comparison

6.2 Summary of Effects

The following summaries describe the effects of each of the Project's Action Alternatives to historic properties, explaining physical, visual, noise and vibration, and traffic effects that would be experienced during construction and/or operation and result in a finding of adverse effect.

6.2.1 Alternative A

***Figure 22**. Illustration of Alternative A*



Alternative A would result in adverse effects to three historic properties: the REA Building, WUS, and the WUS Historic Site. Alternative A may also result in a potential adverse effect to the Capitol Hill Historic District.

Physical Effects

Physical effects would adversely affect WUS and the WUS Historic Site and may adversely affect the REA building.

WUS

Physical effects to WUS would include the work to remove the non-historic Claytor Concourse, construct a new passenger concourse and train hall, and remove original columns in the portion of the First Street Tunnel below the Retail and Ticketing Concourse (historic passenger concourse). The demolition of the Claytor Concourse and the construction of the new train hall

would affect the north façade of the original passenger concourse and the overall design of WUS, substantially increasing the mass of the station and affecting the integrity of design. The work to remove the columns in the First Street Tunnel would involve accessing the tunnel from above, demolishing the original columns and the concourse floor structure and rebuilding approximately 15,000 square feet the Retail and Ticketing Concourse floor. While the current marble finish of the concourse floor was installed in the 1980s, the floor structure is original. The demolition of the original columns and concourse floor structure would affect the integrity of design, materials, and workmanship, although in a manner that would not be visible to the general public.

WUS Historic Site

The construction of Alternative A would require the demolition and reconstruction of the Terminal Rail Yard, an important resource within the WUS Historic Site. Many contributing elements and character-defining features, including K Tower, all existing platforms, umbrella sheds, the retaining wall dividing the run-through tracks from the stub-end tracks, the H Street underpass, catenary poles, the catenary with cross beam, signal bridges, and pneumatic switch valves throughout the historic site would be removed or demolished. In addition, openings for ventilation may be made in portions of the west Burnham Wall. The removal and alteration to these defining features of the WUS Historic Site would adversely affect its integrity of design, setting, materials, workmanship, feeling, and association. In addition, the construction of Alternative A, may potentially result in adverse effects to unidentified significant archaeological resources within the WUS Historic Site, particularly the Terminal Rail Yard, if present. Although the site contains no known archaeological resources, much of the terminal was identified as having moderate to high archaeological potential. It is possible that excavations and ground disturbance could inadvertently damage or destroy unknown significant archaeological deposits.

REA Building

Alternative A would potentially result in a physical effect to the REA Building due to the construction of the new H Street Concourse, which would be constructed along the alignment of the existing H Street Tunnel. Direct access between the H Street Tunnel and the basement of the REA Building currently exists and may either be maintained or eliminated during the construction of the H Street Concourse. At this early conceptual stage of Project design and since the exact location and method of a potential connection to the REA Building is not yet determined, the nature of the potential physical effect and whether it would constitute an adverse effect under Section 106 cannot be determined at this time. No other physical effects

to the REA Building are planned, however, noise and vibration analysis indicates that vibratory pile driving may occur within approximately 16 feet of the REA Building, resulting in vibration levels of approximately 0.33 in/s. There would be an increased risk of structural damage from indirect physical effects during construction. Given the long duration and the proximity of construction activities to the station, the effect of vibration on the building would need to be monitored to ensure structural damage does not occur.

Visual Effects

Visual effects of Alternative A also result in a finding of adverse effect to the REA Building, WUS, and WUS Historic Site. With the reconstruction of the Terminal Rail Yard and the erection of the north-south train hall, bus and parking facility, and supporting deck structure, Alternative A would greatly change the appearance of the WUS Historic Site and alter existing visual connections between its components, including WUS and the REA Building. The disruption of the visual and physical connections between each of these historic properties would diminish their integrity of setting, feeling, and association. Additionally, the potential major visual effects from the bus and parking facility and potential Federal air-rights development to WUS and WUS Historic Site, as seen from Delaware Ave NE, would affect the integrity of design, setting, and feeling by interrupting the silhouette of the station roofline and the visual symmetry of the station's monumental Beaux Arts design.

Visual changes resulting from Alternative A would also cause potential moderate visual effects to the U.S. Capitol Dome viewshed and potential minor visual effects to seven properties: the City Post Office, Columbus Plaza, Senate Parks, Thurgood Marshall Federal Judiciary Building, Woodward and Lothrop Service Warehouse, Capitol Hill Historic District, and the L'Enfant-McMillan Plan. Seven properties: the Dirksen and Hart Senate Office Buildings, Government Printing Office, Library of Congress Thomas Jefferson Building, Russell Senate Office Building, Square 750 Rowhouse Development, St. Joseph's Home (former), and the Uline Arena, would experience potential negligible visual effects, and one property: the Government Printing Office Warehouse No. 4, would experience potential beneficial visual effects. However, such visual effects from Alternative A would not adversely affect these historic properties, as further explained in the individual historic property assessments.

Noise and Vibration Effects

Analysis shows that increases in noise and vibration resulting from traffic and the construction and operation of Alternative A would cause effects to various historic properties.

WUS would experience temporary noise levels above FTA thresholds for noise impacts and potentially damaging vibration effects during construction. Vibration levels at WUS from construction activities associated with pile driving and drill rigging would be 0.67in/s and 0.35 in/s, respectively. While the sensitivity of the historic station has not been specifically determined, such vibration levels may cause structural damage and should be monitored throughout construction. Furthermore, additional vibration analysis would have to be performed to ensure the column removal work to accommodate the tract and platform plan would not cause structural damage during construction. The REA Building would also experience noise and vibration effects, resulting in potential physical effects, which would need to be monitored to ensure structural damage does not occur.

Construction-related noise and vibration effects from Alternative A would also affect the following historic properties: C&P Telephone Company Warehouse, City Post Office/Postal Museum, GPO Warehouse No.4, St. Joseph's Home (Former), Square 750 Rowhouse Development (917-923 Second Street NE; 208-224, 226-242, and 219-231 Parker Street NE), 901 Second Street NE, and the Capitol Hill Historic District (northwestern edge). During Project construction and at the beginning of excavation activities, noise levels at or near these resources would exceed the FTA criteria for severe noise impacts. St. Joseph's Home and parts of Square 750 (203-219 K Street NE and 917-923 Second Street NE) would also experience levels of construction vibration above the annoyance threshold. However, such effects would not adversely affect the significance or integrity of these historic properties, as further explained in the individual historic property assessments.

During construction excavation activities, if trucks are used to haul away spoil, locations on the northwestern edge of the Capitol Hill Historic District would experience noise levels in excess of the FTA threshold for moderate impacts. These locations include 603-607 Second Street NE and 521-527 Second Street NE. The same locations, along with a third, 205 F Street NE, would experience vibrations above the FTA threshold for annoyance. However, the impacts would be localized and limited to locations on the edge of the Capitol Hill Historic District bordering Second Street NE, and most of the historic district would experience no noise or vibration impacts. Outside of Second Street NE, construction trucks would only use designated truck routes to travel to and from the Project Area. They would not circulate along the residential streets that are one of the historic district's character-defining features. All such construction noise and vibration effects would be noticeable, but they would not compromise the properties' integrity of setting, feeling, or association and would result in no adverse effects, as further explained in the individual property assessment for the Capitol Hill Historic District.

Increases in ambient noise from increased traffic and the operation of Alternative A would affect noise levels (relative to existing conditions) at or near 18 historic properties, including WUS, the C&P Telephone Company Warehouse, Capitol Press Building, the City Post Office/Postal Museum, GPO Warehouse No.4, Holodomor Ukrainian Holocaust Memorial, St. Aloysius Catholic Church, Square 750, St. Joseph's Home, St. Phillip's Baptist Church, Thurgood Marshall Federal Judiciary Building, Topham's Luggage Factory (Former), Uline Arena, Columbus Plaza, Woodward and Lothrop Service Warehouse, 901 Second Street NE, the Union Market Historic District, and the Capitol Hill Historic District (along Second Street NE). Noise analysis indicates that in all locations increases would be less than 3 dBA and the resulting levels would not exceed FTA criteria. Therefore, changes in operational noise would have no adverse effect to the properties' significance or integrity of setting, feeling, or association.

The operational vibration analysis for Alternative A showed that changes in vibration levels throughout the Study Area would be negligible, with no potential to adversely affect the integrity of any historic properties.

Other Effects Generated by Traffic

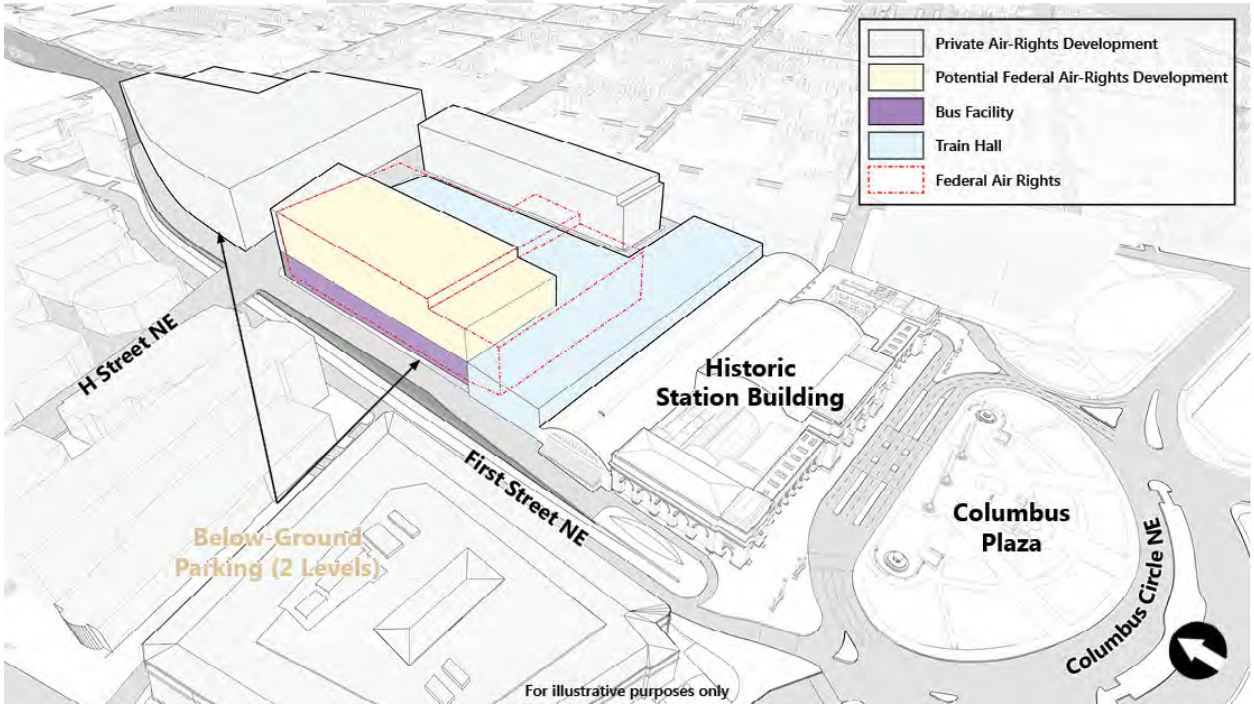
While noise and vibration are the main source of potential traffic-related impacts on historic properties, increases in traffic volumes along nearby streets may potentially affect the integrity of a property's setting, feeling, or association. Relative to existing conditions, Alternative A, like all Action Alternatives, is anticipated to see an increase in traffic volumes in the vicinity of WUS caused by greater station activity in combination with the development of the private air-rights above the rail terminal and general background economic and demographic growth. Traffic impact modeling indicates that effects would largely be concentrated along a few major thoroughfares, including North Capitol Street, H Street as well as, to a lesser extent, K Street and Massachusetts Avenue.

Eighteen historic properties are located along or close to these traffic thoroughfares and would experience potential effects from increases in traffic, including the C&P Telephone Company Warehouse, the City Post Office/Postal Museum, GPO, GPO Warehouse No.4, Hayes School, Holodomor Ukrainian Holocaust Memorial, Joseph Gales School, Square 750, St. Aloysius Catholic Church, St. Joseph's Home, St. Phillip's Baptist Church, SunTrust Bank (Former Childs Restaurant), Thurgood Marshall Federal Judiciary Building, Victims of Communism Memorial, WUS, Columbus Circle, and the Capitol Hill Historic District. However, such properties, with the exception of the Capitol Hill Historic District, would not experience adverse effects because the incremental traffic would not alter the busy, traffic-heavy urban setting in which the properties are located.

For the Capitol Hill Historic District, it is not known whether increases in traffic would occur, and if they did, by how much they would change traffic volumes along affected streets. The historic significance of the Capitol Hill Historic District (as characterized in the National Register of Historic Places nomination) is primarily derived from its architecture and contribution to the development of the District of Columbia. Increased traffic alone would not likely affect the historic district in such a way as to diminish its architectural or historical significance and affect its ability to remain listed in the National Register. However, considered cumulatively, moderate temporary construction noise effects to buildings along Second Street NE (especially 701, 603-607, and 521-527 Second Street NE) if excavation spoils are removed by truck; temporary vibration effects during construction to properties at 701 and 603-607 Second Street NE and 205 F Street NE; and the potential visual effects, conflicts with pedestrians and bicyclists, and other disturbances impacting access to properties from increased traffic volumes along Second Street NE, F Street NE, and potentially other residential streets, may detract from the residential character of the district and have the potential to adversely affect the integrity of setting and feeling of the historic district. Refer to the analysis for the Capitol Hill Historic District for a full explanation.

6.2.2 Alternative B

***Figure 23**. Illustration of Alternative B*



Alternative B would result in adverse effects to three historic properties: the REA Building, WUS, and the WUS Historic Site. Alternative B may also result in a potential adverse effect to the Capitol Hill Historic District.

Physical Effects

The Physical effects of Alternative B are the same as those for Alternative A. Physical effects would adversely affect WUS and the WUS Historic Site, and would include the work to remove the non-historic Claytor Concourse, construct a new passenger concourse and train hall, remove original columns within the First Street Tunnel, and demolish and reconstruct the Terminal Rail Yard. Additionally, new vehicular access points would be added in the walls of the K Street Underpass.

There is a potential for physical effects to occur at the basement level of the REA Building depending on whether the existing direct connection to the H Street Tunnel will be eliminated or maintained with the construction of the H Street Concourse. At this early conceptual stage of Project design and since the exact location and method of a potential connection to the REA Building is not yet determined, the nature of the potential physical effect and whether it would constitute an adverse effect under Section 106 cannot be determined at this time. While no other physical effects to the REA Building are planned, vibratory pile driving during construction would result in an increased risk of structural damage. Given the long duration and the proximity of construction activities to the station, the effect of vibration on the building would need to be monitored to ensure physical effects to the REA Building do not occur.

Visual Effects

Like Alternative A, visual effects of Alternative B also result in a finding of adverse effect to the REA Building, WUS, and WUS Historic Site. With the reconstruction of the Terminal Rail Yard, erection of the north-south train hall, bus facility, and supporting deck structure; and the potential Federal air-rights development, Alternative B would greatly change the appearance of the WUS Historic Site and alter existing visual connections between its components, including WUS and the REA Building. The disruption of the visual and physical connections between each of these historic properties would diminish their integrity of setting, feeling, and association. Additionally, the potentially major visual effects from the potential Federal air-rights development to WUS and the WUS Historic Site, as seen from Delaware Ave NE, would affect the integrity of design, setting, and feeling by interrupting the silhouette of the station roofline and the visual symmetry of the station's monumental Beaux Arts design.

Visual changes resulting from Alternative B would also cause potential moderate visual effects to the U.S. Capitol Dome viewshed and potential minor visual effects to seven properties: the City Post Office, Columbus Plaza, Senate Parks, Thurgood Marshall Federal Judiciary Building, Woodward and Lothrop Service Warehouse, Capitol Hill Historic District, and the L'Enfant-McMillan Plan. Seven properties: the Dirksen and Hart Senate Office Buildings, Government Printing Office, Library of Congress Thomas Jefferson Building, Russell Senate Office Building, Square 750 Rowhouse Development, St. Joseph's Home (former), and the Uline Arena would experience potential negligible visual effects, and one property: the Government Printing Office Warehouse No. 4, would experience potential beneficial visual effects. However, such visual effects from Alternative B would not adversely affect these historic properties, as further explained in the individual historic property assessments.

Noise and Vibration Effects

Noise and vibration effects resulting from traffic and the construction and operation of Alternative B would match the effects of Alternative A. WUS would experience temporary noise levels above FTA thresholds for noise impacts and potentially damaging vibration effects during construction. The REA Building would also experience noise and vibration effects, resulting in potential physical effects, which would need to be monitored to ensure structural damage does not occur.

Construction-related noise and vibration effects would also affect seven additional historic properties, as described in the summary of Alternative A. However, such effects would not compromise the properties' integrity of setting, feeling, or association and would not result in adverse effects to the historic properties.

Other Effects Generated by Traffic

Like Alternative A, eighteen historic properties are located along or close to traffic thoroughfares and would experience potential effects from increases in traffic. All such properties, except the Capitol Hill Historic District, would not experience adverse effects because the incremental traffic would not alter the busy, traffic-heavy urban setting in which the property is located. As in Alternative A, increased traffic within the Capitol Hill Historic District alone would not likely affect the historic district. However, considered cumulatively, moderate temporary construction noise effects to buildings along Second Street NE (especially 701, 603-607, and 521-527 Second Street NE) if excavation spoils are removed by truck; temporary vibration effects during construction to properties at 701 and 603-607 Second Street NE and 205 F Street NE; and the potential visual effects, conflicts with pedestrians and bicyclists, and other disturbances impacting access to properties from increased traffic volumes

along Second Street NE, F Street NE, and potentially other residential streets, may detract from the residential character of the district and have the potential to adversely affect the integrity of setting and feeling of the historic district. Refer to the analysis for the Capitol Hill Historic District for a full explanation. Refer to the analysis in that section for a full explanation.

6.2.3 Alternative C (East and West)

Note: References to Alternative C include both East and West options except for those specified for visual effects.

Figure 24. *Illustration of Alternative C-East*

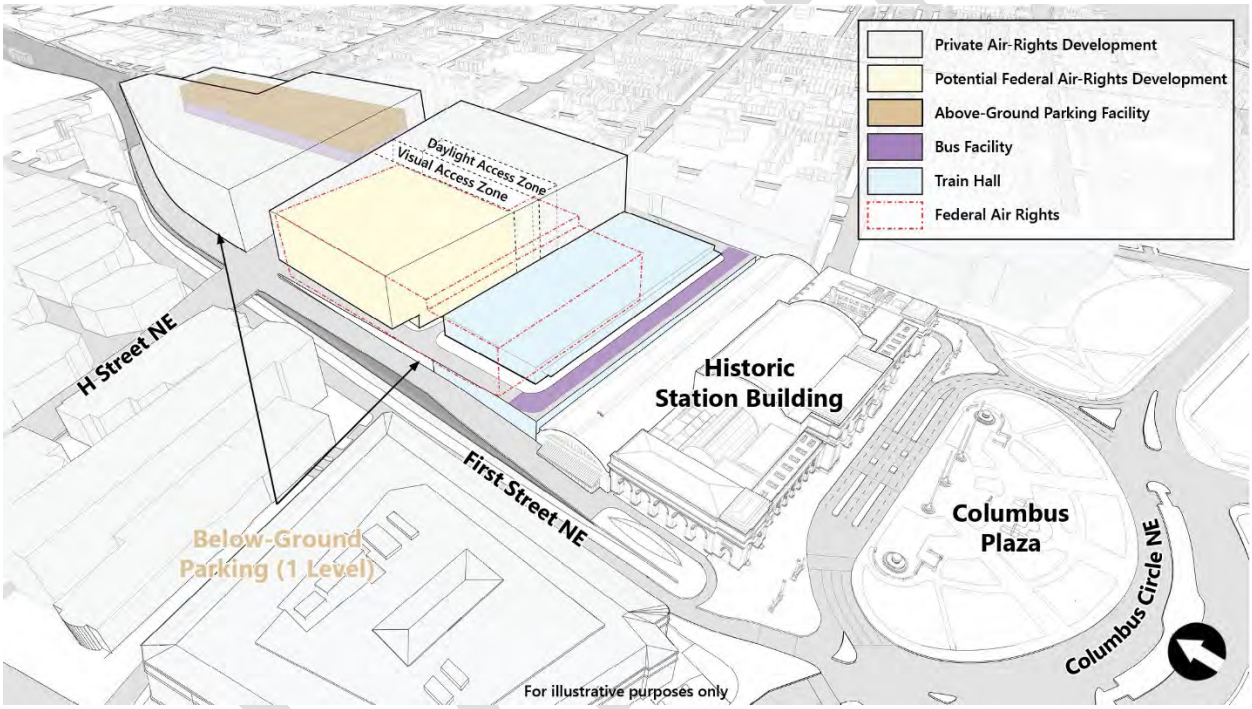
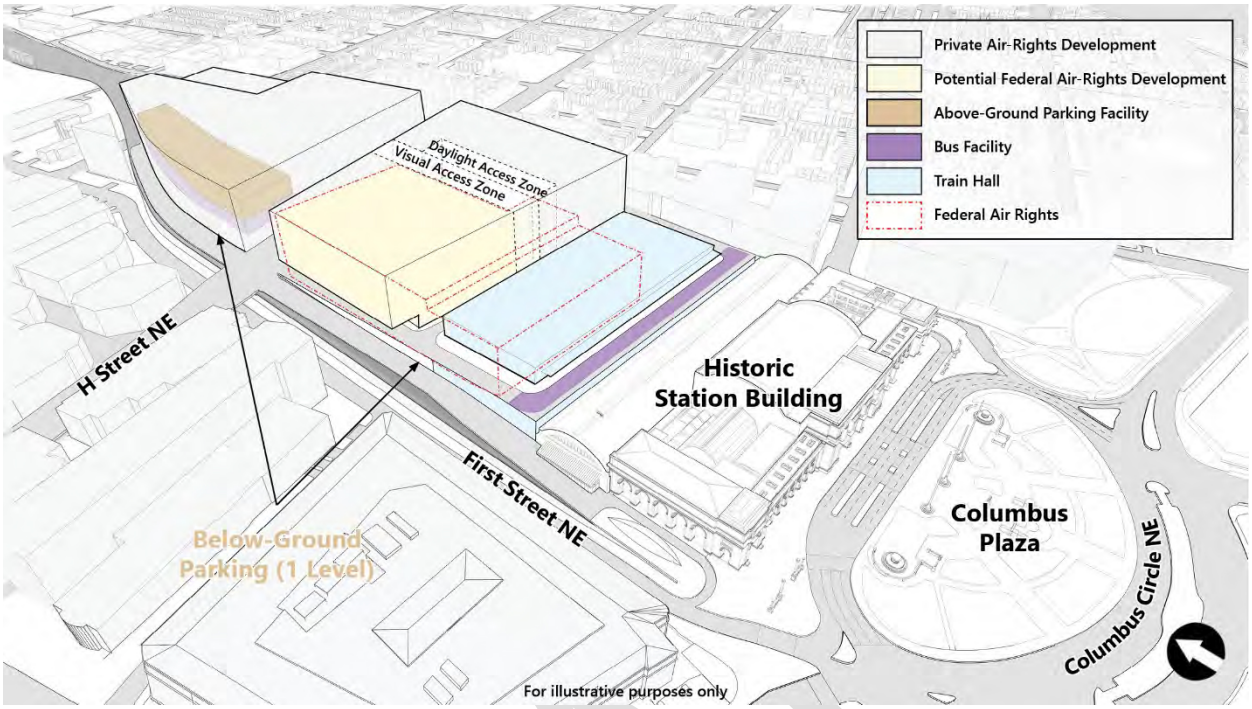


Figure 25. *Illustration of Alternative C-West*



Alternative C would result in adverse effects to three historic properties: the REA Building, WUS, and the WUS Historic Site. Alternative C may also result in a potential adverse effect to the Capitol Hill Historic District.

Physical Effects

The Physical effects of Alternative C are the same as those for Alternative B. Physical effects would adversely affect WUS and the WUS Historic Site, and would include the work to remove the non-historic Claytor Concourse, construct a new passenger concourse and train hall, remove original columns within the First Street Tunnel, and demolish and reconstruct the Terminal Rail Yard. Additionally, new vehicular access points would be added in the walls of the K Street Underpass.

There is a potential for physical effects to occur at the basement level of the REA Building depending on whether the existing direct connection to the H Street Tunnel will be eliminated or maintained with the construction of the H Street Concourse. At this early conceptual stage of Project design and since the exact location and method of a potential connection to the REA Building is not yet determined, the nature of the potential physical effect and whether it would constitute an adverse effect under Section 106 cannot be determined at this time. While no

other physical effects to the REA Building are planned, vibratory pile driving during construction would result in an increased risk of structural damage. Given the long duration and the proximity of construction activities to the station, the effect of vibration on the building would need to be monitored to ensure physical effects to the REA Building do not occur.

Visual Effects

Like Alternatives A and B, visual effects of Alternative C result in a finding of adverse effect for the REA Building, WUS, and WUS Historic Site. With the reconstruction of the Terminal Rail Yard and the erection of the east-west train hall, bus and parking facility, and supporting deck structure, Alternative C would greatly change the appearance of the WUS Historic Site and alter existing visual connections between its components, including WUS and the REA Building. The disruption of the visual and physical connections between each of these historic properties would diminish their integrity of setting, feeling, and association. Additionally, the potentially major visual effects from the potential Federal air-rights development to WUS and WUS Historic Site, as seen from Delaware Ave NE and the intersection of First and C Streets NE, would affect the integrity of design, setting, and feeling by interrupting the silhouette of the station roofline and the visual symmetry of the station's monumental Beaux Arts design.

Visual changes from the construction of Alternative C-East would cause potential moderate visual effects to the U.S. Capitol Dome viewshed and potential minor visual effects to eight properties: Senate Parks, Square 750 Rowhouse Development, Thurgood Marshall Federal Judiciary Building, Topham's Luggage Factory (former), Woodward and Lothrop Service Warehouse, 901 Second Street NE, Capitol Hill Historic District, and the L'Enfant-McMillan Plan. Properties including Square 750, Topham's Luggage Factory, and 901 Second Street would experience visual effects due to the location of the Project bus and parking facility at the east side of the Project Area, behind the REA Building. Six properties: the City Post Office, Dirksen and Hart Senate Office Buildings, Library of Congress Thomas Jefferson Building, Russell Senate Office Building, St. Joseph's Home, and the Uline Arena would experience potential negligible visual effects; and two properties: the Government Printing Office and Government Printing Office Warehouse No. 4, would experience potential beneficial visual effects. Such visual effects from Alternative C-East to these properties would not affect their significance or integrity and result in no adverse effects, as further explained in the individual historic property assessments.

Visual changes from the construction of Alternative C-West would cause potential moderate visual effects to the U.S. Capitol Dome viewshed and potential minor visual effects to five properties: Senate Parks, Thurgood Marshall Federal Judiciary Building, Woodward and Lothrop Service Warehouse, Capitol Hill Historic District, and the L'Enfant-McMillan Plan. Seven

properties: the City Post Office, Dirksen and Hart Senate Office Buildings, Library of Congress Thomas Jefferson Building, Russell Senate Office Building, Square 750 Rowhouse Development, St. Joseph's Home, and the Uline Arena, would experience potential negligible visual effects, and two properties: the Government Printing Office and Government Printing Office Warehouse No. 4, would experience potential beneficial visual effects. Such visual effects from Alternative C-West to these properties would not affect their significance or integrity and result in no adverse effects, as further explained in the individual historic property assessments.

Noise and Vibration Effects

Noise and vibration effects resulting from traffic and the construction and operation of Alternative C would match the effects of Alternative A. WUS would experience temporary noise levels above FTA thresholds for noise impacts and potentially damaging vibration effects during construction. The REA Building would also experience noise and vibration effects, resulting in potential physical effects, which would need to be monitored to ensure structural damage does not occur.

Construction-related noise and vibration effects would also affect seven additional historic properties, as described in the summary of Alternative A. However, such effects would not compromise the properties' integrity of setting, feeling, or association and result in no adverse effects.

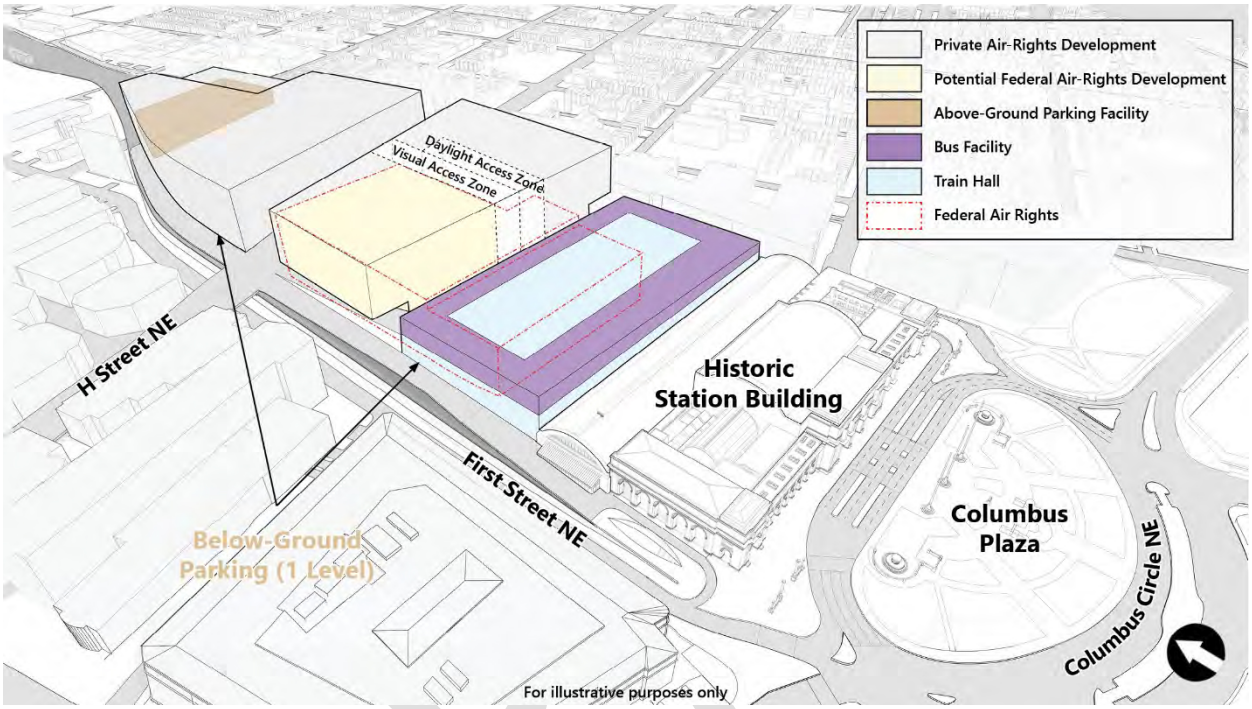
Other Effects Generated by Traffic

Like Alternatives A and B, eighteen historic properties are located along or close to traffic thoroughfares and would experience potential effects from increases in traffic. All such properties, except the Capitol Hill Historic District, would not experience adverse effects because the incremental traffic would not alter the busy, traffic-heavy urban setting in which the property is located. As in Alternatives A and B, increased traffic within the Capitol Hill Historic District alone would not likely affect the historic district. However, considered cumulatively , moderate temporary construction noise effects to buildings along Second Street NE (especially 701, 603-607, and 521-527 Second Street NE) if excavation spoils are removed by truck; temporary vibration effects during construction to properties at 701 and 603-607 Second Street NE and 205 F Street NE; and the potential visual effects, conflicts with pedestrians and bicyclists, and other disturbances impacting access to properties from increased traffic volumes along Second Street NE, F Street NE, and potentially other residential streets, may detract from the residential character of the district and have the potential to adversely affect the integrity of setting and feeling of the historic district. Refer to the analysis for the Capitol Hill Historic

District for a full explanation. Refer to the analysis for the Capitol Hill Historic District for a full explanation.

6.2.4 Alternative D

Figure 26. *Illustration of Alternative D*



Alternative D would result in adverse effects to three historic properties: the REA Building, WUS, and the WUS Historic Site. Alternative D may also result in a potential adverse effect to the Capitol Hill Historic District.

Physical Effects

The Physical effects of Alternative D are the same as those for Alternative B. Physical effects would adversely affect WUS and the WUS Historic Site, and would include the work to remove the non-historic Claytor Concourse, construct a new passenger concourse and train hall, remove original columns within the First Street Tunnel, and demolish and reconstruct the Terminal Rail Yard. Additionally, new vehicular access points would be added in the walls of the K Street Underpass.

There is a potential for physical effects to occur at the basement level of the REA Building depending on whether the existing direct connection to the H Street Tunnel will be eliminated

or maintained with the construction of the H Street Concourse. At this early conceptual stage of Project design and since the exact location and method of a potential connection to the REA Building is not yet determined, the nature of the potential physical effect and whether it would constitute an adverse effect under Section 106 cannot be determined at this time. While no other physical effects to the REA Building are planned, vibratory pile driving during construction would result in an increased risk of structural damage. Given the long duration and the proximity of construction activities to the station, the effect of vibration on the building would need to be monitored to ensure physical effects to the REA Building do not occur.

Visual Effects

Like Alternatives A through C, visual effects of Alternative D result in a finding of adverse effect for the REA Building, WUS, and WUS Historic Site. With the reconstruction of the Terminal Rail Yard and the erection of the integrated bus facility and east-west train hall, parking facility, and supporting deck structure, Alternative D would greatly change the appearance of the WUS Historic Site and alter existing visual connections between its components, including WUS and the REA Building. The disruption of the visual and physical connections between each of these historic properties would diminish their integrity of setting, feeling, and association. Additionally, the potentially major visual effects from the potential Federal air-rights development to WUS and WUS Historic Site, as seen from Delaware Ave NE and the intersection of First and C Streets NE, would affect the integrity of design, setting, and feeling by interrupting the silhouette of the station roofline and the visual symmetry of the station's monumental Beaux Arts design.

Visual changes from the construction of Alternative D would cause potential moderate visual effects to three properties: Square 750 Rowhouse Development, the L'Enfant-McMillan Plan, and the U.S. Capitol Dome viewshed. Four properties: Senate Parks, Thurgood Marshall Federal Judiciary Building, Woodward and Lothrop Service Warehouse, and the Capitol Hill Historic District would experience potential minor visual effects. Six properties: the City Post Office, Dirksen and Hart Senate Office Buildings, Library of Congress Thomas Jefferson Building, Russell Senate Office Building, St. Joseph's Home, and the Uline Arena would experience potential negligible visual effects, and two properties: the Government Printing Office and Government Printing Office Warehouse No. 4, would experience potential beneficial visual effects. Such visual effects from Alternative D would not affect the significance or integrity of the properties and result in no adverse effects, as further explained in the individual historic property assessments.

Noise and Vibration Effects

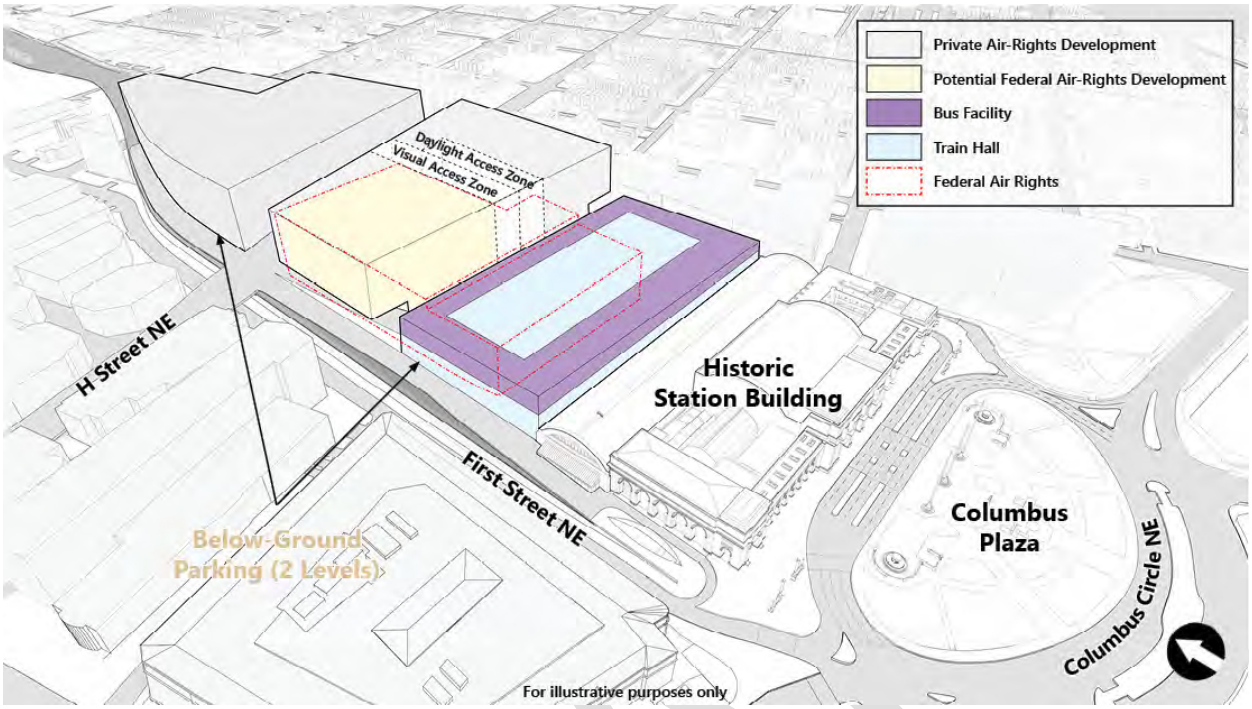
Noise and vibration effects resulting from traffic and the construction and operation of Alternative D would match the effects of Alternative A. WUS would experience temporary noise levels above FTA thresholds for noise impacts and potentially damaging vibration effects during construction. The REA Building would also experience noise and vibration effects, resulting in potential physical effects, which would need to be monitored to ensure structural damage does not occur.

Construction-related noise and vibration effects would also affect seven additional historic properties, as described in the summary of Alternative A. However, such effects would not compromise the properties' integrity of setting, feeling, or association and would result in no adverse effects.

Other Effects Generated by Traffic Like Alternative A, eighteen historic properties are located along or close to these traffic thoroughfares and would experience potential effects from increases in traffic. All such properties, except the Capitol Hill Historic District, would not experience adverse effects because the incremental traffic would not alter the busy, traffic-heavy urban setting in which the property is located. As in Alternatives A, B, and C, increased traffic within the Capitol Hill Historic District alone would not likely affect the historic district. However, considered cumulatively, moderate temporary construction noise effects to buildings along Second Street NE (especially 701, 603-607, and 521-527 Second Street NE) if excavation spoils are removed by truck; temporary vibration effects during construction to properties at 701 and 603-607 Second Street NE and 205 F Street NE; and the potential visual effects, conflicts with pedestrians and bicyclists, and other disturbances impacting access to properties from increased traffic volumes along Second Street NE, F Street NE, and potentially other residential streets, may detract from the residential character of the district and have the potential to adversely affect the integrity of setting and feeling of the historic district. Refer to the analysis for the Capitol Hill Historic District for a full explanation.

6.2.5 Alternative E

Figure 27. *Illustration of Alternative E*



Alternative E would result in adverse effects to three historic properties: the REA Building, WUS, and the WUS Historic Site. Alternative E may also result in a potential adverse effect to the Capitol Hill Historic District.

Physical Effects

The Physical effects of Alternative E are the same as those for Alternative B. Physical effects would adversely affect WUS and the WUS Historic Site, and would include the work to remove the non-historic Claytor Concourse, construct a new passenger concourse and train hall, remove original columns within the First Street Tunnel, and demolish and reconstruct the Terminal Rail Yard. Additionally, new vehicular access points would be added in the walls of the K Street Underpass.

There is a potential for physical effects to occur at the basement level of the REA Building depending on whether the existing direct connection to the H Street Tunnel will be eliminated or maintained with the construction of the H Street Concourse. At this early conceptual stage of Project design and since the exact location and method of a potential connection to the REA Building is not yet determined, the nature of the potential physical effect and whether it would constitute an adverse effect under Section 106 cannot be determined at this time. While no

other physical effects to the REA Building are planned, vibratory pile driving during construction would result in an increased risk of structural damage. Given the long duration and the proximity of construction activities to the station, the effect of vibration on the building would need to be monitored to ensure physical effects to the REA Building do not occur.

Visual Effects

Like Alternatives A through D, visual effects of Alternative E result in a finding of adverse effect for the REA Building, WUS, and WUS Historic Site. With the reconstruction of the Terminal Rail Yard and the erection of the integrated bus facility, east-west train hall, and supporting deck structure, Alternative E would greatly change the appearance of the WUS Historic Site and alter existing visual connections between its components, including WUS and the REA Building. The disruption of the visual and physical connections between each of these historic properties would diminish their integrity of setting, feeling, and association. Additionally, the potentially major visual effects from the potential Federal air-rights to WUS and WUS Historic Site, as seen from Delaware Ave NE and the intersection of First and C Streets NE, would affect the integrity of design, setting, and feeling by interrupting the silhouette of the station roofline and the visual symmetry of the station's monumental Beaux Arts design.

Visual changes from the construction of Alternative E would cause potential moderate visual effects to the U.S. Capitol Dome viewshed. Five properties: Senate Parks, Thurgood Marshall Federal Judiciary Building, Woodward and Lothrop Service Warehouse, the L'Enfant-McMillan Plan, and the Capitol Hill Historic District would experience potential minor visual effects. Seven properties: the City Post Office, Dirksen and Hart Senate Office Buildings, Library of Congress Thomas Jefferson Building, Russell Senate Office Building, Square 750 Rowhouse Development, St. Joseph's Home, and the Uline Arena would experience potential negligible visual effects, and two properties: the Government Printing Office and Government Printing Office Warehouse No. 4, would experience potential beneficial visual effects. Such visual effects from Alternative E would not affect the significance or integrity of the properties and result in no adverse effects, as further explained in the individual historic property assessments.

Noise and Vibration Effects

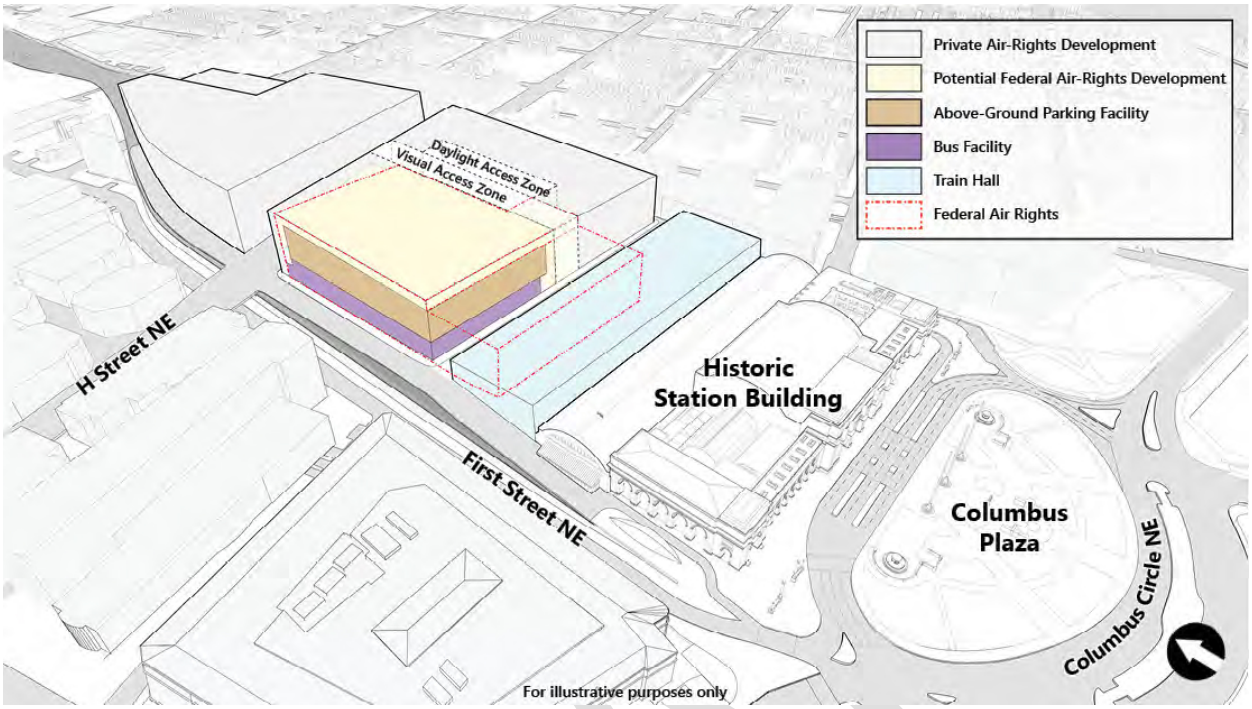
Noise and vibration effects resulting from traffic and the construction and operation of Alternative E would match the effects of Alternative A. WUS would experience temporary noise levels above FTA thresholds for noise impacts and potentially damaging vibration effects during construction. The REA Building would also experience noise and vibration effects, resulting in potential physical effects, which would need to be monitored to ensure structural damage does not occur.

Construction-related noise and vibration effects would also affect seven additional historic properties, as described in the summary of Alternative A. However, such effects would not compromise the properties' integrity of setting, feeling, or association and would result in no adverse effects.

Other Effects Generated by Traffic Like Alternative A, eighteen historic properties are located along or close to these traffic thoroughfares and would experience potential effects from increases in traffic. All such properties, except the Capitol Hill Historic District, would not experience adverse effects because the incremental traffic would not alter the busy, traffic-heavy urban setting in which the property is located. As in Alternatives A through D, increased traffic within the Capitol Hill Historic District alone would not likely affect the historic district. However, considered cumulatively, moderate temporary construction noise effects to buildings along Second Street NE (especially 701, 603-607, and 521-527 Second Street NE) if excavation spoils are removed by truck; temporary vibration effects during construction to properties at 701 and 603-607 Second Street NE and 205 F Street NE; and the potential visual effects, conflicts with pedestrians and bicyclists, and other disturbances impacting access to properties from increased traffic volumes along Second Street NE, F Street NE, and potentially other residential streets, may detract from the residential character of the district and have the potential to adversely affect the integrity of setting and feeling of the historic district. Refer to the analysis for the Capitol Hill Historic District for a full explanation.

6.2.6 Alternative A-C

Figure 28. *Illustration of Alternative A-C*



Alternative A-C would result in adverse effects to three historic properties: the REA Building, WUS, and the WUS Historic Site. Alternative A-C may also result in a potential adverse effect to the Capitol Hill Historic District.

Physical Effects

The Physical effects of Alternative A-C are the same as those for Alternative A. Physical effects would adversely affect WUS and the WUS Historic Site, and would include the work to remove the non-historic Claytor Concourse, construct a new passenger concourse and train hall, remove original columns within the First Street Tunnel, and demolish and reconstruct the Terminal Rail Yard.

There is a potential for physical effects to occur at the basement level of the REA Building depending on whether the existing direct connection to the H Street Tunnel will be eliminated or maintained with the construction of the H Street Concourse. At this early conceptual stage of Project design and since the exact location and method of a potential connection to the REA Building is not yet determined, the nature of the potential physical effect and whether it would constitute an adverse effect under Section 106 cannot be determined at this time. While no other physical effects to the REA Building are planned, vibratory pile driving during construction

would result in an increased risk of structural damage. Given the long duration and the proximity of construction activities to the station, the effect of vibration on the building would need to be monitored to ensure physical effects to the REA Building do not occur.

Visual Effects

Like Alternatives A through E, visual effects of Alternative A-C result in a finding of adverse effect for the REA Building, WUS, and WUS Historic Site. With the reconstruction of the Terminal Rail Yard and the erection of the east-west train hall, bus and parking facilities, and supporting deck structure, Alternative E would greatly change the appearance of the WUS Historic Site and alter existing visual connections between its components, including WUS and the REA Building. The disruption of the visual and physical connections between each of these historic properties would diminish their integrity of setting, feeling, and association. Additionally, the potential major visual effects from the bus and parking facility and potential Federal air-rights development to WUS and WUS Historic Site, as seen from Delaware Ave NE and the intersection of First and C Streets NE, would affect the integrity of design, setting, and feeling by interrupting the silhouette of the station roofline and the visual symmetry of the station's monumental Beaux Arts design.

Visual changes from the construction of Alternative A-C would cause a potential moderate visual effect to the U.S. Capitol Dome viewshed. Seven properties: City Post Office, Senate Parks, Thurgood Marshall Federal Judiciary Building, Columbus Plaza, Woodward and Lothrop Service Warehouse, the L'Enfant-McMillan Plan, and the Capitol Hill Historic District would experience potential minor visual effects. Seven properties: Dirksen and Hart Senate Office Buildings, Government Printing Office, Library of Congress Thomas Jefferson Building, Russell Senate Office Building, Square 750 Rowhouse Development, St. Joseph's Home, and the Uline Arena would experience potential negligible visual effects, and one property: the Government Printing Office Warehouse No. 4, would experience potential beneficial visual effects. Such visual effects from Alternative E would not affect the significance or integrity of the properties and result in no adverse effects, as further explained in the individual historic property assessments.

Noise and Vibration Effects

Noise and vibration effects resulting from traffic and the construction and operation of Alternative A-C would match the effects of Alternative A. WUS would experience temporary noise levels above FTA thresholds for noise impacts and potentially damaging vibration effects during construction. The REA Building would also experience noise and vibration effects,

resulting in potential physical effects, which would need to be monitored to ensure structural damage does not occur.

Construction-related noise and vibration effects would also affect seven additional historic properties, as described in the summary of Alternative A. However, such effects would not compromise the properties' integrity of setting, feeling, or association and would result in no adverse effects.

Other Effects Generated by Traffic

Like Alternative A, eighteen historic properties are located along or close to these traffic thoroughfares and would experience potential effects from increases in traffic. All such properties, except the Capitol Hill Historic District, would not experience adverse effects because the incremental traffic would not alter the busy, traffic-heavy urban setting in which the property is located. As in all other Action Alternatives, increased traffic within the Capitol Hill Historic District alone would not likely affect the historic district. However, considered cumulatively, moderate temporary construction noise effects to buildings along Second Street NE (especially 701, 603-607, and 521-527 Second Street NE) if excavation spoils are removed by truck; temporary vibration effects during construction to properties at 701 and 603-607 Second Street NE and 205 F Street NE; and the potential visual effects, conflicts with pedestrians and bicyclists, and other disturbances impacting access to properties from increased traffic volumes along 2nd Street NE, F Street NE, and potentially other residential streets, may detract from the residential character of the district and have the potential to adversely affect the integrity of setting and feeling of the historic district. Refer to the analysis for the Capitol Hill Historic District for a full explanation.

6.3 Assessment of Effects: Summary of Effects Matrix for the Washington Union Station Expansion Project

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
Individual Properties									
1	**Acacia Building**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
2	**Augusta Apartment Building (and Louisa Addition)**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
3	**C&P Telephone Company Warehouse**	No physical change No visual change Potential noise, vibration, and traffic changes	No physical effect No visual effect No operational noise/vibration effects; operational traffic effects would not affect significance and integrity; no construction noise effects; construction vibration effects would not affect significance or integrity	No physical effect No visual effect No operational noise/vibration effects; operational traffic effects would not affect significance and integrity; no construction noise effects; construction vibration effects would not affect significance or integrity	No physical effect No visual effect No operational noise/vibration effects; operational traffic effects would not affect significance and integrity; no construction noise effects; construction vibration effects would not affect significance or integrity	No physical effect No visual effect No operational noise/vibration effects; operational traffic effects would not affect significance and integrity; no construction noise effects; construction vibration effects would not affect significance or integrity	No physical effect No visual effect No operational noise/vibration effects; operational traffic effects would not affect significance and integrity; no construction noise effects; construction vibration effects would not affect significance or integrity	No physical effect No visual effect No operational noise/vibration effects; operational traffic effects would not affect significance and integrity; no construction noise effects; construction vibration effects would not affect significance or integrity	No Adverse Effect
4	**Capital Press Building (Former)**	No physical change No visual change Potential noise and vibration changes; no traffic change	No physical effect No visual effect Operational noise effects would not affect significance and integrity; no construction noise or vibration effects; no traffic effects	No physical effect No visual effect Operational noise effects would not affect significance and integrity; no construction noise or vibration effects; no traffic effects	No physical effect No visual effect Operational noise effects would not affect significance and integrity; no construction noise or vibration effects; no traffic effects	No physical effect No visual effect Operational noise effects would not affect significance and integrity; no construction noise or vibration effects; no traffic effects	No physical effect No visual effect Operational noise effects would not affect significance and integrity; no construction noise or vibration effects; no traffic effects	No physical effect No visual effect Operational noise effects would not affect significance and integrity; no construction noise or vibration effects; no traffic effects	No Adverse Effect
5	**City Post Office (Postal Museum)**	No physical change No visual change Potential noise, vibration, and traffic changes	No physical effect Potential minor visual effect would not affect significance or integrity.	No physical effect Potential minor visual effect would not affect significance or integrity.	No physical effect Potential negligible visual effect would not affect significance or integrity.	No physical effect Potential negligible visual effect would not affect significance or integrity.	No physical effect Potential negligible visual effect would not affect significance or integrity.	No physical effect Potential minor visual effect would not affect significance or integrity.	No Adverse Effect

[75] While no effects assessment was provided for the No-Action Alternative, a summary of the associated changes is presented in this table to aid in comparison with the Action Alternatives.

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
			No operational noise/vibration effects; no construction vibration effects; construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No operational noise/vibration effects; no construction vibration effects; construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No operational noise/vibration effects; no construction vibration effects; construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No operational noise/vibration effects; no construction vibration effects; construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No operational noise/vibration effects; no construction vibration effects; construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No operational noise/vibration effects; no construction vibration effects; construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	
6	**Dirksen and Hart Senate Office Buildings**	No physical change Visual change based on visual simulation. No noise, vibration, or traffic changes	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No Adverse Effect
7	**Eckington Power Plant; Coach Yard Power Plant**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
8	**Engine Company No. 3**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
9	**Garfield Memorial**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effectNo visual effectNo noise, vibration, or traffic effects	No physical effectNo visual effectNo noise, vibration, or traffic effects	No physical effectNo visual effectNo noise, vibration, or traffic effects	No physical effectNo visual effectNo noise, vibration, or traffic effects	No physical effectNo visual effectNo noise, vibration, or traffic effects	No physical effectNo visual effectNo noise, vibration, or traffic effects	No Effect
10	**Gonzaga College High School**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
11	**Government Printing Office**	No physical change No visual change Potential noise, vibration, and traffic changes	No physical effect Potential negligible visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity;	No physical effect Potential negligible visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity;	No physical effect Potential beneficial visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity;	No physical effect Potential beneficial visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity;	No physical effect Potential beneficial visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity;	No physical effect Potential negligible visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity;	No Adverse Effect

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
			operational traffic effects would not affect significance or integrity	operational traffic effects would not affect significance or integrity	operational traffic effects would not affect significance or integrity	operational traffic effects would not affect significance or integrity	operational traffic effects would not affect significance or integrity	operational traffic effects would not affect significance or integrity	
12	**Government Printing Office Warehouse No. 4**	No physical change Visual change based on visual simulation Potential noise, vibration, and traffic changes	No physical effect Potential beneficial visual effect would not affect significance or integrity. No operational noise/vibration effect; no construction vibration effects; moderate to severe construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential beneficial visual effect would not affect significance or integrity. No operational noise/vibration effect; no construction vibration effects; moderate to severe construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential beneficial visual effect would not affect significance or integrity. No operational noise/vibration effect; no construction vibration effects; moderate to severe construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential beneficial visual effect would not affect significance or integrity. No operational noise/vibration effect; no construction vibration effects; moderate to severe construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential beneficial visual effect would not affect significance or integrity. No operational noise/vibration effect; no construction vibration effects; moderate to severe construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential beneficial visual effect would not affect significance or integrity. No operational noise/vibration effect; no construction vibration effects; moderate to severe construction noise effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No Adverse Effect
13	**Hayes School**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
14	**Holodomor Ukrainian Holocaust Memorial**	No physical change No visual change Potential noise, vibration, and traffic changes	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No Adverse Effect
15	**Japanese American Memorial to Patriotism During WWII**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
16	**Joseph Gales School**	No physical change No visual change No noise or vibration changes; operational traffic changes	No physical effect No visual effect No noise or vibration effects; operational traffic effects would not affect significance or integrity	No physical effect No visual effect No noise or vibration effects; operational traffic effects would not affect significance or integrity	No physical effect No visual effect No noise or vibration effects; operational traffic effects would not affect significance or integrity	No physical effect No visual effect No noise or vibration effects; operational traffic effects would not affect significance or integrity	No physical effect No visual effect No noise or vibration effects; operational traffic effects would not affect significance or integrity	No physical effect No visual effect No noise or vibration effects; operational traffic effects would not affect significance or integrity	No Effect

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
17	**Library of Congress, Thomas Jefferson Building**	No physical change Visual change based on visual simulation No noise, vibration, or traffic changes	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No Adverse Effect
18	**M Street High School (Perry School)**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
19	**Major General Nathanael Greene Statue**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
20	**Mountjoy Bayly House**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
21	**Peace Monument**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
22	**Railway Express Agency (REA) Building**	Potential physical changes from construction. Visual change caused by physical changes within the Terminal Rail Yard. Potential vibration during construction may cause physical changes; potential noise changes; no traffic changes	Potential physical effects from the construction of the H Street Concourse; physical effects from construction vibrations will require monitoring and may result in a loss of integrity. Visual effects caused by physical and visual changes within the Terminal Rail Yard would affect the property's significance and integrity. No operational noise/vibration effects; temporary severe construction noise effects would not affect significance or integrity;	Potential physical effects from the construction of the H Street Concourse; physical effects from construction vibrations will require monitoring and may result in a loss of integrity. Visual effects caused by physical and visual changes within the Terminal Rail Yard would affect the property's significance and integrity. No operational noise/vibration effects; temporary severe construction noise effects would not affect significance or integrity;	Potential physical effects from the construction of the H Street Concourse; physical effects from construction vibrations will require monitoring and may result in a loss of integrity. Visual effects caused by physical and visual changes within the Terminal Rail Yard would affect the property's significance and integrity. No operational noise/vibration effects; temporary severe construction noise effects would not affect significance or integrity;	Potential physical effects from the construction of the H Street Concourse; physical effects from construction vibrations will require monitoring and may result in a loss of integrity. Visual effects caused by physical and visual changes within the Terminal Rail Yard would affect the property's significance and integrity. No operational noise/vibration effects; temporary severe construction noise effects would not affect significance or integrity;	Potential physical effects from the construction of the H Street Concourse; physical effects from construction vibrations will require monitoring and may result in a loss of integrity. Visual effects caused by physical and visual changes within the Terminal Rail Yard would affect the property's significance and integrity. No operational noise/vibration effects; temporary severe construction noise effects would not affect significance or integrity;	Potential physical effects from the construction of the H Street Concourse; physical effects from construction vibrations will require monitoring and may result in a loss of integrity. Visual effects caused by physical and visual changes within the Terminal Rail Yard would affect the property's significance and integrity. No operational noise/vibration effects; temporary severe construction noise effects would not affect significance or integrity;	Adverse Effect

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
			no operational traffic effects	no operational traffic effects	no operational traffic effects	no operational traffic effects	no operational traffic effects	no operational traffic effects	
23	**Robert A. Taft Memorial**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
24	**Russell Senate Office Building**	No physical change Potential visual change No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No physical effect Potential negligible visual effect would not affect significance or integrity. No noise, vibration, or traffic effects	No Adverse Effect
25	**Senate Parks, Underground Garage, and Fountains**	No physical change Visual change based on visual simulation Potential noise/vibration changes; no traffic changes	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no operational traffic effects	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no operational traffic effects	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no operational traffic effects	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no operational traffic effects	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no operational traffic effects	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no operational traffic effects	No Adverse Effect
26	**Sewall-Belmont House**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
27	**Square 750 Rowhouse Development**	No physical change Visual change based on visual simulation Potential noise, vibration, and traffic changes	No physical effect Potential negligible visual effects would not affect significance or integrity, which has already been lost due to existing and planned changes and development Moderate operational noise effects and operational traffic effects would not affect significance or integrity;	No physical effect Potential negligible visual effects would not affect significance or integrity, which has already been lost due to existing and planned changes and development Moderate operational noise effects and operational traffic effects would not affect significance or integrity;	No physical effect Potential negligible visual effects of Alternative C-West and potential minor visual effects of Alternative C-East would not affect significance or integrity, which has already been lost due to existing and planned changes and development Moderate operational	No physical effect Potential minor to moderate visual effect would not affect significance or integrity, which has already been lost due to existing and planned changes and development Moderate operational noise effects and operational traffic effects would not affect	No physical effect Potential negligible visual effects would not affect significance or integrity, which has already been lost due to existing and planned changes and development Moderate operational noise effects and operational traffic effects would not affect significance or integrity;	No physical effect Potential negligible visual effects would not affect significance or integrity, which has already been lost due to existing and planned changes and development Moderate operational noise effects and operational traffic effects would not affect significance or integrity;	No Adverse Effect

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
			moderate to severe temporary construction noise/vibration effects would not affect significance or integrity, which has already been lost due to existing and planned changes and development	moderate to severe temporary construction noise/vibration effects would not affect significance or integrity, which has already been lost due to existing and planned changes and development	noise effects and operational traffic effects would not affect significance or integrity; moderate to severe temporary construction noise/vibration effects would not affect significance or integrity, which has already been lost due to existing and planned changes and development	significance or integrity; moderate to severe temporary construction noise/vibration effects would not affect significance or integrity, which has already been lost due to existing and planned changes and development	moderate to severe temporary construction noise/vibration effects would not affect significance or integrity, which has already been lost due to existing and planned changes and development	moderate to severe temporary construction noise/vibration effects would not affect significance or integrity, which has already been lost due to existing and planned changes and development	
28	**St. Aloysius Catholic Church**	No physical change No visual change Potential noise, vibration, and traffic changes	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No Adverse Effect
29	**St. Joseph's Home (Former)**	No physical change Visual change based on visual simulation Potential noise, vibration, and traffic changes	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effects would not affect significance or integrity; moderate to severe temporary construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effects would not affect significance or integrity; moderate to severe temporary construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effects would not affect significance or integrity; moderate to severe temporary construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effects would not affect significance or integrity; moderate to severe temporary construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effects would not affect significance or integrity; moderate to severe temporary construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effects would not affect significance or integrity; moderate to severe temporary construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No Adverse Effect
30	**St. Phillip's Baptist Church**	No physical change No visual change	No physical effect No visual Effect	No physical effect No visual Effect	No physical effect No visual Effect	No physical effect No visual Effect	No physical effect No visual Effect	No physical effect No visual Effect	No Adverse Effect

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
		Potential noise, vibration, and traffic changes	Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	
31	**Suntrust Building (Former Childs Restaurant)**	No physical change No visual change Potential noise, vibration, and traffic changes	No physical effect No visual effect No noise/vibration effects; operational traffic effects would not affect significance and integrity	No physical effect No visual effect No noise/vibration effects; operational traffic effects would not affect significance and integrity	No physical effect No visual effect No noise/vibration effects; operational traffic effects would not affect significance and integrity	No physical effect No visual effect No noise/vibration effects; operational traffic effects would not affect significance and integrity	No physical effect No visual effect No noise/vibration effects; operational traffic effects would not affect significance and integrity	No physical effect No visual effect No noise/vibration effects; operational traffic effects would not affect significance and integrity	No Adverse Effect
32	**The Summerhouse**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
33	**Thurgood Marshall Federal Judiciary Building**	No physical change Visual change based on visual simulation Potential noise, vibration, and traffic changes	No physical effect Potential minor visual effect would not affect significance or integrity. No operational noise/vibration effects; temporary moderate construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	No physical effect Potential minor visual effect would not affect significance or integrity. No operational noise/vibration effects; temporary moderate construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	No physical effect Potential minor visual effect would not affect significance or integrity. No operational noise/vibration effects; temporary moderate construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	No physical effect Potential minor visual effect would not affect significance or integrity. No operational noise/vibration effects; temporary moderate construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	No physical effect Potential minor visual effect would not affect significance or integrity. No operational noise/vibration effects; temporary moderate construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	No physical effect Potential minor visual effect would not affect significance or integrity. No operational noise/vibration effects; temporary moderate construction noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance and integrity	No Adverse Effect
34	**Topham's Luggage Factory (Former)**	No physical change Potential visual change Potential noise/vibration changes; no traffic change	No physical effect No visual effect No operational noise/vibration effect; temporary moderate to severe construction noise/vibration effects would not affect significance or integrity or	No physical effect No visual effect No operational noise/vibration effect; temporary moderate to severe construction noise/vibration effects would not affect significance or integrity or	No physical effect Potential moderate visual effect of Alternative C-East would not affect significance or integrity. No visual effect from Alternative C-West No operational noise/vibration effect;	No physical effect No visual effect No operational noise/vibration effect; temporary moderate to severe construction noise/vibration effects would not affect significance or integrity or	No physical effect No visual effect No operational noise/vibration effect; temporary moderate to severe construction noise/vibration effects would not affect significance or integrity or	No physical effect No visual effect No operational noise/vibration effect; temporary moderate to severe construction noise/vibration effects would not affect significance or integrity or	No Adverse Effect

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
			cause physical effects; no operational traffic effect	cause physical effects; no operational traffic effect	temporary moderate to severe construction noise/vibration effects would not affect significance or integrity or cause physical effects; no operational traffic effect	cause physical effects; no operational traffic effect	cause physical effects; no operational traffic effect	cause physical effects; no operational traffic effect	
35	**Uline Ice Company Plant and Arena Complex**	No physical change Visual change based on visual simulation Potential noise/vibration effects changes; no traffic change	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effect would not affect significance or integrity; no temporary construction noise/vibration effects; no traffic effect	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effect would not affect significance or integrity; no temporary construction noise/vibration effects; no traffic effect	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effect would not affect significance or integrity; no temporary construction noise/vibration effects; no traffic effect	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effect would not affect significance or integrity; no temporary construction noise/vibration effects; no traffic effect	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effect would not affect significance or integrity; no temporary construction noise/vibration effects; no traffic effect	No physical effect Potential negligible visual effect would not affect significance or integrity. Moderate operational noise effect would not affect significance or integrity; no temporary construction noise/vibration effects; no traffic effect	No Adverse Effect
36	**United States Capitol**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
37	**United States Capitol Square**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
38	**United States Supreme Court**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
39	**Victims of Communism Memorial**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
40	**Washington Union Station**	Physical changes from other projects at station Visual change based on visual simulation Potential vibration change from construction; potential construction noise and	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in a physical effect. Visual effects from the	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in a physical effect. Visual effects from the	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in a physical effect. Visual effects from the	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in a physical effect. Visual effects from the	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in a physical effect. Visual effects from the	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in a physical effect. Visual effects from the	**Adverse Effect**

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
		operational traffic changes	reconstruction of the Terminal Rail Yard and the construction of the Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise effects would not affect significance and integrity.	reconstruction of the Terminal Rail Yard and the construction of the Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise effects would not affect significance and integrity.	reconstruction of the Terminal Rail Yard and the construction of the Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise effects would not affect significance and integrity.	reconstruction of the Terminal Rail Yard and the construction of the Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise effects would not affect significance and integrity.	reconstruction of the Terminal Rail Yard and the construction of the Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise effects would not affect significance and integrity.	reconstruction of the Terminal Rail Yard and the construction of the Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise effects would not affect significance and integrity.	
41	**Washington Union Station Plaza (Columbus Plaza) and Columbus Fountain**	No physical change Visual change based on visual simulation Potential noise, vibration, and traffic changes	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; operational traffic effects would not affect significance or integrity	No Adverse Effect
42	**Woodward and Lothrop Service Warehouse**	No physical change Potential visual change Potential noise/vibration changes; no traffic change	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No physical effect Potential minor visual effect would not affect significance or integrity. Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No Adverse Effect
43	**901 Second Street NE**	No physical change Visual change based on visual simulation Potential noise, vibration, and traffic changes	No physical effect No visual effect No operational noise/vibration effect; moderate to severe	No physical effect No visual effect No operational noise/vibration effect; moderate to severe	No physical effect No visual effect for Alternative C-West; potential moderate visual effect of Alternative C-East would not affect	No physical effect Potential moderate visual effect would not affect significance or integrity. No operational	No physical effect No visual effect No operational noise/vibration effect; moderate to severe	No physical effect No visual effect No operational noise/vibration effect; moderate to severe	No Adverse Effect

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
			temporary construction noise/vibration effects would not affect significance or integrity; no traffic effect	temporary construction noise/vibration effects would not affect significance or integrity; no traffic effect	significance or integrity. No operational noise/vibration effect; moderate to severe temporary construction noise/vibration effects would not affect significance or integrity; no traffic effect	noise/vibration effect; moderate to severe temporary construction noise/vibration effects would not affect significance or integrity; no traffic effect	temporary construction noise/vibration effects would not affect significance or integrity; no traffic effect	temporary construction noise/vibration effects would not affect significance or integrity; no traffic effect	
Historic Sites and Districts									
44	**Capitol Hill Historic District**	No physical change Visual change based on visual simulations Potential construction noise and vibration changes; operational traffic changes	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; moderate to severe temporary construction noise and vibration effects would not affect significance or integrity; traffic effects alone would likely not affect significance and integrity Considered cumulatively, effects from traffic and temporary construction noise and vibration effects may be potentially adverse	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; moderate to severe temporary construction noise and vibration effects would not affect significance or integrity; traffic effects alone would likely not affect significance and integrity Considered cumulatively, effects from traffic and temporary construction noise and vibration effects may be potentially adverse	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; moderate to severe temporary construction noise and vibration effects would not affect significance or integrity; traffic effects alone would likely not affect significance and integrity Considered cumulatively, effects from traffic and temporary construction noise and vibration effects may be potentially adverse	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; moderate to severe temporary construction noise and vibration effects would not affect significance or integrity; traffic effects alone would likely not affect significance and integrity Considered cumulatively, effects from traffic and temporary construction noise and vibration effects may be potentially adverse	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; moderate to severe temporary construction noise and vibration effects would not affect significance or integrity; traffic effects alone would likely not affect significance and integrity Considered cumulatively, effects from traffic and temporary construction noise and vibration effects may be potentially adverse	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; moderate to severe temporary construction noise and vibration effects would not affect significance or integrity; traffic effects alone would likely not affect significance and integrity Considered cumulatively, effects from traffic and temporary construction noise and vibration effects may be potentially adverse	**Potential Adverse Effect**
45	**L'Enfant-McMillan Plan**	No physical change Visual change based on visual simulations Potential noise and vibration changes; traffic changes	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; temporary construction noise/vibration effects would not affect significance or integrity;	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; temporary construction noise/vibration effects would not affect significance or integrity;	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; temporary construction noise/vibration effects would not affect significance or integrity;	No physical effect Potential moderate visual effects would not affect significance or integrity. No operational noise/vibration effects; temporary construction noise/vibration effects would not affect significance or integrity;	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; temporary construction noise/vibration effects would not affect significance or integrity;	No physical effect Potential minor visual effects would not affect significance or integrity. No operational noise/vibration effects; temporary construction noise/vibration effects would not affect significance or integrity;	No Adverse Effect

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
			traffic effects would not affect significance or integrity.	traffic effects would not affect significance or integrity.	traffic effects would not affect significance or integrity.	traffic effects would not affect significance or integrity.	traffic effects would not affect significance or integrity.	traffic effects would not affect significance or integrity.	
46	**National Mall District**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
47	**Pennsylvania Avenue National Historic Site**	No physical change No visual change No changes in noise, vibration, or traffic	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No physical effect No visual effect No noise, vibration, or traffic effects	No Effect
48	**Union Market Historic District**	No physical change No visual change Potential noise/vibration changes; no traffic changes	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No physical effect No visual effect Likely no operational or construction noise and vibration effects; any potential noise/vibration effects would not affect significance or integrity; no traffic effect	No Adverse Effect
49	**Washington Union Station Historic Site (Expanded Boundary)**	Physical change from the construction of the deck over the Terminal Rail Yard Visual changes from the construction of the deck over the Terminal Rail Yard Potential vibrations from construction may cause physical change; potential construction noise and operational traffic changes	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in physical effects Visual effects from the reconstruction of the Terminal Rail Yard and construction of Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise and traffic effects would not affect significance or integrity.	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in physical effects Visual effects from the reconstruction of the Terminal Rail Yard and construction of Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise and traffic effects would not affect significance or integrity.	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in physical effects Visual effects from the reconstruction of the Terminal Rail Yard and construction of Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise and traffic effects would not affect significance or integrity.	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in physical effects Visual effects from the reconstruction of the Terminal Rail Yard and construction of Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise and traffic effects would not affect significance or integrity.	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in physical effects Visual effects from the reconstruction of the Terminal Rail Yard and construction of Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise and traffic effects would not affect significance or integrity.	Physical effects would affect the property's significance and integrity; temporary construction vibration effects will require monitoring and may result in physical effects Visual effects from the reconstruction of the Terminal Rail Yard and construction of Project elements would affect the property's significance and integrity. No operational noise/vibration effect; construction noise and traffic effects would not affect significance or integrity.	Adverse Effect
Culturally Significant Viewsheds									

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
50	**Arlington National Cemetery (Arlington House)**	Visual change would have low visibility and low sensitivity based on visual simulations.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative A would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative B would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative C would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative D would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative E would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative A-C would not affect the character of the viewshed.	No Effect
51	**Old Post Office Building**	Visual change would have low visibility and low sensitivity based on visual simulations.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative A would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative B would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative C would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative D would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative E would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative A-C would not affect the character of the viewshed.	No Effect
52	**St. Elizabeths West Campus**	Visual change would have no visibility and no sensitivity based on visual simulations.	Visual effect would have no visibility and no sensitivity. Alternative A would not affect the character of the viewshed.	Visual effect would have no visibility and no sensitivity. Alternative B would not affect the character of the viewshed.	Visual effect would have no visibility and no sensitivity. Alternative C would not affect the character of the viewshed.	Visual effect would have no visibility and no sensitivity. Alternative D would not affect the character of the viewshed.	Visual effect would have no visibility and no sensitivity. Alternative E would not affect the character of the viewshed.	Visual effect would have no visibility and no sensitivity. Alternative A would not affect the character of the viewshed.	No Effect
53	**U.S. Capitol Dome**	Visual change would have moderate to high noticeability and sensitivity based on visual simulations due to the height of the private air-rights development. However, the No-Action Alternative would not interrupt the views along North Capitol Street NW and Delaware Ave NE to Columbus Plaza and the WUS headhouse, as established by the L'Enfant-McMillan Plan.	Potential moderate visual effect would have high visibility and moderate sensitivity due to the height of the Project elements and potential Federal air-rights development, which would result in visual asymmetry behind the station. However, Alternative A would not interrupt the views along North Capitol Street NW and Delaware Ave NE to Columbus Plaza and the WUS headhouse, as established by the L'Enfant-McMillan Plan. Alternative A would not significantly alter the character of the viewshed.	Potential moderate visual effect would have high visibility and moderate sensitivity due to the height of the potential Federal air-rights development, which would result in visual asymmetry behind the station. However, Alternative B would not interrupt the views along North Capitol Street NW and Delaware Ave NE to Columbus Plaza and the WUS headhouse, as established by the L'Enfant-McMillan Plan. Alternative B would not significantly alter the character of the viewshed.	Potential moderate visual effect would have high visibility and moderate sensitivity due to the height of the Project elements (in Alternative C-East) and potential Federal air-rights development, which would result in visual asymmetry behind the station. However, Alternative C would not interrupt the views along North Capitol Street NW and Delaware Ave NE to Columbus Plaza and the WUS headhouse, as established by the L'Enfant-McMillan Plan. Alternative C would not significantly alter the character of the viewshed.	Potential moderate visual effect would have high visibility and moderate sensitivity due to the height of the Project elements and potential Federal air-rights development, which would result in visual asymmetry behind the station. However, Alternative D would not interrupt the views along North Capitol Street NW and Delaware Ave NE to Columbus Plaza and the WUS headhouse, as established by the L'Enfant-McMillan Plan. Alternative D would not significantly alter the character of the viewshed.	Potential moderate visual effect would have high visibility and moderate sensitivity due to the height of the potential Federal air-rights development, which would result in visual asymmetry behind the station. However, Alternative E would not interrupt the views along North Capitol Street NW and Delaware Ave NE to Columbus Plaza and the WUS headhouse, as established by the L'Enfant-McMillan Plan. Alternative E would not significantly alter the character of the viewshed.	Potential moderate visual effect would have high visibility and moderate sensitivity due to the height of the Project elements and potential Federal air-rights development, which would result in visual asymmetry behind the station. However, Alternative A would not interrupt the views along North Capitol Street NW and Delaware Ave NE to Columbus Plaza and the WUS headhouse, as established by the L'Enfant-McMillan Plan. Alternative A would not significantly alter the character of the viewshed.	No Adverse Effect
54	**Washington National Cathedral**	Visual change would have no visibility and no	Visual effect would have no visibility and no sensitivity. Alternative A	Visual effect would have no visibility and no sensitivity. Alternative B	Visual effect would have no visibility and no sensitivity. Alternative C	Visual effect would have no visibility and no sensitivity. Alternative D	Visual effect would have no visibility and no sensitivity. Alternative E	Visual effect would have no visibility and no sensitivity. Alternative A	No Effect

#	Historic Property	No-Action[75]	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative A-C	Determination of Effect for Action Alternatives
		sensitivity based on visual simulations.	would not affect the character of the viewshed.	would not affect the character of the viewshed.	would not affect the character of the viewshed.	would not affect the character of the viewshed.	would not affect the character of the viewshed.	would not affect the character of the viewshed.	
55	**Washington National Monument**	Visual change would have low visibility and low sensitivity based on visual simulations.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative A would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative B would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative C would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative D would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative E would not affect the character of the viewshed.	Potential negligible visual effect would have low visibility and low sensitivity. Alternative A-C would not affect the character of the viewshed.	No Effect

7 Appendices

7.1 Appendix 1: List of Consulting Parties

7.2 Appendix 2: Formal Communication and Comments from Consulting Parties

7.3 Appendix 3: Area of Potential Effects and Identification of Historic Properties for the Washington Union Station Expansion Project - Final Report