

6 Draft Section 4(f) Evaluation

6.1 Introduction

1 Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966 states
2 that “it is the policy of the United States Government that special effort should be made to
3 preserve the natural beauty of the countryside and public park and recreation lands, wildlife
4 and waterfowl refuges, and historic sites.”¹ This Draft Section 4(f) Evaluation discusses:

- 5 ■ The applicability of Section 4(f) to the Project;
- 6 ■ The Project’s Purpose and Need;
- 7 ■ The Project’s Action Alternatives;
- 8 ■ The Section 4(f) properties that may be affected by the Action Alternatives;
- 9 ■ The impacts of the Action Alternatives on the Section 4(f) properties;
- 10 ■ Avoidance Alternatives;
- 11 ■ Minimization and Mitigation of Harm; and
- 12 ■ Coordination.

13 The Federal Railroad Administration (FRA) prepared this Draft Section 4(f) Evaluation because
14 the Washington Union Station (WUS) Expansion Project (Project) is located in a culturally rich
15 and historically significant area of the District of Columbia (District) that includes several
16 public parks as well as numerous historic properties and districts either listed or eligible for
17 listing in the National Register of Historic Places (NRHP) and District Inventory of Historic
18 Sites (DC Inventory). The evaluation of impacts relies on the information and analyses
19 presented in previous chapters of this Draft Environmental Impact Statement (DEIS).

6.2 Section 4(f) Applicability

20 Section 4(f) prohibits an operating administration of the Department of Transportation,
21 including FRA, from approving a project that uses public parks and recreational lands; wildlife
22 refuges; and public or private historic properties listed or eligible for listing in the NRHP
23 unless it determines there is no feasible and prudent avoidance alternative to avoid the use

¹ 49 United States Code (USC) 303(a).

24 and the project includes all possible planning to minimize harm to the resources, or the use
25 meets the requirements for a *de minimis* impact.²

26 FRA's *Procedures for Considering Environmental Impacts* (64 Federal Register [FR] 28545,
27 Section 12, May 26, 1999 as updated by 78 FR 2713, January 14, 2013) outlines the
28 Section 4(f) process that is applicable for this Project. FRA obtained additional guidance from
29 the Federal Highway Administration and Federal Transit Administration regulations
30 implementing Section 4(f) at 23 CFR part 774,³ as well as associated policy guidance,⁴ in
31 preparing this Section 4(f) evaluation.

32 Section 4(f) evaluations include coordination with Officials with Jurisdiction (OWJ) over the
33 Section 4(f) resources (the State Historic Preservation Office [SHPO] or Tribal Historic
34 Preservation Office for historic resources and generally the property owner for parks and
35 other recreational resources). FRA must also coordinate with the United States
36 Department of Interior (DOI) when it makes a Section 4(f) finding. As appropriate, FRA must
37 also coordinate with the United States Department of Agriculture (USDA) and the United
38 States Department of Housing and Urban Development (HUD), as well as relevant state and
39 local officials.

6.3 Project Purpose and Need

40 The purpose of the Project is to support current and future long-term growth in rail service
41 and operational needs; achieve compliance with the Americans with Disabilities Act of 1990
42 (ADA) and emergency egress requirements; facilitate intermodal travel; provide a positive
43 customer experience; enhance integration with the adjacent neighborhoods, businesses, and
44 planned land uses; sustain WUS's economic viability; and support continued preservation and
45 use of the Historic Station building.

46 The Project is needed to improve rail capacity, reliability, safety, efficiency, accessibility, and
47 security for both current and future long-term railroad operations at WUS. Chapter 2,
48 *Purpose and Need*, describes the Purpose and Need for the Project in more detail.

² 49 USC 303 (c, d)

³ FRA made the regulations at 23 CFR part 774 its Section 4(f) implementing regulations through a final rule that was effective November 28, 2018. FRA published the Notice of Intent to prepare this EIS in the Federal Register on November 4, 2015; therefore, it is not required to follow 23 CFR 774 for the Project. However, this Section 4(f) analysis and findings generally follow 23 CFR 774.

⁴ U.S. Department of Transportation Federal Highway Administration. *Section 4(f) Policy Paper*. September 2016. Accessed from <https://www.environment.fhwa.dot.gov/4f/4fpolicy.asp>. Accessed on April 21, 2020.

6.4 Action Alternatives

49 FRA is considering five Action Alternatives for the Project. **Chapter 3, Alternatives**, describes
50 the Action Alternatives in detail, along with the alternative development and screening
51 process. The following paragraphs summarize the key features of the Action Alternatives.

- 52 ■ **Features common to all Action Alternatives:** All Action Alternatives include the
53 reconstruction of the rail terminal with new tracks and platforms; column removal in
54 the upper part of the First Street Tunnel; construction of several new passenger
55 concourses; improvements to pedestrian and bicycle access; expanded pick-up and
56 drop-off areas for for-hire and private vehicles; increased train and bus levels of
57 service to accommodate increased ridership; and potential development of the
58 available federally owned air rights in the southwest part of rail terminal to the
59 maximum height permitting by applicable zoning regulations.
- 60 ■ **Alternative A:** This alternative would feature a north-south train hall between H
61 Street NE and the historic station building, along with a new bus facility and six levels
62 of parking above it located approximately where the existing garage currently stands.
63 Construction would take approximately 11 years and 5 months.
- 64 ■ **Alternative B:** This alternative would be similar to Alternative A except that all
65 parking would be below ground, on two levels along the west side of the rail terminal
66 between K Street NE and the historic station building. Vehicular access to parking
67 would be via K Street NE. Construction would take approximately 14 years and 4
68 months.
- 69 ■ **Alternative C, East Option:** This alternative and option would feature an east-west
70 train hall north of the historic station building. It would locate the new bus facility on
71 the eastern side of the rail terminal north of H Street NE. Parking would be in three
72 levels above the bus facility and one below-ground level along the west side of the
73 rail terminal. There would be a bus drop-off and pick-up area along the south side of
74 the train hall. The existing bus facility and parking garage would be demolished.
75 Construction would take approximately 12 years and 3 months.
- 76 ■ **Alternative C, West Option:** In this alternative and option, the new bus facility and
77 above-ground parking would be on the western side of the rail terminal north of H
78 Street NE. Everything else would be the same as in Alternative C, East Option.
- 79 ■ **Alternative D:** This alternative would feature an east-west train hall north of the
80 historic station building. Parking would be above ground, in a new facility at the
81 northern end of the rail terminal just south of K Street N, and below ground, on one
82 level along the west side of the rail terminal. A new bus facility would form a loop
83 around the train hall. Construction would take approximately 12 years and 3 months.
- 84 ■ **Alternative E:** This alternative would be like Alternative D except that all parking
85 would be below ground, on two levels along the west side of the rail terminal, like in
86 Alternative B. Construction would take approximately 14 years and 4 months.

- 87 ■ **Alternative A-C (Preferred Alternative):** Alternative A-C would feature an east-west
- 88 train hall north of the historic station building. A two-level bus facility and six levels
- 89 of parking above it would be located approximately where the existing parking
- 90 garage stands. Construction would take approximately 11 years and 5 months.

6.5 Section 4(f) Properties

91 This section identifies the Section 4(f) properties within the Study Area (**Figure 6-1**). The

92 Section 4(f) Study Area coincides with the Section 106 Area of Potential Effects (APE; see

93 **Section 4.12.2, Study Area, Figure 4-26**).

6.5.1 Public Parks, Recreation Areas, and Wildlife Refuges

94 Public parks, recreation areas, and wildlife refuges the Project may potentially affect were

95 identified through coordination with relevant local, national, and regional recreation area

96 authorities, review of Geographic Information System (GIS)-based data, and aerial

97 photography. There are four publicly owned parks or recreation areas that may be

98 potentially affected by the Project. No wildlife refuges are present.⁵

99 **Table 6-1** lists the identified public parks and recreation areas. **Figure 6-1** shows their

100 respective locations. **Section 6.5.1.1, Columbus Plaza**, through **Section 6.5.1.4, Upper and**

101 **Lower Senate Parks**, provide summary descriptions.

Table 6-1. Section 4(f) Parks and Recreation Areas within the Study Area

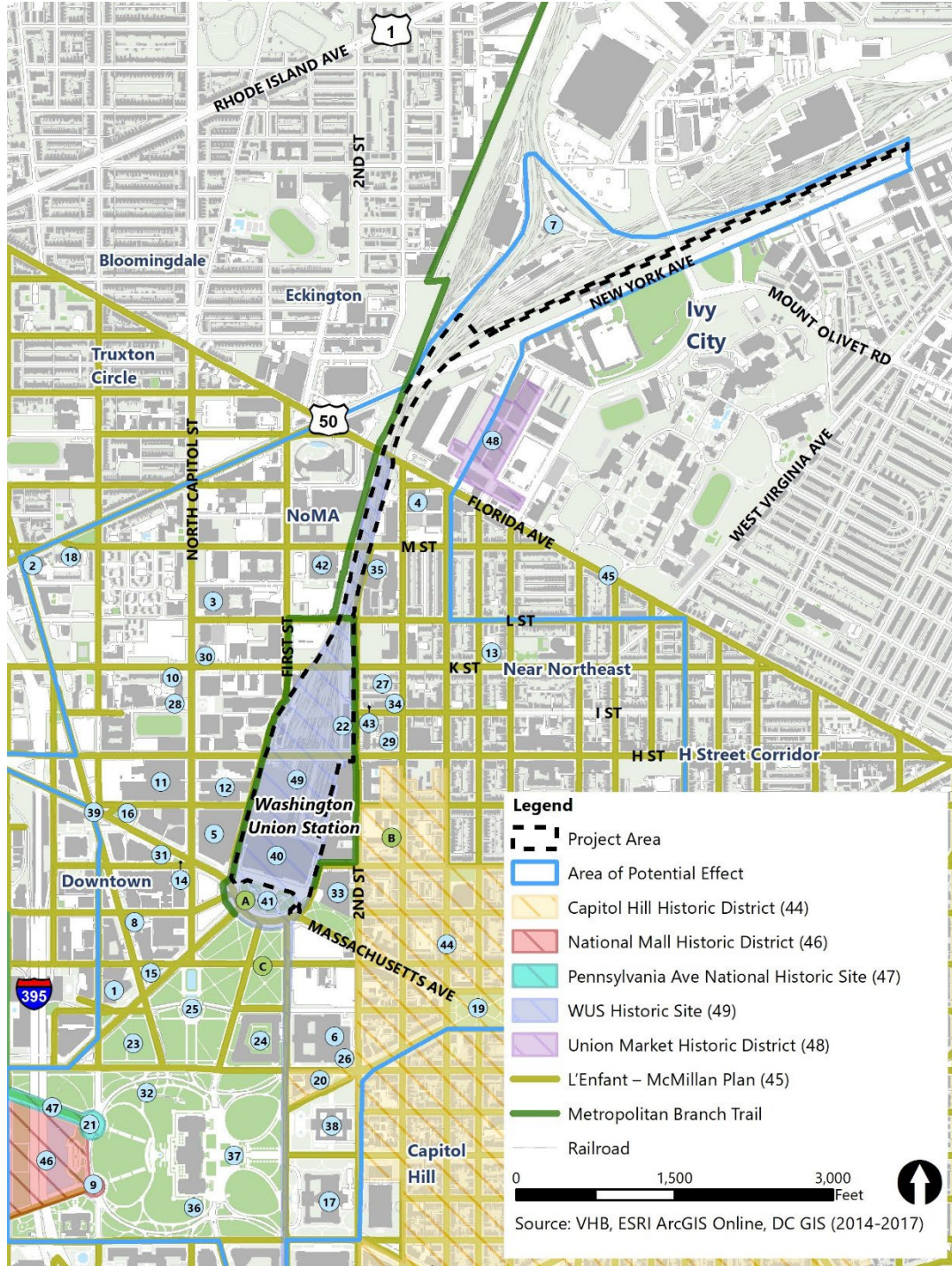
#	Resource Name	Ownership ¹	Estimated Size	Approximate Distance (Feet) from WUS
A	Columbus Plaza	Federal NPS	1,400 square feet (SF)	25
-	Metropolitan Branch Trail	District DDOT, DCDGS	Linear 8-mile trail (upon completion)	25
B	Playground at Capitol Hill Montessori (Public School)	District DCPS	300 SF	600
C	Upper and Lower Senate Parks	Federal AOC	5,700 SF	420

refers to **Figure 6-1**.

1. Acronyms: NPS = National Park Service; DDOT: District Department of Transportation; DCDGS: District of Columbia Department of General Services; DCPS: District of Columbia Public Schools; AOC: Architect of the Capitol.

⁵ Impacts on the First Street cycle track, whose primary purpose is transportation and which, as such, is not protected by Section 4(f) are addressed in **Section 5.5, Transportation** and **Section 5.13, Parks and Recreation Areas**. Impacts to the plazas at 750 First Street NE, 899 North Capitol Street NE, and the Storey Park Development (planned), and the planned NoMA Green, which are not protected by Section 4(f) because they are privately owned, are addressed in **Section 5.13, Parks and Recreation Areas**.

Figure 6-1. Section 4(f) Protected Properties



6.5.1.1 Columbus Plaza

102 Built in 1912, Columbus Plaza serves as a grand forecourt to WUS. The design was by Daniel
103 Burnham and Peirce Anderson of D.H. Burnham & Company. The semicircular plaza consists
104 of brick pavement and lawn panels surrounded by roadways, including the roadways used for
105 for-hire and private pick-up and drop-off in front of the station. The focal point of the plaza is
106 the Columbus Fountain, sculpted by artist Lorado Z. Taft (1860-1936) and completed in 1909.

6.5.1.2 Metropolitan Branch Trail

107 The Metropolitan Branch Trail is an off-street multiuse trail. When completed, it will connect
108 WUS to Silver Spring, MD. Pedestrians as well as cyclists use the trail for recreation and
109 commuting purposes. There are numerous access points for pedestrians and cyclists along
110 the trail.

6.5.1.3 Playground at Capitol Hill Montessori (Public School)

111 This children’s playground associated with Capitol Hill Montessori features play equipment
112 such as slides and climbing structures. It is available to children at the school as well as
113 members of the public outside of school hours. The property has an access point on 3rd
114 Street NE.

6.5.1.4 Upper and Lower Senate Parks

115 The Upper and Lower Senate Parks are part of the Capitol Complex. The parks include lawns,
116 plazas, and landscaped areas on the north side of the Complex. There are fountains and small
117 memorials throughout. The parks provide pedestrian connections to WUS, the National Mall,
118 and surrounding neighborhoods. There are numerous pedestrian and vehicular access points
119 to the parks.

6.5.2 Historic Properties

120 Historic properties affected by the Project were identified through the Section 106 process.
121 Within the Area of Potential Effects (APE) of the Project, there are 25 properties listed in the
122 NRHP or the DC Inventory of Historic Sites. Twelve other properties in the APE are eligible or
123 potentially eligible for listing in the NRHP or the DC Inventory of Historic Sites and 12 are
124 Architect of the Capitol (AOC) Heritage Assets.⁶ **Table 6-2** shows the historic properties in the
125 APE along with summary information on their status and date of construction.

⁶ “Potentially eligible” means that the analysis conducted suggests that these properties are likely to be eligible, but the State Historic Preservation Officer must concur with this assessment. AOC Heritage Assets are exempt from listing in the NRHP but are treated as NRHP-eligible historic properties for the purposes of this evaluation.

Table 6-2. Section 4(f) Historic Properties

#	Property Name	Historic Designation	Date of Construction or Period of Significance
1	Acacia Building	Potentially NRHP and DC Inventory Eligible	1936
2	Augusta Apartment Building (and Louisa Addition)	NRHP and DC Inventory	1900-1901
3	C&P Telephone Company Warehouse	NRHP and DC Inventory	1927
4	Capital Press Building (Former)	Potentially NRHP and DC Inventory Eligible	1931
5	City Post Office (Postal Museum)	DC Inventory	1914
6	Dirksen and Hart Senate Office Buildings	AOC Heritage Asset, NRHP exempt	1958 and 1982, respectively
7	Eckington Power Plant	DC Inventory Eligible	1907
8	Engine Company No. 3	DC Inventory	1916
9	Garfield Memorial	AOC Heritage Asset, NRHP exempt	1887
10	Gonzaga College High School	Potentially NRHP and DC Inventory Eligible	1859
11	Government Printing Office	DC Inventory	1904
12	Government Printing Office Warehouse #4	Potentially NRHP and DC Inventory Eligible	1937
13	Hayes School	DC Inventory	1897
14	Holodomor Ukrainian Holocaust Memorial	NPS memorial	2015
15	Japanese American Memorial to Patriotism, WWII	NPS memorial	2001
16	Joseph Gales School	DC Inventory	1881
17	Library of Congress, Thomas Jefferson Building	AOC Heritage Asset, NRHP exempt	1897
18	M Street High School (Perry School)	NRHP and DC Inventory	1890-1891
19	Major General Nathanael Greene Statue	NRHP and DC Inventory	1877
20	Mountjoy Bayly House	NRHP, National Historic Landmark	Predates War of 1812
21	Peace Monument	AOC Heritage Asset, NRHP exempt	1878
22	Railway Express Agency (REA) Building	DC Inventory Eligible	1908
23	Robert A. Taft Memorial	AOC Heritage Asset, NRHP exempt	1959
24	Russell Senate Office Building	AOC Heritage Asset, NRHP exempt	1909
25	Senate Parks, Underground Parking and Fountain	AOC Heritage Asset, NRHP exempt	1932
26	Sewall-Belmont House	National Historic Landmark; NRHP; DC Inventory	1800
27	Square 750 Rowhouse Development	Potentially NRHP and DC Inventory Eligible	1882
28	St. Aloysius Catholic Church	NRHP and DC Inventory	1857-1859
29	St Joseph's Home (Former)	Potentially NRHP and DC Inventory Eligible	1872-1874
30	St. Philip's Baptist Church	DC Inventory	1892
31	SunTrust Bank (Former Childs Restaurant)	Potentially NRHP and DC Inventory Eligible	1926
32	The Summerhouse	AOC Heritage Asset, NRHP exempt	1880-1881
33	Thurgood Marshall Federal Judiciary Building	AOC Heritage Asset, NRHP exempt	1992

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STATION EXPANSION

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#	Property Name	Historic Designation	Date of Construction or Period of Significance
34	Topham’s Luggage Factory (Former)	Potentially NRHP and DC Inventory Eligible	1928
35	Uline Ice Company Plant and Arena Complex	NRHP and DC Inventory	1931
36	United States Capitol	AOC Heritage Asset, NRHP exempt	Construction dating to 1798
37	United States Capitol Square	AOC Heritage Asset, NRHP exempt	Design dating from 1874-1892
38	United States Supreme Court	AOC Heritage Asset, NRHP exempt	1935
39	Victims of Communism Memorial	NPS memorial	2007
40	WUS	NRHP and DC Inventory	1908
41	Washington Union Station Plaza and Columbus Fountain	NRHP and DC Inventory, managed by NPS	1912
42	Woodward and Lothrop Service Warehouse	NRHP and DC Inventory	1937-1939
43	901 2nd Street NE	NRHP and DC Inventory Eligible	1907
44	Capitol Hill Historic District	NRHP and DC Inventory	Period of Significance 1790-1945
45	L’Enfant – McMillan Plan	NRHP and DC Inventory	Period of Significance 1790-1942
46	National Mall Historic District	NRHP and DC Inventory	Periods of Significance 1791-present, and 1791-1965
47	Pennsylvania Avenue National Historic Site	DC Inventory, NRHP Eligible	Period of Significance 1891-1938
48	Union Market Historic District	NRHP and DC Inventory	Period of Significance 1929-1939
49	WUS Historic Site	NRHP and DC Inventory Eligible	Period of Significance 1903-1935

refers to **Figure 6-1**

6.5.3 Archaeological Resources

126 The Project would involve extensive ground disturbance within the rail terminal from excavation
127 and more limited disturbance to areas below the historic station building from the installation of
128 foundations for temporary shoring towers as part of the column removal work. There are no known
129 archaeological sites or resources in the affected areas. However, an archaeological assessment
130 completed in 2015 concluded that the terminal is likely to contain a range of prehistoric and historic
131 archaeological materials, from isolated artifacts to significant cultural features.⁷ Potential
132 archaeological resources (including artifacts and archaeological features) likely would include
133 remnants of the Swampoodle neighborhood, a residential and commercial area that developed in
134 the mid-to-late 19th century, which was home to many African American as well as Irish and Italian
135 immigrants.

136 The Project Area is an active rail terminal and no archaeological field assessment has been
137 conducted. Therefore, no Section 4(f)-protected archaeological properties have been identified to
138 date. Any archaeological resources discovered during construction would undergo Section 4(f)
139 evaluation to determine their eligibility as protected properties under Section 4(f) and, if necessary,
140 to evaluate any feasible and prudent avoidance alternatives.

6.6 Use of Section 4(f) Properties

6.6.1 Introduction

141 Section 4(f) requires FRA to assess the impacts of the Project on Section 4(f) properties based on
142 whether a “use” would occur. A “use” of a Section 4(f) property can occur in one of three ways:

- 143 ■ When land is permanently incorporated into a transportation project or facility;
- 144 ■ When there is a temporary occupancy of land that is adverse in terms of the statute’s
145 preservationist purposes; or
- 146 ■ When there is a constructive use of a Section 4(f) property. A constructive use involves an
147 indirect impact to a Section 4(f) property of such magnitude that it effectively acts as a
148 permanent incorporation. In such a case, the project would not physically incorporate the
149 property but is close enough to the property to severely impact important features,
150 activities or attributes that qualify it for protection and substantially impair or diminish it.
151 There is no constructive use of a historic property when Section 106 consultation resulted
152 in a finding of “No Effect” or “No Adverse Effect” for this property.

⁷ Karell Archaeological Services, “Archaeological Assessment for the Washington Union Station” (2015) in *Washington Union Station Historic Preservation Plan, Archaeological Assessment of Washington Union Station*, E-125.

153 There are several exceptions to a Section 4(f) use finding. Even when land is permanently
154 incorporated into a transportation facility, FRA may find that there is a *de minimis* impact on a
155 property protected by Section 4(f). For parks, recreation areas, and refuges, FRA may find that an
156 impact is *de minimis* if:

- 157 ■ Together with any impact avoidance, minimization, and mitigation or enhancement
158 measures, the project would not adversely affect the activities, features, and attributes that
159 qualify the resource for protection under Section 4(f);
- 160 ■ FRA has afforded the public an opportunity to review and comment on the effects of the
161 project on the protected activities, features, and attributes of the Section 4(f) resource;⁸
162 and
- 163 ■ FRA has informed the property's OWJ of its intent to make a *de minimis* impact
164 determination based on their written concurrence that the project would not adversely
165 affect the activities, features, and attributes that qualify the property for protection under
166 Section 4(f).⁹

167 For historic properties, FRA may find that an impact is *de minimis* if:

- 168 ■ The process required by Section 106 results in a determination of "No Adverse Effect" or
169 "No Historic Properties Affected" with the concurrence of the SHPO and ACHP if ACHP is
170 participating in the Section 106 consultation;
- 171 ■ FRA informs the SHPO and ACHP (if applicable) of FRA's intent to make a *de minimis* impact
172 determination based on their written concurrence with the Section 106 determination;¹⁰
173 and
- 174 ■ FRA has considered the views of the consulting parties participating in the Section 106
175 consultation.¹¹

176 In addition, a temporary occupancy of land is not a Section 4(f) use if:

- 177 ■ The duration of the occupancy of the Section 4(f) property is less than the time needed for
178 the construction of a project and there is no change in ownership of the property;
- 179 ■ Both the nature and magnitude of the changes to the Section 4(f) property are minimal;

⁸ FRA is seeking public review and comment on the *de minimis* findings proposed in this Draft Section 4(f) Evaluation as part of the DEIS public review. The Final Evaluation will incorporate public comments, as applicable.

⁹ FRA has informed OWJs of its intent to make the *de minimis* impact determinations proposed in this Draft Section 4(f) Evaluation through the DEIS review process. OWJs' responses will be documented in the Final Evaluation.

¹⁰ FRA has informed the DC SHPO and ACHP of its intent to make the *de minimis* impact determinations proposed in this Draft Section 4(f) Evaluation as part of the Section 106 consultation process for the Project. The Final Evaluation will document SHPO's and ACHP's concurrence, as applicable.

¹¹ FRA will consider the views of the Section 106 consulting parties when making final determinations of *de minimis* impacts.

- 180 ■ There are no anticipated permanent adverse physical impacts nor interference with the
181 protected activities, features or attributes of the property on a temporary or permanent
182 basis;
- 183 ■ The land is fully restored to the same or better condition after the temporary occupancy;
184 and
- 185 ■ There is a documented agreement of the appropriate federal, state or local official(s) with
186 jurisdiction over the property regarding the above conditions.

187 If FRA determines that a project would result in the use of a protected resource, it can only approve
188 the project if there are no prudent and feasible alternatives avoiding the use and if the project
189 incorporates all possible planning to minimize harm. If a prudent and feasible alternative exists that
190 avoids Section 4(f) properties and meets the project's purpose and need, FRA may not select the
191 alternative that uses a Section 4(f) property for implementation.

192 An alternative is considered infeasible if it cannot be built as a matter of sound engineering
193 judgment. In determining whether an alternative is prudent, FRA considers whether the alternative:

- 194 ■ Compromises the project to a degree that it is unreasonable to proceed based on the
195 project's stated purpose and need;
- 196 ■ Results in unacceptable safety or operational problems;
- 197 ■ After reasonable mitigation, still causes severe social, economic, or environmental impacts;
198 severe disruption to established communities; severe or disproportionate impacts to
199 minority or low-income populations; or severe impacts to environmental resources
200 protected under other federal statutes;
- 201 ■ Results in additional construction, maintenance, or operational costs of an extraordinary
202 magnitude;
- 203 ■ Causes other unique problems or unusual factors; or
- 204 ■ Involves multiple factors that, while individually minor, cumulatively cause unique problems
205 or impacts of extraordinary magnitude.

6.6.2 Public Parks, Recreation Areas, and Wildlife Refuges

206 **Table 6-3** provides a summary of the findings of the Section 4(f) use analysis for the public parks
207 and recreation areas the Project has the potential to affect. **Section 6.6.2.1**, *Columbus Plaza*
208 through **Section 6.6.2.4**, *Upper and Lower Senate Parks* present the analysis.

Table 6-3. Summary of Use Analysis, Public Parks and Recreation Areas, All Action Alternatives

Section 4(f) Property	Incorporation Analysis	Temporary Occupancy Analysis	Constructive Use Analysis
Columbus Plaza	No use	No use	No use
Metropolitan Branch Trail	No use	<i>De minimis</i> use	No use
Playground at Capitol Hill Montessori (Public School)	No use	No use	No use
Upper and Lower Senate Parks	No use	No use	No use

6.6.2.1 Columbus Plaza

Permanent Incorporation Analysis (All Action Alternatives)

209 None of the Action Alternatives would physically affect Columbus Plaza or result in a permanent use
 210 of the property and incorporation into a transportation facility. The improvements to the traffic
 211 lanes that separate the plaza from the historic station building in all Action Alternatives would take
 212 place within the existing right-of-way and would not require using any part of the plaza. There
 213 would be no changes to the physical or visual relationship of Columbus Plaza to WUS.

Temporary Occupancy Analysis (All Action Alternatives)

214 None of the Action Alternatives would require temporarily physically occupying Columbus Plaza.
 215 During construction of the improvements to the traffic lanes between the historic station building
 216 and the property, staging and storage areas would be outside the plaza. Construction activities
 217 would temporarily limit pedestrian circulation between Columbus Plaza and the front of WUS. In
 218 general, construction activities on the adjacent roadways would make Columbus Plaza temporarily
 219 less attractive to visitors. Columbus Plaza would remain accessible from the south at all times.
 220 Construction would not affect the activities, features, and attributes that qualify Columbus Plaza for
 221 protection under Section 4(f). There would be no temporary occupancy of Columbus Plaza.

Constructive Use Analysis (All Action Alternatives)

222 None of the Action Alternatives would result in effects that would severely impact important
 223 features, activities, or attributes of Columbus Plaza that qualify it for protection and substantially
 224 impair or diminish it. The Project would result in additional air pollutant emissions, as described in
 225 **Section 5.6.4.2, Alternative A, Direct Operational Impacts and Section 5.6.4.2, Alternative A,**
 226 *Indirect Operational Impacts* for Alternative A, and corresponding sections for the other Action
 227 Alternatives. However, all emissions would remain below General Conformity *de minimis* thresholds
 228 and activities or attributes of Columbus Plaza would not be severely impacted.

229 The Project would also result in slight increases in noise levels (less than 3 A-weighted decibels,
 230 generally imperceptible), resulting in no impact on Columbus Plaza, as described in **Section**

231 **5.10.4.2, Alternative A, Direct Operational Impacts** and depicted in **Figure 5-36** (impacts would be
232 similar for all Action Alternatives).

233 The Project in Alternatives A, B, and A-C would result in a minor adverse indirect visual impact from
234 the potential Federal air-rights development on Columbus Plaza, as explained in **Section 5.11.4.2,**
235 *Alternative A, Indirect Operational Impacts* for Alternative A and corresponding sections for
236 Alternative B and A-C. This would not severely impact important features, activities, or attributes of
237 Columbus Plaza that qualify it for protection or substantially impair or diminish it. There would be
238 no adverse visual impacts on Columbus Plaza under the other Action Alternatives (see **Appendix**
239 **C3a, Washington Union Station Expansion Project Aesthetics and Visual Quality: Visual Assessment**).

240 No impacts would amount to a constructive use of Columbus Plaza in any of the Action Alternatives.

6.6.2.2 Metropolitan Branch Trail

Permanent Incorporation Analysis (All Action Alternatives)

241 None of the Action Alternatives would result in a permanent use of the Metropolitan Branch Trail
242 and its permanent incorporation into a transportation facility.

Temporary Occupancy Analysis (All Action Alternatives)

243 Construction of the Project in all Action Alternatives would likely require the temporary closure of
244 the segments of the Metropolitan Branch Trail that run along First and 2nd Streets NE, south of K
245 Street to allow for work in the right-of-way. Such closures would occur at various times and last for
246 various periods throughout the construction period. Although their respective and aggregated
247 durations are not known at this time, they would occur during a fraction of the total construction
248 period. They would also affect only a small portion of the 8-mile trail, which would be unaffected
249 north of K Street. The Project would coordinate with the District Department of Transportation
250 (DDOT) to establish detours or alternative routes during the closures. This temporary use would not
251 affect the activities, features, and attributes that qualify the Metropolitan Branch Trail for
252 protection under Section 4(f). Therefore, FRA proposes a *de minimis* finding.

Constructive Use Analysis (All Action Alternatives)

253 None of the Action Alternatives would result in effects that would severely impact important
254 features, activities, or attributes of the Metropolitan Branch Trail that qualify it for protection and
255 substantially impair or diminish it. The Project would result in additional air pollutant emissions, as
256 described in **Section 5.6.4.2, Alternative A, Direct Operational Impacts** and **Section 5.6.4.2,**
257 *Alternative A, Indirect Operational Impacts* for Alternative A, and corresponding sections for the
258 other Action Alternatives. However, all emissions would remain below General Conformity *de*
259 *minimis* thresholds and activities or attributes of the trail would not be severely impacted.

260 The Project would also result in slight increases in noise levels (less than 3 A-weighted decibels,
261 generally imperceptible), resulting in a moderate adverse impact at one receptor location on 2nd
262 Street across from the trail, as described above in **Section 5.10.4.2, Alternative A, Direct**
263 *Operational Impacts* and depicted in **Figure 5-36** (impacts would be similar for all Action

264 Alternatives). The slight increase in noise would not severely impact important features, activities,
265 or attributes the Metropolitan Branch Trail, a facility set in an urban setting.

266 The Project would not result in adverse visual impacts on the Metropolitan Branch Trail. Views from
267 the east side of WUS toward the station and the trail would experience no or negligible visual
268 impacts (see **Section 5.11.5, Comparison of Alternatives, Table 5-140, Views # 13 to 18 and**
269 **Appendix C3a, Washington Union Station Expansion Project Aesthetics and Visual Quality: Visual**
270 **Assessment**). Visual changes from the Project would not severely impact important features,
271 activities, or attributes of the Metropolitan Branch Trail that qualify it for protection or substantially
272 impair or diminish it.

273 No impacts would amount to a constructive use of the Metropolitan Branch Trail in any of the
274 Action Alternatives.

6.6.2.3 Playground at Capitol Hill Montessori (Public School)

Permanent Incorporation Analysis (All Action Alternatives)

275 None of the Action Alternatives would require using the Capitol Hill Montessori Playground or
276 result in its permanent incorporation into a transportation facility.

Temporary Occupancy Analysis (All Action Alternatives)

277 None of the Action Alternatives would require temporarily physically occupying the Capitol Hill
278 Montessori Playground. The playground is located approximately 600 feet from the Project Area.

Constructive Use Analysis (All Action Alternatives)

279 None of the Action Alternatives would result in effects that would severely impact important
280 features, activities, or attributes of the Capitol Hill Montessori Playground that qualify it for
281 protection and substantially impair or diminish it. The Project would result in additional air
282 pollutant emissions, as described in **Section 5.6.4.2, Alternative A, Direct Operational Impacts and**
283 **Section 5.6.4.2, Alternative A, Indirect Operational Impacts** for Alternative A, and corresponding
284 sections for the other Action Alternatives. However, all emissions would remain below General
285 Conformity *de minimis* thresholds and activities or attributes of the playground would not be
286 severely impacted.

287 The Project would also result in slight increases in noise levels (less than 3 A-weighted decibels,
288 generally imperceptible). No receptors near the playground would experience an impact (see
289 **Section 5.10.4.2, Alternative A, Direct Operational Impacts** and **Figure 5-36** above; impacts would
290 be similar for all Action Alternatives). The Project would not be visible from the Capitol Hill
291 Montessori Playground.

292 No impacts would amount to a constructive use of the Capitol Hill Montessori Playground in any of
293 the Action Alternatives.

6.6.2.4 Upper and Lower Senate Parks

Permanent Incorporation Analysis (All Action Alternatives)

294 None of the Action Alternatives would require using any part of the Upper and Lower Senate Parks
295 or result in their permanent, whole or partial incorporation into a transportation facility.

Temporary Occupancy Analysis (All Action Alternatives)

296 None of the Action Alternatives would require temporarily physically occupying the Upper and
297 Lower Senate Parks. This property is located approximately 420 feet south of WUS.

Constructive Use Analysis (All Action Alternatives)

298 None of the Action Alternatives would result in effects that would severely impact important
299 features, activities, or attributes of the Upper and Lower Senate Parks that qualify this property for
300 protection and substantially impair or diminish it. The Project would result in additional air
301 pollutant emissions, as described in **Section 5.6.4.2, Alternative A, Direct Operational Impacts and**
302 **Section 5.6.4.2, Alternative A, Indirect Operational Impacts** for Alternative A, and corresponding
303 sections for the other Action Alternatives. However, all emissions would remain below General
304 Conformity *de minimis* thresholds and activities or attributes of the parks would not be severely
305 impacted.

306 The Project would also result in slight increases in noise levels (less than 3 A-weighted decibels,
307 generally imperceptible). No receptors near the Upper and Lower Senate Parks would experience
308 an impact (see **Section 5.10.4.2, Alternative A, Direct Operational Impacts** and **Figure 5-36**; impacts
309 would be similar for all Action Alternatives).

310 In all Action Alternatives, views along the streets that run through the Upper and Lower Senate
311 Parks (First Street NE south of Massachusetts Avenue, Delaware Avenue NE, Louisiana Avenue NW)
312 toward WUS would experience minor to moderate adverse impacts, as explained in **Section**
313 **5.11.4.2, Alternative A, Indirect Operational Impacts** for Alternative A and corresponding sections
314 for the other Action Alternatives (see also **Appendix C3a, Washington Union Station Expansion**
315 **Project Aesthetics and Visual Quality: Visual Assessment**). This would not severely impact important
316 features, activities, or attributes of the Upper and Lower Senate Parks. To the north, the historic
317 station building would remain the dominant visual elements. To the south, connections with the
318 U.S. Capitol would not be affected.

319 No impacts would amount to a constructive use of the Upper and Lower Senate Parks in any of the
320 Action Alternatives.

6.6.3 Historic Properties

321 All Action Alternatives would result in a Section 4(f) use due to permanent incorporation of three
322 historic properties:

- 323 ■ WUS - Listed in the NRHP and DC Inventory;

- 324 ■ WUS Historic District - Eligible for listing in the NRHP and the DC Inventory; and
- 325 ■ Railway Express Agency (REA) Building – Contributing element to the NHRP-eligible, WUS
- 326 Historic Site, potentially eligible for listing in the NRHP, and individually eligible for listing in
- 327 the DC Inventory.

328 A portion of the Capitol Hill Historic District is included in the APE. The Project Area is separated
 329 from the eastern boundary of the Historic District by 2nd Street NE and the Project would not result
 330 in the permanent incorporation of any part of the Historic District in a transportation facility under
 331 any of the Action Alternatives. For the same reason, none of the Action Alternatives would require
 332 temporarily physically occupying any portion of the Capitol Hill Historic District. North of
 333 Massachusetts Avenue, the Capitol Hill Historic District may potentially experience an adverse
 334 effect under all Action Alternatives from an increase in peak-time traffic along 2nd Street NE and F
 335 Street NE as well as along some residential streets if congestion on H Street NE or Massachusetts
 336 Avenue prompts drivers to seek alternative routes to WUS through the neighborhood. These
 337 potential increases in traffic would not amount to a constructive use of the property because they
 338 would not cause a substantial impairment. A substantial impairment occurs only when the
 339 protected activities, features, or attributes of the property are substantially diminished. The
 340 significance of the historic district is primarily derived from its architectural character and historical
 341 contributions to the development of the District of Columbia. Increased peak-time traffic in a small
 342 part of the historic district would not substantially diminish these attributes. The Capitol Hill
 343 Historic District is not discussed further in this Draft Section 4(f) Evaluation.

344 Of the other 45 historic properties listed in **Table 6-2** above, FRA determined that the 22 properties
 345 shown in **Table 6-4** would experience “No Adverse Effect” under Section 106 and the 23 remaining
 346 properties would experience “No Effect,” as documented in the June 2020 Draft Assessment of
 347 Effects (AOE) report prepared in compliance with Section 106.¹² The Project would not result in the
 348 permanent incorporation of any of these properties in a transportation facility or require
 349 temporarily physically occupying any of them. The properties would experience either no effect or
 350 no adverse effect from the Project; therefore, there would be no constructive use. These 45 historic
 351 properties are not discussed further in this Draft Section 4(f) Evaluation. The following sections
 352 address only the three historic properties that would incur a permanent incorporation use under
 353 Section 4(f).

Table 6-4. Historic Properties with No Adverse Effect Finding under Section 106

Property Name	
C&P Telephone Company Warehouse	St. Aloysius Catholic Church
Capital Press Building (Former)	St Joseph’s Home (Former)
City Post Office (Postal Museum)	St. Philip’s Baptist Church

¹² The Draft AOE is included in this DEIS as **Appendix D1**. FRA is seeking concurrence from the DC SHPO with the findings of the Draft AOE report. FRA is also seeking input from the Section 106 Consulting Parties on the AOE. The Final Section 4(f) Evaluation will document the results of the consultation process.

Property Name	
Dirksen and Hart Senate Office Buildings	Thurgood Marshall Federal Judiciary Building
Government Printing Office	Topham’s Luggage Factory (Former)
Government Printing Office Warehouse No.4	Uline Ice Company Plant and Arena Complex
Holodomor Ukrainian Holocaust Memorial	Washington Union Station Plaza and Columbus Fountain
Library of Congress, Thomas Jefferson Building	Woodward and Lothrop Service Warehouse
Russell Senate Office Building	901 Second Street NE
Senate Parks, Underground Parking and Fountain	L’Enfant – McMillan Plan
Square 750 Rowhouse Development	Union Market Historic District

6.6.3.1 Washington Union Station

354 WUS is an example of Beaux Arts architecture designed by D.H. Burnham & Company. It consists of
 355 three primary spaces: the historic headhouse (1908); the original passenger concourse (1908),
 356 currently used for retail and Amtrak ticketing (Retail and Ticketing Concourse); and the Claytor
 357 Concourse, completed in 1988. WUS is significant for its association with railroad transportation
 358 improvements facilitated by the Washington Terminal Company. It established a monumental
 359 landscape befitting the capital city, allowed for increased safety and future rail growth, and initiated
 360 the twentieth-century development and urban design of Washington DC. The location, design,
 361 setting, materials, workmanship, feeling, and association of the Beaux-Arts building contribute to
 362 the understanding of the station as a prominent transportation hub and monumental gateway to
 363 Washington DC.

Use Analysis (All Action Alternatives)

364 All Action Alternatives would physically impact WUS and permanently incorporate it into the
 365 expanded multi-modal transportation hub the Project would construct. Because FRA determined
 366 that all Action Alternatives would result in an adverse effect to WUS under Section 106, this Section
 367 4(f) use does not qualify as *de minimis*.

368 Physical impacts would include the removal of the Claytor Concourse and the construction of a new
 369 passenger concourse and train hall on the north side of the historic station building as well as and
 370 the removal of original columns in the portion of the First Street Tunnel below the historic Retail
 371 and Ticketing Concourse. While the Claytor concourse does not contribute to the historic integrity
 372 of WUS, its removal as well as the construction of the concourse and train hall would impact the
 373 north façade of the Retail and Ticketing Concourse. It is not known how much of the original fabric
 374 remains on the north elevation of the Retail and Ticketing Concourse. The original construction
 375 featured an immense opening leading to the tracks and platforms and was punctuated by nine
 376 steel-plated Doric columns with cast-iron capitals spaced evenly along its length. The view from the
 377 original passenger concourse to the north was of the rail terminal. Views of the north elevation

378 from the rail terminal were only available to rail workers. Currently, a section of the entablature
379 supported by the Doric columns is the only original element visible from within the Claytor
380 Concourse. It is possible that the Doric columns remain *in situ*, encapsulated by the Claytor
381 Concourse construction. Until the Project advances to later stages of design, the extent of the
382 physical alterations to the north elevation of the original concourse cannot be determined.
383 However, construction of the Project in all Action Alternatives would adversely affect the building's
384 overall integrity of design as it would substantially increase the mass of the station.

385 Further physical impacts on WUS would include the demolition of approximately 15,000 square feet
386 of the Retail and Ticketing Concourse floor to allow for column removal in the underlying tunnel.
387 While the current marble finish of the floor was installed in the 1980s, the floor structure is original.
388 It is constructed of a steelwork frame and terracotta tile arches. The demolition of the original floor
389 structure and removal of the original steel columns would affect the integrity of station.

390 There may also be as yet undermined physical effects related to the design of the Project, including
391 interior changes that would affect the historic materials, design, workmanship, or circulation flow in
392 the station. Such changes have the potential to result in adverse effects to WUS.

393 Additionally, physical impacts could occur during excavation activities because of the use of
394 vibration-generating equipment. Vibratory pile driving and drill rigging may occur within
395 approximately 10 feet of the north elevation of WUS, resulting in vibration levels of up to
396 approximately 0.8 inches per second (in/s) in Alternatives B and E and up to 0.67 in/s in Alternatives
397 A, C, D, and A-C. The Federal Transit Administration (FTA) thresholds for potential structural
398 damage to buildings from vibration range from 0.5 to 0.12 in/s, depending on the type of building
399 construction. Although the historic station building was designed to facilitate train operations and
400 may be capable of withstanding vibration levels that exceed the thresholds, its sensitivity to
401 vibration has not been specifically determined at this stage of Project planning.

402 Visual effects also would affect the integrity of setting, feeling, and association of WUS by
403 significantly altering the visual connection of the historic station building to the rail terminal. Views
404 of the station from various vantage points of the L'Enfant-McMillan Plan, especially from the radial
405 streets, including Louisiana Avenue, Delaware Avenue, and First Street NE, would also change. All
406 Action Alternatives would affect the setting and visual character of the station, defined by the
407 uninterrupted silhouette of its roofline and the visual symmetry of its monumental Beaux Arts
408 design. The height of the Project elements and potential Federal air-rights development to the
409 northwest of the historic station building would alter such character-defining features.

6.6.3.2 WUS Historic Site

410 FRA has prepared a determination of eligibility for this property, which comprises approximately
411 60 acres and consists of four areas: Columbus Plaza, the historic Union Station building, the rail
412 terminal, and the First Street Tunnel. The station building and Columbus Plaza are both individually
413 listed in the NRHP and are discussed separately. This section focuses on impacts on the rail terminal
414 and the First Street Tunnel.

415 The rail terminal is 760 feet wide at its greatest extent, immediately north of Union Station. It
416 narrows along its length to 135 feet wide at its narrowest point at Florida Avenue. The length of the
417 terminal from the station to Florida Avenue is approximately 3,725 feet or 0.7 mile. Several
418 contributing buildings, structures, and objects that date to the terminal's original construction in
419 1903-1907 and to the electrification project of the 1930s are extant. These include the REA Building
420 (discussed as an individual property below); K Tower; umbrella sheds and platforms dating from
421 1903-1935; retaining walls (known as the Burnham Walls); bridge underpasses and associated
422 infrastructure; Signal Bridges H, J, and K; single catenaries dating from 1903-1935, a catenary with
423 cross beam, P&W Ownership Marker, and pneumatic switch valves dating from 1903-1935. In
424 addition to the visible contributing buildings, structures, and objects in the rail terminal,
425 archaeological resources may exist below ground.

426 The First Street Tunnel extends 4,033 feet from the north face of Union Station to the intersection
427 of New Jersey Avenue SE and D Street SE. The tunnel was completed in 1906 to serve the
428 Pennsylvania Railroad rail lines south of the District. It runs below the station along First Street NE
429 and SE until C Street SE, where it turns west towards its terminus.

Use Analysis (All Action Alternatives)

430 Alternative A would physically impact the WUS Historic Site and permanently incorporate it into the
431 expanded multi-modal transportation hub the Project would construct. Because FRA determined
432 that this would result in an adverse effect to the WUS Historic Site under Section 106, this Section
433 4(f) use does not qualify as *de minimis*.

434 All Action Alternatives would cause extensive physical impacts within the rail terminal, including the
435 reconstruction of all tracks, platforms, and associated infrastructure, although the new track layout
436 would continue to be divided between stub-end tracks and run-through tracks and would maintain
437 the rail terminal's general layout. Reconstruction of the rail terminal would require the removal of
438 the K Tower; all existing platforms and umbrella sheds; the original retaining wall dividing the run-
439 through tracks from the rest of the terminal; catenary poles; catenary with cross beam; signal
440 bridges; and pneumatic switch valves. In addition, the excavation of the rail terminal may cause
441 adverse effects to any significant archaeological resources, if present, within its footprint.

442 All Action Alternatives would also cause physical changes to the portion of the First Street Tunnel
443 underneath the historic station building due to the column removal work, as described in **Section**
444 **6.6.3.1, Washington Union Station, Use Analysis (All Action Alternatives)**. Bridge underpasses at H
445 Street NE and K Street NE would also experience physical effects. In all Action Alternatives, the H
446 Street Underpass (which was closed and used to support WUS after the construction of the H Street
447 Bridge in 1976) would be removed and converted to a concourse. In Alternatives B, C, D, and E, a
448 new parking facility entrance would be constructed in the south wall of the K Street Underpass. In
449 addition, the ventilation intake required for the operation of all Action Alternatives may require the
450 potential reconstruction and the insertion of vents at the southwest portion of the Burnham Wall.

451 The Project would also have visual effects in all Action Alternatives that would adversely affect the
452 integrity of setting, feeling, and association of the Historic Site by altering and obstructing the visual

453 connection of the various contributing features within the property. Existing views to and from
454 within the rail terminal would be eliminated and views from the REA Building to WUS would be
455 obstructed.

456 The noise and vibration analysis presented in **Section 5.10, Noise and Vibration**, indicates that in all
457 Action Alternatives, vibration from the operation of construction equipment may result in physical
458 impacts to WUS and the REA Buildings, which are components of the WUS Historic Site. On these
459 impacts, see also **Section 6.6.3.1, Washington Union Station, Use Analysis (All Action Alternatives)**
460 and **Section 6.6.3.3, REA Building, Use Analysis (All Action Alternatives)**.

6.6.3.3 REA Building

461 The REA Building is directly adjacent to the east side of the rail terminal. It was constructed in 1908
462 and designed by D.H. Burnham and Co. in conjunction with the development of WUS. The
463 rectangular two-story plus attic and basement brick structure has an elongated footprint common
464 to American industrial buildings. Prominent ground-floor arches encircle the building and express
465 its use as an operational warehouse. A train platform runs the full length along the west elevation
466 of the building. The REA Building is an example of early 20th-century industrial architecture in
467 Washington. It exemplifies the thoughtful design consideration given to even the utilitarian
468 structures associated with WUS.

469 As defined in the NRHP Nomination Form and District Historic Preservation Review Board
470 Application for Historic Landmark of Historic District Designation prepared for this resource, the
471 REA Building occupies Lot 812 of Square 717 in the District. The historic property boundary, which is
472 the same as the parcel boundary, is approximately 63,000 square feet in size. It is located between
473 2nd Street NE and the eastern edge of the WUS rail terminal. To the south, the parcel partially
474 overlaps with the old H Street right-of-way and current H Street Tunnel. There is direct access from
475 the tunnel into the basement of the REA Building.

Use Analysis (All Action Alternatives)

476 All Action Alternatives would permanently incorporate some land within the REA Building historic
477 property boundary into the expanded multi-modal transportation hub the Project would construct.
478 Because FRA determined that all Action Alternatives would result in an adverse effect to the REA
479 Building under Section 106, this Section 4(f) use does not qualify as *de minimis*.

480 In all Action Alternatives, the new H Street Concourse would be constructed along the old
481 alignment of H Street Tunnel, replacing the H Street Tunnel. The portion of the old alignment within
482 the REA Building historic property boundary, which is approximately 9,800 square feet in size,
483 would be used, like the rest of the tunnel, for the new concourse. Construction of the H Street
484 Concourse would also modify or eliminate the direct access to the basement of the building from
485 the H Street Tunnel, resulting in a potential physical impact to the building (at this early stage of
486 design, the extent and character of this impact are undetermined).

487 Additionally, the REA Building's integrity of setting, feeling, and association depends directly on its
488 design and relationship with WUS and the rail terminal. All Action Alternatives would fully

489 reconstruct the rail terminal, requiring the demolition or removal of all existing tracks and
490 platforms; umbrella sheds; K Tower; single catenaries; catenary with cross beam; pneumatic switch
491 valves; and signal bridges. Such physical and visual changes would alter the connection between the
492 REA Building, the rail terminal, and the historic station building, compromising its integrity of
493 setting, feeling, and association.

494 The noise and vibration analysis presented in **Section 5.10, *Noise and Vibration***, indicates that the
495 building would experience vibration impacts during the construction of all Action Alternatives.
496 Vibratory pile driving would occur within approximately 16 feet of the building, resulting in
497 vibration levels of approximately 0.33 in/s. This may cause an increased risk of structural damage,
498 as FTA thresholds for potential structural damage to buildings from vibration range from 0.5 to 0.12
499 in/s depending on the type of building construction. Although the REA building was designed within
500 the context of an active rail terminal and is a large masonry structure, its sensitivity to vibration has
501 not been specifically determined at this stage of Project planning.

502 In combination, these impacts have the potential to substantially diminish the protected activities,
503 features, or attributes that qualify the REA Building as a Section 4(f) property.

6.7 Avoidance Alternatives Analysis

504 This section provides an avoidance alternative analysis for the three Section 4(f) properties the
505 Project would use: WUS, the WUS Historic Site, and the REA Building. As discussed below, there is
506 no feasible and prudent alternative that would avoid the use of these properties.

507 An avoidance alternative is not feasible if it is not possible to build it as a matter of sound
508 engineering judgment. It is not prudent if, among other criteria, it compromises the project to a
509 degree that it is unreasonable to proceed with the project in light of its stated purpose and need.

510 As explained above, the Section 4(f) use of WUS, the WUS Historic Site, and the REA Building would
511 result primarily from the reconstruction of the rail terminal and construction of the Project
512 elements within the rail terminal. This includes Concourse A and a train hall, adjacent to the north
513 elevation of the historic station building, which would require the demolition of the existing Claytor
514 Concourse; and the H Street Concourse along the old H Street alignment and current H Street
515 Tunnel, including the part within the REA Building historic property boundary. Column removal in
516 the First Street Tunnel and the associated demolition of part of the floor of the Retail and Ticketing
517 Concourse would further affect the physical fabric of the WUS historic station building.

518 An alternative that would avoid these impacts would need to leave the rail terminal, Claytor
519 Concourse, First Street Tunnel, and the eastern end of the H Street Tunnel in their existing
520 condition. This would preclude the construction of new concourses and train hall and keep WUS
521 from being able to adequately accommodate projected future ridership.

522 Such an alternative, including the No-Action Alternative, would be unreasonable in light of the
523 Purpose and Need for the Project, which it would fail to meet. As documented in **Chapter 3,**
524 *Alternatives*, of this DEIS, the Project Proponents and FRA conducted an extensive alternative

525 development, screening, and refinement process to define a reasonable range of Action
526 Alternatives for analysis in the DEIS. Through this process, the Proponents and FRA determined the
527 Project elements needed to meet the Purpose and Need and considered multiple options to
528 construct those elements.

529 All alternatives considered included the reconstruction of the rail terminal and column removal
530 because there is a need for new tracks and platforms that can adequately support current and
531 future long-term growth in rail service as well as achieve compliance with ADA and emergency
532 egress requirements. Similarly, all alternatives considered included the removal of the Claytor
533 Concourse, construction of Concourse A, and construction of the H Street Concourse to provide
534 adequate circulation space and connections between WUS and the surrounding neighborhoods.
535 Not constructing the new concourses and train hall to avoid impacts to the north façade of the
536 historic station building and REA Building property would fail to support the following components
537 of the Purpose and Need for the Project: facilitate intermodal travel; provide a positive customer
538 experience; enhance integration with the adjacent neighborhoods, businesses, and planned land
539 uses; and sustain WUS's economic viability.

540 The Claytor Concourse is commonly overcrowded and its passenger facilities do not reliably provide
541 a positive customer experience. Even with the improvements from the ongoing Concourse
542 Modernization Project, the Claytor Concourse would not be adequate to handle future demand and
543 passenger loadings. Provision of a new, improved concourse and train hall space is necessary to
544 facilitate the movement of increasing numbers of passengers across the various transportation
545 modes at WUS. It is also needed to provide the retail and passenger support facilities needed to
546 support WUS's economic viability and create a positive experience for travelers and visitors. The H
547 Street Concourse would create a link between the neighborhoods to the east and west of WUS that
548 are currently separated by the expanse of the rail terminal and only connected via the pedestrian-
549 unfriendly H Street Bridge.

550 Because these Project elements are needed together to meet the Project's Purpose and Need, all
551 Action Alternatives include the reconstruction of the rail terminal, First Street Tunnel column
552 removal, demolition of the Claytor Concourse to build Concourse A and a train hall; and
553 construction of the H Street Concourse along the H Street Tunnel. Therefore, there is no prudent
554 and reasonable alternative that would avoid a Section 4(f) use of WUS, the WUS Historic Site, or the
555 REA Building.

6.8 Least Overall Harm Analysis

556 When there are no avoidance alternatives that would be feasible and prudent, FRA performs a least
557 overall harm analysis of the remaining alternatives under consideration by balancing or comparing
558 the alternatives in terms of the seven factors identified below:

- 559 ■ The ability to mitigate adverse impacts to each Section 4(f) property (including any
560 measures that result in benefits to the property);

- 561 ■ The relative severity of the remaining harm, after mitigation, to the protected activities,
562 attributes, or features that qualify each Section 4(f) property for protection;
- 563 ■ The relative significance of each Section 4(f) property;
- 564 ■ The views of the official(s) with jurisdiction over each Section 4(f) property;
- 565 ■ The degree to which each alternative meets the purpose and need for the project;
- 566 ■ After reasonable mitigation, the magnitude of any adverse impacts to resources not
567 protected by Section 4(f); and
- 568 ■ Substantial differences in costs among the alternatives.

569 The following sections compare the Action Alternatives on the basis of each of these seven factors.

6.8.1 Ability to Mitigate

570 All Action Alternatives would have the same or similar physical impacts on WUS, the WUS Historic
571 Site, and the REA Building. Potential mitigation for these impacts would generally be the same or
572 similar across the alternatives as well. However, based on District SHPO review, Alternatives C and
573 A-C include features that would make these alternatives easier to mitigate.

574 In a letter to FRA dated March 30, 2018 providing comments on Alternatives A through E, the SHPO
575 made the following comments with regard to Alternative C:

- 576 ■ It would provide the most substantial buffers between the historic station and the
577 proposed new development through the east-west setback of the new train hall.
- 578 ■ It would allow for greater architectural flexibility and expression in the new train hall by
579 unencumbering it from most of the bus-related functions proposed in Alternatives D and E.

580 In a letter to FRA dated December 18, 2019, commenting on Alternative A-C, which was developed
581 after the previous letter was sent, the SHPO noted that Alternative A-C responds to many
582 comments the FRA has received so far on the Action Alternatives by:

- 583 ■ Featuring an east-west train hall without a bus facility around it;
- 584 ■ Pulling development back from First Street NE; and
- 585 ■ Connecting the new concourse directly to the historic station.

586 The SHPO found that these features “should facilitate greater architectural expression, improve
587 views to and from the concourse, provide for better internal circulation between the old and new
588 sections of the station, and ensure that the taller, mixed-use buildings will be located far enough to
589 the north to minimize their visibility from Columbus Plaza and points south.”

590 On the basis of these comments, FRA concludes that Alternative A-C, which already includes several
591 features that would minimize adverse effects, would offer more and better opportunities for
592 successful mitigation of the remaining adverse effects than the other Action Alternatives. Because

593 Alternative C shares with Alternative A-C features that are considered beneficial by the SHPO,
594 Alternative C would rank second with respect to opportunities for mitigation.

6.8.2 Relative Severity of Remaining Harm

595 Some of the most severe physical impacts of the Project, such as the impact of the reconstruction
596 of the rail terminal on the WUS Historic Site and the acquisition of the portion of the REA Building
597 property that overlaps with the old H Street alignment and H Street Tunnel, would remain in all
598 Action Alternatives. However, the beneficial features of Alternative A-C the SHPO identified in the
599 December 18, 2019 letter would offer better opportunities for successful mitigation than in the
600 other Action Alternatives, as explained in **Section 6.8.1, *Ability to Mitigate***. This would ensure that
601 any remaining harm is less severe under Alternative A-C than under the other Action Alternatives.
602 Alternative C, because it shares with Alternative A-C features that are considered beneficial by
603 SHPO, would rank second with respect to the severity of remaining harm after mitigation.

6.8.3 Relative Significance of Each Property

604 With respect to significance, the three historic properties that the Action Alternatives would affect
605 are closely connected, as WUS and the REA Building are contributing elements to the WUS Historic
606 Site. However, as a stand-alone property, WUS itself is the most significant of the three, both
607 historically and architecturally. All Action Alternatives would affect all three properties, including
608 WUS. Based on the SHPO's comments summarized in **Section 6.8.1, *Ability to Mitigate***, Alternative
609 A-C would result in less severe impacts on WUS than the other Action Alternatives, both before and
610 after mitigation. Alternative C, because it shares relevant features with Alternative A-C, such as the
611 east-west train hall, would rank second with respect to impacts to the most significant of the
612 affected properties.

6.8.4 Views of OWJ

613 The District's SHPO is the OWJ for all three affected properties. FRA has been consulting with the
614 SHPO in compliance with Section 106. As already noted, in a letter to FRA dated March 30, 2018
615 providing comments on Alternatives A through E, the SHPO expressed a general preference for
616 Alternative C for the following reasons:

- 617 ■ It would provide the most substantial buffers between the historic station and the
618 proposed new development through the east-west setback of the new train hall.
- 619 ■ It would allow for greater architectural flexibility and expression in the new train hall by
620 unencumbering it from most of the bus-related functions proposed in Alternatives D and E.
- 621 ■ It would potentially improve traffic circulation by limiting bus traffic to those vehicles that
622 are picking up/dropping off passengers.

623 These comments were provided before Alternative A-C was developed. Alternative A-C was
624 presented to SHPO and the Section 106 consulting parties on November 19, 2019. SHPO provided
625 comments on Alternative A-C by letter to FRA dated December 18, 2019.

626 In that letter, SHPO noted favorably that “the Preferred Alternative responds to many of the
627 comments the Federal Railroad Administration (FRA) has received thus far and we are encouraged
628 by the progress that many aspects of the revised concept represent.”

629 The letter included several recommendations “for how FRA’s progress can continue and how
630 adverse effects on historic properties can be better avoided and/or minimized.” These comments
631 pertained to the importance of creating an appropriate civic context for WUS as part of the Project;
632 the advisability of further reducing above-ground parking; and the need for coordination between
633 the Project and the private air-rights development.

634 Copies of both letters are provided in **Appendix E1, Agency Correspondence**.

6.8.5 Degree to Which Alternatives Meet the Purpose and Need

635 While all Action Alternatives meet the Project’s Purpose and Need (*Section 2.3, Purpose and Need*),
636 Alternatives A and A-C would address some aspects more effectively than some or all of the other
637 Action Alternatives. By combining the bus and parking facilities into a multimodal surface
638 transportation center close to the historic station building, Alternatives A and A-C would make
639 intermodal connections easier than in Alternative C. They would provide a more positive customer
640 experience by shortening average walking distances for users of the parking facility than
641 Alternatives B through E. The more compact layout of Alternative A-C, which makes optimal use of
642 the Federally owned property and minimizes impacts on the adjacent private air rights, would also
643 make these alternatives more compatible with nearby planned land uses and help sustain WUS’s
644 economic viability more effectively than the other Action Alternatives.

6.8.6 Magnitude of Adverse Impacts to Resources Not Protected by Section 4(f)

645 The magnitude of the Action Alternatives’ impacts on resources that are not protected by Section
646 4(f) varies according to the resource and type of impact. In this respect, the greatest difference
647 among the Action Alternatives is the length of the construction period and the duration of the
648 resulting construction impacts. While all Action Alternatives would involve similar construction
649 activities and similar impacts, these impacts would continue over a shorter period in Alternatives A
650 and A-C (more than 11 years) than in Alternatives C and D (more than 12 years) or Alternatives B
651 and E (more than 14 years). As a result, the overall construction impacts of Alternatives A and A-C
652 would be of lesser magnitude than those of Alternatives B through E.

653 A primary reason for this difference in construction duration is the lesser depth of excavation in
654 Alternatives A and A-C. Unlike the other Action Alternatives, which feature one or two levels of
655 below-ground parking, Alternatives A and A-C involve only limited construction below the
656 concourse level. As a result, they would require the least amount of dewatering, thereby minimizing

657 the risk of soil subsidence compared to Alternatives C and D (see **Section 5.3.4, Impact Analysis** and
658 **Section 5.3.5, Comparison of Alternatives**). Further, Alternative A and A-C would not involve the
659 construction of a slurry wall down to bedrock as a support of excavation structure, thus avoiding
660 the associated noise and vibration impacts that would occur in Alternatives B and E (see **Section**
661 **5.10.4, Impact Analysis** and **Section 5.10.5, Comparison of Alternatives**).

662 With regard to operational, permanent impacts, Alternative A-C would have noticeably less impact
663 than any of the other Action Alternatives on two resources. It would require acquiring less private
664 air rights than Alternatives A through E (See **Section 5.9.5, Comparison of Alternatives**). Alternative
665 A-C would also result in generally better traffic operations on the H Street Bridge than the other
666 Action Alternatives, while having similar impacts on the rest of the transportation network (see
667 **Section 5.5.4, Impact Analysis**). On other resources, the operational, permanent impacts of all
668 Action Alternatives would be comparable.

6.8.7 Substantial Differences in Costs

669 The cost of constructing the Action Alternatives is largely driven by the depth of excavation
670 required, the size of the overbuild deck, and the total duration of the construction period. Based on
671 initial cost estimates, Alternative A-C would be the least costly Action Alternative to build
672 (approximately \$5.8 billion), followed by Alternative A (approximately \$6.1 billion). Alternatives C
673 and D would cost approximately \$6.2. Alternatives B and E would be the most expensive alternatives,
674 costing approximately \$7.5 billion and \$6.9 billion, respectively.¹³

6.8.8 Determination

675 Based on the above considerations, FRA proposes to conclude that Alternative A-C would result in
676 least overall harm. While all Action Alternatives would generally have similar impacts on the same
677 three Section 4(f) properties, Alternative A-C would offer the best opportunities for successful
678 mitigation and, consequently, for resulting in less severe remaining harm after mitigation than the
679 other Action Alternatives. This would include remaining harm to WUS, the most significant of the
680 three properties. Alternative A-C would also generally have less severe impacts on resources not
681 protected by Section 4(f) than the other Action Alternatives. Finally, it would cost less to construct
682 than the other Action Alternatives.

¹³ See **Appendix A.8, Action Alternatives Cost Estimates Memorandum**.

6.9 Minimization and Mitigation of Harm

683 Proposed measures to minimize and mitigate harm include the following:

- 684 ■ The Project Proponents would coordinate with DDOT to plan and maintain alternative
685 routes for users of the Metropolitan Branch Trail when parts of the trail would be closed.
- 686 ■ The Project Proponents would work with DDOT to appropriately advertise construction-
687 related closures of the Metropolitan Branch Trail and establish alternative routes, as
688 needed.
- 689 ■ The construction contractor would be required to prepare and implement a Construction
690 Noise and Vibration Control Plan. This plan would include detailed predictions of
691 construction noise and vibration levels; requirements for conducting construction noise and
692 vibration monitoring; and, if necessary, detailed approaches to mitigate construction-
693 period noise and vibration impact. The plan would assess buildings at risk from vibration to
694 determine the appropriate threshold applicable to each based on its type of construction
695 and condition. The plan would define measures to be taken to minimize the risk of damage
696 based on these thresholds.
- 697 ■ Properties that would be used for the Project would experience an adverse effect under
698 Section 106. Per 36 CFR 800.6, a finding of adverse effect requires that Section 106
699 consultation continue to avoid, minimize, or mitigate effects to historic properties that
700 would alter the characteristics that qualify the properties for inclusion in the NRHP.
701 Because the design of the Project is in its early stages, FRA anticipates preparing a
702 Programmatic Agreement (PA) to establish a process to resolve the known adverse effects
703 of the Project in accordance with 36 C.F.R. § 800.14(b)(1)(ii). This would include the
704 exploration of avoidance and minimization measures. In addition, the PA would establish a
705 process for on-going consultation and review as the level of design progresses following the
706 Final EIS and Record of Decision (and subject to funding) to ensure that form, materials,
707 architectural features, and connections (visual and physical) to surrounding development
708 are considered. FRA anticipates the PA would outline coordinated design review in the
709 context of Federal and District regulations and guidelines.

6.10 Consultation to Date

710 DDOT and NPS, which are OWJs for the Metropolitan Branch Trail and Columbus Plaza, respectively,
711 are Cooperating Agencies for the DEIS. FRA has consulted with these agencies throughout the NEPA
712 process to date, as shown in **Table 6-5**.

Table 6-5. Cooperating Agency Meetings

Cooperating Agency Meeting Purpose	Date
Cooperating Agency Meeting #1: Discuss Cooperating Agency roles and needs, EIS and Section 106 process, design process, and environmental studies.	April 22, 2016
Cooperating Agency Meeting #2: Discuss Cooperating Agency memorandum of understanding, Purpose and Need, and concept screening criteria.	June 30, 2016
Cooperating Agency Meeting #3: Discuss Purpose and Need, No-Action Alternative approach, and refinement of preliminary screening.	October 13, 2016
Cooperating Agency Meeting #4: Review of preliminary concepts, screening of preliminary concepts, retained concept refinement, preliminary alternatives.	May 10, 2017
Cooperating Agency Meeting #5: Combined Cooperating Agency and Interested Agency meeting. Alternatives refinement and preview of public meeting materials	March 12, 2018
Cooperating Agency Meetings #6: Review of Administrative DEIS (1/2)	February 3, 2020
Cooperating Agency Meetings #7: Review of Administrative DEIS (2/2)	February 14, 2020

713 AOC, OWJ for the Upper and Lower Senate Parks, has participated in the NEPA process as an
 714 Interested Agency. FRA hosted Interested Agency meetings on November 17, 2015, March 30,
 715 2016, October 19, 2016, and March 12, 2018.

716 Section 106 consultation with the DC SHPO and other consulting parties is ongoing. FRA initiated
 717 Section 106 consultation with DC SHPO on November 23, 2015. The consultation initiation letter
 718 provided information on the undertaking, the project background, and management of the Section
 719 106 process.

720 FRA then worked with the DC SHPO to identify consulting parties. Consulting parties have expertise,
 721 jurisdiction, or a demonstrated interest in the historic properties an undertaking may affect. FRA
 722 formally invited several agencies, organizations, and individuals to participate in the process on
 723 March 28, 2016. **Table 6-6** shows the invited organizations. Asterisks indicate the consulting parties
 724 that accepted the invitation. **Table 6-7** shows key steps in the Section 106 consultation process
 725 completed to date.

**Table 6-6. Agencies, Organizations, and Individuals Invited to Participate
 in the Section 106 Consultation Process**

Invited Party (Asterisk Indicates Acceptance)		
ACHP*	DC SHPO*	Megabus*
Akridge*	DC Preservation League*	Metropolitan Washington Council of Governments*
Amtrak*	District Department of Transportation*	National Park Service*
Advisory Neighborhood Commission 6C*	Federal Highway Administration*	National Capital Planning Commission*

Invited Party (Asterisk Indicates Acceptance)		
Architect of the Capitol*	FTA*	National Railway Historical Society, DC Chapter*
Ashkenazy Acquisition Corporation	General Services Administration*	National Trust for Historic Preservation*
Capitol Hill Business Improvement District (BID)	Government Publishing Office*	Union Station Redevelopment Corporation*
Capitol Hill Restoration Society*	Greyhound*	Virginia Department of Historic Resources
Commission of Fine Arts*	Jones Lang LaSalle	Virginia Railway Express (VRE) *
Committee of 100 on the Federal City*	Maryland Area Regional Commuter Train Service (MARC)*	Washington Metropolitan Area Transit Authority (WMATA) *
Congresswoman Eleanor Holmes Norton	Maryland Transit Administration*	
DC Council Member Ward 6	Maryland Department of Transportation	

Table 6-7. Section 106 Consultation for the WUS Expansion Project – Key Steps to Date

Section 106 Consultation Step	Date
Section 106 Process initiated with DC SHPO	November 23, 2015
Section 106 Introduction at Public and Interagency Scoping meetings	December 7, 2015
Consulting Party Meeting #1: Project overview and undertaking	March 28, 2016
Consulting Party Meeting #2: Discussion on Proposed NEPA Study Area	May 9, 2016
Consulting Party Meeting #3: Preliminary Concepts, Proposed NEPA Study Area, Identification of Historic Properties	October 6, 2016
Consulting Party review of Draft APE and Identification of Historic Properties	August 8, 2017 – September 27, 2017
Consulting Party Meeting #4: Preliminary Alternatives, Draft APE and Identification of Historic Properties	September 7, 2017
SHPO concurrence on APE and historic properties	September 29, 2017
Consulting Party Meeting #5: Methodology for assessing effects	April 24, 2018
Consulting Party Meeting #6: Findings of the Draft Assessment of Effects Report, input from Consulting Parties on Section 106 PA	April 30, 2019
Meeting with SHPO to discuss comments on Draft APE	August 16, 2019
Consulting Party Meeting #7: Presentation of Alternative A-C; review of comments on Draft APE	November 19, 2019