
trail access to:
WAWA
STATION
DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION
November 2016


*The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.*

---

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

The Delaware Valley Regional Planning Commission (DVRPC) fully complies with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice, and related nondiscrimination statutes and regulations in all programs and activities. DVRPC's website, www.dvrpc.org, may be translated into multiple languages. Publications and other public documents can be made available in alternative languages and formats, if requested. DVRPC public meetings are always held in ADA-accessible facilities and in transit-accessible locations when possible. Auxiliary services can be provided to individuals who submit a request at least seven days prior to a meeting. Requests made within seven days will be accommodated to the greatest extent possible. Any person who believes they have been aggrieved by an unlawful discriminatory practice by DVRPC under Title VI has a right to file a formal complaint. Any such complaint may be in writing and filed with DVRPC's Title VI Compliance Manager and/or the appropriate state or federal agency within 180 days of the alleged discriminatory occurrence. For more information on DVRPC's Title VI program, or to obtain a Title VI Complaint Form, please call (215) 592-1800 or email public_affairs@dvrpc.org.

# Table of Contents

# Figures and Tables

# Acknowledgements

*DVRPC would like to thank the following individuals for their valuable contributions to this report:*

**Jennifer Barr,** *Southeastern Pennsylvania Transportation Authority*
**Leo Byrne,** *Southeastern Pennsylvania Transportation Authority*
**W. Bruce Clark,** *Middletown Township*
**Rebecca Collins,** *Southeastern Pennsylvania Transportation Authority*
**Byron Comati,** *Southeastern Pennsylvania Transportation Authority*
**Chuck Cruit,** *Bicycle Coalition of Greater Philadelphia*
**Louis Hufnagle,** *Delaware County Planning Department*
**Alex John,** *Delaware County Planning Department*
**Jeff Knowles,** *Pennsylvania Department of Conservation and Natural Resources*
**Gerald Maier,** *Southeastern Pennsylvania Transportation Authority*
**Louis McCray,** *Southeastern Pennsylvania Transportation Authority*
**Kevin McLaughlin,** *McKee Group*
**Meredith Merino,** *Middletown Township*
**John Paulson,** *Friends of the Chester Creek Trail*
**Molly Perrin,** *Wawa, Inc.*
**Barry Pinkowicz,** *Friends of the Chester Creek Trail*
**Thomas P. Shaffer,** *Delaware County Planning Department*
**Richard Slattery,** *Southeastern Pennsylvania Transportation Authority*

# Executive Summary

Between fall 2014, and fall 2015, the Delaware Valley Regional Planning Commission (DVRPC) worked with the Delaware County Planning Department (DCPD) and other partners to evaluate the feasibility of connecting Wawa Station, a former Southeastern Pennsylvania Transportation Authority (SEPTA) Regional Rail station with service restoration planned for 2020, to the region's trail network via the Chester Creek Trail, a planned multi-use trail expected to terminate at Lenni—less than one mile from Wawa Station.

The DVRPC project team met with local stakeholders to investigate potential trail alignments, identifying SEPTA's right-of-way as a potential location for a rail-with-trail—a trail that would run parallel to SEPTA's soon-to-be-active rails.

The project team researched nationwide rail-with-trail best practices, and compared them with SEPTA's construction plans for service restoration to Wawa. SEPTA's plans were found to involve major reconstruction of the right-of-way between Lenni and Wawa, including construction of retaining walls, addition of a storage and training railyard, and bridge reconstruction. Due to the reconstruction of the track bed area, the project steering committee concluded that extending the Chester Creek Trail immediately adjacent to SEPTA's tracks would be infeasible from both a physical and financial standpoint.

Because the primary trail extension option was found to be infeasible, the project team identified two possible alternative alignments for future study. In addition, the report identifies other opportunities to provide nonmotorized access to Wawa Station, including providing bicycle and pedestrian connections to nearby residential and commercial destinations, identifying a potential connection to a network of local hiking trails, and preserving access to the Wawa Station platform by ensuring that a pedestrian tunnel under the platform extends to both sides of the platform.

# Project Background

Between fall 2014, and fall 2015, the Delaware Valley Regional Planning Commission (DVRPC) worked with project partners at the Delaware County Planning Department (DCPD) to evaluate the feasibility of connecting Wawa Station, a Southeastern Pennsylvania Transportation Authority (SEPTA) Regional Rail station scheduled to reopen in 2020 after 34 years of disuse, to the region's trail network via the Chester Creek Trail, a planned multi-use trail expected to terminate at Lenni—less than one mile from Wawa Station. Additionally, DVRPC was asked to investigate other opportunities to connect Wawa Station with local recreational trails, as well as with adjacent land uses.

Two factors make this feasibility study particularly relevant: timing and proximity. After more than 20 years of advocacy, the Chester Creek Trail acquired final project approvals and broke ground in 2015. At the same time, the Octoraro Trail, which is currently under study by Concord Township, ties into the northwestern terminus of the Chester Creek Trail at the future Wawa Station (see *Figure 3*). The extension of the Chester Creek Trail under study here would therefore close a gap in Delaware County's emerging premier multi-municipal trail. Each of these trail segments are part of the Circuit, the Delaware Valley's proposed 750-mile trail network (see *Figure 4*).

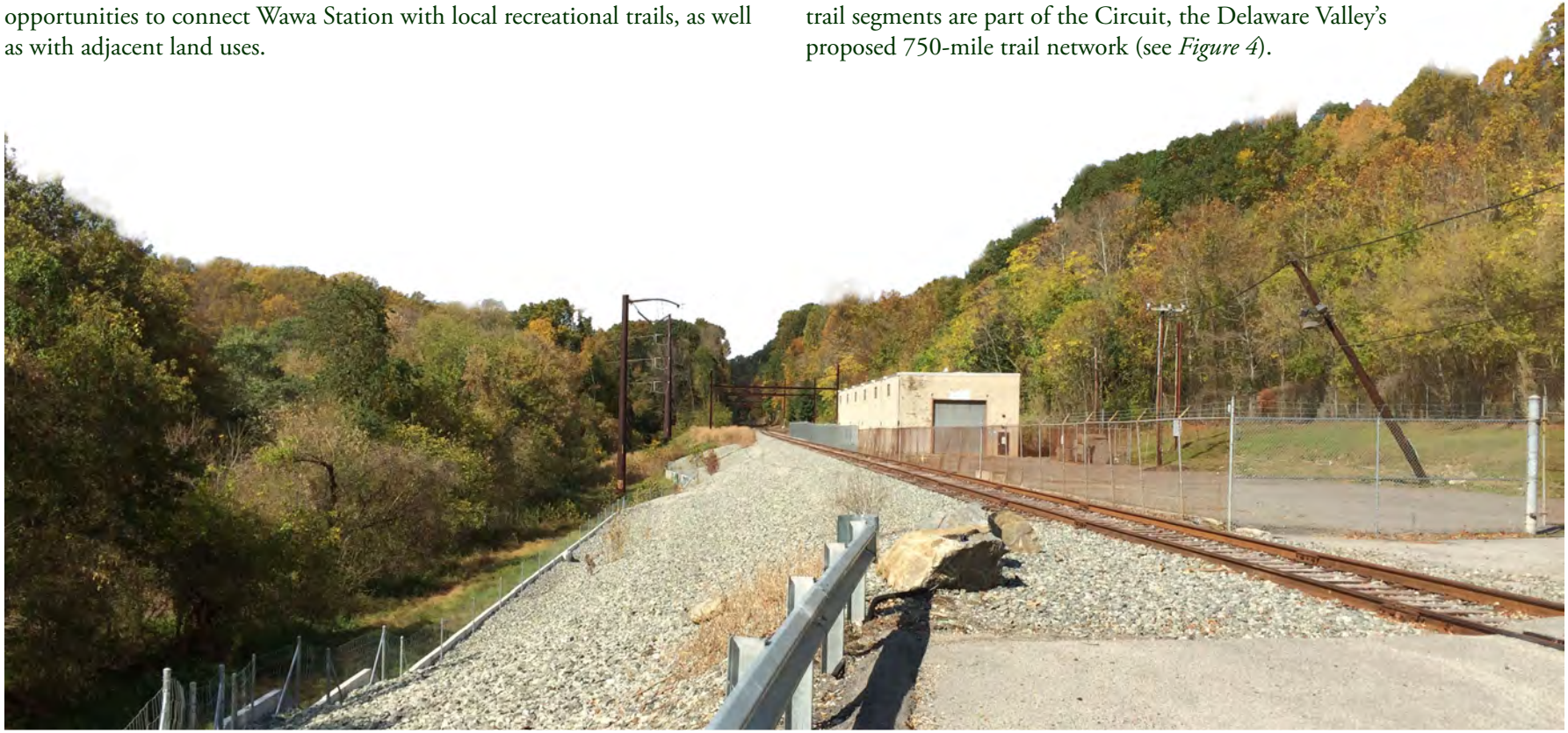

**Figure 1** | Lenni Yard

*Source: DVRPC*

Wawa Station is a long-planned extension of SEPTA's Media/Elwyn Line with construction planned for 2017-2020—one of SEPTA's first system expansion projects to occur since the passage of Act 89, a state transportation funding bill.

The Chester Creek Trail is planned to be built on the right-of-way of the defunct Chester Creek Branch of the Pennsylvania Railroad. A portion of that right-of-way runs parallel to the right-of-way for the planned Media/Elwyn Line extension to Wawa (see *Figure 8*). SEPTA owns both rights-of-way.

This study seeks to evaluate the feasibility of connecting the Chester Creek Trail to Wawa Station before construction on Wawa Station and the Media/Elwyn Line service restoration begins, potentially precluding those connections.

**Figure 2** | Chester Creek crossing

*Source: DVRPC*

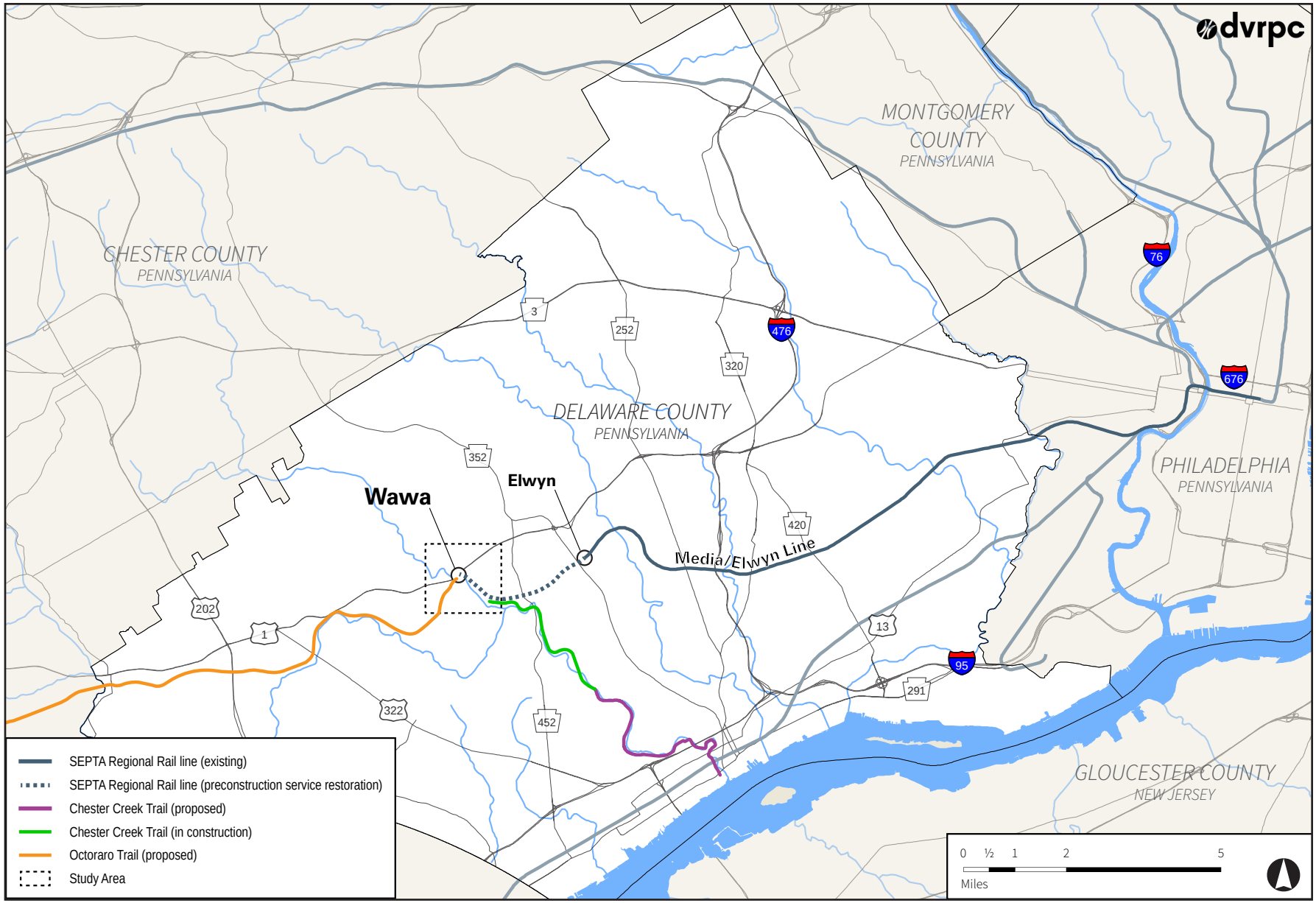


**Figure 3** | Regional context map

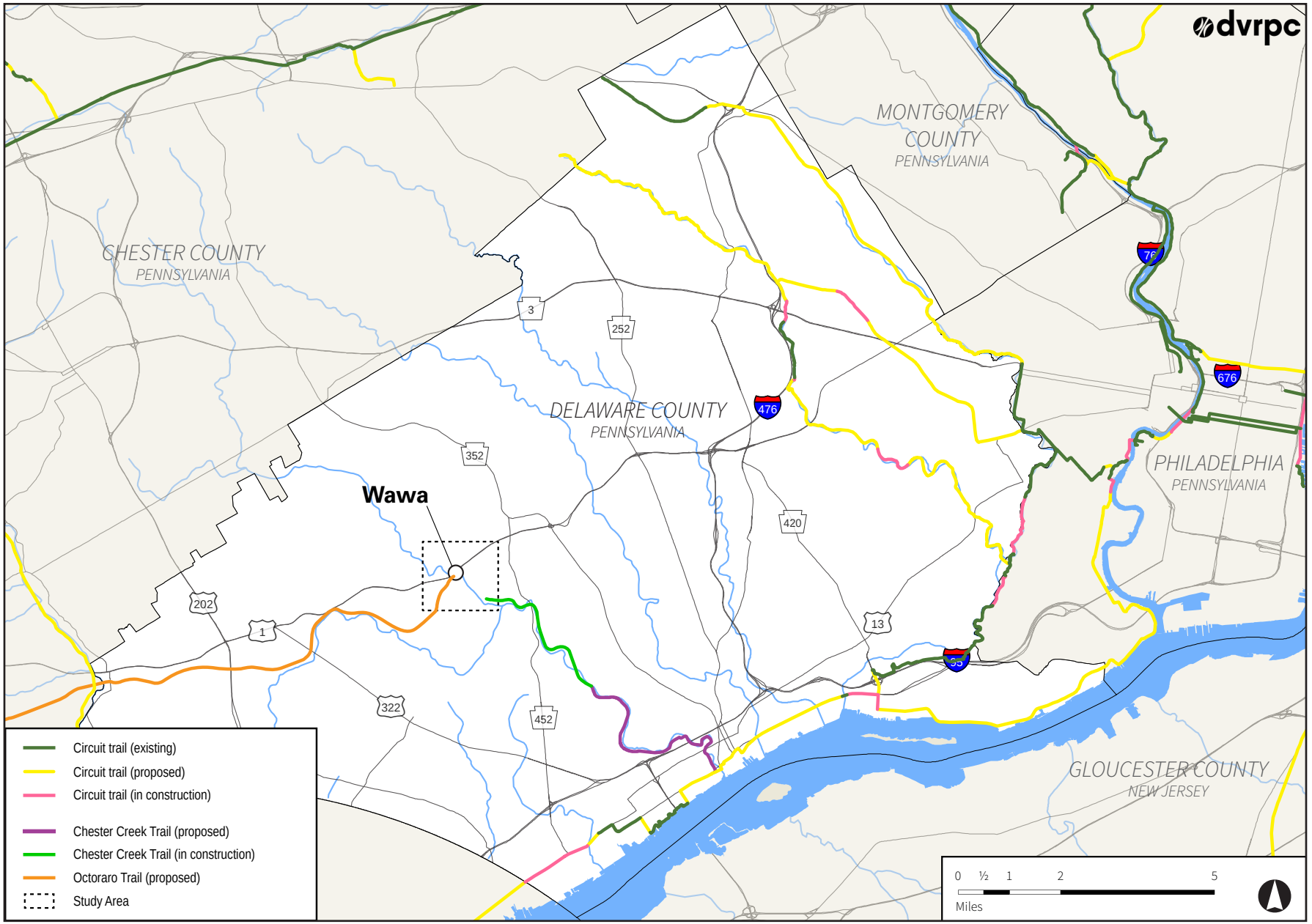


**Figure 4** | Delaware County Circuit trails

**Figure 5** | Wawa Station rendering

*Source: SEPTA*

**Figure 6** | Groundbreaking for phase 1 of the Chester Creek Trail

*Source: Friends of the Chester Creek Trail*

### Wawa Service Restoration

Since the early 1990s, SEPTA has proposed restoring Regional Rail service to Wawa. The proposal was repeatedly postponed due to lack of funding. In 2013, however, a state transportation funding bill, Act 89, became law, providing an increase in capital funding for transit agencies in Pennsylvania, including SEPTA.

As a result, SEPTA has included service restoration to Wawa in its Fiscal Year 2016 Capital Budget, with construction planned for 2017-2020. In addition to Act 89 funding, service restoration to Wawa is even more likely since 2010, when SEPTA spent $9.5 million in American Recovery and Reinvestment Act ("Stimulus") funds to stabilize deteriorated track bed between Elwyn and Wawa—part of which lies in this project's study area.

### Chester Creek and Octoraro Trails

In 1994, several civic groups in Delaware County organized to form the Friends of the Chester Creek Branch, an organization promoting a multi-use trail along the unused Chester Creek Branch rail alignment. Over two decades, the organization has advocated, raised funds, and commissioned studies, in pursuit of trail development. In 2000, Delaware County was awarded $3.4 million in Congestion Mitigation and Air Quality (CMAQ) funding to construct the Chester Creek Trail. After fifteen years—during which time the trail was designed and all necessary permits approved—construction began on Phase 1 of the trail, between Lenni Road (in the northwest) and Creek Road (in the southeast).

The Octoraro Branch right-of-way represents another nearby trail connection opportunity. Similar to the Chester Creek Trail, the proposed Octoraro Trail would take advantage of an inactive rail right-of-way to create a rail-trail connecting several residential, commercial, natural, and historic destinations in Delaware County. The Delaware County Bicycle Plan (2009) identified the Octoraro Trail as "the best remaining rail-trail opportunity in Delaware County, after the Chester Creek Trail." A feasibility study is currently underway for the portion of the Octoraro Trail through Concord Township and Chester Heights Borough, with expected completion in fall of 2016.

The Octoraro Branch and Chester Creek Branch rights-of-way meet at the planned location of Wawa Station. Consequently, trail considerations in the Wawa Station construction plans will be integral to these trails' success.

**Public and Agency Outreach**

The DVRPC project team was able to complete this analysis with the valuable insight and assistance of a steering committee, made up of the following public-, private-, and nonprofit-sector stakeholders:

- SEPTA:
  - Strategic Planning and Analysis Department
  - Engineering, Maintenance, and Construction Division
  - Real Estate Department
- Delaware County Planning Department
- Middletown Township
- Borough of Chester Heights
- Pennsylvania Department of Conservation and Natural Resources
- Delaware County Transportation Management Association
- Friends of the Chester Creek Branch
- Bicycle Coalition of Greater Philadelphia
- Wawa, Inc.
- McKee Group

On October 28, 2014, the project team convened a meeting of the steering committee to present initial field observations, and gather input on opportunities and constraints for trail development within the study area. That input greatly informed the analysis contained in this report.

In addition to in-person meetings, several stakeholders provided the project team with documents that helped inform the feasibility study. In particular, SEPTA's Engineering, Maintenance, and Construction Division provided scale drawings of its plans for service restoration to Wawa Station, including information on track work, station layout, and utility locations. Likewise, the Delaware County Planning Department provided a study performed in 2010 by the Wilson Consulting Group These documents helped inform the project team's conclusions on trail feasibility.

**Rails-with-Trails Research**

Because the trail corridor under consideration runs along a soon-to-be-active rail line, the DVRPC project team researched existing trails adjacent to active rail lines, also known as "rails-with-trails." The underlying philosophy behind rails-with-trails is that, not only do rail rights-of-way provide functional corridors for trails, but that their shared use with other modes of transportation can provide synergistic benefits. As the Rails-to-Trails Conservancy argues, "constructing a trail along an active railroad multiplies the value a community derives from the rail corridor, and provides citizens with transportation options."[4]

Rails-with-trails vary widely in purpose and form. Ordinarily, major concerns addressed in rail-with-trail design include safety, legal liability, train speed and frequency, and expected trail user volume. In addressing these concerns, separation between the trail and the tracks is a key design parameter. That separation is provided by the distance between the rails and the trail (known as the trail's "setback"), and potentially by some form of physical barrier. Common barriers include fences, ditches, or vegetation.

The Rails-to-Trails Conservancy's 2009 report, America's Rails-with-Trails, identified 161 rails-with-trails in the United States. That report noted trail setbacks as great as 100+ feet, and as small as 8.5 feet (measured from the centerline of the track nearest to the trail), and barriers including fencing, vegetation, grade separation, ditches, and concrete walls.

While there is no regulatory consensus on setback distances, barriers, or other rail-with-trail safety features, the Federal Highway Administration (FHWA) suggests considering "physical constraints on or adjacent to railroad corridors, presence of separation techniques such as fencing, historical trespassing, and other problems" when determining rail-with-trail safety measures.[5]

[4] Rails-to-Trails Conservancy, *America's Rails-with-Trails*. September 2013, p. 4.
[5] FHWA, *Rails-with-Trails: Lessons Learned*, August 2002, p. 63.

# Existing Conditions


**Figure 7 |** Wawa Station c. 1895

*Source: Dan West via Pennsylvania Railroad Stations Past and Present (www.west2k.com/pa.htm)*

Wawa, Pennsylvania is located in western Delaware County, about 20 miles west of Philadelphia, where Baltimore Pike (U.S. Route 1) crosses Chester Creek. Wawa is not incorporated as a municipality; rather, it straddles the Borough of Chester Heights (to the southwest of Chester Creek) and Middletown Township (to the northeast of Chester Creek). The area's distinctive name comes from the Ojibwe word for wild goose, and is shared by Wawa, Inc., the convenience store chain, which keeps its headquarters and dairy nearby.

Historically, Wawa was a junction where three branches of the Pennsylvania Railroad met: the West Chester Branch (running between Philadelphia and West Chester), the Chester Creek Branch (running between Wawa and Chester City), and the Octoraro Branch (running between Wawa and a junction on the Susquehanna River near Conowingo, Maryland). After the late-20th century decline and consolidation of the U.S. railroad industry, service on the Octoraro and Chester Creek Branches in Delaware County was discontinued. SEPTA took over service on the West Chester Branch in 1983, incorporating it into its Regional Rail network as the R3 (now known as the Media/Elwyn Line). By 1986, however, SEPTA shortened service on the line, making Elwyn the western terminus—roughly three miles east of Wawa, and eight miles east of West Chester.

In contrast to portions of Delaware County to the south and east, Wawa is defined by low-density development and open space. The portion of this project's study area around Chester Creek, in particular, is wooded and mostly undeveloped. Lenni, at the eastern end of the study area, is a small community of homes with a few commercial and industrial uses.

Baltimore Pike crosses Chester Creek near the western end of the study area. This area appears mostly undeveloped, but, is in fact within ½ mile of Wawa, Inc.'s headquarters, and the Franklin Mint site—a former office and manufacturing site now proposed as a mixed-use development. This portion of Baltimore Pike is a four-lane highway with high traffic volume.[6]

[6] DVRPC's most recent traffic count volumes are presented below as Annual Average Daily Traffic (AADT), an estimate of all traffic during a 24-hour period at the location specified for the year in which it was collected.

Traffic counts for these locations, and for other locations throughout the 9-county Greater Philadelphia region, can be found at www.dvrpc.org/webmaps/trafficcounts.

| Date | Road | Direction | From | To | AADT |
|---|---|---|---|---|---|
| 9/8/2010 | US-1 | Southbound | Valley Rd. | PA-452 | ***13,391*** |
| 9/8/2010 | US-1 | Northbound | Valley Rd. | PA-452 | ***12,196*** |
| 9/16/2010 | US-1 | Southbound | Wawa Rd. | Darlington Rd. | ***12,795*** |
| 9/16/2010 | US-1 | Northbound | Wawa Rd. | Darlington Rd. | ***11,755*** |

**Trail Analysis Segments**

For this analysis, the study area has been divided into segments that highlight opportunities and constraints of potential trail development (see *Figure 8*). These segments are explored in detail in both the Existing Conditions and Trail Proposal sections.

***Segment 1*** begins in the east at Lenni Road, and ends approximately 2000 feet westward, beyond SEPTA's Lenni training facility. ***Segment 2*** runs from the beginning of an area where woods close in on each side of the tracks, in the east, to just before the first bridge over Chester Creek, in the west. ***Segment 3*** runs from the first bridge over Chester Creek, in the east, to Rocky Run in the west.


**Figure 8 |** Study area

**A.** Wawa, Inc. Headquarters
**B.** SEPTA Wawa Station (pre-construction)
**C.** Franklin Mint (proposed redevelopment)
**D.** Wawa Dairy
**E.** Lenni Yard (planned)
**F.** Lenni

**Segment 1**

Segment 1 begins at Lenni Road, in the community of Lenni, the location of a former SEPTA Regional Rail stop. An asphalt driveway runs parallel to the train tracks for approximately 800 feet before crossing over the tracks towards an open-air SEPTA storage yard.

Continuing west, the bed of rail ballast slopes steeply downward toward Chester Creek. The difference in elevation between the track surface and the toe of the slope is approximately 40 feet at its greatest. The slope is held in place by a concrete retaining wall that runs for roughly 600 feet parallel to the tracks. At its closest, the retaining wall is approximately 40 feet from the train tracks.

Past the western end of the retaining wall, the right-of-way continues for approximately 600 additional feet before reaching a wooded area. Here, there is a grassy area approximately 40 feet wide running parallel to, and sloping more gently from, the tracks.

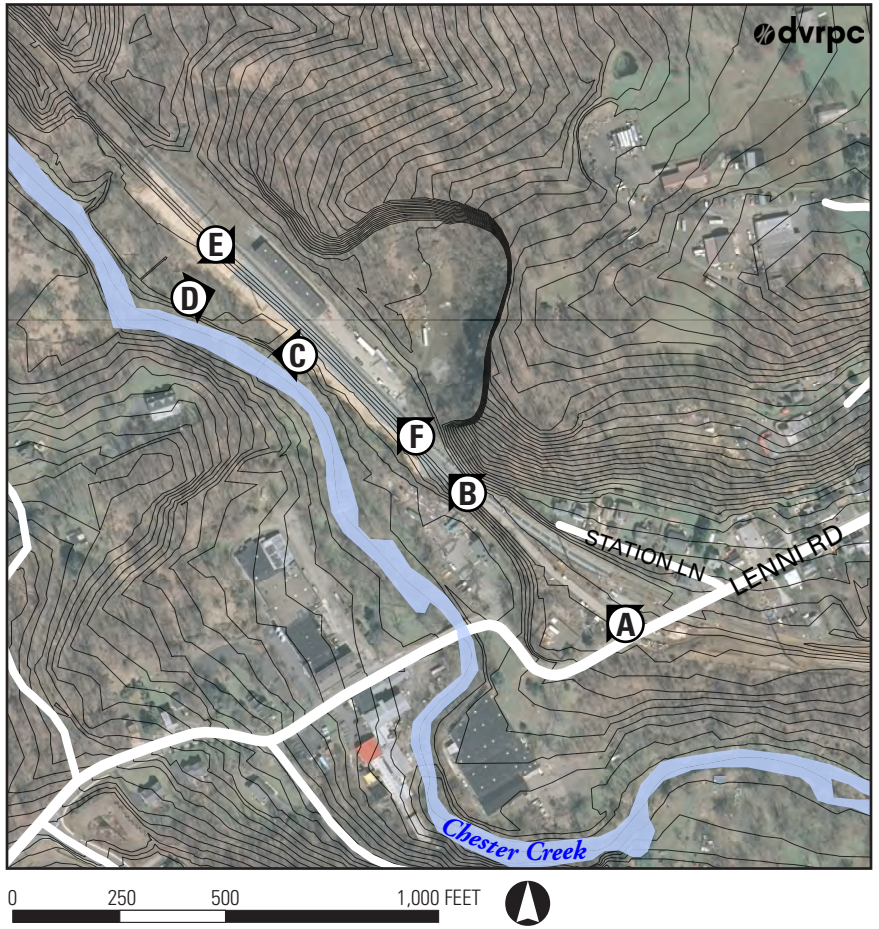


**Figure 9 |** Segment 1 aerial image


**Figure 10 |** Segment 1: image A

**Figure 11 |** Segment 1: image B

**Figure 12 |** Segment 1: image C

**Figure 13 |** Segment 1: image D

**Figure 14 |** Segment 1: image E

**Figure 15 |** Segment 1: image F

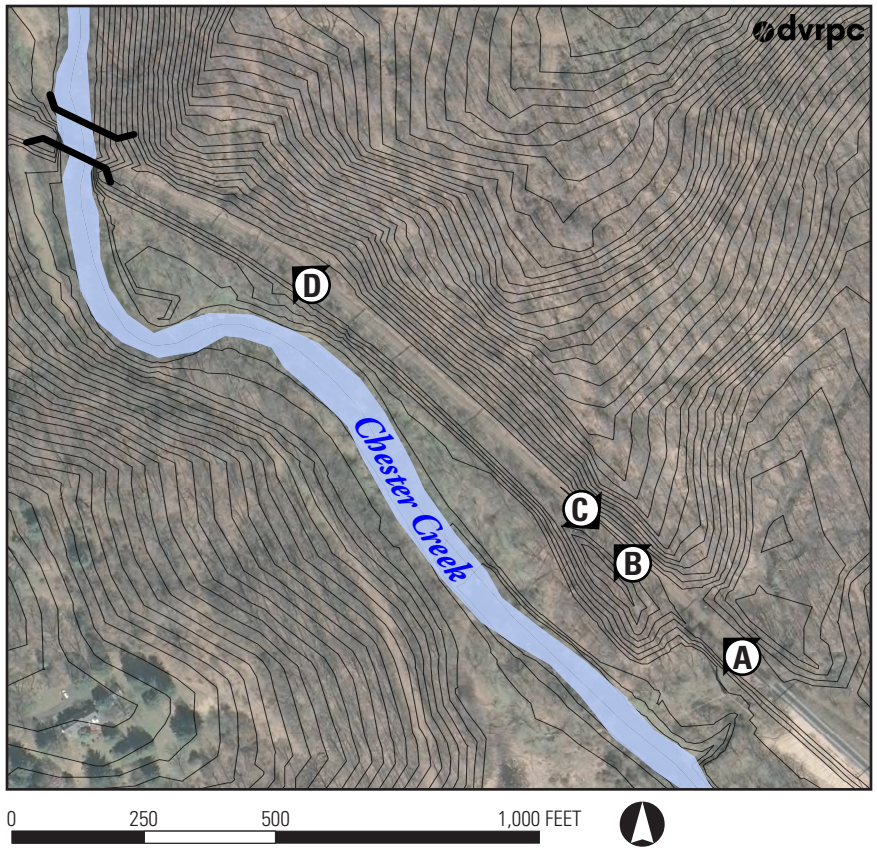


**Figure 16 |** Segment 2 aerial image

**Segment 2**

Segment 2 runs from the beginning of the tightly wooded area (in the southeast) to the first crossing of Chester Creek (in the northwest). This segment is characterized by a relatively narrow track bed framed on either side by existing catenary structures of approximately 60 feet in width. To the north of the track bed is a steep upward slope, and to the south is a steep slope down towards Chester Creek.

Approximately 250 feet southeast of the first Chester Creek crossing, the flat area of track bed narrows to roughly 40 feet in width. Throughout Segment 2, there are two sets of parallel train tracks running in the track bed, a newer set to the north, once used by SEPTA, and an older, more deteriorated set to the south, which once carried the Chester Creek Branch.

**Figure 17 |** Segment 2: image A

**Figure 18 |** Segment 2: image B

**Figure 19 |** Segment 2: image C

**Figure 20 |** Segment 2: image D

**Segment 3**

Segment 3 begins at the easternmost of two bridges over Chester Creek, and continues northwestward to Baltimore Pike. The easternmost bridge carries both sets of tracks—one set on a plate girder-style bridge, and the other set on cantilevered steel beams attached to the plate girder bridge.

On the western side of this bridge, the Chester Creek Branch tracks turn southward and become the former tracks of the Octoraro Branch, while the SEPTA tracks continue northwestward. This split is the historical location of the Wawa train station. To the south, a small dirt road leads uphill, and becomes Station Road, continuing south to meet up with Wawa Road. Throughout this area, there are steep slopes down to Chester Creek.

The SEPTA tracks continue northwestward to meet the westernmost bridge crossing Chester Creek. This bridge is also a plate girder bridge with cantilevered steel beams, but unlike the eastern bridge, no tracks rest on the cantilevered beams. The distance between the two Chester Creek bridges is approximately 360 feet.

Continuing northwest along the right-of-way, the SEPTA tracks extend for approximately 350 more feet until they reach yet another two-track, plate girder bridge, this one crossing Baltimore Pike.

After crossing Baltimore Pike, the rail corridor continues for approximately 850 more feet before reaching a stone arch bridge over Rocky Run, a small creek that empties into Chester Creek. The rail bed through this portion of Segment 3 is also flanked on either side by steep slopes.

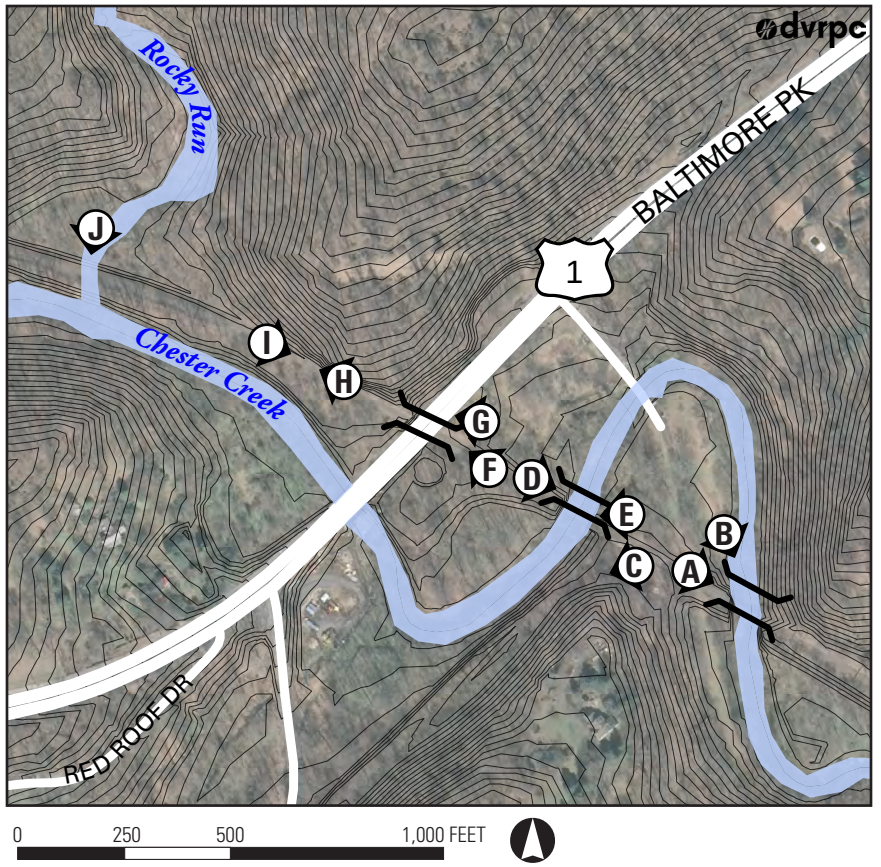


**Figure 21 |** Segment 3 aerial image

**Figure 22 |** Segment 3: image A

**Figure 23 |** Segment 3: image B

**Figure 24 |** Segment 3: image C

**Figure 25 |** Segment 3: image D

**Figure 26 |** Segment 3: image E

**Figure 27 |** Segment 3: image F

**Figure 28 |** Segment 3: image G

**Figure 29 |** Segment 3: image H

**Figure 30 |** Segment 3: image I

**Figure 31 |** Segment 3: image J

# Trail Feasibility

The Delaware County Planning Department tasked DVRPC with investigating the feasibility of extending the Chester Creek Trail to meet the planned Wawa Station, the proposed Octoraro Trail, and local hiking trails by using space immediately adjacent to SEPTA's track bed between Lenni and Rocky Run (*Chester Creek Extension "A"*). This chapter evaluates that particular trail alignment in the context of SEPTA's upcoming construction plans.

### Wawa Station Plans

The DVRPC project team met with employees of SEPTA's Strategic Planning and Analysis Department; Engineering, Maintenance, and Construction Division; and Real Estate Department for a briefing on SEPTA's plans for service restoration between Elwyn and Wawa.

That project will expand the current SEPTA maintenance and training facility along the right-of-way just west of Lenni Road. This expansion

**Figure 32 |** Elwyn to Wawa Service Restoration Construction Package R3-2 - Milepost 16.7 to 18.5 (detail of station and parking deck)

*Source: URS and SEPTA*


Ⓐ Parking deck

Ⓑ Station building

Ⓒ Station platform

Ⓓ Pedestrian tunnel

includes several tracks to the north of the main track, and additional support buildings.

Continuing northwest along the right-of-way, SEPTA's plans call for two tracks between the Lenni yard and the new Wawa Station. This part of the right-of-way is constrained by a cliff to the north, and by both cliffs and steep downward slopes to the south. Due to the steep slope down towards Chester Creek along the southern side of the right-of-way, a new retaining wall will be constructed to accommodate the two tracks.

*Figure 33*, for example, shows the proposed cross section for the portion of the right-of-way just east of its first crossing of Chester Creek, overlaid upon an existing cross section. Note (using the grid, marked in 10-foot increments) that the proposed height of the south retaining wall is nearly 40 feet, and that the southernmost track is located almost at the edge of the retaining wall.

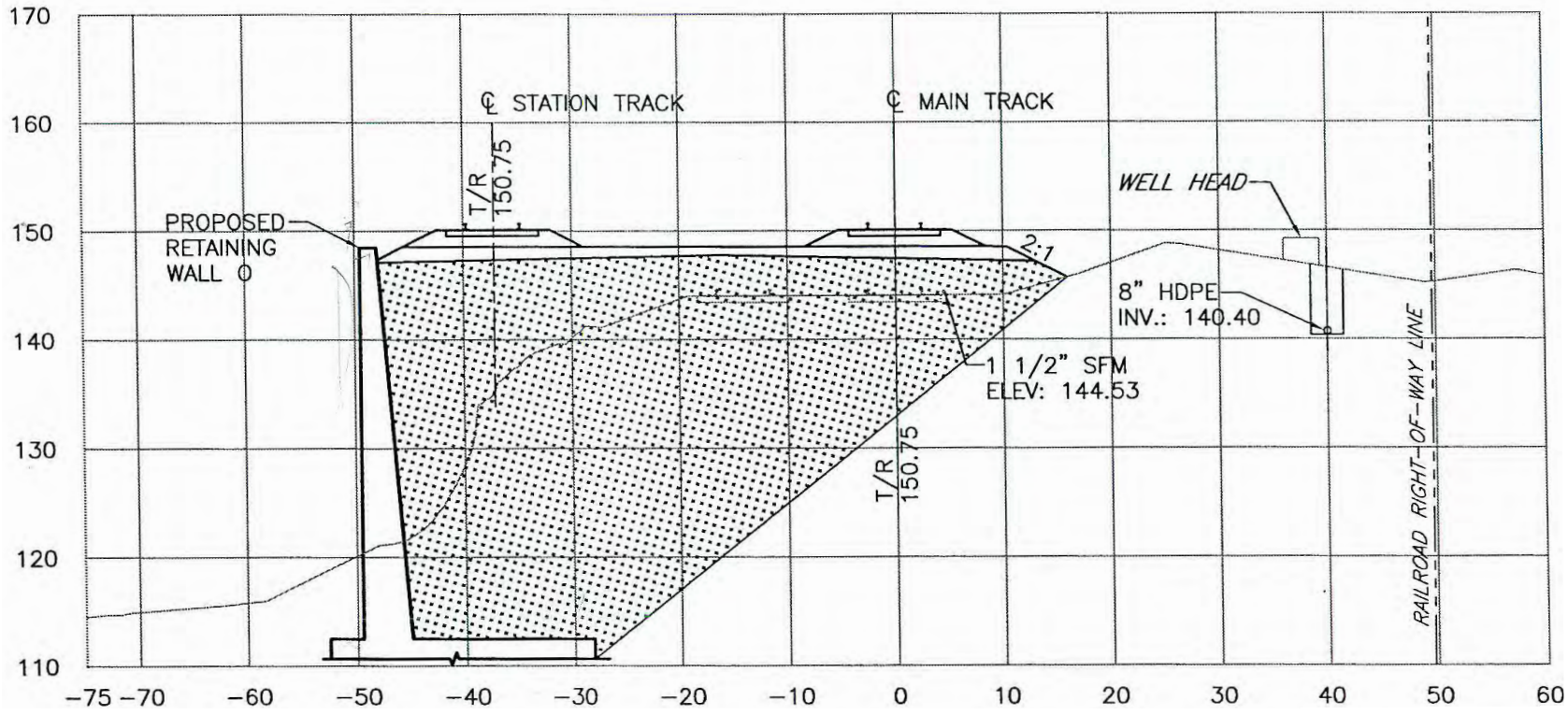


**Figure 33 |** Elwyn to Wawa Service Restoration Construction Package R3-2 - Milepost 16.7 to 18.5 (detail of cross section 253+50)

*Source: URS and SEPTA*

One reason SEPTA is constructing a major retaining wall along much of this segment of right-of-way is to create additional width for the track bed on approach to Wawa Station. *Figure 34* shows the approximate width of the track bed just east of the first Chester Creek crossing as it exists today, while *Figure 35* shows the approximate width in the same location according to SEPTA's construction plans. The additional width is required to create space for the station platform, farther west.

The proposed Wawa Station platform, in the median between the two tracks, begins approximately half way between the right-of-way's two Chester Creek crossings. The platform is approximately 525 feet long, extending almost to Baltimore Pike. Pedestrian access between the parking area and the platform is provided by a tunnel (see *Figure 36*, pg. 28).

The tunnel was originally designed to provide access only to the platform. In order to allow for potential trail access at some point in the future, however, SEPTA has committed to extending the tunnel all the way to the south side of the tracks. As a result, if a trail were implemented on the south side of SEPTA's tracks—whether a Chester Creek Trail extension, or the Octoraro Trail—it will be possible for trail users to access Wawa Station.

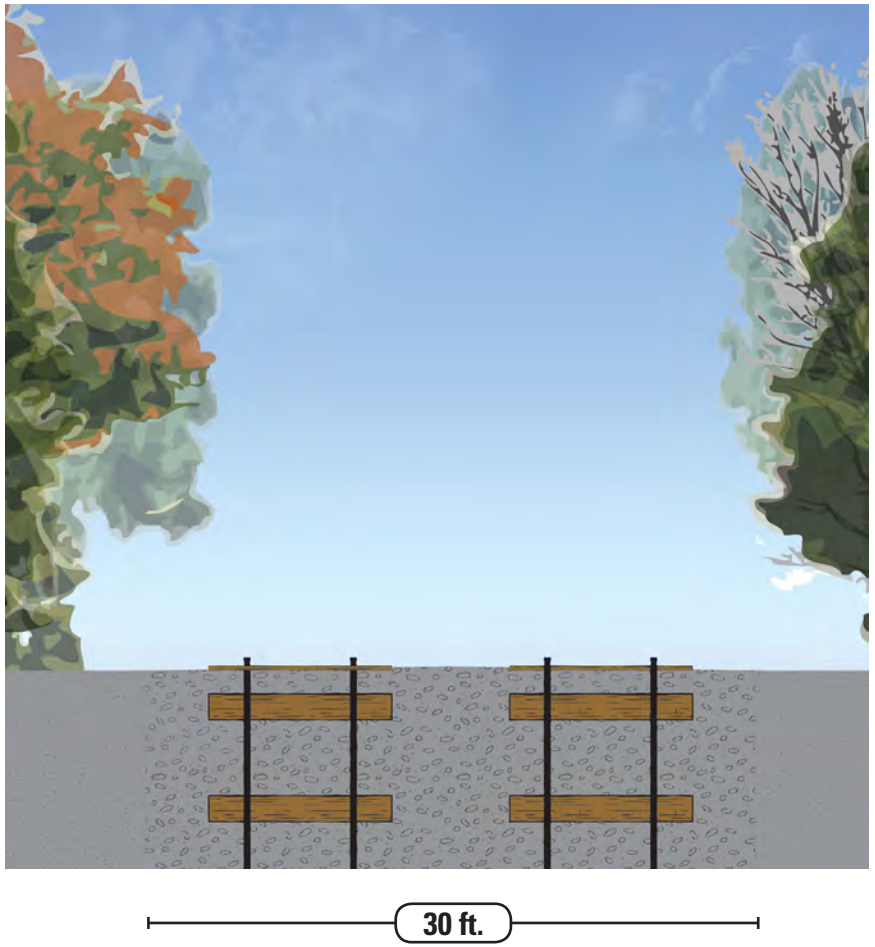


**Figure 34 |** Existing cross-section looking west from first crossing of Chester Creek

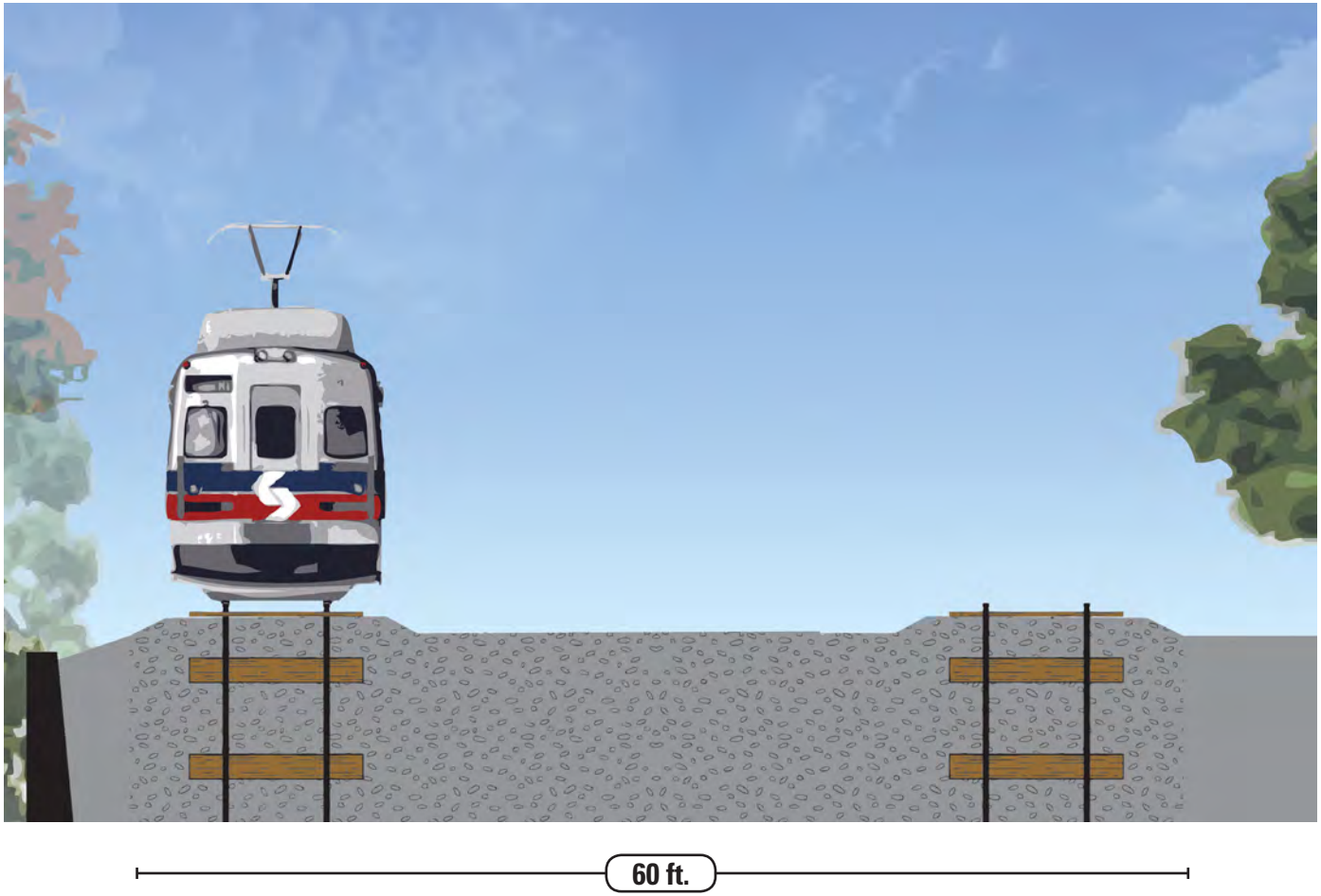


**Figure 35 |** Proposed cross-section looking west from first crossing of Chester Creek

### Chester Creek Trail Extension "A" Feasibility Determination

While SEPTA staff expressed general support for enhancing nonmotorized connections to Wawa Station, a review of their construction plans shows that a Chester Creek Trail extension immediately adjacent to- and at the same elevation as the track bed is not feasible from either an engineering or financial perspective. The primary limiting factor is SEPTA's plan for a track bed wide enough for two tracks, spaced far enough apart to accommodate a center platform at the station. This construction plan, combined with the corridor's physical constraints, does not leave adequate space for Chester Creek Trail Extension "A."

Running a trail immediately adjacent to and at the same elevation as SEPTA's track bed was the preferred option at the outset of this study, and would be ideal for a variety of reasons: it would be direct, flat, and involves one land owner—SEPTA—who is open to leasing their property for trail use. Nevertheless, this alignment appears to be infeasible. While the area *owned* by SEPTA may technically be wide enough to accommodate the trail in most spots, widening the track bed area enough to provide an 8-to-12-foot wide trail, plus a safe setback distance would require blasting and/or additional massive retaining walls.

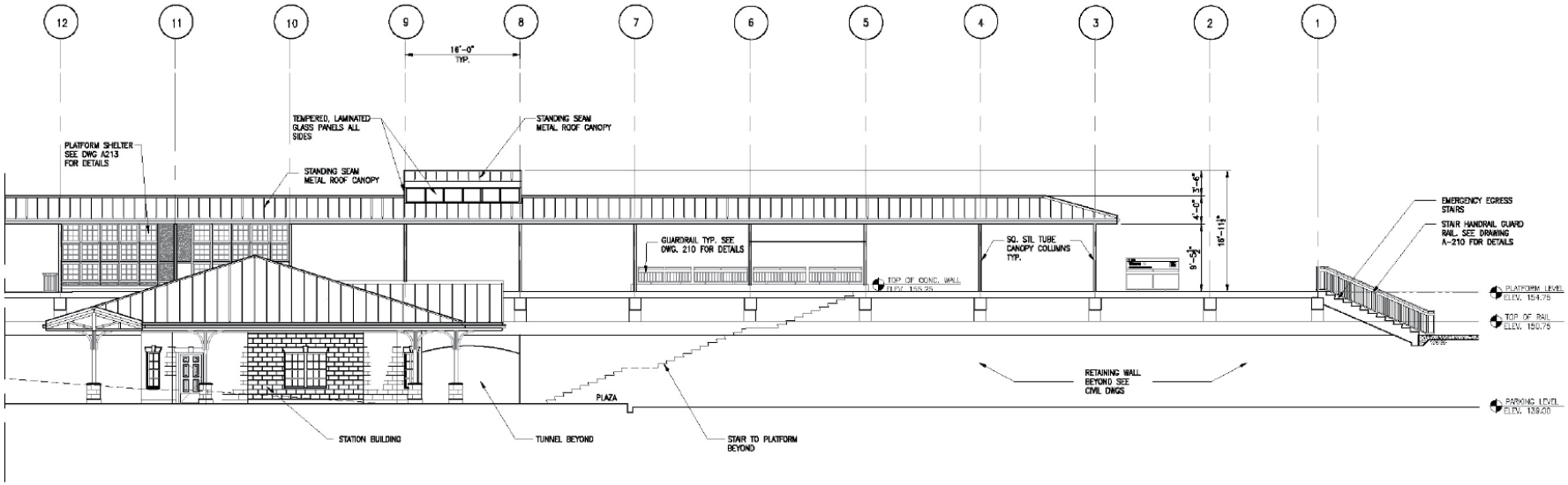


**Figure 36 |** Elwyn to Wawa Service Restoration Construction Package R3-2 - Milepost 16.7 to 18.5 (detail of station platform elevation)
*Source: URS and SEPTA*

## Alternative Alignments

The study committee concluded that the construction requirements for service restoration to Wawa Station make a simple extension of the Chester Creek Trail immediately adjacent to the tracks infeasible. Nevertheless, it may still be possible to connect Wawa Station to the Chester Creek and Octoraro Trails. This section offers two alternative trail connections between the Chester Creek Trail terminus at Lenni Road, and Wawa Station, and presents advantages, disadvantages, and preliminary cost estimates for each alternative alignment. Either alternative alignment is likely to cost more than if the Extension "A" were feasible as originally proposed.

A design challenge common to both alignments is Americans with Disabilities Act (ADA) compliance. Either alternative alignment would be designed to ADA standards where allowable by the terrain. Chester Creek Trail Extension "B" has the highest likelihood for ADA compliance throughout.

At a December 2015 steering committee meeting, the committee reached consensus on a preference for Extension "B" as the most feasible based on several factors, including expected cost, property ownership, and connectivity to the Octoraro right-of-way.

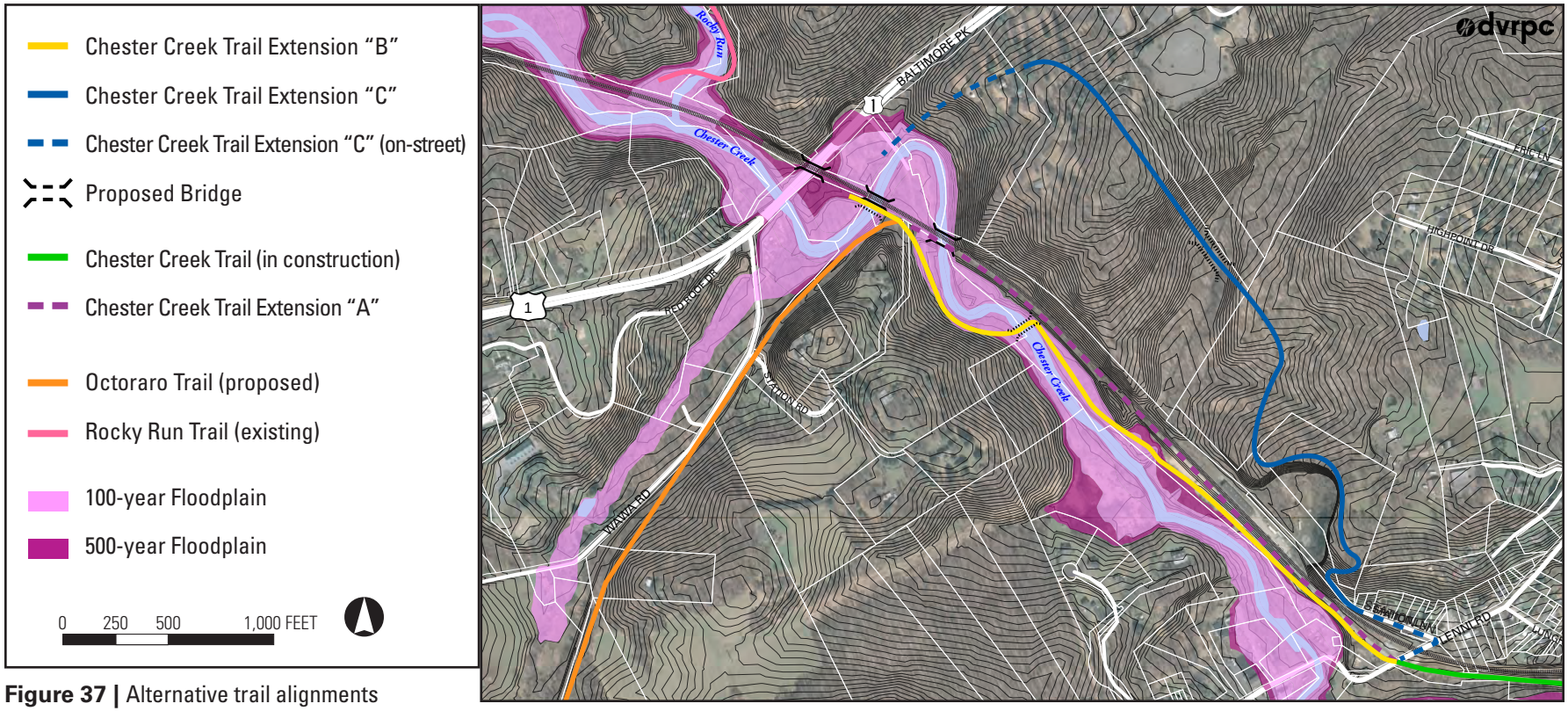


**Figure 37 |** Alternative trail alignments

**Chester Creek Trail Extension "B"**

This trail extension would run to the south and west of, and roughly parallel to, the SEPTA track bed, but rather than sharing space directly adjacent to the rails, would run below the existing grade of the tracks. The trail would run parallel to, and north of, Chester Creek for approximately 2,000 feet, before crossing to the south side of the creek. Next, the trail would climb the steep south bank as gradually as possible until reaching the historic junction of the Octoraro Line. Finally, the trail would cross Chester Creek a second time to reach the pedestrian tunnel entrance, allowing access to Wawa Station.

Potential advantages of this alignment include:

- *Property ownership*: A review of DVRPC and Delaware County parcel maps appear to show that this alignment could be implemented mostly on SEPTA-owned property. The portions of the trail that would cross private property would be located away from the main residential uses of those parcels—minimizing the disruption to those landowners caused by any potential easements.

- *Distance*: This alignment would provide nearly as direct a connection as Chester Creek Trail Extension "A" would.

- *Elevation*: This alignment would only include one significant slope, the portion between the two Chester Creek crossings.

- *Setback*: Most of Extension "B" would be separated from rail by ample horizontal distance, with an estimated minimum setback of approximately 50 feet, except for the segment nearest the station platform. Extension "B" would also be separated from the rails by a considerable grade difference. Most of the trail would sit 20 to 40 feet below the level of the tracks to the south and west of the retaining wall.

Potential drawbacks of this alignment include:

- *Bridge construction*: This alignment would require construction of two bridges over Chester Creek in order to access both Wawa Station, and the proposed Octoraro Trail alignment.

- *Property Ownership*: While most of this alignment passes through SEPTA-owned property, it would require easements from two residential property owners.

- *Floodplain*: Most of Chester Creek Trail Extension "B" would exist within the 100-year floodplain. Consequently, durable materials would need to be used[4]. The trail's location would also make it inaccessible during severe flood events.

[4] The proposed standard asphalt trail construction is durable in terms of flooding.

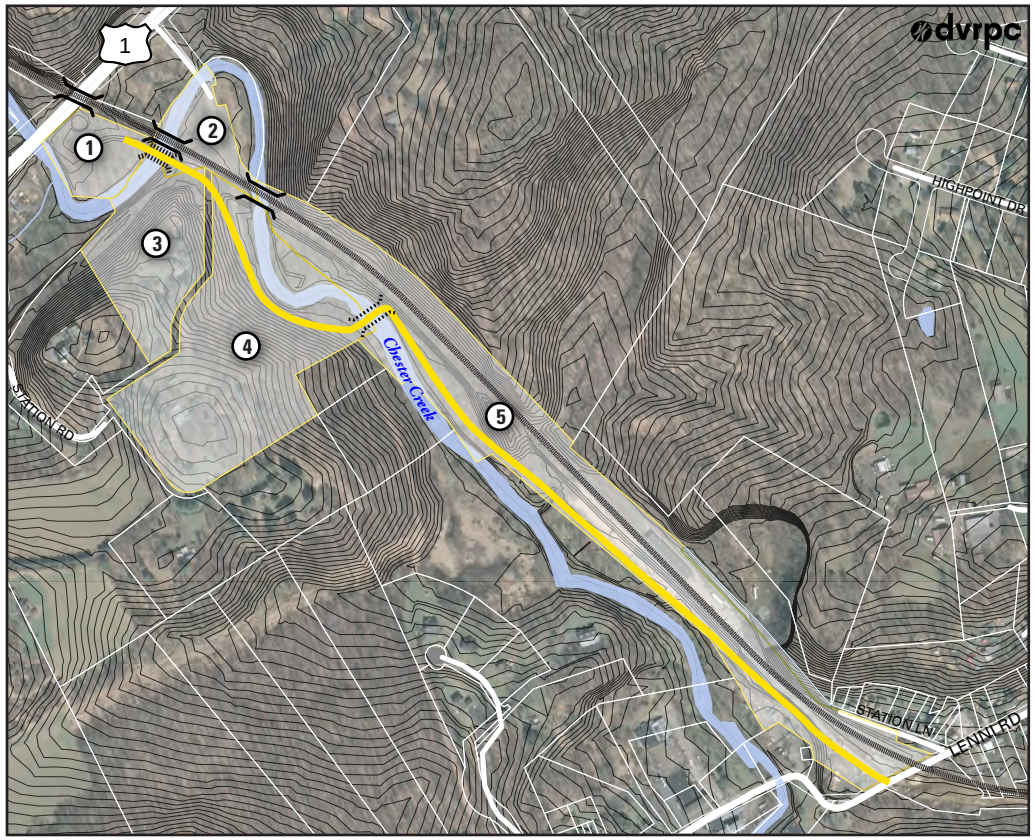


**Figure 38 |** Chester Creek Trail Extension "B" parcel analysis

*Parcel Data Source: Delaware County, 2013*

| | Parcel Number | Owner |
|---|---|---|
| **1** | 27-34-001:000 | SEPTA |
| **2** | 06-05-018:000 | SEPTA |
| **3** | 06-05-020:000 | *Private owner* |
| **4** | 06-05-021:000 | *Private owner* |
| **5** | N/A* | SEPTA |

* Most transportation rights-of-way in Delaware County do not have parcel numbers, including Parcel 5 and the linear parcel between parcels 3 and 4.

**Chester Creek Trail Extension "C"**

This trail alignment would attempt to completely circumvent the constrained SEPTA right-of-way, and the Chester Creek floodplain by using the wooded slopes to the north and east of the rail corridor. In the southeast, the alignment would use portions of the street network (Lenni Road and Station Lane), before beginning as a trail. The trail would then need to climb a steep slope, likely using switchbacks, and skirt around the steep cliffs surrounding the future Lenni Yard facility. The trail would then need to bridge a deep ravine, after which it would reach the proposed site of the Franklin Mint redevelopment project. From this point, the trail could either take advantage of the Franklin Mint redevelopment's road network, or be built on a separated path within that development. Finally, the alignment would meet up with SEPTA's entrance road to Wawa Station.

Potential advantages of this alignment include:

- *Separation from rail*: This alignment would not arouse any safety or maintenance issues associated with a rail-with-trail alignment.
- *Opportunities for partnership*: Because there is an ongoing development proposal in the location of this alignment's western portion, there may be an opportunity to work with that property's developer to design and build the trail.
- *Setting*: Physically, this alignment would use land that is currently undeveloped and wooded.

Potential drawbacks of this alignment include:

- *Property ownership*: This alignment would cross six parcels, however, the project team's review showed that these properties are owned by only two entities. Two of these parcels (#2 and #3) are owned by the developer of the Franklin Mint site. Trail access would be a tremendous amenity to the future development of the site, and could be negotiated during the development approval process. Parcels 4–7 are owned by the same individual. It is unknown if that individual would be amenable to trail development, or what a purchase or easement agreement would cost.
- *Bridge construction*: This trail would require a relatively long bridge to span a steep ravine. While such a structure would add cost, it would also be an exciting component of the trail through the wooded landscape.
- *Elevation*: It would be nearly impossible to construct this alignment without a large grade change for some portions of the trail. Maintaining a consistent grade would increase the trail's length and require constructing costly retaining walls for significant stretches of the trail.
- *Roadway Access*: According to steering committee members, Station Lane is a private road. Accordingly, its use for trail access could be restricted.

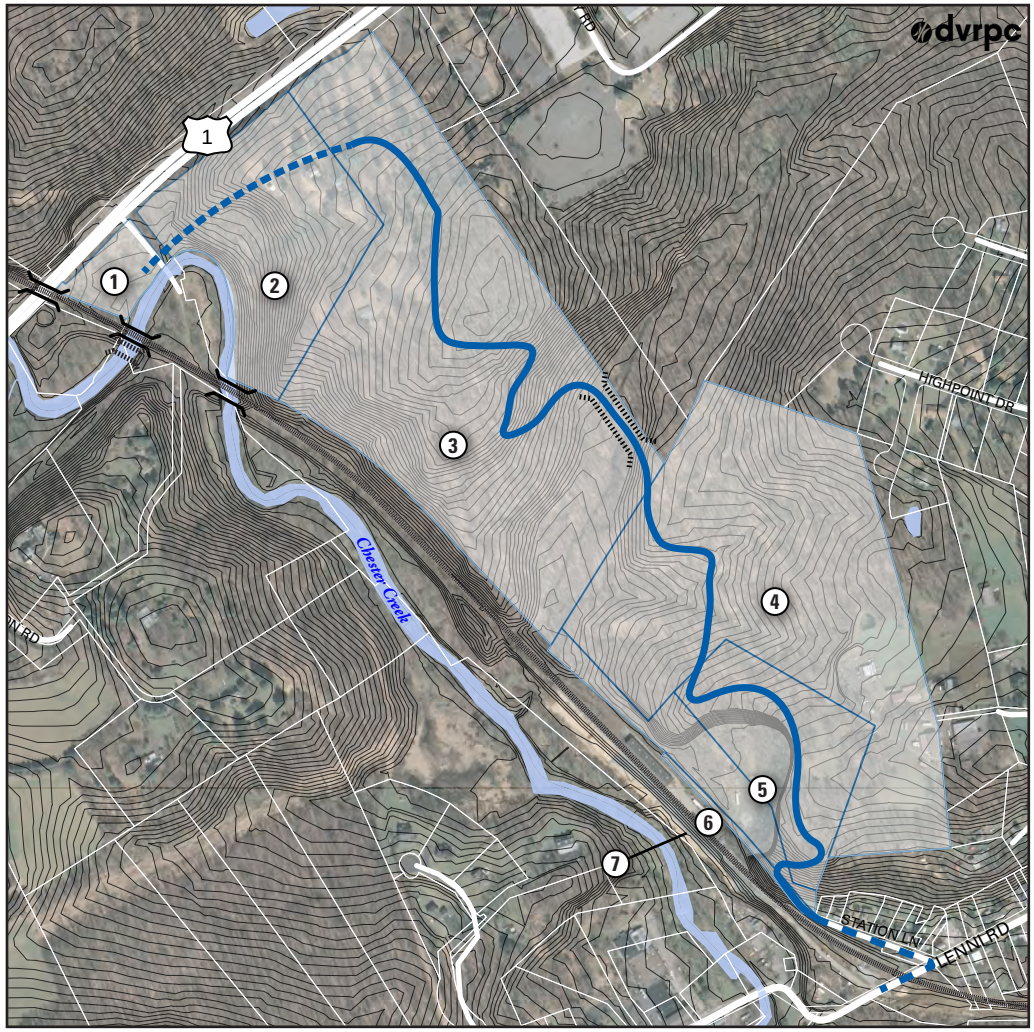


**Figure 39 |** Chester Creek Trail Extension "C" parcel analysis

*Parcel Data Source: Delaware County, 2013*

| | Parcel Number | Owner |
|---|---|---|
| 1 | 27-34-001:000 | SEPTA |
| 2 | 27-34-002:000 | WV-PP Towne Center, LP |
| 3 | 27-35-001:000 | WV-PP Towne Center, LP |
| 4 | 27-35-037:000 | *Private owner* |
| 5 | 27-35-039:000 | *Private owner* |
| 6 | 27-35-038:000* | *Private owner* |
| 7 | 27-35-038:000* | *Private owner* |

* Parcels 6 and 7 have the same identifying information, but are subdivided in the *Delaware County Real Estate Parcels & Tax Records System*'s map viewer (http://w01.co.delaware.pa.us/pa/publicaccess.asp?real.x=0). Whether parcels 6 and 7 are separate parcels or represented incorrectly in Delaware County's parcel records, they have the same owner. Consequently, the discrepancy would not be likely to impact trail feasibility in a meaningful way.

## Cost Estimates

*Note: Construction costs are presented for a 10-foot-wide paved asphalt path with two-foot margins and associated improvements (including grading, grubbing, and clearing.) The higher unit cost for Extension "C" reflects the steeper and more heavily forested slopes upon which the trail will be constructed, which will increase the difficulty and cost of clearing.*

| | | | Trail Work | | | 3-to-6 Ft. Retaining Wall | | | Bridges | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ***Trail Element*** | *Approximate Length (L.F.)* | *Unit Cost ($ per L.F.)* | ***Trail Cost ($)*** | *Approximate Length (L.F.)* | *Unit Cost ($ per L.F.)* | ***Structure Cost ($)*** | *Approximate Length (L.F.)* | *Unit Cost ($ per L.F.)* | ***Bridge Cost ($)*** | ***Element Total*** |
| **Chester Creek Trail Extension "B"** | | | | | | | | | | | | |
| B1 | Segment 1—Trail—Lenni Road to crossing of Chester Creek | Paved Trail | 3,000 | 120 | 360,000 | 560 | 150 | 84,000 | | | | **$444,000** |
| B2 | Bridge 1—Crossing over Chester Creek | Bike/ped. Bridge | | | | | | | 175 | 2,000 | 350,000 | **$350,000** |
| B3 | Segment 2—Trail—Crossing of Chester Creek to Octoraro Trail/Wawa Station Platform | Paved Trail | 960 | 120 | 115,200 | 200 | 150 | 30,000 | | | | **$145,200** |
| B4 | Bridge 2—Bridge over Chester Creek to access the tunnel and station platform | Bike/ped. Bridge | | | | | | | 160 | 2,000 | 320,000 | **$320,000** |
| | | | | | | | | | | | ***Chester Creek Trail Extension "B" Total:*** | **$1,259,200** |
| **Chester Creek Trail Extension "C"** | | | | | | | | | | | | |
| C1 | Segment 1—Trail From Lenni Road to unnamed tributary | Paved Trail | 3,400 | 130 | 442,000 | 1,600 | 150 | 240,000 | | | | **$682,000** |
| C2 | Bridge over unnamed tributary and ravine | Bike/ped. Bridge | | | | | | | 350 | 2,000 | 700,000 | **$700,000** |
| C3 | Segment 2—Trail from bridge to the Franklin Mint development site | Paved Trail | 2,000 | 130 | 260,000 | 900 | 150 | 135,000 | | | | **$395,000** |
| | | | | | | | | | | | ***Chester Creek Trail Extension "C" Total:*** | **$1,777,000** |

**Table 1 |** Alternative alignments cost estimates

### SEPTA Rails-with-Trails Policy Development

Wawa is not the only location in Greater Philadelphia where advocates, public agencies, and others have expressed interest in rails-with-trails. In response to this study and efforts by activists, SEPTA is currently developing a policy that would apply consistently to rail-with-trail opportunities throughout its system.

SEPTA has shared with the project team draft language that will guide their policy as it develops. These are not finalized regulations, rather, they are principles that are now guiding an emerging policy. Within that policy, there are likely to be many site-specific exceptions. For instance, SEPTA would require a particular safe trail setback distance from its rails, but may make an exception in cases like Wawa—where steep slopes allow for grade separation.

The principles shared by SEPTA suggest that they would support rails-with-trails proposals that meet the following qualifications:

- Design and construction of proposed rails-with-trails will address all safety considerations.
- Rail-with-trail locations will have sufficiently wide right-of-way to allow for fencing, maintenance access, and a safe distance between rail and trail.
- Proposed rails-with-trails would not preclude SEPTA's future expansion plans, including additional transit service or extension of service that requires additional track; nor any plans for new passing track, siding track, interlockings, or switches.
- Proposed rails-with-trails will create connections with existing, established trails.
- SEPTA reserves the right to resume rail service on any part of the right-of-way.

## Other Nonmotorized Connections

In addition to the  alternative trail alignments mentioned, the DVRPC project team investigated opportunities for other types of bicycle and pedestrian access to Wawa Station and adjacent trails.

*Octoraro Right-of-Way*

As noted previously, any extension of the Chester Creek Trail to Wawa Station would attempt to connect directly to the Octoraro Branch right-of-way somewhere in the station area. The Octoraro right-of-way extends for almost 9 miles to the southwest, offering access to the Brandywine Valley and eastern Chester County.

As of this printing, Pennoni Associates, on behalf of Concord Township, is studying the feasibility of using the Octoraro right-of-way for a multi-use trail. The legal status of that right-of-way, however, has yet to be conclusively determined. According to SEPTA, the right-of-way is controlled by the agency, but the ability of the agency to lease the right-of-way for trail use is still under investigation at this time. Depending on the outcome of these investigations, the extension of the Chester Creek Trail to the Wawa station could become a critical link in the region's emerging trail network.

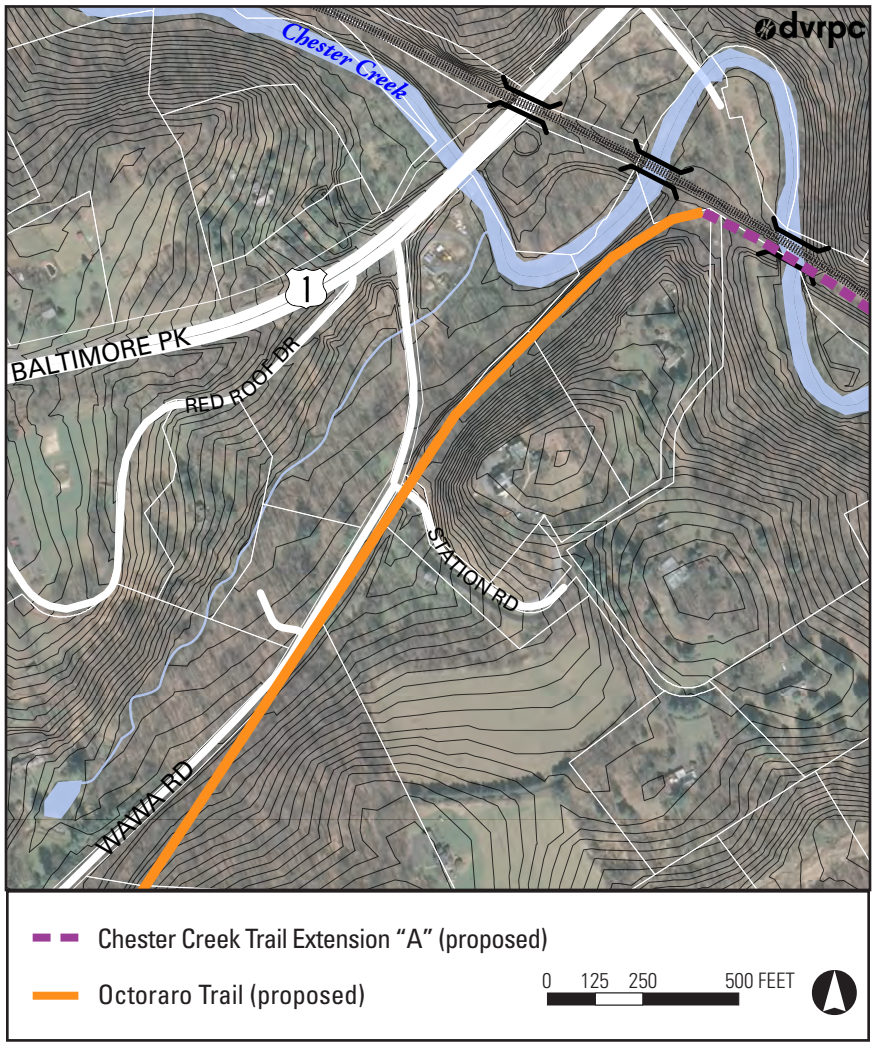


**Figure 40 |** Octoraro Trail aerial image

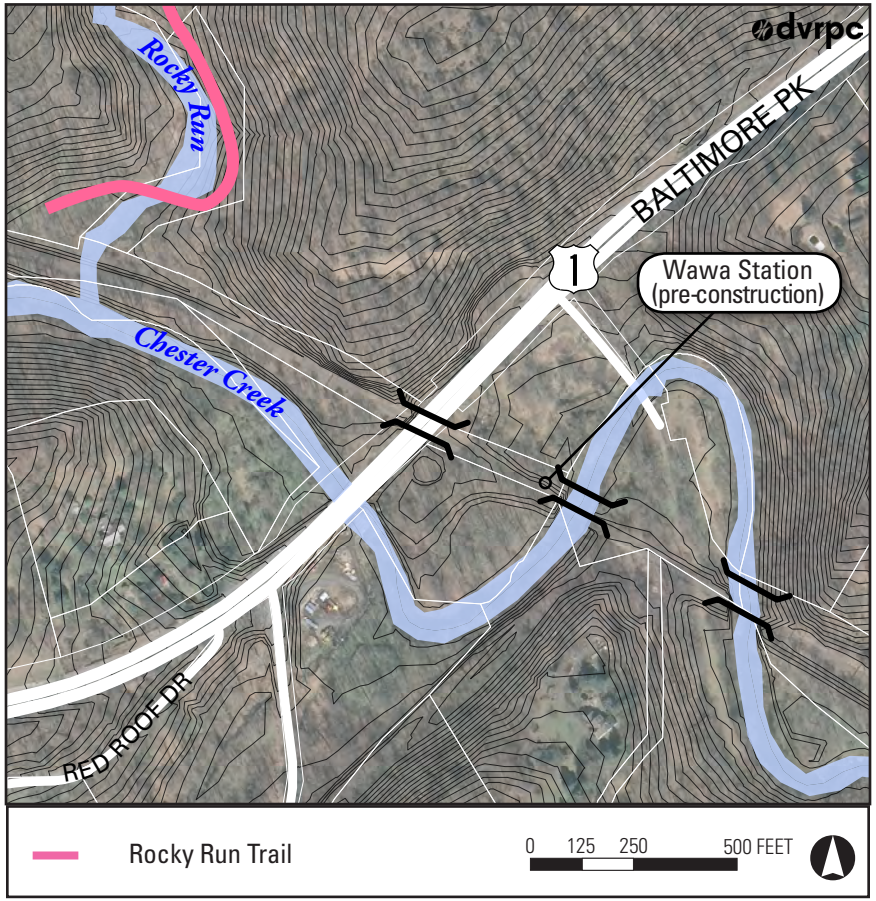


**Figure 41 |** Rocky Run Trail aerial image

*Rocky Run Trail*

A connection between Wawa Station and Rocky Run Trail, a hiking trail along Rocky Run, to the northwest of the proposed station, suffers from similar constraints as a Chester Creek Trail extension. Specifically, SEPTA's Wawa Station plans call for extending both tracks across Baltimore Pike, continuing almost to Rocky Run, leaving insufficient width for a trail and a safe setback distance.

Like Chester Creek Trail Extension "B," it may be possible to extend Rocky Run Trail within the Chester Creek Floodplain. This option, however, would require crossing the SEPTA right-of-way to reach the south side—a difficult task considering it would require tunnelling under the tracks. From there, it would be necessary to build an additional bridge to cross Baltimore Pike. The major expense associated with this connection makes it infeasible at this time.

*Wawa Corporate Headquarters*

Rail service to Wawa offers a unique opportunity to access Wawa's corporate headquarters by foot. The headquarters are just .4 miles from the future Wawa station as the crow flies. It would therefore be an easy walk from the station to headquarters for any Wawa employees who may use regional rail to travel to work. However, walking from the station using existing rights-of-way is complicated by two factors. First, Route 1, which serves as the main connection between the station and Red Roof Drive, lacks sidewalks or shoulders and is essentially impassable by pedestrians due to adjacent high-speed auto traffic. Second, even if sidewalks existed, the route is circuitous and would require a 0.8 mile walk from the station, an exceedingly long distance along a route that is not pedestrian-friendly.

The future Wawa-Chester Creek trail may offer an alternative. As a result of this project's steering committee meetings, stakeholders—including Wawa, Inc., SEPTA, and the Delaware County Planning Department—are currently exploring options to create a pedestrian connection between Wawa Station and Wawa, Inc. headquarters. While a specific alignment has not yet been agreed upon, the options include use of: the Octoraro right-of-way, Wawa Road, Red Roof Drive, and parcels owned by the Natural Lands Trust (NLT) adjacent to Wawa, Inc.'s property (see *Figure 42*.)

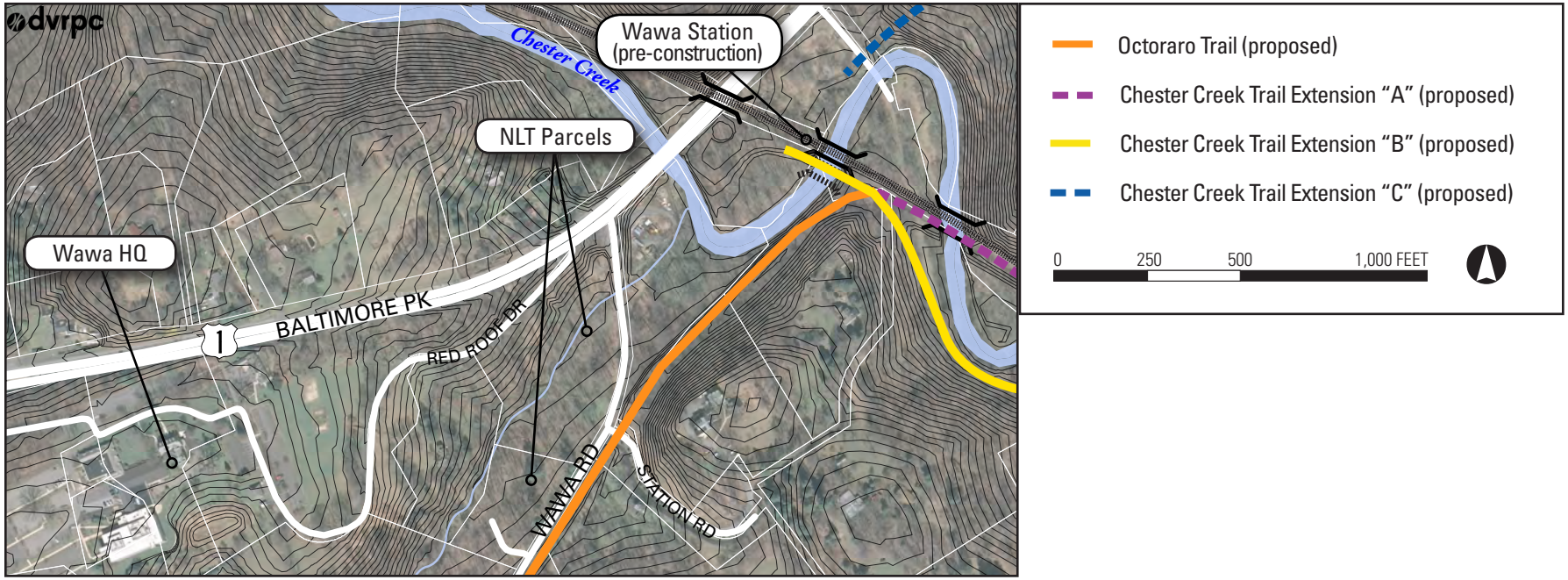


**Figure 42 |** Wawa corporate headquarters pedestrian access

*Franklin Mint Redevelopment*

At the time of the writing of this report, the plans for redevelopment on the former site of the Franklin Mint had not received final approvals. Nevertheless, The McKee Group, the project's developer, included pedestrian access to Wawa Station in its publicly presented master plan. The McKee Group has also expressed interest to the DVRPC project team in providing an appropriate pedestrian connection between the new development's sidewalk network, and SEPTA's Wawa Station. Also, as noted in the discussion of Extension "C" a dedicated off-road trail could be routed through the development connecting to Wawa Station.

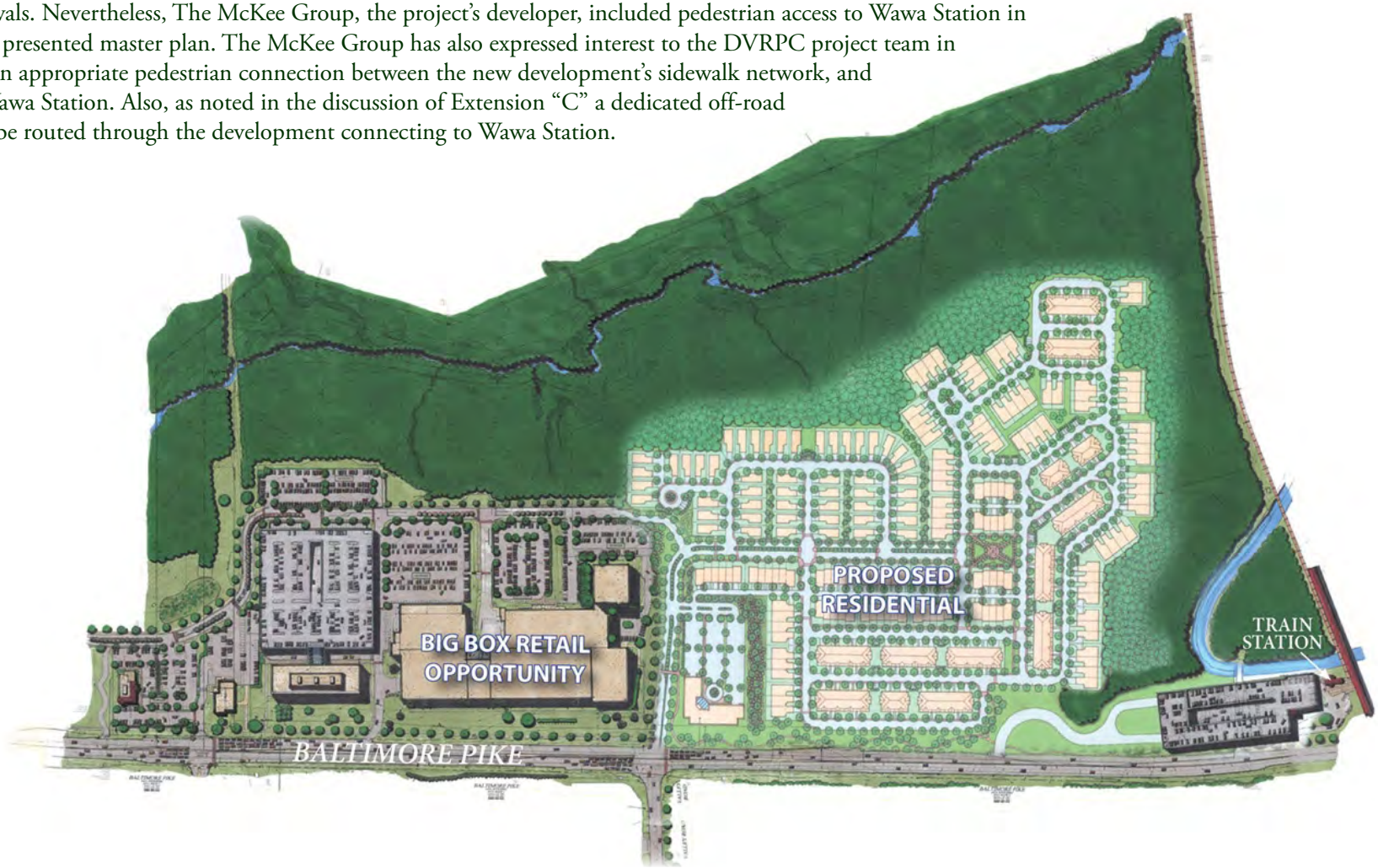


**Figure 43 |** Middletown Commons development proposal (detail)

*Source: McKee Group*

# Trail Access to Wawa Station


| | |
|---|---|
| Publication Number | 15009 |
| Date Published | November 2016 |
| Geographic Area Covered | Wawa, Pennsylvania; Middletown Township, Pennsylvania; Chester Heights, Pennsylvania; Delaware County, Pennsylvania; Rocky Run; Elwyn; Wawa corporate headquarters; Middletown Commons |
| Key Words | Wawa Station; Chester Creek Trail; Octoraro Trail; Media/Elwyn Line; SEPTA; rail-with-trail |



Abstract

This report investigates opportunities for improved connections between the planned Wawa Regional Rail station and the region's trail system. The study catalogs existing site conditions, and documents SEPTA's construction plans. An extension of the Chester Creek Trail sharing SEPTA's rail right-of-way was found to be infeasible at this time. The study proposes two alternative trail alignments for future study, and documents other opportunities to provide nonmotorized connections to Wawa Station.



Staff Contact

Christopher Linn
Manager, Office of Environmental Planning
(215) 238-2873
clinn@dvrpc.org

Delaware Valley Regional Planning Commission
190 N. Independence Mall West, 8th Floor
Philadelphia, PA 19106
Phone: (215) 592-1800
Fax: (215) 592-9125
Internet: www.dvrpc.org