AMTRAK
B&P TUNNEL REPLACEMENT PROJECT
CONTEXT-SENSITIVE DESIGN TREATMENTS

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FIGURES

PLATES

To improve rail service and reliability on the Northeast Corridor (NEC), the Federal Railroad Administration (FRA) has funded engineering and environmental studies related to National Railroad Passenger Corporation's (Amtrak) proposed replacement of the 145-year-old Baltimore & Potomac (B&P) Tunnel. Constructed in 1873, the B&P Tunnel is one of the oldest structures on the NEC and is approaching the end of its useful service life. The tunnel, which runs between Baltimore Penn Station and the West Baltimore Maryland Area Regional Commuter (MARC) Station, provides service to Amtrak and Maryland's MARC Commuter Rail passenger trains and Norfolk Southern Railway freight trains.

The proposed B&P Tunnel Replacement Project extends along the NEC from Baltimore Penn Station to the Gwynns Falls Bridge and calls for a four-track, four-bore tunnel along a new arcing alignment north of the present B&P Tunnel. Related work includes new tunnel approaches, portal and vent plant construction, cut-and-cover work, retaining walls, track work, modifications to the overhead power and signal structures, and bridge construction and alterations.

In accordance with Section 106 of the National Historic Preservation Act ("Section 106"), FRA conducted studies to identify significant historic properties that would be affected by the proposed tunnel replacement project and to assess whether or not the effects on the historic properties would be adverse. In March 2017, FRA, the Maryland State Historic Preservation Officer (MD SHPO), Amtrak, and Preservation Maryland executed a project Programmatic Agreement (PA) to establish measures that would mitigate adverse effects to historic properties listed in or eligible for inclusion in the National Register of Historic Places (NRHP).

One of the mitigation measures, Stipulation V.C. of the PA, requires that Amtrak, in consultation with the MD SHPO, develop context-sensitive design treatments for new construction elements that would adversely affect historic properties, including:

- the B&P / Philadelphia, Baltimore and Washington Railroad;
- the Baltimore & Ohio (B&O) Railroad Baltimore Belt Line;
- bridges within these two rail corridors; and
- five historic districts containing a mix of residential, commercial, and industrial facilities that abut the railroad corridor.

Two maps identifying these historic properties, as well as the current and proposed tunnel locations, are included in Appendix A: one map showing the locations of the bridges along the two historic rail lines and one showing the boundaries of the five adversely affected historic districts.

In compliance with the requirement in the PA, Amtrak and its team of engineers, architects, and cultural resources specialists have prepared this report to provide context-sensitive design recommendations associated with the historic properties in order to seek input from the PA signatories and concurring parties on the recommendations. As indicated in the PA, if a non-signatory to the PA owns a project element and is unwilling to allow context-sensitive design, Amtrak is not obligated to accomplish context-sensitive design for that particular element.

The development of the recommended design treatments took into consideration the comprehensive list of mitigation measures that are included within the *B&P Tunnel Project Record of Decision,* which concluded the environmental review under the National Environmental Policy Act (NEPA). These measures, although not developed solely for cultural resources, can help to mitigate adverse effects to historic properties and have therefore been integrated, as appropriate, into the following context-sensitive design recommendations.

The first step in developing context-sensitive design is to understand the terminology in the regulatory requirement as well as the standards by which the new design is evaluated. The ultimate goal is to utilize the federal *Secretary of the Interior's Standards for the Treatment of Historic Properties* to guide the development of context-sensitive treatments for new construction elements that would adversely affect historic properties and their character-defining features.

An explanation of a few terms will help with an understanding of this task:

- **Context-sensitive design**, as explained by AASHTO (American Association of State Highway and Transportation Officials), is "a highway or transportation project that reflects a community consensus regarding purpose and need, with the features of the project developed to produce an overall solution that balances safety, mobility, and the preservation of scenic, aesthetic, historic, and environmental resources."

- The ***Secretary of the Interior's Standards for the Treatment of Historic Properties*** are the federal design standards developed by the National Park Service to guide work affecting historic properties.

- A **construction element** is a component of the project's proposed construction, including site-specific activities (e.g., replacement of one of the bridges along the rail corridor) and project-wide components (e.g., installation of sound barriers throughout the project area).

- The **criteria for inclusion in the National Register of Historic Places (NRHP)**, specified in the Code of Federal Regulations, Title 36, Part 60, National Register of Historic Places (36 CFR 60.4), include four broad criteria for significance:
  - **Criterion A**: associated with events that have made a significant contribution to the broad patterns of our history;
  - **Criterion B**: associated with significant persons in our past;
  - **Criterion C**: embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction; and
  - **Criterion D**: likely to yield information in history or prehistory.

- **Character-defining features** are characteristics of a historic property that contribute to its significance, including design elements, materials, scale, and landscaping.

- A **Record of Decision** (ROD) is issued by a federal agency at the end of its process to prepare, issue, and receive public comment on an Environmental Impact Statement under NEPA.

The remainder of this report is organized into four main components:

- Chapter 3.0. An explanation of the *Secretary of the Interior's Standards for the Treatment of Historic Properties.*

- Chapter 4.0. An overview of the major challenges faced by the project design team.

- Chapter 5.0. An introduction to the affected historic properties, including the two historic rail lines, the bridges within the rail corridors, and the five surrounding historic districts. This overview consists of a summary of the historic properties' significance as well as their character-defining features. For the two rail lines and the five historic districts, the discussion addresses the larger resources as a whole as well as individual historic properties that are affected by the proposed project.

- Chapter 6.0. Review of construction elements, organized by project type, and including for each element:
  - Relevant associated historic properties that will be adversely affected
  - Ownership if other than Amtrak and therefore impacting Amtrak's ability to implement context-sensitive design
  - Context-sensitive design recommendations developed in light of the appropriate standards, the respective historic properties' character-defining features, and the following relevant mitigation measures included in the project's Record of Decision:
    - #5. The Selected Alternative will include visual screening of ventilation facilities adjacent to schools and other community facilities.
    - #6. The Selected Alternative will include funding to support the improvement or establishment of community gardens, vacant lot greening, and/or the establishment or improvement of public open space within 1/4 mile of the Project alignment.
    - #7. The Selected Alternative will include a mechanism for public comment in the design and landscaping of Project facilities such as portals, ventilation facilities, and other visible Project structures.
    - #12. The Selected Alternative will include the replacement of all impacted station facilities at the West Baltimore MARC Station, and reconstruction of the facility in compliance with the Americans with Disabilities Act.
    - #13. The Selected Alternative will include additional reasonable amenities at the West Baltimore MARC Station beyond those that currently exist, and beyond those that would need to be replaced in-kind as a result of direct impacts to the Station from the Project. Amenities such as security lighting, technological updates, full platform canopies, or public art may be considered in coordination with MARC and Maryland Transit Administration.
    - #31. The Selected Alternative will include vertically-oriented fans at ventilation facilities to facilitate dispersion of emissions from locomotives and avoid violation of air quality regulations.
    - #35. The Selected Alternative will include context-sensitive design treatments for new construction informed by the features of the affected historic properties.
    - #36. The Selected Alternative will include sound barriers and/or vegetation to ensure that relevant historic properties are screened, including contributing elements of historic districts.

The United States Department of the Interior maintains *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, which guide four broad categories of treatment to historic properties: preservation (sustains the existing property), rehabilitation (involves repairs, alterations, and additions), restoration (returns the property to an earlier period), and reconstruction (replicates a historic property). As explained on the National Park Service's website (https://www.nps.gov/tps/standards.htm), for each treatment, there are guidelines of recommended actions that "offer general design and technical recommendations to assist in applying the standards to a specific property."

The B&P Tunnel Replacement Project's proposed alterations and additions to historic properties are best reviewed in accordance with the *Standards for Rehabilitation ("Standards")*. Of the ten *Standards* (listed below), the ones that are most relevant to the project are #1 and #2, which call for preserving a property's historic character with minimal change, and #3, #4, #9, and #10, which address later changes or additions to a historic property. As indicated in *Standard* #4, existing changes may have gained historical significance and therefore need to be preserved. For new proposed changes or additions, as described in *Standards* #3, #9, and #10, these changes need to be done in such a manner as to be compatible with the historic property while avoiding creating a false sense of historical development as well as avoiding damaging historic fabric. The current project involves alterations to a historic rail line, the B&P / Philadelphia, Baltimore and Washington Railroad Historic District, that has a period of significance spanning over 100 years, from 1872 until 1976. Therefore, compliance with the *Standards* necessitates evaluating the significance of later changes that fall within that period of significance and addressing the challenge of designing new changes that are compatible yet avoid creating a false sense of historical development.

Standards for Rehabilitation

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Within the *Standards*, which can be applied to buildings, sites, structures, objects, and districts, there are three categories of guidelines that are most relevant to the B&P Tunnel Replacement Project. These categories, along with the recommendations most prominently used in the context-sensitive analysis, are:

New Exterior Additions to Historic Buildings and Related New Construction

- Use the same forms, materials, and color range of the historic [property] in a manner that does not duplicate it, but distinguishes the addition from the original building.

- Ensure that an addition is subordinate and secondary to the historic building and is compatible in massing, scale, materials, relationship of solids to voids, and color.

- Consider the design for a new addition in terms of its relationship to the historic [property] as well as the historic district, neighborhood, and setting.

Building Site

- Identify, retain, and preserve building and landscape features that are important in defining the overall historic character of the setting.

- Design new features (such as parking areas, access ramps, or lighting) so that they are as unobtrusive as possible and are compatible with the historic character of the setting.

- Retain the historic relationships between buildings and the landscape in the setting.

Setting District / Neighborhood

- Identify, retain, and preserve building and landscape features that are important in defining the overall historic character of the setting.

- Install protective fencing, bollards, and stanchions in the setting, when necessary for security, that are as unobtrusive as possible.

- Construct a new addition that results in the least possible loss of historic materials and that does not obscure, damage, or destroy character-defining features.

- Design a new addition so that it is compatible with the historic property and its setting.

The context-sensitive design review identified several major issues:

- Diversity of design. This segment of the Northeast Corridor (NEC) has a complex 104-year period of significance that includes association with the B&P Railroad (1872–1902), the Philadelphia, Baltimore and Washington Railroad (1902–1976), and the Pennsylvania Railroad Company (PRR) (1876-1968). As a result, the rail line includes a wide range of bridges and tunnels that span these time periods and vary in design, materials type, and style.

  The proposed project requires replacement of or alteration to four bridges carrying the NEC over roadways and two bridges carrying roadways over the NEC. The appropriate design for each new bridge needs to address:
  - Identifying the appropriate character-defining features, i.e., those of the specific bridge to be replaced or altered and those of the line as a whole.
  - Determining the extent to which a new bridge's context-sensitive design should relate to the specific bridge it is replacing and/or the broader historic rail line, taking into consideration that line's design diversity over a long period of significance.
  - Ensuring that, in accordance with the *Standards*, the new bridge design is compatible with the rail line and adjacent historic properties while ensuring that the new bridge is distinguishable from the old.

- Current-day cost-related issues. This is particularly important for decisions concerning masonry construction, either stone, stone veneer, or concrete, with or without the use of form liners. Using the *Standards* as a guide, a hierarchy has been developed:
  - In accordance with the *Standards*, the highest level of care must be taken to match as closely as possible any alteration to a stone structure such as a component of a historic structure such as a bridge or a retaining wall. Because actual stone construction would be prohibitively expensive, a stone veneer that closely matches the existing stone in unit size, color and texture is recommended.
  - To match stone that is not a component of a historic structure but is either adjacent to it or in close visual proximity, either a stone veneer or a closely matching form liner should be used.
  - The greatest flexibility can be given to new construction that is not in close visual proximity to a historic property. For these features, there is flexibility to use materials compatible with one of the two masonry materials that were used historically on the rail line: stone (in the form of a closely matching form liner) or concrete (using detailing reflective of the early-to-mid-twentieth-century construction along the line).

- Ensuring that context-sensitive design solutions meet contemporary engineering standards applicable to that element.

- Designing large construction elements, such as ventilation facilities and sound barriers that are in close proximity to historic districts that primarily contain small-scale rowhouses.

This section provides an overview of the significance and character-defining features of each historic property adversely affected by the proposed project, starting with the two rail lines and the individual structures that contribute to their significance, and then proceeding to the five historic districts. For each property there will be a description, the important historical themes, and the character defining features. The properties include:

- ***B&P / Philadelphia, Baltimore and Washington Railroad Historic District (#B-5164)***
- ***Bridge carrying the B&P / Philadelphia, Baltimore and Washington Railroad over North Franklintown Road (UG 98.95)***
- ***Bridge carrying the B&P / Philadelphia, Baltimore and Washington Railroad over North Warwick Avenue (UG 98.69)***
- ***Bridge carrying the B&P / Philadelphia, Baltimore and Washington Railroad over West Mulberry Street (UG 98.50)***
- ***Bridge carrying the B&P / Philadelphia, Baltimore and Washington Railroad over West Franklin Street (UG 98.45)***
- ***Bridge carrying West Lafayette Avenue over the B&P / Philadelphia, Baltimore and Washington Railroad (BC 2410 / #B-4553)***
- ***B&O Railroad, Baltimore Belt Line Historic District (#B-5287)***
- ***B&O Railroad, Baltimore Belt Line Bridge over Jones Falls Valley (#B-5288)***
- ***Midtown Edmondson Historic District***
- ***Greater Rosemont Historic District (#B-5112) and Edmondson Avenue Historic District (#B-5187)***
- ***Bolton Hill Historic District (#B-64)***
- ***Reservoir Hill Historic District (#B-1379)***

5.1. B&P / Philadelphia, Baltimore and Washington Railroad Historic District (#B-5164)

The NEC alignment between Baltimore Penn Station and the city/county line has been evaluated as eligible for inclusion in the NRHP as the B&P / Philadelphia, Baltimore and Washington Railroad Historic District. The line is significant under NRHP Criterion A as a critical component of a rail line that established a reliable connection between Baltimore and Washington, D.C., and ultimately to Philadelphia and New York, and had a major impact on the social, economic, commercial, industrial and agricultural development of Baltimore and southern Maryland. The B&P Railroad Company was chartered on May 6, 1853 and acquired by the Pennsylvania Railroad and the Northern Central Railway in 1867. In 1873, the B&P Tunnel opened. In 1902, the PRR consolidated the B&P with two other small lines to form the Philadelphia, Baltimore and Washington Railroad, which was operated by the PRR until 1968, Penn Central from 1968 to 1976, and Amtrak since 1976. Each railroad made important contributions under the Criterion A significance described above. The historic district's period of significance spans from 1872 when the first rail segment opened, until 1976, the last year that the Philadelphia, Baltimore and Washington Railroad operated.

Figure 1: Map delineating the boundaries of the B&P / Philadelphia, Baltimore and Washington Railroad Historic District (#B-5164). Source: Christeen Taniguchi, "B&P / Philadelphia, Baltimore and Washington Railroad Determination of Eligibility Form," May 1, 2012.

Important Historic Themes:

- Association with the B&P's late-nineteenth-century construction.

- Association with early-twentieth-century grade crossing elimination projects.

- PRR's 1930s electrification program, including a "Baltimore Improvement" component with construction of catenary structures, elimination of four grade crossings, widening of the corridor between Gwynns Falls and Wilkens Avenue, and lowering of other tracks in that vicinity approximately eight feet.

- Association with the expanded development of the western portion of the city and the extension of the city's corporate boundaries.

Character-Defining Features:

- Late-nineteenth-century stone bridges, tunnel portals, and retaining walls, including:
    - Three structures that were built at that same time and are individually eligible for inclusion in the NRHP and also contributing features of the rail historic district:
        - 1873 B&P Tunnel and its associated portals and retaining walls
        - 1873 single-span stone arch bridge carrying Vincent Street over NEC (Bridge #BC-8010; #B-4532)
        - 1873 single-span stone arch bridge carrying Fulton Avenue over NEC (Bridge #BC-999; #B-4533)
    - Coursed ashlar stone abutments from the original 1895 construction of the bridge carrying the rail line over West Franklin Street

- Early- or mid-twentieth-century bridges carrying both the rail line over roads and roads over the rail line. Important features of these bridges include:
    - Steel plate girders, which represent typical early-twentieth-century bridge technology used in grade crossing eliminations
    - Concrete, including steel girders encased in concrete (West Mulberry Street and North Monroe Street), scored concrete abutments and wingwalls (North Franklintown Road and North Warwick Avenue), reinforced concrete open spandrel arch (Gwynns Falls), and concrete parapets and piers (West Lafayette Avenue)
    - Wingwalls with tapered ends and concrete caps or stepped capstones
    - For the bridges carrying the railroad over roads, support structures between the sidewalk and roadway, either steel open lattice or concrete
    - Decorative details: Classical and Art Moderne in style

- 1930s power, communication, and signal structures, such as catenary, transmission structures, and signal bridges associated with the PRR's major electrification program, and representing the PRR's standard catenary structure design.

Each of the five early- or mid-twentieth-century bridges that have been identified as contributing to the historic rail line and that would be adversely affected by replacement or significant modification, is individually described below.

5.1.a. Bridge Carrying the B&P / Philadelphia, Baltimore and Washington Railroad over North Franklintown Road (UG 98.95)

Built in 1932, with no evidence of subsequent rehabilitation, the bridge is often referred to as the North Franklintown Road Bridge, even though the bridge carries the railroad.

Important historical themes:

- Association with the PRR's grade crossing elimination program as part of its "Baltimore Improvements"
- Representative early-twentieth-century railroad bridge construction

Character-Defining Features:

- Three-span
- Two lanes of traffic flanked by sidewalks
- Steel through girders
- Steel floor beams encased in concrete
- Steel support columns
- All steel members are built-up sections using riveted construction
- Reinforced concrete scored abutments with in-line wingwalls

Plate 1: View looking northwest at the bridge carrying the B&P / Philadelphia, Baltimore and Washington Railroad over North Franklintown Road.

Plate 2: View looking northwest underneath the North Franklintown Road bridge showing the abutment, in-line wingwalls, and steel columns.

5.1.b. Bridge Carrying the B&P / Philadelphia, Baltimore and Washington Railroad over North Warwick Avenue (UG 98.69)

Built in 1932, with no evidence of subsequent rehabilitation, the bridge is often referred to as the North Warwick Avenue Bridge, although the bridge carries the railroad. This bridge design essentially matches that of the North Franklintown Road Bridge.

Important historical themes:

- Association with the PRR's grade crossing elimination program as part of its "Baltimore Improvements"
- Representative early-twentieth-century railroad bridge construction

Character-Defining Features:

- Three-span
- Two lanes of traffic flanked by sidewalk spans
- Steel through girders
- Steel floor beams encased in concrete
- Steel support columns
- All steel members are built-up sections using riveted construction
- Reinforced concrete scored block abutments with in-line wingwalls

Plate 3: View looking south at the bridge carrying the B&P / Philadelphia, Baltimore and Washington Railroad over North Warwick Avenue.

Plate 4: View looking northeast underneath the North Warwick Avenue bridge showing abutment, in-line wingwalls, and steel columns.

5.1.c. Bridge Carrying the B&P / Philadelphia, Baltimore and Washington Railroad over West Mulberry Street (UG 98.50)

Built in 1953, with no evidence of subsequent rehabilitation, the bridge is often referred to as the West Mulberry Street Bridge, even though it does not carry the road.

Important historical themes:

- Association with the expanded development of the western portion of the city and the extension of the city's corporate boundaries
- Representative mid-twentieth-century railroad bridge construction

Character-Defining Features:

- Single-span
- Concrete encased steel I-beams
- Three lanes of traffic flanked by sidewalks
- Reinforced scored concrete abutments with in-line wingwalls
- Mid-twentieth-century Art Moderne detailing, including curvilinear features and incising
- PRR company logo

Plate 5: View looking northwest at the bridge carrying the B&P / Philadelphia, Baltimore and Washington Railroad over West Mulberry Street.

Plate 6: PRR company logo, West Mulberry Street bridge.

Plate 7: Cheek wall (typical), West Mulberry Street bridge.

5.1.d. Bridge Carrying the B&P / Philadelphia, Baltimore and Washington Railroad over West Franklin Street (UG 98.45)

The current bridge, often referred to as the West Franklin Street Bridge, represents multiple construction periods: coursed ashlar stone abutments from the 1895 original construction; columns and superstructure from 1913; and deck from the mid-1990s.

Important historical themes:

- Representative late-nineteenth- and mid-twentieth-century railroad bridge construction

Character-Defining Features:

- Three-span
- Steel deck-girders
- Three lanes of traffic flanked by two sidewalks
- Steel support columns with curved brackets
- Riveted construction
- Coursed ashlar stone abutments with in-line wingwalls with concrete caps

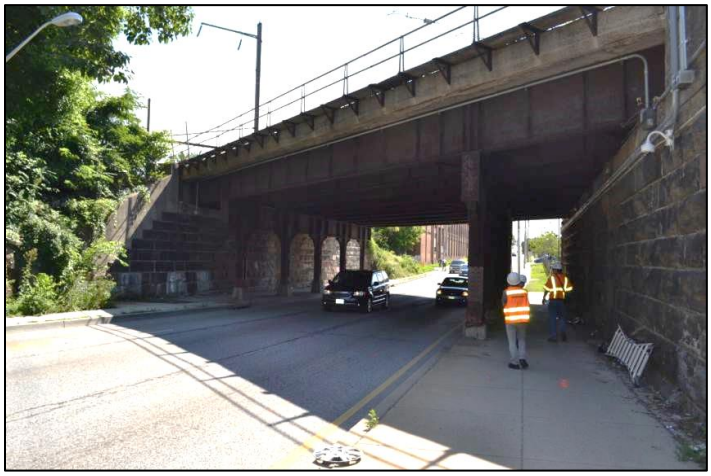

Plate 8: View looking northeast at the bridge carrying the B&P / Philadelphia, Baltimore and Washington Railroad over West Franklin Street.

Plate 9: View looking north underneath the West Franklin Street bridge showing the stone abutment, riveted steel support columns, and the concrete from the 1990s deck replacement.

5.1.e. Bridge Carrying West Lafayette Avenue over the B&P / Philadelphia, Baltimore and Washington Railroad (BC 2410 / #B-4553)

Constructed in 1931, with major alterations in 1975.

Important historical themes:

- Association with the expanded development of the western portion of the city, the extension of the city's corporate boundaries, the rise in the use of the automobile, and early-twentieth-century grade crossing eliminations
- Representative mid-twentieth-century bridge construction

Character-Defining Features:

- Combination deck girder and rolled steel I-beam bridge
- Three main spans and eleven approach spans
- Two lanes of city street traffic
- Pedestrian sidewalks flanking the roadway
- Concrete parapets with decorative recessed panels on the three main spans over railroad
- Concrete open arched piers with Classical detailing

Plate 10: January 1995 view looking north at the bridge carrying West Lafayette Avenue over the B&P / Philadelphia, Baltimore and Washington Railroad. Tim Schoen, Maryland State Highway Administration, photographer.

Plate 11: View looking east at the Classical detailing on the bridge carrying West Lafayette Avenue over the B&P / Philadelphia, Baltimore and Washington Railroad.

5.2. B&O Railroad, Baltimore Belt Line Historic District (#B-5287)

Constructed between 1891 and 1895 to connect the B&O's southern Baltimore terminus at Camden Station to Bay View Junction, the Baltimore Belt Line is currently part of CSX Transportation Company's (CSXT) main freight line through Baltimore.

Important historical themes:

- Eligible for inclusion in the NRHP under Criteria A and C.
- First electric railway segment in United States; the 7.2-mile line provided the B&O with a route from Washington, D.C. to Philadelphia
- Associated with architect E. Francis Baldwin
- Characteristics of a late-nineteenth- and early-twentieth-century rail line
- Includes individually notable resources, such as the Baltimore Belt Line Bridge over Jones Falls Valley
- Period of significance: 1891 to ca. 1950

Character-Defining Features:

- Ten tunnels and ten bridges
- Limestone and steel through-plate girder bridges supported by stepped limestone abutments
- Stone-arched tunnels
- Cuts lined with coursed ashlar limestone or non-historic concrete retaining walls (the concrete is not a character-defining feature.)

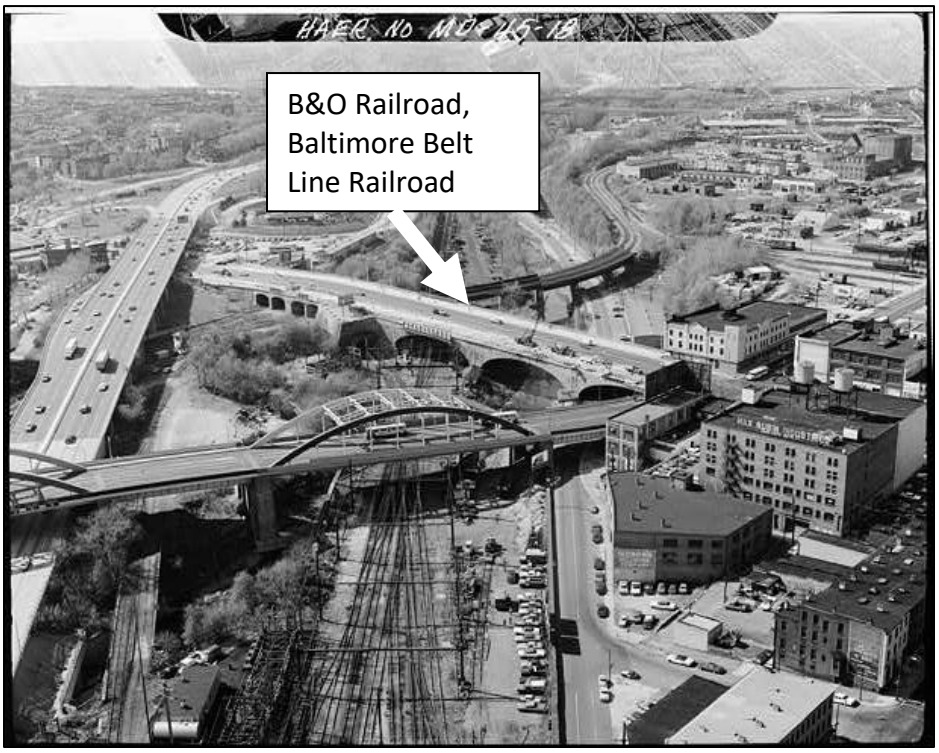

Plate 12: 1977 aerial photograph (view looking northwest) by Jack Boucher showing the B&O Railroad, Baltimore Belt Line, Historic American Engineering Record photo #MD-45-18, "Northeast (Railroad) Corridor Amtrak Route between District of Columbia / Maryland State line and Maryland / Delaware State line."

5.2.a. B&O Railroad, Baltimore Belt Line Bridge over Jones Falls Valley (#B-5288)

Important historic themes:

- Eligible for inclusion in the NRHP under Criteria A and C both as an individual resource and as a contributing feature of the B&O Railroad, Baltimore Belt Line Historic District
- As a six-span "complicated arrangement" bridge built in 1890s (with the spans replaced in 1953), it is one of the most significant bridges on the line.

Character-Defining Features:

- Steel through-plate girders and through girders
- Open grid deck
- Built-up girder sections, connected by rivets
- Coursed ashlar limestone abutments, wingwalls, and piers with concrete caps
- Longest and most complex plate girder bridge on the line

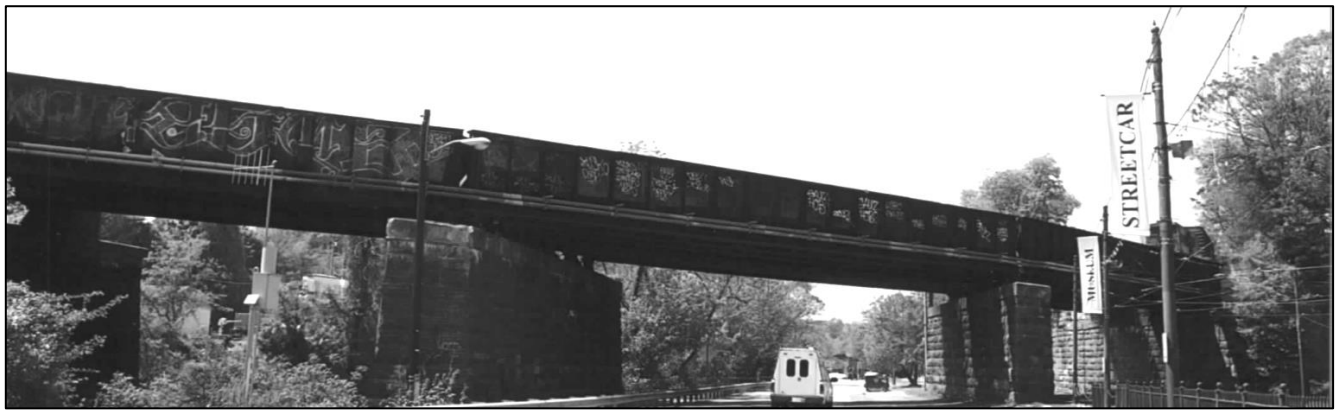

Plate 13: B&O Railroad, Baltimore Belt Line Bridge over Jones Falls Valley.

Plate 14: Limestone pier of the B&O Railroad, Baltimore Belt Line Bridge over Jones Falls Valley.

5.3. Midtown Edmondson Historic District (#B-5118)

Primarily located east of the proposed south portal, south ventilation facility, and the Edmondson Avenue and West Lafayette Avenue bridges, the historic district is characterized as a mixed-use area of row houses, warehouses, and commercial buildings constructed between the 1880s and the mid-twentieth century.

Important historic themes:

- Pending listing in the NRHP under Criterion A for its association with the growth of West Baltimore and its post-WWII racial transition, and under Criterion C as a representative example of a late-nineteenth-century and early-twentieth-century suburb with a diverse range of rowhouse designs.
- Period of significance: 1888 to 1965.

Character-Defining Features:

- Stone (variegated), brick, and rusticated brick
- Rowhomes that are small in size and scale, typically two stories tall
- Individual buildings articulated via contrasting materials and/or color in façade, foundation, stoop, window lintels and sills, cornice line, and/or projections or curvature of form including full-height projecting bays
- Classical detailing
- Streets laid out in a grid pattern; flat elevation with long vistas along streetscapes
- Houses abut the sidewalk; landscaping primarily limited to back yards and areas around industrial buildings in close proximity to the existing NEC

Plate 15: Representative views of the Midtown Edmondson Historic District.

5.4 Greater Rosemont Historic District (#B-5112)
Edmondson Avenue Historic District (#B-5187)

These two historic districts, the Greater Rosemont Historic District and the Edmondson Avenue Historic District, share many of the same boundaries, especially in the area immediately adjacent to the project site. Therefore, these historic districts have been jointly described and evaluated.

Located west of the Northeast Corridor, these primarily residential historic districts contain buildings from the late-nineteenth to the mid-twentieth centuries.

Important historic themes identified for the Greater Rosemont Historic District:

- Eligible for inclusion in the NRHP under Criterion A for illustration of the rapid speculative development of streetcar suburbs and the evolution of streetcar suburbs and the evolution of Baltimore row housing from the Victorian era to the 1930s, and Criterion C as an example of an early-twentieth-century streetcar suburb with a diverse range of rowhouse designs.
- Period of significance: late nineteenth century to 1950s.

Important historic themes identified for the Edmondson Avenue Historic District:

- Eligible for inclusion in the NRHP under Criterion A for association with the growth of West Baltimore and related road improvements and Criterion C as an example of a late-nineteenth- and early-twentieth-century suburb with a diverse range of rowhouse designs.
- Period of significance: 1885 to 1960.

Character-Defining Features (for both historic districts):

- Houses set back from the street; front yards; strips of grass along some sidewalks
- Brick and stone construction
- Concrete, stone, and marble trim
- Projecting front porches with low brick walls, pediments, and varied roofs
- Projecting side bays

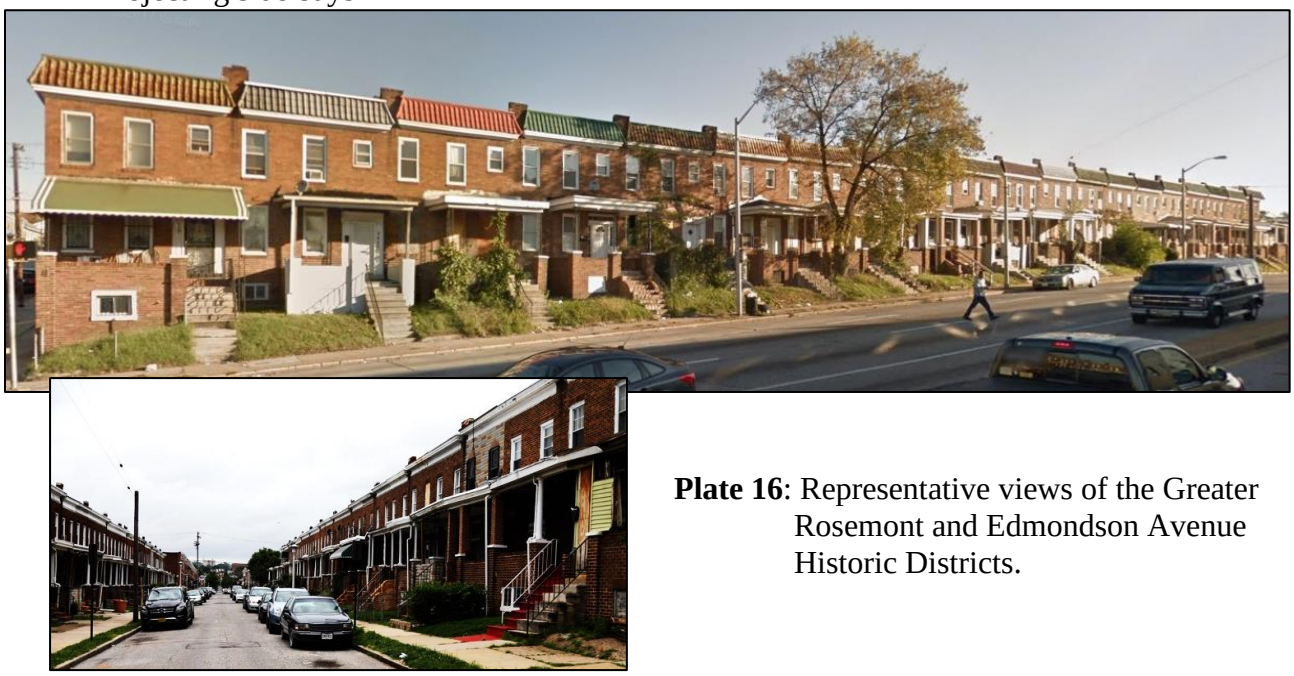

Plate 16: Representative views of the Greater Rosemont and Edmondson Avenue Historic Districts.

5.5. Bolton Hill Historic District (#B-64)

Located south of North Avenue and the proposed intermediate ventilation facility, the historic district consists of twenty blocks of residential buildings, primarily dating to the second half of the nineteenth century, but also into the early part of the twentieth century.

Important historic themes:

- This primarily residential historic district is listed on the NRHP under Criterion A for its representation of the city's northern expansion and under Criterion C for its late-nineteenth-century architecture.

Character-Defining Features:

- Primarily 3-story rowhouses, with some 5-story
- Primarily brick construction, with some stone
- White marble and sandstone steps
- Rhythmically placed and symmetrical fenestration and doorways
- Simplicity of façade treatment, with some differentiated trim material and color, variety in window and door treatments, and belt courses
- Uniformity of scale, design and fabric
- High standards of design, materials and workmanship
- Open space along Eutaw Place, with a landscaped median strip with large trees

Plate 17: Representative views of the Bolton Hill Historic District.

5.6. Reservoir Hill Historic District (#B-1379)

Located north of North Avenue and the proposed intermediate ventilation facility, the historic district contains 32 blocks of primarily late-nineteenth to early-twentieth-century rowhouses, with some mansions, apartment buildings, and religious and commercial buildings.

Important historic themes:

- Listed in the NRHP under Criterion A for association with the development of the city's Jewish community in the early twentieth century, and Criterion C for architecture.
- Period of significance: 1790 until 1941

Character-Defining Features:

- Diversity of style and housing types
- Brick and stone facades
- Uniformity; regular pattern (symmetrical)
- Projecting bays, turrets, gables, balconies, and porch fronts predominate (especially along Eutaw Place and Lennox Street)
- Houses feature picturesque stone and terra cotta ornamentation
- Approximately half of the buildings front on small garden plots or terraced walkways; tree-lined character of the neighborhood

Plate 18: Representative views of the Reservoir Hill Historic District.

This section discusses the various construction activities that have been identified in the PA as having an adverse effect on at least one historic property. For each of the construction activities, which are grouped in this section by activity type, the specific activity is briefly described, the affected historic properties are listed, and then recommendations are put forth in order to provide context-sensitive design treatments. As previously discussed, some of the recommended design treatments have been developed in accordance with "Table 8: Mitigation Measures" of the *B&P Tunnel Project Record of Decision*. These measures in the Record of Decision (ROD) encompass a wide range of mitigation, including for cultural resources as well as natural resources, community, economy, transportation, etc. To the extent that any of the mitigation measures in the Record of Decision can assist in mitigating adverse effects to historic properties, they have been integrated into the specific context-sensitive design treatments discussed in this section.

The construction activities are grouped in this section by activity type, including:

- Alterations to or replacements of bridges, including along the B&P / Philadelphia, Baltimore and Washington Railroad and the B&O Railroad, Baltimore Belt Line
- Construction of retaining walls
- Construction of the south portal cut-and-cover structure
- Construction of the north portal
- Construction of the new West Baltimore MARC Station
- Installation of sound barriers
- Installation of new power and signal structures
- Construction of new ventilation facilities
  - South ventilation facility
  - Intermediate ventilation facility

The design recommendations are based on the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and the effects on each historic property's character-defining features.

6.1. Bridges on the B&P / Philadelphia, Baltimore and Washington Railroad Corridor

Starting from the southern end of the project, there are six bridges along the historic rail line that need to be either altered or replaced: four southernmost bridges (shown in Figure 2) that carry the rail line over local roads, and two bridges further north (shown in Figure 3) that carry local roads over the rail line.

Figure 2: Four bridges carrying the National Register-eligible B&P / Philadelphia, Baltimore and Washington Railroad over local roads (listed south to north): North Franklintown Road, North Warwick Avenue, West Mulberry Street, and West Franklin Street.

Figure 3: Two bridges carrying local roads (Edmondson Avenue and West Lafayette Avenue) over the rail line.

6.1.a. Partial Replacement of and Alterations to the Bridge Carrying the B&P / Philadelphia, Baltimore and Washington Railroad over North Franklintown Road (UG 98.95)

Associated Historic Resource

- B&P / Philadelphia, Baltimore and Washington Railroad (Inventory #B-5164)

The new rail alignment will stay within the footprint of the existing bridge as it crosses North Franklintown Road, but the installation of a new crossover track necessitates significant alteration in order to avoid conflicts between the new track and the existing through girders. Therefore, the upper part of the bridge (the "superstructure") and the columns will be removed; the abutments and wingwalls will remain; and there will need to be minor modifications to the abutments.

Plate 19: The bridge over North Franklintown Road, showing the underside of the bridge with the steel girders supported by riveted steel columns and the concrete abutments. All steel elements shown will be removed, and the concrete abutments and wingwalls will be modified.

6.1.b. Replacement of the Bridge Carrying the B&P / Philadelphia, Baltimore and Washington Railroad over North Warwick Avenue (UG 98.69)

Associated Historic Resource

- B&P / Philadelphia, Baltimore and Washington Railroad (Inventory #B-5164)

Similar to the crossing of North Franklintown Road, the new railroad alignment will stay within the footprint of the existing bridge as it crosses North Warwick Avenue, but the lateral shift will require that the bridge superstructure be replaced. The abutments will remain, but they will be reinforced and enlarged with a concrete facing, tiebacks, and micropiles.

Plate 20: The bridge over North Warwick Avenue, showing the underside of the bridge with the steel girders supported by riveted steel columns and the concrete abutments. All steel elements shown will be removed, and the concrete abutments will be concealed from view.

6.1.c. Construction of a New Bridge Carrying the B&P / Philadelphia, Baltimore and Washington Railroad over West Mulberry Street (UG 98.50)

Associated Historic Resource

- B&P / Philadelphia, Baltimore and Washington Railroad (Inventory #B-5164)

The new rail alignment will shift west as it crosses over West Mulberry Street; the street will be reprofiled; a new bridge will be constructed approximately 110' west of the existing crossing; and the existing bridge will be demolished. This new alignment allows for a less severe, higher speed curve, and the ability to have high-level platforms at a new West Baltimore MARC Station that will be built as part of this project (centered on West Mulberry Street and West Franklin Street).

Plate 21: Historic photograph of the 1953 construction of the bridge over West Mulberry Street.

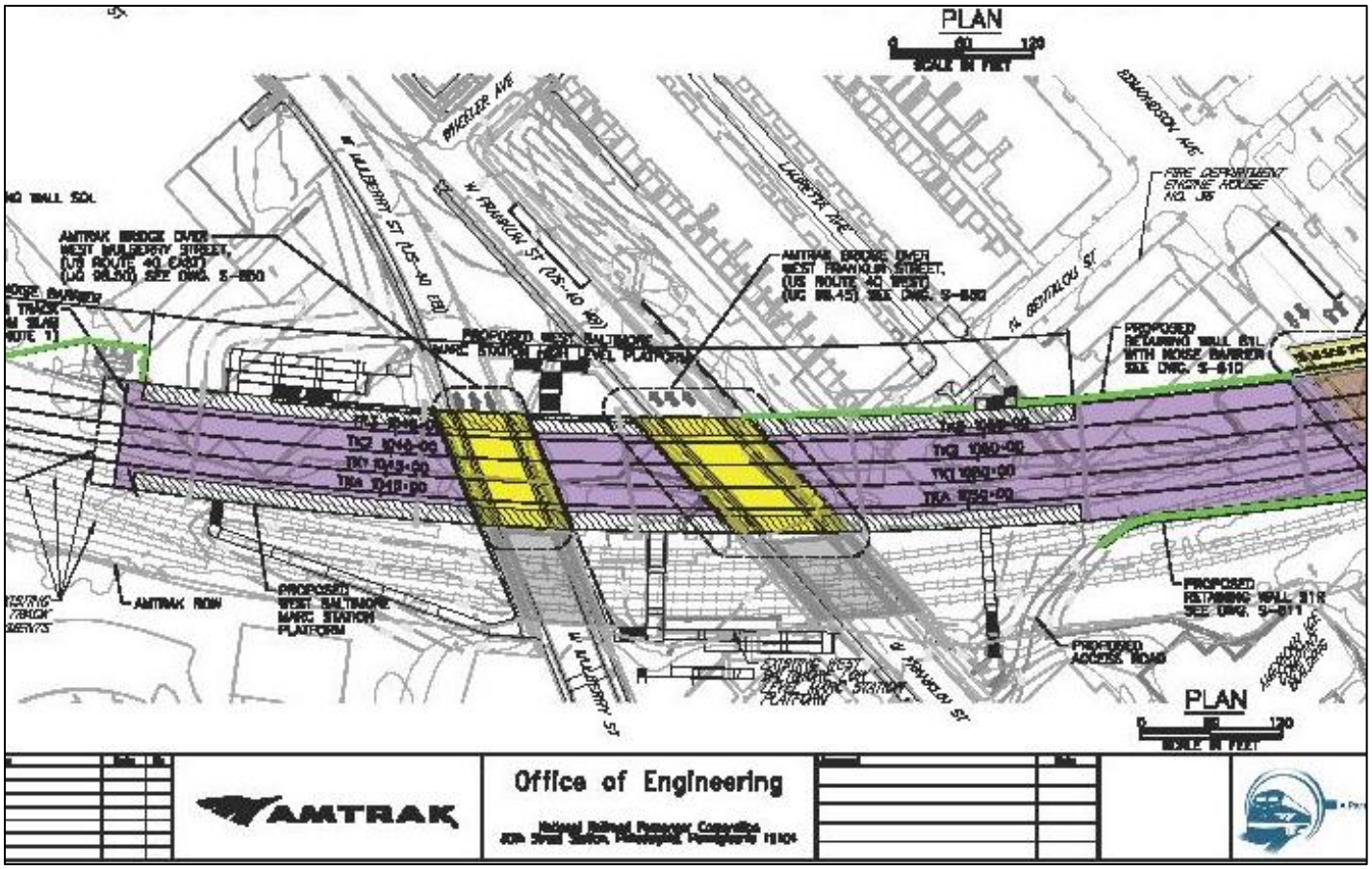

Figure 4: Project plans showing (in yellow) the locations of the proposed bridges over West Mulberry Street (on the left) and West Franklin Street (center) as well as the locations (in grey) of the current rail alignment and bridges.

6.1.d. Replacement of the Bridge Carrying the B&P / Philadelphia, Baltimore and Washington Railroad over West Franklin Street (UG 98.45)

Associated Historic Resource

- B&P / Philadelphia, Baltimore and Washington Railroad (#B-5164)

The new alignment will be west of the current alignment as it crosses over a reprofiled West Franklin Street, and a new bridge will be constructed approximately 110' west of the existing crossing (see Figure 4 for the location plan). The existing stone abutments will remain as part of newly constructed retaining walls; the rest of the bridge will be demolished.

Plate 22: View looking north at the bridge over West Franklin Street, showing the stone abutment and wingwalls. The new bridge will be located to the west, which is to the left in this photo.

Recommendations for Context-Sensitive Design for Bridges over North Franklintown Road, North Warwick Avenue, West Mulberry Street, and West Franklin Street

- Maintain the mix of early- and mid-twentieth-century steel and concrete bridge types and materials represented by these four bridges; this diversity is an important aspect of the rail line, representing common bridge types and important phases of the line's history that fall within the historic district's period of significance.
- Incorporate in the design of the new bridges some measures that will meet the recommendation in the *Standards* that "each property…be recognized as a physical record of its time, place and use" and that an addition to a historic property "does not duplicate it, but distinguishes [it] from the original." Possible measures include:
    - Not replicating the open lattice riveted columns on the West Franklin Street, North Warwick Avenue, and North Franklintown Road bridges unless they serve a structural purpose. Although these columns are character-defining features of the historic bridges, they are clearly a record of early-twentieth-century technology and not early-twenty-first-century technology. Also, the City of Baltimore has expressed safety concerns with these columns. Therefore, in the case of the bridges over North Franklintown Road and North Warwick Avenue, where engineering has determined that they are not needed for support, they will not be incorporated into the design. However, in the case of West Mulberry and West Franklin Streets, where support columns are needed, their design should be consistent with the proposed new design, either non-riveted steel or concrete.
    - Create a design for the new West Mulberry Street Bridge that references, but not duplicates, the Art Moderne features of the historic bridge to be demolished. The PRR corporate logo, which identifies the historic bridge as having been constructed by the PRR, should not be duplicated in order to avoid giving a false historical impression.

- The design of the surface or fascia that drivers see as they approach the bridge is important and should consist of either a steel girder (at North Franklintown Road, North Warwick Avenue, and West Franklin Street) or concrete with a simple incised decorative design (West Mulberry Street).

- Include sidewalks underneath the bridges for consistency with the historic bridges and functionality of the streetscape.

- Consider public comments on the design solicited in accordance with mitigation #7 in Table 8 on page 49 of the ROD.

- The design of the abutments and wingwalls is an important aspect of compatibility with what are otherwise rather simple bridges; therefore, the abutments and wingwalls of the new bridges should:
    - Maintain the diversity of material that reflects the rail line's long period of significance.
    - Scored concrete is appropriate for the three early-twentieth-century bridges that currently have concrete abutments and wingwalls, i.e., at North Franklintown Road, North Warwick Avenue, and West Mulberry Street. For these bridges:
        - Incorporate scoring in the concrete.

    - Use concrete that has a comparable aggregate and finish as that of the existing bridges.
- The bridge over West Franklin Street retains its late-nineteenth-century stone abutments and wingwalls, which will be incorporated into new retaining walls along the reprofiled road. Therefore, for compatibility with the existing stone and for maintaining the rail line's diversity, a form liner simulating stone is recommended for the abutments and wingwalls on the new bridge over West Franklin Street.
- The abutments and wingwalls should be capped; the wingwalls should be tapered at the ends.

6.1.e. Replacement of Bridge BC 2405 Carrying Edmondson Avenue over the B&P / Philadelphia, Baltimore and Washington Railroad

Associated Historic Resources

- B&P / Philadelphia, Baltimore and Washington Railroad (#B-5164)
- Midtown Edmondson Historic District (pending listing on the NRHP)

The new rail alignment goes into an area of open cut section and crosses under Edmondson Avenue; the current bridge carrying the road over the rail line has been evaluated as not historically significant, either individually or as a contributing component of the rail line. The Edmondson Avenue bridge, which retains its stone abutments from its original 1924 construction, was rehabilitated in 1987 with new steel girders.

The tracks will be shifted to the west between 18 to 45 feet and lowered nearly 10 feet to meet the minimum required 26'-9" vertical clearance under the bridge. To prevent undermining of the existing abutments and to provide adequate horizontal and vertical clearances to the proposed tracks, a new bridge will be constructed in place of the existing structure.

The new structure will maintain the same existing horizontal roadway alignment and will be raised slightly to help provide the required minimum vertical clearance under the bridge. Due to the horizontal realignment and the lowering of the tracks, both abutments will be replaced. The existing west abutment and wingwalls will be demolished; the existing east abutment and its wingwalls will remain in place but will no longer be visible behind the proposed new abutment.

Plate 23: The bridge carrying Edmondson Avenue over the rail line (upper left), showing the stone abutment (upper right) and the concrete Classical parapet (lower left next to the former station).

Recommendations for Context-Sensitive Design for Bridge BC 2405 Carrying Edmondson Avenue over the B&P / Philadelphia, Baltimore and Washington Railroad

- Utilize concrete for consistency with the early- and mid-twentieth-century bridges along the historic rail corridor.

- Avoid a flat monolithic look; use detailing to articulate surfaces similar to how paneling and incising was used in the Gwynns Falls, West Mulberry Street, and West Lafayette Avenue bridges along the historic rail corridor and how projections or curvature of form was used in the Midtown Edmondson Historic District rowhouses. Avoid creating a false historical impression by using detailing that is compatible with, but distinguished from, historic detailing.

- Incorporate sidewalks on both sides of the bridge as well as concrete parapets and concrete posts.

- Similar to the existing relationship between the bridge and the Midtown Edmondson Historic District, keep the profile of the bridge low so that it does not visually compete with the residential historic district.

- To help with the new physical relationship between the bridge and the Midtown Edmondson Historic District, consider public comments on the design solicited in accordance with mitigation #7 in Table 8 on page 49 of the ROD.

- The existing bridge is not considered historically significant, either individually or as a contributing feature of the rail historic district. Although the stone abutments date to an earlier time period, the bridge itself was replaced in 1987. Because both stone and concrete were used during the historic district's period of significance, the appropriate treatment would be a contemporary treatment of either concrete or a form liner. The existing stone should be salvaged for possible reuse elsewhere along the corridor.

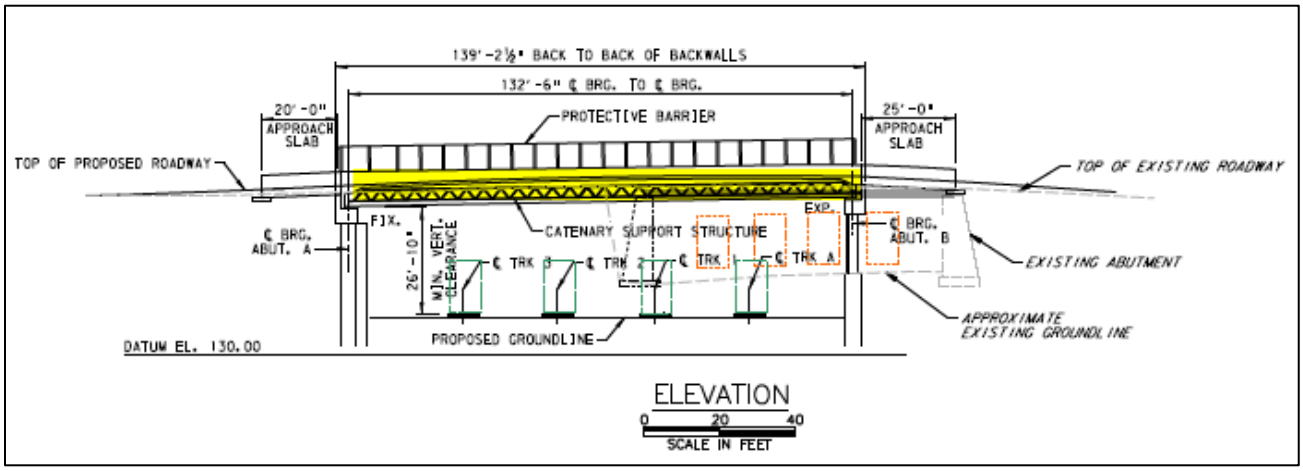

Figure 5: The proposed new bridge carrying Edmondson Avenue over the historic rail line.

6.1.f. Alterations to Bridge BC 2410 Carrying West Lafayette Avenue over the B&P / Philadelphia, Baltimore and Washington Railroad (BC 2410 / #B-4553)

Associated Historic Resources

- B&P / Philadelphia, Baltimore and Washington Railroad (Inventory #B-5164)
- Midtown Edmondson Historic District (pending listing on the National Register of Historic Places) (#B-5118)

North of Edmondson Avenue, the route of the new rail alignment shifts from west of the existing tracks to east of the tracks. In the vicinity of West Lafayette Avenue, the proposed alignment will be moved approximately 250 feet east and lowered more than 30 feet. The new crossing will require the demolition of existing Piers 6 through 9 along with the strengthening of Pier 5 and replacement of approximately 11,000 square feet of superstructure. To provide adequate horizontal clearance, the bridge spanning between existing piers 5 and 10 (approximately 240 feet) will be reconfigured to three spans, with a single 158 foot span over the proposed tracks, and two side spans of 58 feet and 24 feet. The proposed superstructure of the modified bridge will consist of steel plate deck girders and a concrete deck.

Plate 24: January 1995 view looking north at the bridge carrying West Lafayette Avenue over the B&P / Philadelphia, Baltimore and Washington Railroad. Tim Schoen, Maryland State Highway Administration, photographer. This central portion of the bridge, which is the only portion with Classical detailing, will not be altered.

Plate 25: View looking north at the bridge carrying West Lafayette Avenue over the rail line, showing the approximate location of the new alignment. The bridge superstructure and piers will be rebuilt and reconfigured in this area, and the grade beneath the bridge lowered over 30 feet.

Plate 26: View looking west underneath the bridge carrying West Lafayette Avenue over the rail line.

Recommendations for Context-Sensitive Design

- The new NEC alignment only affects the eastern approach spans; therefore, it is recommended that any necessary alterations to the approach spans be consistent with the existing bridge materials and design, including:
  - Use concrete that is tinted to match the hue of the existing bridge and has a comparable aggregate and finish.
  - Incorporate concrete piers that are compatible in design with the existing piers with arched openings.
  - Use a simple parapet that is consistent with the existing parapet in the section of the bridge to be altered.

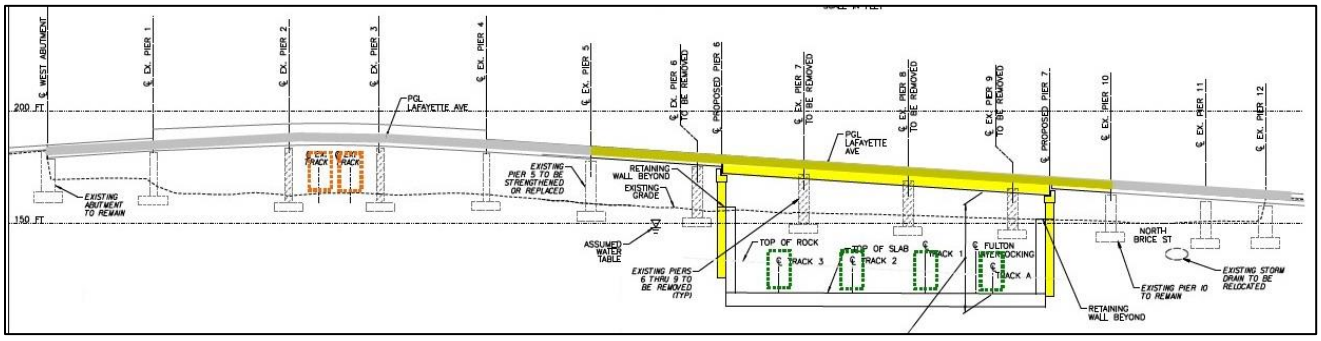

Figure 6: The proposed new alignment under the bridge carrying West Lafayette Avenue over the rail line.

6.2. Alterations to the B&O Railroad, Baltimore Belt Line Bridge over Jones Falls Valley (#B-5288)

Four tracks of the NEC and one freight track will be routed under the bridge owned by CSX, who will need to agree to any context-sensitive design treatments. To accommodate the realignment of the Amtrak tracks, the westernmost pier (Pier 5) will be shifted east. Along with a new pier, spans 5 and 6 will be replaced and the abutment will be extended east.

Associated Historic Resources

- B&O Railroad, Baltimore Belt Line Historic District (#B-5287)
- B&O Railroad, Baltimore Belt Line Bridge over Jones Falls Valley (#B-5288)

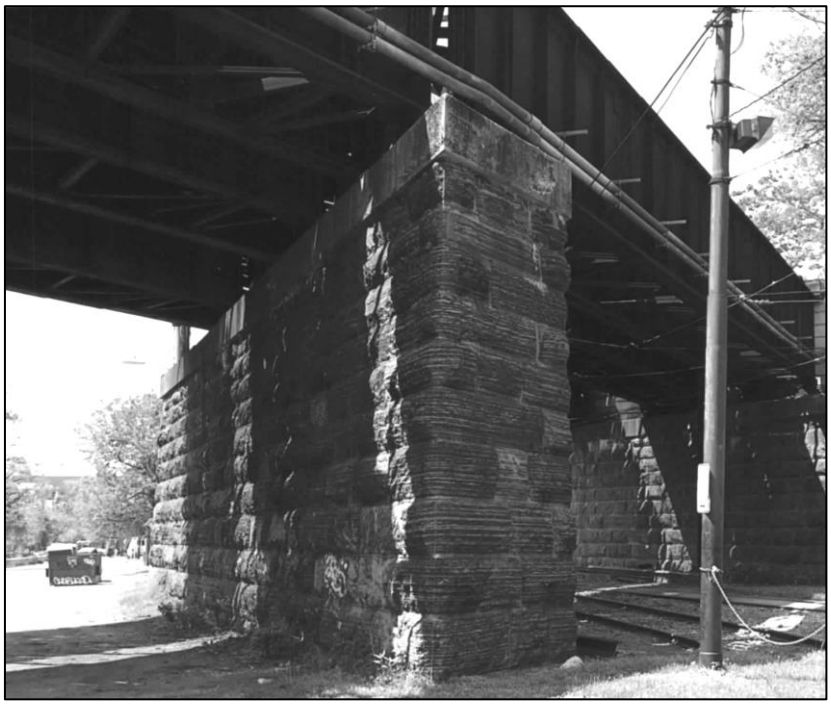

Plate 27: The B&O Railroad, Baltimore Belt Line Bridge over Jones Falls Valley, showing the stone pier that needs to be altered to allow for the new alignment.

Recommendations for Context-Sensitive Design

- The row of massive limestone piers is an important visual component; therefore, the new pier and abutment construction should, to the extent possible, match the existing stone in the existing piers, using a stone veneer. This would include the appearance of coursed ashlar stone that has striations and variation in color.

  With the understanding that the span needs to be replaced, the design is being developed to maintain, to the extent possible, the existing spacing between the piers and the historic fabric.

- Replace the superstructure in-kind with girders.

- Consider public comments on the design solicited in accordance with mitigation #7 in Table 8 on page 49 of the ROD.

6.3. Construction of Retaining Walls

Associated Historic Resource

- B&P / Philadelphia, Baltimore and Washington Railroad (#B-5164)

A key context-sensitive design question pertains to the appropriate material to be used in the design of the new retaining walls. To apply the *Standards*, three factors are considered:

- The design and location of the historic rail line's retaining walls, both as originally designed and as altered during the rail line's period of significance.
- The relationship between the proposed new construction and the historic fabric. How significant is the area of new construction to the historic property as a whole? Will the new retaining walls be constructed in such a way as to not destroy historic features? Will there be a visual effect, especially in areas of pedestrian passage?
- An assessment as to whether the new retaining walls will be both distinguishable from the historic fabric and also compatible in material, features, size, scale, proportion, and massing.

New retaining walls will be required at the following locations (listed in order from south to north):

- Between North Warwick Avenue and the location of the new southern portal near the crossing of Mosher Street
- At the new MARC West Baltimore Station
- Along West Mulberry and West Franklin Streets where the roads need to be reprofiled
- Between the new northern portal and North Howard Street (replacing existing stone walls by constructing new walls in front of the old)
- At Jones Falls (replacing existing stone walls that are badly deteriorated)

Recommendations for Context-Sensitive Design

- For the first two areas listed above, i.e., along the proposed alignment south of the new tunnel and at the new MARC West Baltimore Station, use concrete in the retaining walls, either using a form liner or scored concrete to represent early-twentieth-century construction. There is precedence within the corridor and adjacent B&P rail lines of nineteenth-century stonework combined with early-twentieth-century concrete construction. The original nineteenth-century retaining walls in this segment of the rail line were constructed of stone (see Plate 28). However, by the early twentieth century, concrete was more commonly used in rail construction, as evidenced by several of the bridges along the corridor. In addition, a nearby tunnel built during this period, but not within the B&P / Philadelphia, Baltimore and Washington Railroad Historic District (#B-5164), provides an excellent example of late-nineteenth-century stone being combined with early-twentieth-century concrete (see Plate 29). The Union Tunnel was constructed in the late nineteenth century using stone; ca. 1930 a new adjacent tunnel was constructed with a concrete portal and concrete retaining wall. Although the currently proposed new alignment is at times physically removed from the historic corridor, there is still an association with the historic rail line and there will be visual effects. Therefore, the new retaining walls in the new rail alignment should be compatible with the historic rail line through the use of either form liner or scored concrete designed to provide articulation to

break up long expanses, but also to clearly reflect that the alignment is a physical record of its twenty-first-century construction.

P**late 28**: Typical coursed ashlar stone construction along the existing B&P alignment.

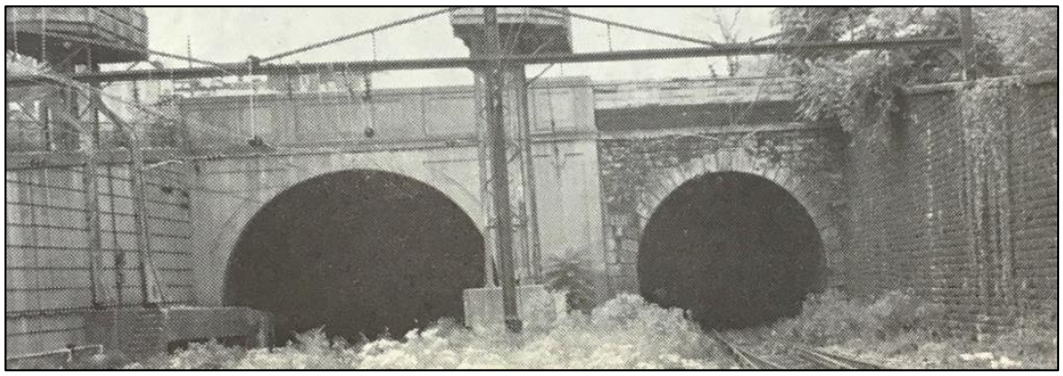

Plate 29: Ca. 1977 photograph of the entrance to the Union Tunnel in Baltimore, also built in the 1870s. The right-hand side of this photo shows the 1870s stone construction; the left-hand side shows the later ca. 1930 concrete tunnel. Source: Earl P. Williams, Jr.'s *Amtrak's Washington-New York Corridor: A Pictorial History.*

- For the streets that need to be reprofiled, the retaining walls should be compatible with the new bridges, i.e., scored concrete for West Mulberry Street and form liner to represent stone construction for West Franklin Street. The walls should be visually compatible with the existing stone abutments that are to be retained and incorporated into the new retaining walls.

- For the last two areas listed above, i.e., those north of the new tunnel, the proposed new retaining walls will involve the loss of existing stone walls. Although these walls are not historically associated with the historic rail line, they are within close proximity to the historic B&O Railroad, Baltimore Belt Line Bridge and will affect its setting (see Plates 30 and 31). The recommended treatment is a form liner that is compatible with the historic stonework.

- For any retaining walls at grade level that are in areas of public view, use stone or form liner rather than concrete.

- Consider public comments on the design solicited in accordance with mitigation #7 in Table 8 on page 49 of the ROD.

Plate 30: Retaining wall (left) between the B&O Railroad, Baltimore Belt Line Bridge and the light rail, and the transition area (right) between the stone wall and the concrete wall.

Plate 31: View looking northwest at the B&O Railroad, Baltimore Belt Line Bridge. The concrete retaining wall of the light rail in the upper left of the photograph meets the stone retaining wall, which in this photo is concealed behind the trees and bridge.

6.4. Construction of the South Portal Cut-and-Cover Structure

The southern end of the new tunnel will be located on a new alignment (see Figure 7) that will be close to the existing NEC, but removed from the existing stone arch south portal (see Figure 8 and Plate 32). The new portal, which will accommodate four tracks in contrast to the original two-track portal, will be in a single rectangular box structure at the bottom of a 50' deep cut section, with the new ventilation facility (see section 6.9) built on the covered portion of the tracks immediately north of the portal.

Associated Historic Resources

- B&P / Philadelphia, Baltimore and Washington Railroad (#B-5164)
- Midtown Edmondson Historic District (pending listing on the NRHP)

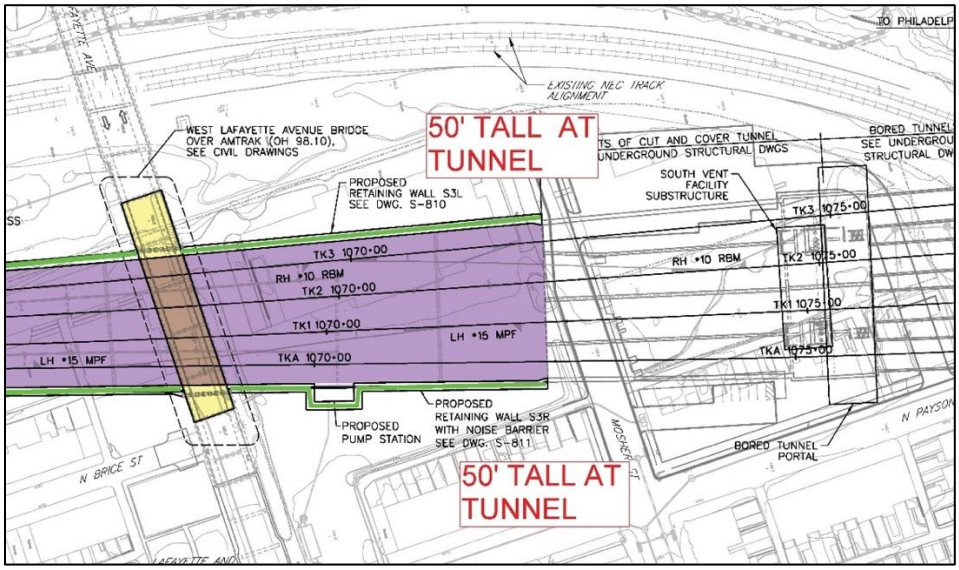

Figure 7: Project plan showing location of the proposed new south portal north of Mosher Street.

Figure 8: Aerial photo showing the location of the proposed new south portal in relation to the existing portal.

Plate 32: Existing south portal.

Recommendations for Context-Sensitive Design for the New South Portal

- Consistent with the recommendation above related to retaining walls (see Section 6.3), use concrete either with a form liner or scored to represent early-twentieth-century construction. This recommendation is primarily based on the limited visual effect on the historic rail line and the Midtown Edmondson Historic District. Due to the depth of the cut, an important aspect of mitigating visual effects—especially for the residential historic district—will be the design of the sound barriers that will be placed along the area of open cut (see Section 6.7).

- To minimize the project impacts, especially on the Midtown Edmondson Historic District, consider public comments solicited in accordance with mitigation #7 in Table 8 on page 49 of the ROD. Involvement of residents and community leaders is especially important for this aspect of the project.

6.5. Construction of the North Portal

The northern end of the new tunnel (shown in the upper right-hand portion of Figure 9) will consist of four independent, single-track, circular tunnel portals offset from each other in plan. The new portal will not be in close proximity to either the existing historic rail line or portal (shown in the lower left-hand portion of Figure 9).

Associated Historic Resource

- B&P / Philadelphia, Baltimore and Washington Railroad (#B-5164)

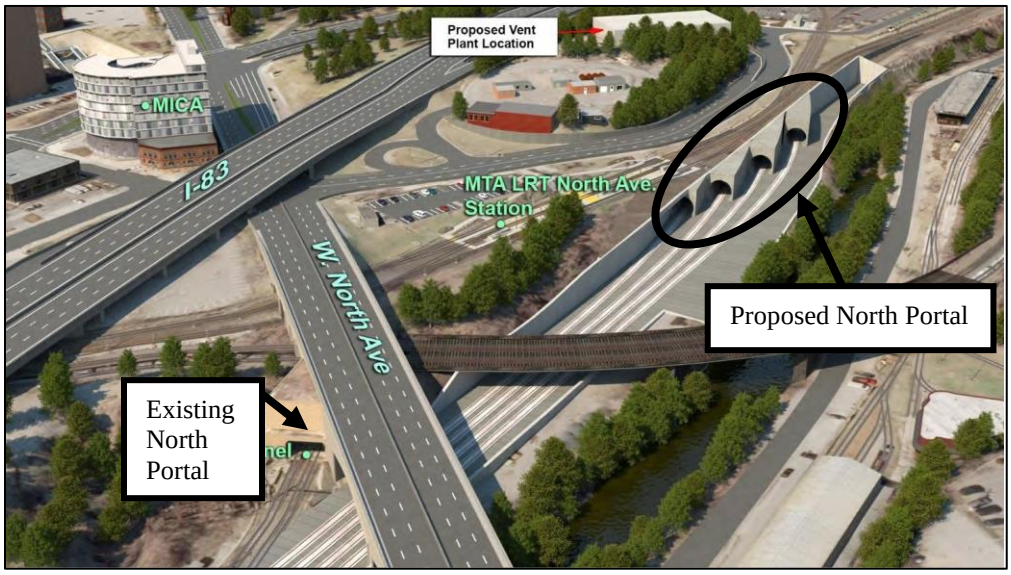

Figure 9: Rendering showing the proposed north portal (upper right) in relation to the existing portal (lower left).

Plate 33: Existing north portal.

Recommendations for Context-Sensitive Design for the North Portal

- The new portal is new construction that will not be in close visual proximity to the historic rail line. However, consistent with the recommendation above related to the new retaining walls (see Section 6.3) and the new south portal (see Section 6.4), use concrete either with a form liner or scored to represent early-twentieth-century construction.

- Consider public input comments on the design in accordance with mitigation #7 in Table 8 on page 49 of the ROD.

6.6. Construction of the New West Baltimore MARC Station

The proposed project includes construction of a new station that is compliant with the Americans with Disability Act, including two high-level platforms and ramps between the street level and the station level; new stairs; sound barriers; platform canopies; public art; and security lighting, with further amenities to be designed at a future time. Similar to the existing station, there will not be enclosed waiting room space.

Associated Historic Resource

- B&P / Philadelphia, Baltimore and Washington Railroad (#B-5164)

Recommendations for Context-Sensitive Design for the West Baltimore MARC Station

- Concrete, which was used in the historic rail corridor during the period of significance, is recommended.

- The overall design of the station should reflect that it is a contemporary structure; however, for compatibility with the rail line, detailing features could be based on the Classical and/or Art Moderne features seen in bridges along the rail line, including the bridge carrying the rail line over West Mulberry Street and the bridge carrying West Lafayette Avenue over the rail line.

- Incorporate artwork into the walls along the ramps and on the back face of the platforms.

- Utilize platform canopies and lighting that are compatible with the historic rail line.

- Consider public comments on the design solicited in accordance with mitigation #7 in Table 8 on page 49 of the ROD. This input is especially important for the incorporation of artwork as well as for compliance with mitigation #13 that calls for the incorporation of amenities into the new station.

6.7. Installation of Sound Barriers

To mitigate rail-related noise, sound barriers will be placed along the corridor between the south portal and North Warwick Avenue. The proposed locations of the barriers are indicated in Figures 10 and 11 with the following symbol: ■■■■

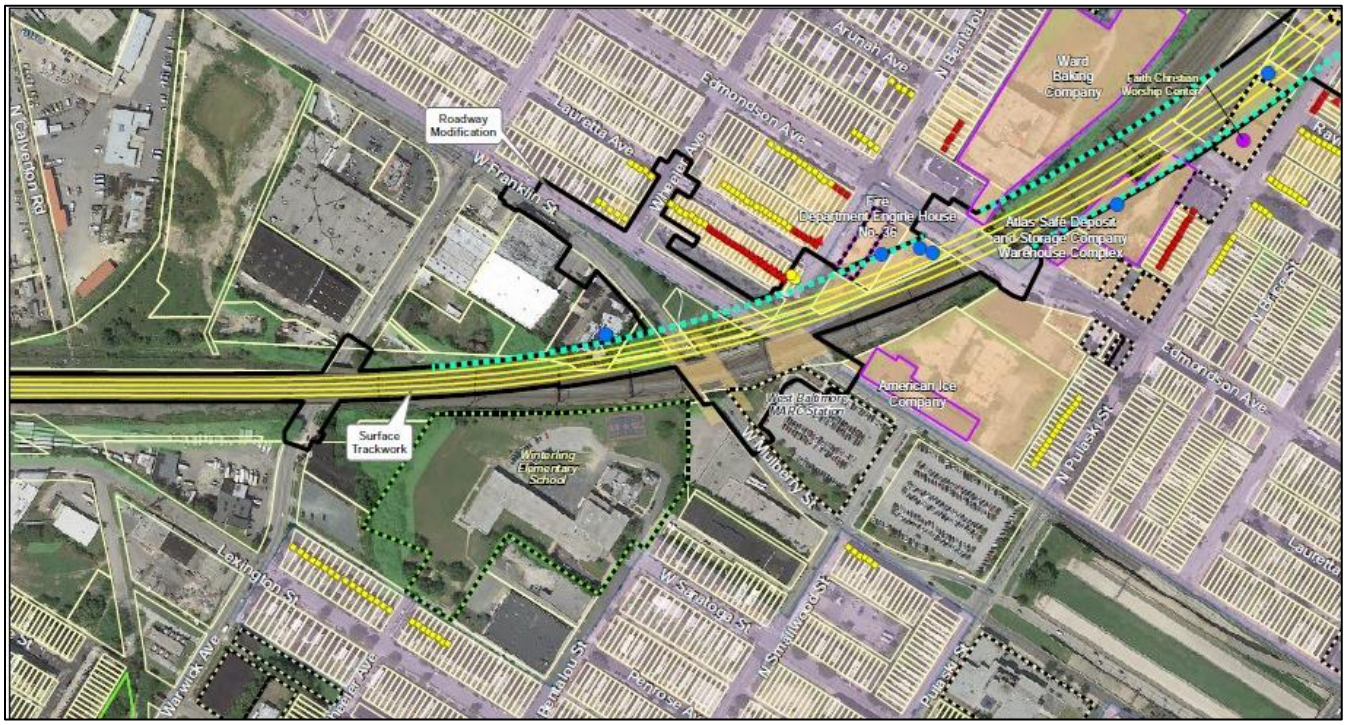

Figure 10: Project plans showing proposed sound barriers, approximately between North Warwick Avenue and Edmondson Avenue.

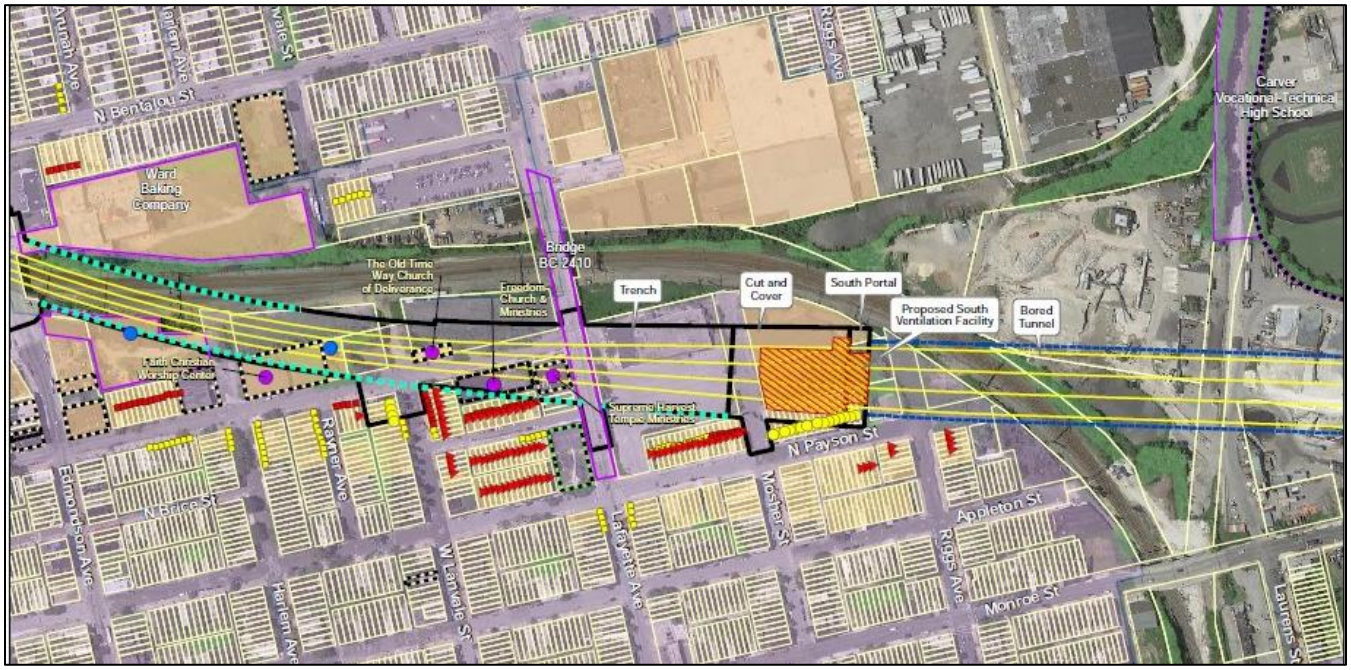

Figure 11: Project plans showing proposed sound barriers, approximately between Edmondson Avenue and Mosher Street.

Associated Historic Resources

- B&P / Philadelphia, Baltimore and Washington Railroad (#B-5164)
- Edmondson Avenue Historic District (#B-5187) / Greater Rosemont Historic District (Inventory #B-5112)
- Midtown Edmondson Historic District

Recommendations for Context-Sensitive Design for Sound Barriers

- Avoid a long monolithic look and unnecessary height in order to be sensitive to the small-scale design features of the historic district buildings. Use pilasters to divide the wall into smaller panels (see techniques used in other communities in Plate 34).
- Use contrasting features (color and materials) in design; incorporate cap to emulate cornice line detailing or other horizontal elements to reflect belt courses or continuous porch roof lines.
- Incorporate art into the panels, through techniques such as patterning, reliefs, or inset panels (see examples from other communities in Plate 34).
- Use a textured material to break-up a long monolithic appearance and to provide a surface that is less conducive to graffiti.
- Use different materials, colors, and vegetation.
- Incorporate small variations in the wall's footprint, such as stepping or zig-zags, to create a more attractive design, particularly on the protected side. The variations can also assist with the establishment of plantings to soften the appearance.
- Use a form liner with the appearance of masonry and varied texture; rough texture and the application of an anti-graffiti coating will help minimize graffiti.
- Consider public comments on the design solicited in accordance with mitigation #7 in Table 8 on page 49 of the ROD.

SOUND BARRIERS

Plate 34: Sound barriers in New Mexico (1&3); Denver, Colorado (2); Howard County, Maryland (4); Middleburg Heights, Ohio (5); North Carolina (6); and Akron, Ohio (7).

6.8. Installation of New Power and Signal Structures

The power and signal systems, including the catenary and transmission lines and the signal bridges, will need to be replaced along the project corridor or newly installed where none currently exists along the new alignment. The existing poles primarily date to 1930 when the PRR electrified the line as part of its "Baltimore Improvements." As shown in a 1930 PRR plan sheet (see Figure 12), one of the PRR's standard catenary structures was a K-frame.

Associated Historic Resources

- B&P / Philadelphia, Baltimore and Washington Railroad (#B-5164)

Plate 35: View of existing power lines looking west from the West Baltimore MARC Station, showing catenary and transmission poles.

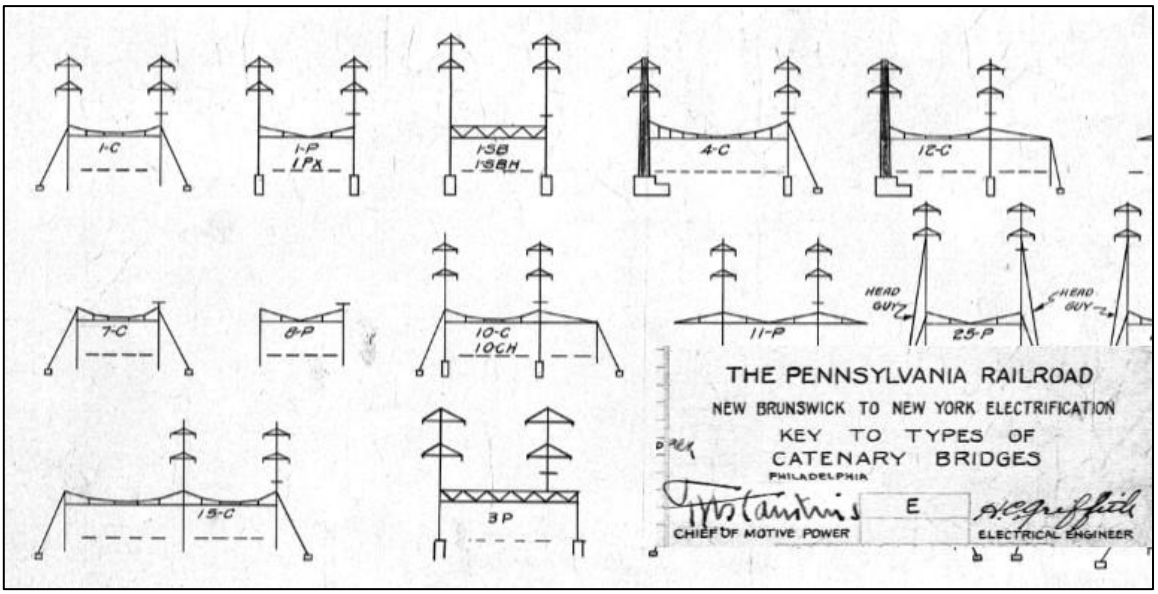

Figure 12: 1930s PRR plan sheet showing typical catenary and transmission structures. Source: Amtrak archives.

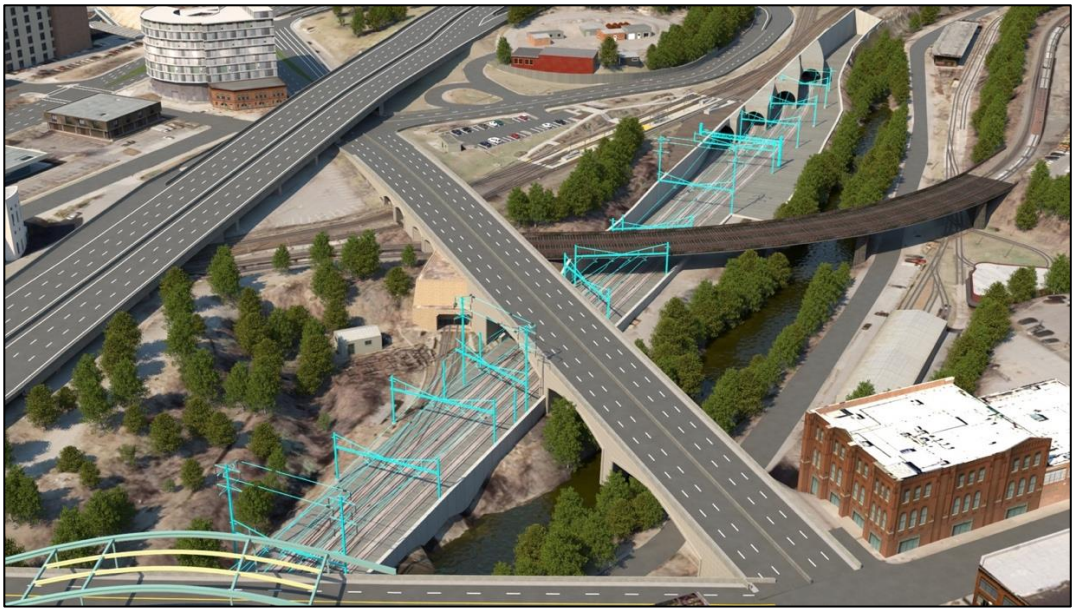

Figure 13: Rendering of the proposed new power and signal structures.

Recommendations for Context-Sensitive Design for New Power and Signal Structures

- To the extent possible, use power and signal structures that as closely as possible reflect the design of the 1930s PRR structures, including the K-frame and trusses.

- Preserve repetitive pattern looking along the rail line.

- Consider public comments on the design solicited in accordance with mitigation #7 in Table 8 on page 49 of the ROD.

6.9. *Construction of the South Ventilation Facility*

The ventilation facilities will include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, silencers and dampers, ductwork to connect to the tunnels, and emergency access/egress for the tunnel. Each site will also include parking for employees, a loading dock, and site landscaping.

As currently planned, the south ventilation facility would need to be approximately 220' long and 190' wide with a 40'-tall roofline and 55'-tall chimney. During the preliminary design phase, Amtrak developed a "representative" site plan and renderings that would meet these requirements (see Figures 14 – 18); however, it is anticipated that this design will be revised as the space needs are clarified.

Associated Historic Resources

- B&P / Philadelphia, Baltimore and Washington Railroad (#B-5164)
- Midtown Edmondson Historic District

Figure 14: Representative site layout, south ventilation facility. Numbered arrows 1 – 4 refer to the direction of view of the four renderings showing representative building elevations.

Figure 15: Representative view #1, looking west from Payson Street.

Figure 16: Representative view #2, looking south from facility parking lot.

Figure 17: Representative view #3, looking north from Mosher Street.

Figure 18: Representative view #4, looking east from existing Northeast Corridor.

Recommendations for Context-Sensitive Design for the South Ventilation Facility

- Maintain small-scale; to the extent possible, visually divide larger elements into smaller components.

- Use masonry exterior, such as actual or veneer brick, stone, terra cotta; consider rough texture, both to break up a large elevation and to minimize graffiti.

- Use contrasting features (color and materials) in design; incorporate horizontal elements to reflect cornice line detailing, belt courses, bands of porches, and similar visual rhythm.

- Use fenestration design to help with breaking up large building components.

- Incorporate landscaping between the facility and the historic district to provide screening.

- To minimize the impacts on the Midtown Edmondson Historic District, consider public comments on the exterior design solicited in accordance with mitigation #7 in Table 8 on page 49 of the ROD.

6.10. Construction of the Intermediate Ventilation Facility

As currently planned, the intermediate facility would need to be approximately 220' long and 110' wide with a 45'-tall roofline and 60'-tall chimney. During the preliminary design phase, Amtrak developed a "representative" site plan and renderings that would meet these requirements (see Figures 19 – 23); however, it is anticipated that this design will be revised as the space needs are clarified.

Associated Historic Resources

- Bolton Hill Historic District (#B-64)
- Reservoir Hill Historic District (#B-1379)

Figure 19: Representative site layout, intermediate ventilation facility. The building labeled as "existing landmark building" is 900-940 W. North Avenue, a row of one-story commercial buildings that are contributing to the Reservoir Hill Historic District, but considered of low historic value. Numbered arrows 1 – 4 refer to the direction of view of the four renderings showing representative building elevations.

Figure 20: Representative view #1, looking west from Linden Avenue and showing the facility and adjacent rowhouses along Linden Avenue.

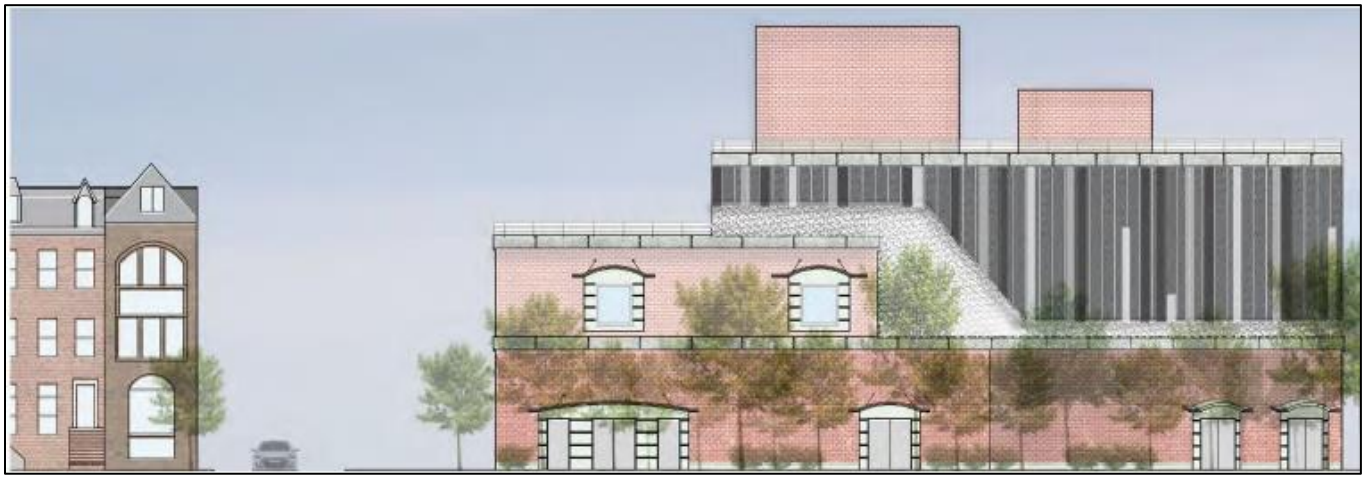

Figure 21: Representative view #2, looking east from Eutaw Place and showing the facility and adjacent rowhouses along Eutaw Place.

Figure 22: Representative view #3, looking north from West North Avenue.

Figure 23: Representative view #4, looking south from West Jordan Street.

Recommendations for Context-Sensitive Design for the Intermediate Ventilation Facility

- Maintain small-scale; to the extent possible divide up large components. Consider height, massing, and scale in reference to surrounding buildings.

- Consider use of brick cladding for compatibility with both historic districts.

- Use contrasting features (color and materials) in design; incorporate horizontal elements to reflect cornice line detailing, belt courses, bands of porches, and similar visual rhythm.

- Use fenestration design to help with breaking up large building components.

- Incorporate landscaping both to provide screening and to be compatible with the historic districts' vegetated character.

- Consider relationship of the facility to the streets and surrounding properties, especially:
  - Eutaw Place (adjacent to site; ornate buildings)
  - Lennox Street (in close proximity to site; ornate buildings with turrets)
  - Linden Avenue (adjacent to site, although less ornate buildings)
  - North Avenue (adjacent to site)

- Consider public comments on the exterior design solicited in accordance with mitigation #7 in Table 8 on page 49 of the ROD.

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