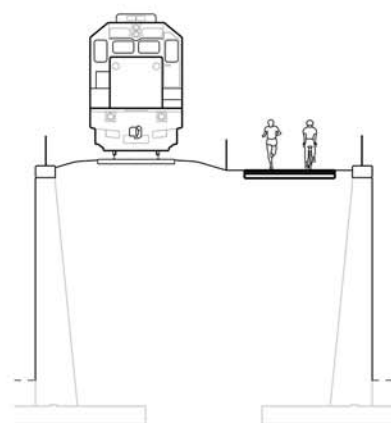
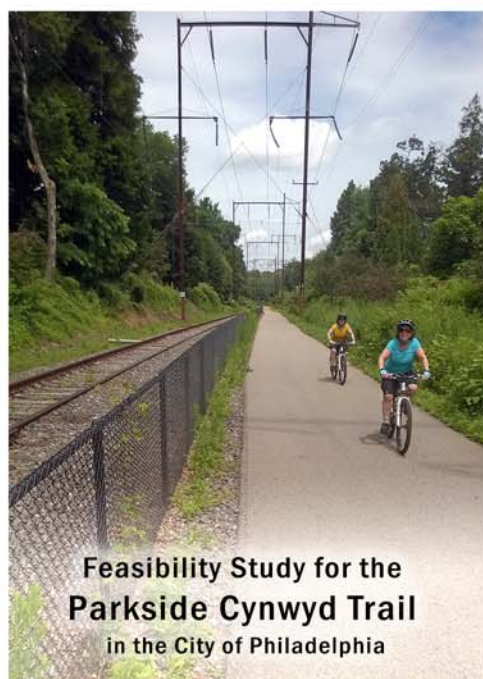
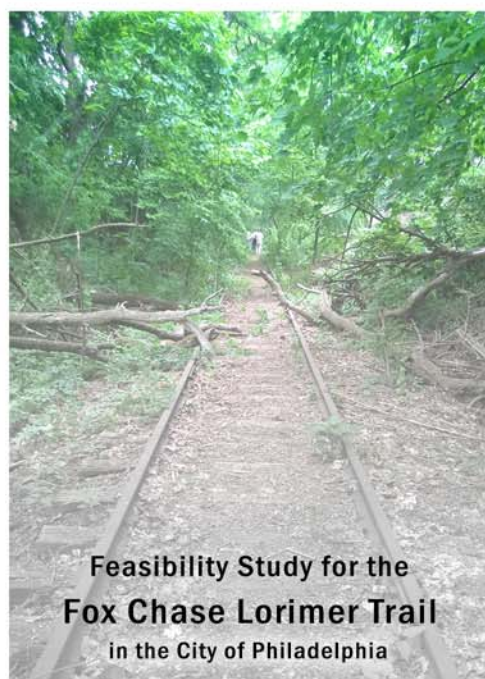


# Rail Trail Feasibility Studies for the Fox Chase Lorimer Trail Parkside Cynwyd Trail Bartram's Fort Mifflin Trail



June 2016

prepared by

**Michael Baker**  
INTERNATIONAL

submitted to

PHILADELPHIA  
**PARKS &  
RECREATION**



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### Feasibility Study for the Fox Chase Lorimer Trail

### Feasibility Study for the Parkside Cynwyd Trail in the City of Philadelphia





# Feasibility Study for the Fox Chase Lorimer Trail



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**Feasibility Study  
for the  
Fox Chase Lorimer Trail**

**June 2016**

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**Appendices**

- A. Overview Plan
- B. Preliminary Cost Estimate
- C. Conceptual Plans
- D. Railroad Maps
- E. Public Comments



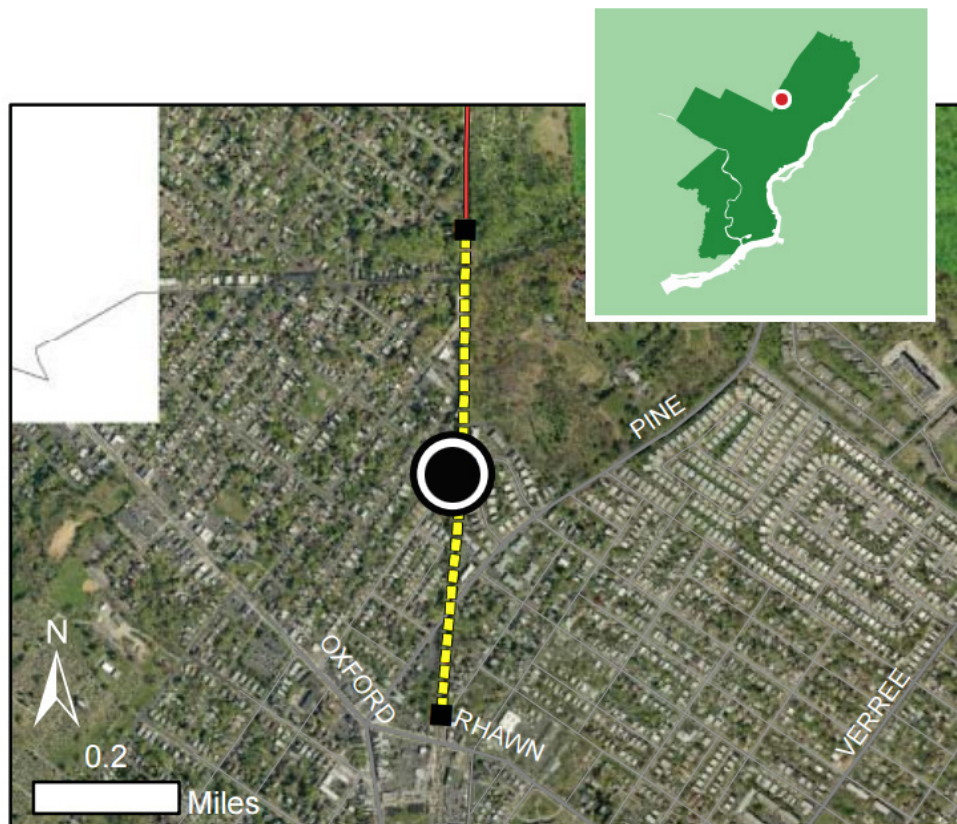
## 1. Background

The City of Philadelphia applied for and received Transportation and Community Development Initiative (TCDI) funding from Delaware Valley Regional Planning Commission to investigate the feasibility of developing shared-use paths on three rail corridors in the City. Included in the year 2013 Philadelphia Trail Master Plan,<sup>1</sup> the three potential trails are:

- Fox Chase Lorimer Trail (northeast Philadelphia)
- Parkside Cynwyd Trail (west Philadelphia)
- Bartram's Fort Mifflin Trail (southwest Philadelphia)

This chapter of the document focuses on the Fox Chase Lorimer Trail.

Fox Chase Lorimer Trail is envisioned as a rail-to-trail conversion on a half-mile section of unused SEPTA railroad in northeast Philadelphia. This trail would serve as an extension into the City of the existing 6 mile-long Pennypack Trail from adjacent Montgomery County.



Excerpt from page 78 of Philadelphia Trail Master Plan  
indicating potential location of Lorimer Fox Chase Trail

<sup>1</sup> <http://www.phila.gov/CityPlanning/plans/Pages/TrailsMasterPlan.aspx>

## 2. Property Research

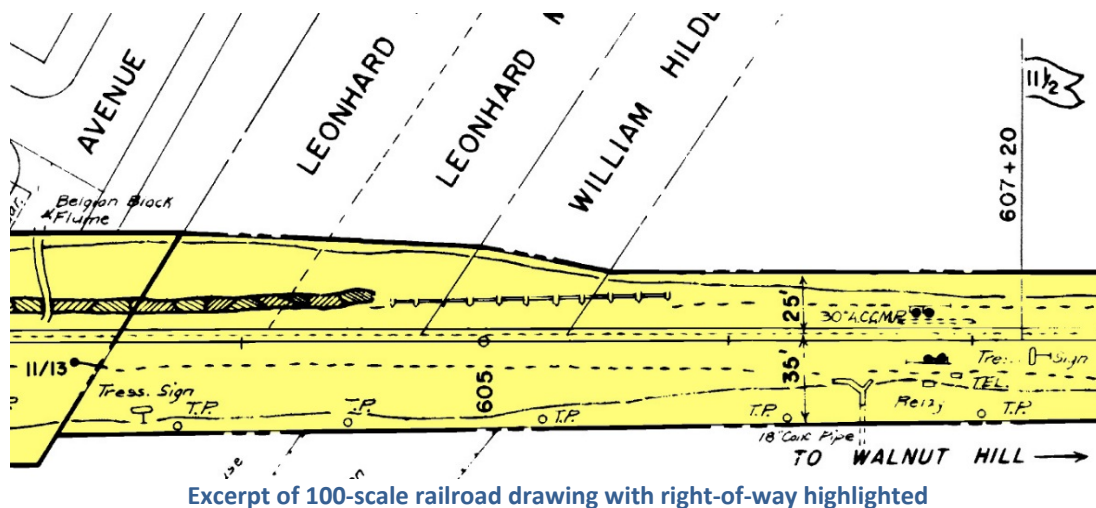
The section of railroad under consideration has, with one minor exception,<sup>2</sup> been out-of-service since passenger service was discontinued in January 1983. Beginning at Rhawn Street in northeast Philadelphia and extending to the Montgomery County line, the right-of-way is 2290 feet in length and averages 60 feet in width, totaling 3.66 acres.

Owner is Southeastern Pennsylvania Transportation Authority. SEPTA acquired the railroad from Consolidated Rail Corporation (CONRAIL) on May 3, 1976. CONRAIL had in turn acquired the railroad from the trustees of Reading Company in a transaction earlier the same day. Although out of service for thirty-plus years, SEPTA has not filed for abandonment.

Because there are no plans to reinstate passenger rail service on this line in the foreseeable future, SEPTA has expressed willingness to lease this section of right-of-way for trail use. In 2008, SEPTA leased an adjoining six miles of this railroad to Montgomery County for trail use. That lease stipulates that SEPTA retains the right to reinstate rail service in the future.

The consultant obtained scans of 1"=50 ft. scale drawings of the railroad corridor detailing the location of rails, adjacent structures, and dimensioned right-of-way lines.<sup>3</sup> As part of this study, these dimensions were referenced to accurately place the railroad property lines in GIS, which were then checked for conformity with parcel data provided by the City.

It is anticipated that the trail will be constructed entirely within the railroad right-of-way. Any trail access points would be located where the railroad abuts City streets. Thus this trail will not require the acquisition of right-of-way from nor negotiation of easements with private property owners.



<sup>2</sup> 500 feet of rail north of Rhawn Street has been used for occasional rail maintenance equipment storage.

<sup>3</sup> Scans of the railroad drawings are included in this report as Appendix D.



### **3. Existing Conditions**

Based on field view, background research and other documentation, this section documents existing conditions in the corridor. For organization purposes, this document will be organized from south to north into the following sections:

- Fox Chase railroad station
- Rhawn Street grade crossing
- Elberon Avenue
- Encroachments
- Pine Road underpass
- Burholme Avenue
- Boundary of City of Philadelphia / Montgomery County (2290 ft. from Rhawn Street)
- 850 feet in Montgomery County linking with existing Pennypack Trail

On May 18, 2015, representatives from the Southeastern Pennsylvania Transportation Authority (SEPTA), Philadelphia City Planning Commission (PCPC), Philadelphia Parks & Recreation (PPR), and consulting team conducted a field view of the rail corridor.

Rails and ties are in place within the City of Philadelphia. From the City / County boundary northward the rails and ties have been removed.

The Rhawn Street grade crossing is double track. The double track extends 450 feet north to a track switch. The remainder of the railroad is single track.

Portions of the line are so heavily vegetated that they cannot be walked. Further north the line is not as thickly overgrown. North of Burholme Avenue a *de facto* footpath is in place between the rails.

Bike lanes on Rockwell Avenue terminate at the intersection of Rhawn Street and Rockwell Avenue (250 feet east of the railroad). Rockwell Avenue connects with the city's 230 mile network of bike lanes.

#### **Fox Chase railroad station**

Fox Chase station serves as the last stop on SEPTA's Fox Chase Line. A SEPTA-owned parking lot holds approximately 12 cars. Adjoining city-owned parking lots hold an additional 313 cars. Seven bike racks are available accommodating a total of 14 bicycles. SEPTA plans to add more bicycle parking, and covered bike parking.

## Rhawn Street grade crossing

The SEPTA Fox Chase regional rail passenger station is located immediately south of the Rhawn Street grade crossing. Because regularly scheduled passenger train service north of Fox Chase has been cancelled since 1983, steel bumpers have been bolted to both sets of rails at a point about ten feet south of the grade crossing.

On occasion, track maintenance-of-way equipment is stored on the dual tracks on the north side of Rhawn Street. At those times one set of steel bumpers is temporarily unbolted and removed in order to allow rail vehicles access to and across the grade crossing.

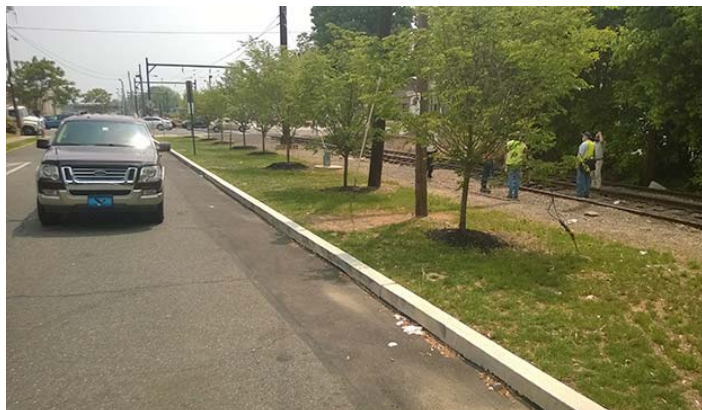
Where the grade crossing intersects the street and sidewalks, rubber blocks have replaced the asphalt and concrete adjacent to and between both sets of rails.

Pedestrian crossing signs warn eastbound and westbound Rhawn Street motorists of pedestrians crossing in this area, but no crosswalk has been painted.



**Aerial photograph showing track maintenance equipment stored on both tracks north of Rhawn Street**

## Elberon Avenue



**Elberon Avenue separated from railroad by recently installed curb and street trees. View looking south toward Rhawn Street**

Immediately north of Rhawn Street, the east edge of the 60 foot wide railroad right-of-way shares a boundary with the 35 foot wide right-of-way of Elberon Avenue. Recently SEPTA removed a de facto gravel parking area within the railroad right-of-way along Elberon Avenue. The area previously used for unauthorized parking has been replaced with street trees and lawn protected by a new concrete curb.



## Encroachments

At a point approximately 200 feet north of Rhawn Street, the 8000 block of Elberon Avenue curves to the right, away from the railroad. Nine residential properties that front on the west side of Elberon Avenue have constructed outbuildings, fences, swimming pools and retaining walls encroaching in the railroad right-of-way. One property, 8024 Elberon Avenue, includes a two-story masonry addition that appears to encroach 8 feet into the railroad right-of-way. A failing cinder block retaining wall encroaches another 10 feet (for a total of 18 feet into the right-of-way).



8026 (l) and 8024 (r) Elberon Avenue. Several properties have encroached into railroad right-of-way. View looking south



Elberon Avenue properties encroach as far as 28 feet into railroad right-of-way. View looking north

8030 Elberon Avenue has erected a chain link fence and placed outbuildings that extend approximately 28 feet into the right-of-way.

A high-resolution aerial photograph showing the encroachments is presented on the following page.



Railroad right-of-way lines superimposed on year-2012 aerial photography reveal significant encroachments



## Pine Road underpass

The railroad passes beneath Pine Road in a deep, half-mile long rock cut. The grade difference between the rails and street level is approximately 22 feet. Slopes are heavily vegetated. There is some evidence of earth having slumped from the walls of the cut, and evidence that weathering has fractured the bedrock in places causing rocks, soil and detritus to roll to the base of the slope.



View from Pine Road bridge down into railroad cut. Exposed bedrock visible at top left; rails at bottom right

At its deepest point (adjacent to Solly Avenue) the base of the cut is approximately 26 feet below grade. Standing water was observed in the debris-obstructed parallel ditch on the east side of the tracks in the cut.

Invasive species, notably kudzu vine (*Pueraria lobate*), are in evidence.



## Burholme Avenue

Burholme Avenue ends as a cul-de-sac along the western right-of-way line of the railroad at a point approximately 900 feet north of the Pine Road underpass. The 8200 block of Burholme is a residential street with very low traffic volume. The railroad is approximately five feet below grade at this point. An earthen footpath connects the cul-de-sac to the rail-bed here; that footpath continues on the unused rail-bed into Montgomery County providing access to the open portion of the Pennypack Trail.

In this area a parallel drainage ditch on the west side of the tracks was observed carrying a significant volume of runoff (this despite moderate drought conditions at the time of the field view).



Several residents of 8200 block of Rockwell Avenue have extended their rear yards into railroad right-of-way. One owner has erected a chain link fence 14 feet into the right-of-way

Directly across the tracks from the Burholme Avenue cul-de-sac, several property owners have extended their rear yards into the railroad right-of-way. One of these, 8234 Rockwell Avenue, has erected a chain-link fence 14 feet into the SEPTA right-of-way. The fence is 16 feet from the rail.

The last property adjoining the railroad in the City of Philadelphia is Fox Chase Park Apartments. Located on the east side of the railroad, the apartments consist of two-and-a-half story brick apartment buildings, the nearest block of which was erected just fifteen feet from the railroad right-of-way line. The height of the railroad is between ten and fifteen feet above the ground level of the apartments; eye level of trail users lines up with the apartment building's upper-story windows.



Kudzu vine, an invasive plant, overtaking rails north of Burholme Avenue





Looking south into City of Philadelphia from the boundary with Montgomery County. Fox Chase Park Apartments are visible behind the trees at left. Green garden hose tied to tree facilitates climbing up and down the steep slope

## Boundary of City of Philadelphia / Montgomery County

The City / County boundary is approximately 350 feet north of the Burholme Avenue cul-de-sac. North of the boundary, in Montgomery County, the rails and ties have been removed. An informal footpath across the city / county line indicates that pedestrians are already utilizing this connection.

## Montgomery County

Montgomery County has completed the Pennypack Trail on SEPTA's former Newtown Branch right-of-way northwards from Rockledge Park in Rockledge Borough (located 850 feet north of the City / County boundary). An unbroken 5.4 mile stretch of Pennypack Trail, from Rockledge north to Byberry Road, is open to the public. Montgomery County expects to initiate design of a further 0.8 mile portion of trail, to County Line Road, later this year.



Short spur trail links Rockledge Park with Pennypack Trail

An additional 8 miles of trail in Bucks County, to the end of the railroad in Newtown, is envisioned. Known as the Newtown Rail Trail within Bucks County, in mid-2016 the county awarded the contract to design the 2 mile long stretch of trail north from County Line Road.



#### 4. Public Involvement

On the evening of Tuesday, November 10, 2015, ninety-three people signed into a public meeting about the proposed Fox Chase Lorimer Trail convened in the auditorium of St. Cecilia's school in Fox Chase.



November 10, 2015 public meeting

Study committee members, with the aid of display boards and a PowerPoint presentation, outlined the scope of the project, reviewed existing conditions, recommended trail alignment alternatives, and set forth an implementation strategy.

Meeting attendees participated by asking questions, placing adhesive dots on display boards and by leaving written comments (see Appendix E).

Of the twelve written comment sheets submitted, one expressed opposition to the trail, several offered solutions to perceived concerns, and five requested that the trail be built immediately e.g. "Sooner the better – great idea. Let's go!"

Philadelphia Magazine published an in-depth article about the meeting, detailing the plan and noting the enthusiasm of the citizens in attendance.<sup>4</sup>

Fox Chase Lorimer Trail Study - User Survey

Instructions: Please place one or more stickers next to your answer(s) for each question:

1. I would use the proposed Fox Chase Lorimer Trail for the following purpose:

- Recreation (many green dots, one red dot)
- Commuting to work or school (one blue dot)
- Doing Errands /Shopping (few green dots)
- All of the above (few green dots)

2. The mode I would use on the proposed trail is primarily:

- Walking (many green dots, one red dot)
- Bicycling (many green dots, one yellow dot)
- Running (few green dots)

Meeting attendees made their preferences known

<sup>4</sup> Angelly Carrión, "Excitement Over Possible Fox Chase Lorimer Trail Grows in Northeast Philly," *Philadelphia Magazine* 12 Nov. 2015: [goo.gl/kbB8Yx](http://goo.gl/kbB8Yx)



## 5. Alternatives Analysis

Based on field view of existing conditions, research into property ownership, meetings with SEPTA and Streets Department, and input from the public, this section describes and analyzes alignment alternatives along the proposed corridor.

This section, like the existing conditions memorandum that precedes it, is organized from south to north. For each area, alternatives are described along with opportunities and drawbacks associated with each.

All recommendations are in accordance with the “Guide for the Development of Bicycle Facilities” 2012-Fourth Edition developed by the American Association of State Highway and Transportation Officials (AASHTO), and with the National Association of City Transportation Officials (NACTO) “Urban Bikeway Design Guide,” Second Edition dated March 2014.

### Overview

This study recommends that the unused rails and ties be removed and an 8 to 12 foot wide crushed stone trail be constructed on the existing railroad ballast between Rhawn Street and the City / County boundary line. Montgomery County officials have stated that their forces would simultaneously construct the link that will close the 850 foot gap between the City / County line and the existing trailhead at Rockledge Park.



View south toward Rhawn Street

The SEPTA Real Estate Department has expressed willingness to enter into a lease agreement with the City of Philadelphia enabling the Fox Chase Lorimer trail to be built, utilizing a legal framework similar to that already in effect between SEPTA and Montgomery County.

### Rhawn Street

The trail be placed within SEPTA railroad right-of-way, beginning on the north side of Rhawn Street (S.R. 1014), across the road from the SEPTA Fox Chase railroad station.

The railroad (and potential trail) crossing of Rhawn Street is located near the T-intersection of Elberon Avenue, a one-way residential street. Elberon Avenue is one-way northbound, so that no traffic exits from Elberon onto Rhawn. Two signalized intersections bracket this block of Rhawn Street: Rockwell Avenue/Jeanes Street 250 feet east, and Oxford Avenue/Pine Road/Huntingdon Pike 500 feet west. Rhawn Street is framed by commercial land uses and, except for space set aside for east- and west-bound Route 28 bus stops, on-street parking is permitted on both sides.

Rather than walk 250 feet to the traffic light, pedestrians cross at this unprotected mid-block location, especially when transferring between Fox Chase Line trains and westbound Route 28 buses. Due to parked cars, sight distance is frequently inadequate. Crash analysis indicates one crash involving a pedestrian at this location for the four year period 2010-2014.

Study committee members met with representatives of Philadelphia Streets Department at two meetings, convened on November 3, 2015 and on February 25, 2016, to discuss how best to convey pedestrians and potential trail users across Rhawn Street.

The provision of pedestrian-activated HAWK signals was considered. Streets Department indicated a preference for the installation of full traffic signals at the new trail crossing, the timing of which would be coordinated with the nearby existing traffic signals at Rockwell Avenue/Jeanes Street and at Oxford Avenue/Pine Road/Huntingdon Pike.



The installation of signage alerting cyclists to the presence of tracks in Rhawn Street should be included in this project. Riding over rails embedded in the street at an oblique angle can result in serious falls. If possible, it would be advantageous if SEPTA were to remove the unused (and unusable) northbound tracks in the street (at right in the photo below).

### **Railroad Maintenance-of-way Storage**

SEPTA will retain 350 feet of track immediately north of Rhawn Street so that maintenance-of-way equipment can be stored there when the need arises. The second parallel track, and the track switch used to access it, would be removed.

**Alternate A** places the trail within the east side of the SEPTA right-of-way, adjacent to Elberon Avenue. For the first 200 feet, the trail would run along the west curb of Elberon Avenue, separated by a grass buffer. At the point where Elberon Avenue curves to the right away from the railroad, the trail alignment would transition left.



**Bumper blocks at Rhawn Street grade crossing**

The trail would then run in close proximity to masonry retaining walls constructed within the railroad right-of-way by adjacent residential property owners. From a point 400 feet north of Rhawn Street, the trail would occupy the center of the vacant track-bay.

**Alternate B** places the trail in the west side of the SEPTA right-of-way, beginning at Rhawn Street at a point approximately 50 feet west of the intersection with Elberon Avenue. After a distance of 350 feet, the track would transition to the right and then occupy the center of the vacant track-bay.



Both alternates specify that a continuous chain link fence will separate tracks from trail. The minimum distance from the centerline of track to fence would be 10 feet.



Alternates A and B

**This study recommends Alternate B as the preferred alignment.** This places the endpoint of the trail adjacent to the mid-block crossing that transit riders utilize when transferring between Fox Chase Line trains and westbound Route 28 buses. Alternate B also avoids placing a trail in proximity to the Elberon Avenue encroachments.



SEPTA requires that 350 feet of the former southbound track (at right in the photo) remain in place. The former northbound track and track switch (in foreground) would be removed. The masonry wall at left was constructed within the railroad right-of-way by an adjacent residential property owner

## **Area of Pine Road underpass**

North of the potential SEPTA maintenance-of-way storage area, the railroad was built as a single-track line. Although heavily overgrown with vegetation in places, it is well suited to conversion to a multi-use trail. Near Pine Road the railroad passes through a quarter mile long deep rock cut.

A visual tree survey by an appropriate professional is recommended to evaluate the condition of any large trees and branches overhanging the trail that may present a safety concern for trail users.

In addition, the condition of the side slopes should be evaluated for any loose rocks or other objects that may present a safety issue.

Development of this trail affords the opportunity to eradicate invasive plant species where they are present within the right-of-way.

Because of the 22 foot grade difference, and the close proximity of the Rhawn Street trailhead, trail access is not needed nor deemed feasible at Pine Road.

Four hundred feet north of Pine Road, the railroad right-of-way meets city street right-of-way at the intersection of Solly Avenue and Hennig Avenue. Both are low traffic volume residential streets. Shared right-of-way boundaries such as this often present opportunities for trail access. However in this case the railroad is 26 feet below street level, so access at this point is infeasible.

Total width in the floor of the rock cut is approximately 16 feet. In order to maintain drainage channels and shoulders on both sides of the trail through the cut, the width of the trail may need to be narrowed to 10 feet for a distance of approximately 600 linear feet.

## **Burholme Avenue**

Nine hundred feet north of Pine Road, the right-of-way of Burholme Avenue shares a boundary with the railroad right-of-way for a distance of 130 feet. At this point a de facto footpath connects the cul-de-sac of residential Burholme Avenue with the unused tracks. From this point northward an earthen footpath is evident between the rails. This informal footpath provides access to the completed 5 miles of Pennypack Trail in Montgomery County. The rail-bed is only about five feet lower than



Cul-de-sac in the 8200 block of Burholme Avenue may be a suitable location for a trail access point

Burholme Avenue at this point. As evidenced by the aerial photography that serves as the basis for the Overview Plan presented as Appendix A, the density of the residential development in the study area is relatively homogenous, with good sidewalk connectivity. Potential trail access



locations are constrained mainly by topography (much of the railroad is in deep cut) and by the scarcity of junctions between the railroad right-of-way and public rights-of-way. Rhawn Street and Burholme Avenue represent the two places where public access is feasible. Both the Rhawn Street and the Burholme Avenue access points are in logical locations to serve trail users.

During the May 2015 field view a parallel drainage ditch on the west side of the track-bed was observed carrying a significant amount of water (this despite moderate drought conditions). Experience on rail-trail projects has shown that when existing drainage ditches, pipes and culverts are located and cleaned so that they are free of decades of accumulated debris, drainage situations such as this one are ameliorated. Other options to deal with potential drainage concerns include elevating the trail approximately 12 inches with clean stone to allow drainage to pass beneath the trail, the addition of a continuous stone infiltration trench along the trail in cut sections, or the addition of a 4"-6" under-drain pipe parallel to the trail in cut sections to collect runoff and outlet it at the end of the cut area.

Several residents of the 8200 block of Rockwell Avenue have extended their rear yards into the railroad right-of-way. 8234 Rockwell Avenue has placed a chain-link fence 14 feet into the right-of-way (not affecting the track-bed / trail location). Just north of here, the Fox Chase Park Apartments complex includes a two and a half story apartment building standing just fifteen feet from the right-of-way line, with windows at eye level with potential trail users. Depending on the concerns of residents of these properties, parallel fencing and or landscape screening may need to be integrated into the design. Fencing may range from simple split-rail fence intended to discourage trespassing, to full-height stockade fence intended as a visual screen.

The provision of a small (10 foot x 20 foot) gravel area opposite the Burholme Avenue spur trail will allow maintenance and patrol vehicles to turn around, or to utilize the trail spur if need arises.

The final section of trail in the City of Philadelphia will be located on a large fill embankment with a steep side slope on the east side. Where the top of the steep slope is less than 5' from the edge of the trail, the use of wood fencing (42" minimum height) or continuous dense landscaping is recommended by the AASHTO Bike Guide to enhance safety of trail users.

### **Boundary of City of Philadelphia / Montgomery County**



Current end of Pennypack Trail 850 feet north of City / County boundary

Beyond the city limits in Montgomery County, rails and ties have already been removed, and an informal footpath is in use. This footpath is located on 850 linear feet of vacant rail-bed connecting to the current terminus of the Pennypack Trail, adjacent to Rockledge Park in Rockledge Borough. From that point northward, 5.4 miles of completed shared-use trail extends to the Byberry Road trailhead in Lower Moreland Township.

Montgomery County officials have indicated their intention to complete the 850 foot gap in the trail when the portion within the City is constructed so that both can open concurrently.

## **6. Implementation Plan**

This proposed rail to trail conversion is a fairly straight forward effort that does not require any right-of-way acquisition or major design effort. Assuming that the lease agreement can be completed between the City of Philadelphia and SEPTA, the design and construction of this project can be completed in a 1 to 3 year time frame.

The City will need to work with SEPTA to obtain authorization for this rail-to-trail conversion from the Pennsylvania Public Utility Commission.

Steps forward are summarized in the following table:

Public Outreach / Meetings*	Fall 2015
Lease Agreement w SEPTA	Spring 2016
Grant Writing	2016
Track Removal Contract	2017
Design	2017
Construction	2018

\*Public meeting was convened on November 10, 2015 at St. Cecilia's School adjacent to the proposed trailhead on Rhawn Street

In April 2016 the City of Philadelphia applied to Delaware Valley Regional Planning Commission for CMAQ funding (see below) for Lorimer Fox Chase Trail. A determination is expected later in 2016.

### **a. Funding Options**

Finding the funding for the design and construction of these types of projects can be a challenge. The following is a list of potential funding sources for this project:

#### Congestion Mitigation and Air Quality (CMAQ) Improvement Program

Delaware Valley Regional Planning Commission's CMAQ program seeks to fund transportation projects that will improve air quality and reduce traffic congestion in the DVRPC Region. CMAQ eligible projects will demonstrably reduce air pollution emissions and will help the DVRPC region meet the federal health based air quality standards.



Examples of eligible CMAQ projects include pedestrian and bicycle projects, transit improvement programs, congestion reduction and traffic flow improvements, diesel retrofit projects, and funding of transportation demand management programs, among others.

<http://www.dvrpc.org/CMAQ/>

#### DVRPC Southeastern Pennsylvania TIP funding for Circuit Trails

Beginning in 2015, Delaware Valley Regional Planning Commission has included a specific line item in the TIP (Transportation Improvement Program) dedicated to implementation of pedestrian and bicycle infrastructure, including trails specifically within the Circuit Trails network. The TIP is the regionally agreed-upon list of priority transportation projects, as required by federal law. The TIP document must list all projects that intend to use federal funds, along with all non-federally funded projects that are regionally significant.

<http://www.dvrpc.org/TIP/>

#### Pennsylvania Transportation Alternatives Program (TAP)

There will be solicitation for TAP funding for the DVRPC Pennsylvania counties (Bucks, Chester, Delaware, Montgomery and Philadelphia) for bicycle and pedestrian facilities, conversion of abandoned railway corridors to trails, and stormwater management projects in 2016. Local governments, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts, local education agencies, schools, and tribal governments are eligible to apply for the competitive TAP funds.

<http://www.dvrpc.org/TAP/>

#### Robert Wood Johnson Foundation

The mission of the Robert Wood Johnson Foundation is to improve the health and health care of all Americans. Our goal is clear: To help our society transform itself for the better.

<http://www.rwjf.org/en/grants.html>

### National Parks Service – Trails Assistance Program

The Rivers, Trails, and Conservation Assistance Program is the community assistance arm of the National Park Service. RTCA supports community-led natural resource conservation and outdoor recreation projects. RTCA staff provides technical assistance to communities so they can conserve rivers, preserve open space, and develop trails and greenways.

<http://www.nps.gov/ncrc/programs/rtca/>

### PA Department of Conservation and Natural Resources – Keystone Grant Program and Recreational Trails Program

Established on July 1, 1995, the Pennsylvania Department of Conservation and Natural Resources is charged with maintaining and preserving the 117 state parks; managing the 2.1 million acres of state forest land; providing information on the state's ecological and geologic resources; and establishing community conservation partnerships with grants and technical assistance to benefit rivers, trails, greenways, local parks and recreation, regional heritage parks, open space and natural areas.

Local governments, county governments and non-profit organizations can apply for Community Conservation Partnerships Program (C2P2) funding to assist them with addressing their recreation and conservation needs as well as supporting economically beneficial recreational tourism initiatives.

<http://www.dcnr.state.pa.us/applyforgrants/index.htm>

Contact:

Southeast Regional Office: (Region 1)

Drew Gilchrist.....215-560-1183.....[agilchrist@pa.gov](mailto:agilchrist@pa.gov)

### DCED Act 13 Grants: Greenways, Trails and Recreation Program (GTRP)

Act 13 of 2012 establishes the Marcellus Legacy Fund and allocates funds to the Commonwealth Financing Authority (the “Authority”) for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects using the Greenways, Trails and Recreation Program (GTRP).



<http://www.newpa.com/find-and-apply-for-funding/funding-and-program-finder/greenways-trails-and-recreation-program-gtrp>

In addition to those listed above, the following local funding sources may also be available:

- Philadelphia Parks and Recreation funds
- William Penn Foundation
- DVRPC Regional Trails Program

Fox Chase Lorimer Trail Feasibility Study

**Appendix A**

Overview Plan



# OVERVIEW PLAN FOX CHASE LORIMER TRAIL PHILADELPHIA, PA

**JUNE 2016**

prepared by

## Michael Baker

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## BURHOLME AVENUE TRAIL ACCESS POINT

**850 FT. LINK TO —  
PENNYPACK TRAIL  
(BY MONTGOMERY COUNTY)**

**26 FT. GRADE DIFFERENCE  
BETWEEN STREET AND  
RAILROAD GRADE**

**350 FT. OF TRACK TO BE RETAINED  
FOR SEPTA MAINTENANCE-OF-WAY  
STORAGE**

## TRACK BUMPERS

**FOX CHASE TRAIN STATION**

## ENCROACHMENTS

**ALTERNATE B**  
**8' WIDE PATH**

**ALTERNATE A  
8' WIDE SIDE PATH  
ALONG ELBERON AVE.**

## EXISTING SIGNALIZED INTERSECTION

## EXISTING BIKE LANES

## PINE ROAD UNDERPASS (RAILROAD IN 22 FT. DEEP CUT)

**FOX CHASE  
PARK APTS.**

## — ENCROACHMENT

## LEGEND



**PROPOSED 8' TO 12' SHARED USE PATH**



**PROPERTY LINES  
(PER CITY GIS DATA)**

 **RIGHT-OF-WAY LINES  
(PER RAILROAD MAPS)**

 **MUNICIPAL BOUNDARY**

0                      200 ft.



# Fox Chase Lorimer Trail Feasibility Study

## **Appendix B**

### Preliminary Cost Estimate



Trail Feature	Item Number	Description	Length (ft)	Width (ft)	Quantity	Unit	Cost/Unit	Total Cost
Rhawn Street (north side) to Montgomery County Line								
12' Crushed Stone Shared Use Path	0703-0021	AASHTO No. 10 (2" depth)	2222	12	173	CY	\$76	\$ 13,148
	0703-0024	Subbase 6" Depth (No. 2A)	2222	12	494	CY	\$62	\$ 30,614
		Excavation	2222	12	494	CY	\$50	\$ 24,689
Burholme Avenue access	0676-0001	Cement Concrete Sidewalk			17	SY	\$100	\$ 1,700
	0695-0001	Detectable Warning Surface			24	SF	\$80	\$ 1,920
	9000-5001	Design of Concrete Curb Ramp			1	LS	\$725	\$ 725
	9630-0011	Conc Curb; Remove Curb; Restore Pavt			20	LF	\$125	\$ 2,500
Cleaning Existing Ditches	0204-0010	Where not replaced with infiltration trench			2295	LF	\$8	\$ 18,360
Class 4 Excavation	0204-0150	Infiltration Trench			123	CY	\$68	\$ 8,364
No. 57 Coarse Aggregate	0703-0025	for Infiltration Trench			281	CY	\$52	\$ 14,612
6" PE Udrain, Perforated	0610-7002	for Infiltration Trench			1660	LF	\$12	\$ 19,920
Geotextile Class 1	0212-0001	for Infiltration Trench			1660	LF	\$10	\$ 16,600
Signing	0931-0111	Post-mounted signs, type B			500	SF	\$36	\$ 17,780
Fencing		assume 2000 LF			2000	LF	\$25	\$ 50,000
Tree Clearing					3	Ac	\$12,000	\$ 36,000
Railroad Tie removal					1	LS	\$100,000	\$ 100,000
Curb cuts and sidewalk restoration	0676-0001	Cement Concrete Sidewalk			300	SY	\$100	\$ 30,000
	0695-0001	Detectable Warning Surface			70	SF	\$80	\$ 5,600
	9000-5001	Design of Concrete Curb Ramp			7	LS	\$1,000	\$ 7,000
	9630-0011	Conc Curb; Remove Curb; Restore Pavt			200	LF	\$125	\$ 25,000
Rhawn Street New Traffic Signal		one mast arm, two ground mounted poles, new controller, etc			1	LS	\$100,000	\$ 100,000
Rhawn Street: Signing and Pavement Marking					1	LS	\$15,000	\$ 15,000
							Subtotal	\$ 539,532
Field survey (5%)					1	LS		\$ 26,977
Landscaping (5%)					1	LS		\$ 26,977
E&S Controls (5%)					1	LS		\$ 26,977
Mobilization (5%)					1	LS		\$ 26,977
Contingency (20%)					1	LS		\$ 107,906
							Construction Total	\$ 755,345
Design (18%)					1	LS		\$ 135,962
Construction Inspection (10%)					1	LS		\$ 113,302
							Total	\$ 1,004,609

# Fox Chase Lorimer Trail Feasibility Study

## **Appendix C**

### Conceptual Plans

Appendix C is provided as a separate pdf due to its large size (38 Mb).



# Fox Chase Lorimer Trail Feasibility Study

## **Appendix D**

### Railroad Maps

D 0046 311  
D-0036-217

D 0046 312  
D-0036-218

D 0046 313  
D-0036-219

# PHILADELPHIA NEWTOWN AND NEW YORK RAILROAD

Document RDG CRC SEPTA RPO 3  
Tentative of Reading Co. to Conrail dated  
May 3, 1976 AND  
Conrail to SEPTA  
dated May 3, 1976

56TH WARD, CITY OF PHILADELPHIA, PA.  
63RD

11 1/4

Exhibit "A" Pages 1  
A, E, and "B" Pages

JOHN B. MATHERS  
COAL & FUEL CO.

CITY OF PHILADELPHIA  
PARKING FACILITY

FOX CHASE

MACADAM PLATFORM PHILADELPHIA

NEWTOWN

NEW YORK RAILROAD

READING COMPANY

ELBERON AVENUE

ROCKWELL AVENUE

AVENUE

ERNEST H. HEYDT

ALERT STORAGE  
&  
MOVING CO.

ADVT. 3637

Driveway L-5387

ADVT. 3740

R HAWN STREET

"D" STREET

1	Portion of Siding Removed	10-1-75	J.M.J.	Field	
2	Proposed Conduit Below Tracks	6-11-71	C.W.C.	Field	12-17-74
3	Map checked within RW	5-15-67	J.S.C.	Field	
4	TRACING REVISED	12-2-66	E.F.M.	Field	
5	SIDE TRACK REMOVED	7-15-66	W.L.	Field	6-20-66
6	RELOCATED NO RIGHT TURN SIGNAL, PARKING LOT & SHELTER ADDED	3-1-65	F.A.W.	Field	5-27-65
7	INLETS & DRAIN PIPES ADDED	4-14-64	L.C.T.	Field	
8	24" TC PIPE ADDED STA. 577+40 TO STA. 582+70	10-18-63	F.A.W.	Field	
9	MAP CHECKED 580 TO 585	1-10-63	L.C.T.	Field	
10	MAP CHECKED WITH IN. RW	6-8-62	L.C.T.	Field	
11	Freight House Removed, Fence Added	11-13-59	RAW.	Field	
12	Crossing Protection at Rhawn St. Modernized	2-11-58	R.W.W.	Field	11-6-57
13	Bell Telephone Co. Conduits in Rhawn St. Added	1-21-57	R.W.W.	Field	1-2-57
14	BUILDING NO 815 REMOVED	7-14-53	P.M.	Field	6-1-53
15	REVISION OF TRACING	DATE	REVISED BY	DATE	
16	BUILDING NO 816 REMOVED	6-4-63	P.M.	Field	5-31-63
17	Property Sold to City of Phila	7-29-63	R.C.B.	Field	5-23-63
18	Tracing Revised & Catenaries Added	8-15-66	E.F.M.	Field	

D 0046 316  
D-0036-222

D-0036-220  
D 0046 314

D-0036-221  
D 0046 315

D 0046 316  
D-0036-222



63rd WARD, CITY OF PHILADELPHIA, PA.

 $(11\frac{1}{2})$ 

**NORTH**  
Scale 1" = 50'

Substructure - Concrete Abutments  
44'-9" Face to Face of Abutments  
23'-6" Normal to Track

Superstructure - Prestressed Concrete  
Clearance 20'-8 1/2"

JOHN HENNINGS

RICHARD Y. FILBERT

RICHARD S. WILSON ESTATE

ROCKWELL AVE

<input type="radio"/>					
<input type="radio"/>					
<input type="radio"/>					
<b>No.</b>	<b>Revision of Tracing</b>	<b>Date</b>	<b>Rev. by</b>	<b>Note Book</b>	<b>Date Chan</b>

Retraced, February 1975

~~0048 322~~  
~~0036-728~~

NOT FIELD CHECKED



D 0046 323  
D 0036 229

D 0046 324  
D 0036 230

D 0046 325  
D 0036 231

113  
14

63RD

PHILA. NEWTOWN AND NEW YORK RAILROAD

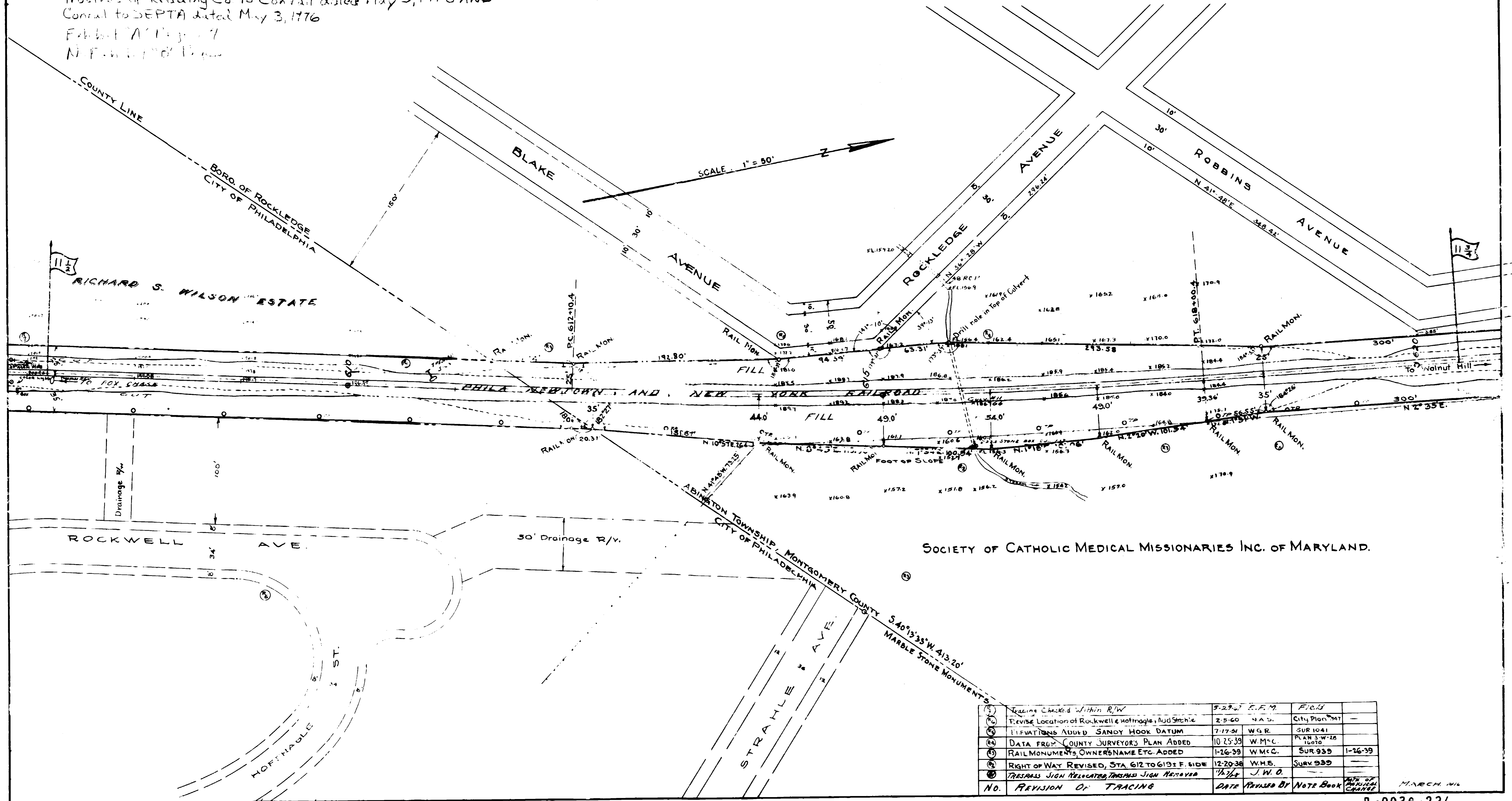
Document RDG-CRC-SEPTA-RPO-3

Trustees of Reading Co to Conrail dated May 3, 1976 AND  
Conrail to SEPTA dated May 3, 1976

Exhibit A Page 17

N.T.F.W. 1976 Page

56TH WARD, CITY OF PHILADELPHIA  
BORO. OF ROCKLEDGE AND ABINGTON TWP.  
MONTGOMERY COUNTY, PA.



1	Tracing Checked Within R/W	5-29-67	E.F.M.	Field	
2	Revise Location of Rockwell & Hoffnagle, and Strahle	2-5-60	N.A.S.	City Plan 347	
3	ELEVATIONS ADDED SANDY HOOK DATUM	7-17-51	W.G.R.	SUR 1041	
4	DATA FROM COUNTY SURVEYOR'S PLAN ADDED	10-25-39	W.M.C.	PLAN 3-W-28 16070	
5	RAIL MONUMENTS, OWNERS NAME ETC. ADDED	1-26-39	W.M.C.	SUR 939	1-26-39
6	RIGHT OF WAY REVISED, STA 612 TO 619 ± E. SIDE	12-20-38	W.H.S.	SURV 939	
7	TRAIL SIGN RELOCATED, TRAIL SIGN REMOVED	1/6/64	J.W.O.		
NO.	REVISION OF TRACING	DATE	REVISED BY	NOTE BOOK	NO. OF ORIGINAL CHANGE

D 0036 232  
D 0046 326

D 0036 233  
D 0046 327

D 0036 234  
D 0046 328

MARCH 1968

# Fox Chase Lorimer Trail Feasibility Study

## **Appendix E**

### Public Comments

# Fox Chase Lorimer Trail Feasibility Study

Public Meeting  
November 10, 2015

## COMMENT FORM

Dear Community Member:

Thank you for attending tonight's meeting on the proposed Fox Chase Lorimer Trail. We are interested in your comments on the trail proposal presented tonight. Staff members are available to record your opinions, and you may also complete this comment form to provide feedback.

### Comments:

Kids like to hangout under the bridge at Pine rd since it has not been maintained the over growth has prevented kids from going down the tracks & hanging under the bridge when clear this will be a hangout lighting & Police Patrol will be the only deterrent way to stop this from happening also fencing or privet shrubs would be nice to stop them from hopping over my fence

Name: Vince marzulli

Address: @ 8030 Elberon Ave

Phone/Email: BRUIDY @ aol.com

Please return completed forms to the staff tonight, or mail/fax completed form to either:

#### David Kanthor

Transportation Planner  
Philadelphia City Planning Commission  
One Parkway Building  
1515 Arch Street, 13<sup>th</sup> Floor  
Philadelphia, PA 19102  
tel: (215) 683-4643  
e-mail: [David.Kanthor@Phila.gov](mailto:David.Kanthor@Phila.gov)

#### Rob Armstrong

Preservation and Development Specialist  
Philadelphia Parks and Recreation  
One Parkway Building  
1515 Arch Street, 10<sup>th</sup> Floor  
Philadelphia, PA 19102  
tel: (215) 683-0229  
fax: (215) 683-0205  
e-mail: [rob.armstrong@phila.gov](mailto:rob.armstrong@phila.gov)

Thank you for completing this comment form and for your interest in the project!



# Fox Chase Lorimer Trail Feasibility Study

Public Meeting  
November 10, 2015

## COMMENT FORM

Dear Community Member:

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### Comments:

- TRAIL MATERIAL - MATCH TRAIL surface in Mont. Co.
- GATEWAY Landscape plan needed
- Add Bike share station
- MAKE Landscape improvements & large parking lot Behind Oxford Ave shops - Add TREES

Name: PETER KURTZ  
Address: 503 Haddonfield St Phila PA 19111  
Phone/Email: Peter.Kurtz@Phila.Gov

Please return completed forms to the staff tonight, or mail/fax completed form to either:

**David Kanthor**  
Transportation Planner  
Philadelphia City Planning Commission  
One Parkway Building  
1515 Arch Street, 13<sup>th</sup> Floor  
Philadelphia, PA 19102  
tel: (215) 683-4643  
e-mail: [David.Kanthor@Phila.gov](mailto:David.Kanthor@Phila.gov)

**Rob Armstrong**  
Preservation and Development Specialist  
Philadelphia Parks and Recreation  
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fax: (215) 683-0205  
e-mail: [rob.armstrong@phila.gov](mailto:rob.armstrong@phila.gov)

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# Fox Chase Lorimer Trail Feasibility Study

Public Meeting  
November 10, 2015

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### Comments:

*Emulate as closely as possible the material and natural trail side vegetation as done so well in Lorimer Park and beyond to Byberry Rd. Do not cut by the project. Make definite provisions and plans for future maintenance and litter cleanup.*

Name: Alex McGovern  
Address: 1125 Fawcett St. Phila  
Phone/Email: 215-745-9088

Please return completed forms to the staff tonight, or mail/fax completed form to either:

#### David Kanthor

Transportation Planner  
Philadelphia City Planning Commission  
One Parkway Building  
1515 Arch Street, 13<sup>th</sup> Floor  
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e-mail: [David.Kanthor@Phila.gov](mailto:David.Kanthor@Phila.gov)

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Public Meeting  
November 10, 2015

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### Comments:

Pedestrian Crossing &  
increased foot traffic  
mid-street on Rham

Name: George Bezanis (Fox Chase Homeowners Association)  
Address: 8514 Alicia St.  
Phone/Email: gbezanis@gmail.com

Please return completed forms to the staff tonight, or mail/fax completed form to either:

#### David Kanthor

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Philadelphia City Planning Commission  
One Parkway Building  
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### Comments:

Traffic control @ Rhawn (Fox Chase Sta) for pedestrian safety. No parking zone same area. Autos are now parking across train crossing.

Name: Charles Tucker

Address: 937 Aston St 19111

Phone/Email: 215 742 4351 tucker245@gmail.com

Please return completed forms to the staff tonight, or mail/fax completed form to either:

#### David Kanthor

Transportation Planner  
Philadelphia City Planning Commission  
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# Fox Chase Lorimer Trail Feasibility Study

Public Meeting  
November 10, 2015

## COMMENT FORM

Dear Community Member:

Thank you for attending tonight's meeting on the proposed Fox Chase Lorimer Trail. We are interested in your comments on the trail proposal presented tonight. Staff members are available to record your opinions, and you may also complete this comment form to provide feedback.

### Comments:

Please complete ASAP! Thank you

Name: Loretta Hulmes

Address: 1110 Solly Ave

Phone/Email: 215-728-6095 lhulmes@gmail.com

Please return completed forms to the staff tonight, or mail/fax completed form to either:

#### David Kanthor

Transportation Planner  
Philadelphia City Planning Commission  
One Parkway Building  
1515 Arch Street, 13<sup>th</sup> Floor  
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Public Meeting  
November 10, 2015

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### Comments:

- bike rentals option @ Fox Chase Station
- crossing Rhawn: what about a crossing light to be used "as needed"
- signage, including mileage to key cross key distances; i.e. Wolsen Rd, Byberry etc

Name: Linde Lauff

Address: 956 Sherman Ave HV 12006

Phone/Email: 215 663-8686

linlauff@gmail.com

Please return completed forms to the staff tonight, or mail/fax completed form to either:

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Philadelphia City Planning Commission  
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November 10, 2015

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Comments:

Do it faster!  
Greener idea

Name: Dawn Schmidt  
Address: 315 Solly Ave  
Phone/Email: Spicelaw50@aol.com

Please return completed forms to the staff tonight, or mail/fax completed form to either:

**David Kanthor**

Transportation Planner  
Philadelphia City Planning Commission  
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Comments:

We need this trail now!  
This is very important to our  
community. Move forward now!  
Incorporate gardens in the design.

Name: Steven Kramer  
Address: 1022 Loney Street  
Phone/Email: skramer@phila.sd.org

Please return completed forms to the staff tonight, or mail/fax completed form to either:

**David Kanthor**

Transportation Planner  
Philadelphia City Planning Commission  
One Parkway Building  
1515 Arch Street, 13<sup>th</sup> Floor  
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# Fox Chase Lorimer Trail Feasibility Study

Public Meeting  
November 10, 2015

## COMMENT FORM

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### Comments:

Scam The Bitter - Great Idea. Lets Go!

Name: Robert Nimm

Address: 315 Solly Ave

Phone/Email: 215-725-6387

Robert Nimm @ SOLCO

Please return completed forms to the staff tonight, or mail/fax completed form to either:

#### David Kanthor

Transportation Planner  
Philadelphia City Planning Commission  
One Parkway Building  
1515 Arch Street, 13<sup>th</sup> Floor  
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# Fox Chase Lorimer Trail Feasibility Study

Public Meeting  
November 10, 2015

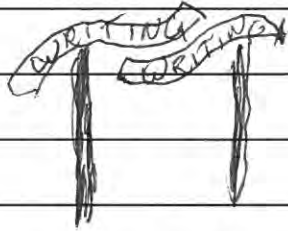
## COMMENT FORM

Dear Community Member:

Thank you for attending tonight's meeting on the proposed Fox Chase Lorimer Trail. We are interested in your comments on the trail proposal presented tonight. Staff members are available to record your opinions, and you may also complete this comment form to provide feedback.

### Comments:

Suggest a really eye-catching sign  
at start of Rhawn Street section.



I really support  
this rail-to-trail project.

Name: Kate Catalano Milley

Address: 8119 Elberon Ave

Phone/Email: 215-744-1107

Please return completed forms to the staff tonight, or mail/fax completed form to either:

#### David Kanthor

Transportation Planner  
Philadelphia City Planning Commission  
One Parkway Building  
1515 Arch Street, 13<sup>th</sup> Floor  
Philadelphia, PA 19102  
tel: (215) 683-4643  
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### Comments:

*Its nice as it would be to have a nice trail, I don't imagine it being used only by walkers, etc. Crime would be easier to occur after checking out the houses. I know my home was burgled last year & there was no clear trail. I am totally against the City spending money on the trail as opposed to other things, like sidewalks, parking, etc.*  
*see back*

Name: MARIA SHANDRUK

Address: 824 Rockwell Ave

Phone/Email: 215-864-7101 - shandruckm@whiteandwilliams.com

Please return completed forms to the staff tonight, or mail/fax completed form to either:

#### David Kanthor

Transportation Planner  
Philadelphia City Planning Commission  
One Parkway Building  
1515 Arch Street, 13<sup>th</sup> Floor  
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fax: (215) 683-0205  
e-mail: [rob.armstrong@phila.gov](mailto:rob.armstrong@phila.gov)

Thank you for completing this comment form and for your interest in the project!

- If the trail is to be 10-12 wide, it would be w/i 5 ft of my property. Will my property be damaged? trees, shrubs.
- Police to be present on a constant basis.
- How will you prevent ATV's on the trail?
- Will the creek be drained?
- will the hills be shored up to prevent ~~erosion~~ erosion?







# Feasibility Study for the Parkside Cynwyd Trail in the City of Philadelphia

June 2016

prepared by

**Michael Baker**  
INTERNATIONAL

submitted to

PHILADELPHIA  
**PARKS &  
RECREATION**



**Feasibility Study  
for the Parkside Cynwyd Trail  
in the City of Philadelphia**

**June 2016**

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## Background

The City of Philadelphia applied for and received Transportation and Community Development Initiative (TCDI) funding from Delaware Valley Regional Planning Commission to investigate the feasibility of developing shared-use paths on three rail corridors in the City. Included in the year 2013 Philadelphia Trail Master Plan,<sup>1</sup> the three potential trails are:

- Fox Chase Lorimer Trail (northeast Philadelphia)
- Parkside Cynwyd Trail (west Philadelphia)
- Bartram's Fort Mifflin Trail (southwest Philadelphia)

This chapter of the document focuses on the Parkside Cynwyd Trail.

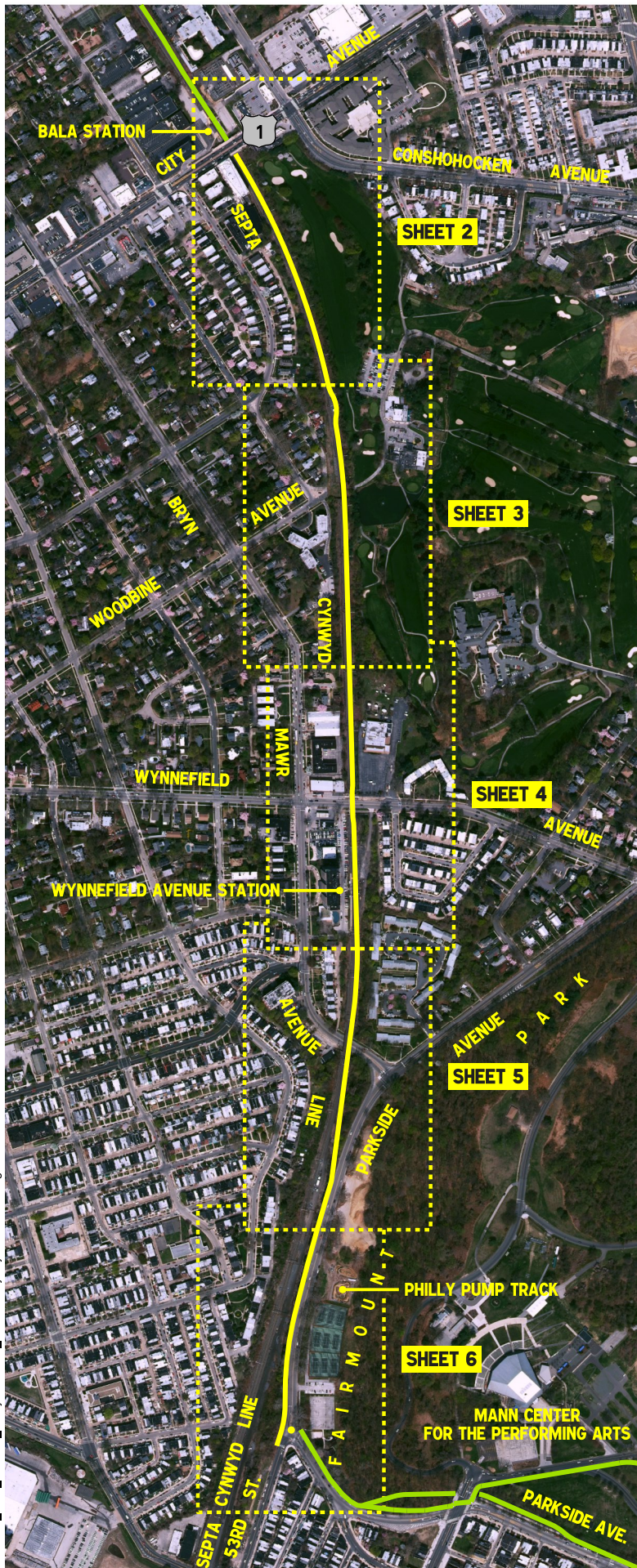
Parkside Cynwyd Trail is envisioned as a rail-with-trail built alongside a 1- ¼ mile long section of SEPTA railroad in West Philadelphia. This trail would serve as a link between Fairmount Park's extensive shared-use path network, and the existing 2 mile-long Cynwyd Heritage Trail in Montgomery County.



**Excerpt from Philadelphia Trail Master Plan  
indicating potential location of Parkside Cynwyd Trail**

<sup>1</sup> <http://www.phila.gov/CityPlanning/plans/Pages/TrailsMasterPlan.aspx>



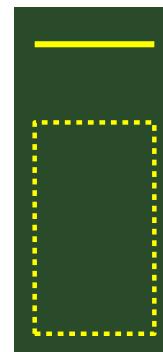


# PARKSIDE CYNWYD TRAIL

## FEASIBILITY STUDY

### KEY MAP

#### LEGEND:



POTENTIAL  
SHARED-USE PATH  
ALIGNMENT

#### SHEET 2

OUTLINES OF  
DETAILED  
CONCEPTUAL PLANS  
PROVIDED IN  
THE APPENDIX



0 500 1000  
Scale in feet

June 2016

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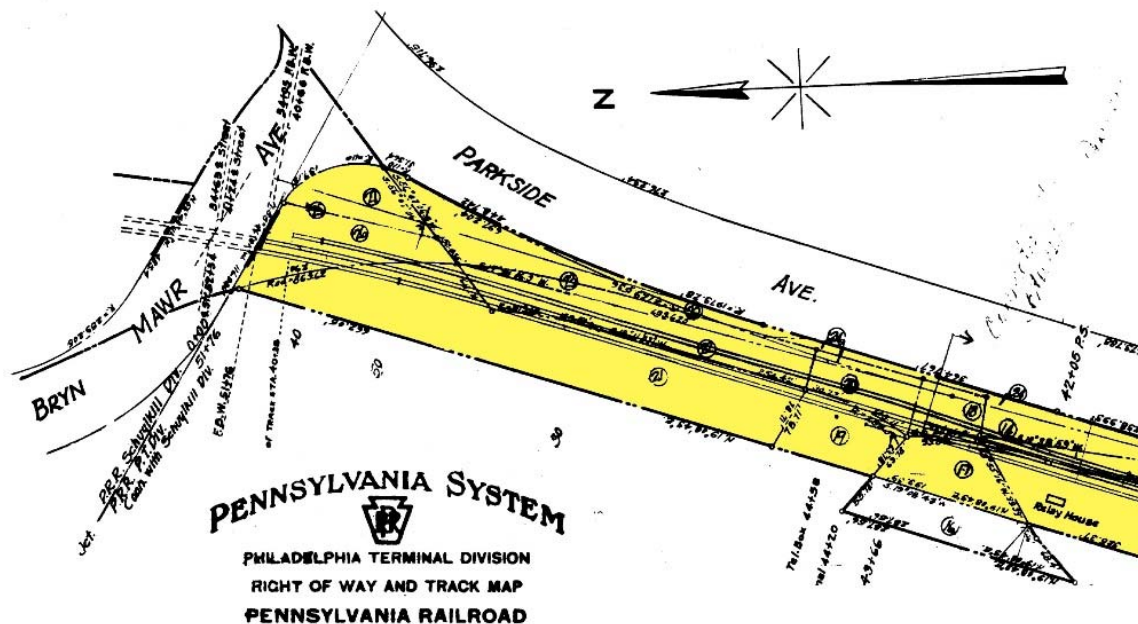
## Property Research

The Parkside Cynwyd Trail would be placed on railroad right-of-way owned by Southeastern Pennsylvania Transportation Authority, and on street right-of-way owned by the City of Philadelphia.

The section of SEPTA railroad under consideration is a portion of the former Pennsylvania Railroad Schuylkill Valley Division. Known as SEPTA's Cynwyd Line, this study begins at City Avenue on the boundary with Montgomery County and extends approximately one mile to a point south of Bryn Mawr Avenue. At that point, one of two alternate alignments will transition the trail off the railroad right-of-way and onto the west side of Parkside Avenue, where the trail will continue as a side path to the intersection of 53<sup>rd</sup> Street and Parkside Avenue. Parkside Avenue is a city street.

SEPTA made available a series of 1"=100 ft. scale drawings of the railroad corridor, detailing the location of rails, adjacent structures, and dimensioned right-of-way lines.<sup>2</sup> As part of this study, these dimensions were referenced to accurately place the railroad property lines in GIS, which were then checked for conformity with parcel data provided by the City.

It is anticipated that the trail will be constructed entirely within the railroad right-of-way and within City street rights-of-way. Trail access points would be located where railroad property



Excerpt of 100-scale railroad drawing with right-of-way highlighted

<sup>2</sup> Scans of the railroad drawings are included in this report as Appendix E.



abuts City streets. Thus this trail will not require the acquisition of right-of-way from nor negotiation of easements with private property owners.

### **Existing Conditions**

Based on field views, background research and other documentation, this section describes existing conditions in the study corridor. For organization purposes, this document will be organized from north to south, beginning at City Avenue and ending at the intersection of 53<sup>rd</sup> Street and Parkside Avenue.

From 53<sup>rd</sup> & Parkside, an existing shared-use side path connects with Fairmount Park's extensive trail network. The 53<sup>rd</sup> & Parkside intersection is adjacent to Philly Pumptrack (public BMX bicycle facility) and is a quarter mile from the Mann Center for the Performing Arts by way of existing shared-use paths.

This rail-with-trail facility, located within the City of Philadelphia, is envisioned as a continuation of a proposed rail-with-trail in adjacent Lower Merion Township, Montgomery County. That proposed trail, one-half mile (2500 feet) in length, would in turn represent an extension of the existing Cynwyd Heritage Trail.

The distance from City Avenue to 53<sup>rd</sup> & Parkside is 1- $\frac{1}{4}$  miles (approximately 6600 feet). So that points within the corridor may be readily referenced, this study establishes a baseline beginning at City Avenue and extending south from there. The baseline is located on the centerline of the existing Cynwyd Line tracks (please refer to plan sheets included as Appendix D).

### **Overview**

The Schuylkill Valley Division of Pennsylvania Railroad was constructed from Philadelphia to Pottsville, PA in the 1880s. Within the study area the railroad was built as a double-track line, although portions of the railroad were constructed with three tracks.

In 1930 Pennsylvania Railroad completed electrification of the railroad between Philadelphia and Haws Avenue, Norristown. Overhead wires were strung between steel I-beam supports installed at 300 foot intervals on both sides of the track (less than 300 feet where the railroad curves). High tension electric transmission wires occupy the highest positions on the support structures; these are maintained by Exelon/PECO and by Amtrak.



**Penn Central passenger train serving the former Pennsylvania Railroad Schuylkill Valley Division in 1976**

In 1960 electric train service was cut back from Norristown to Manayunk. In 1968 Pennsylvania Railroad merged with New York Central Railroad, forming the Penn Central Transportation Company, which filed for bankruptcy two years later. In 1976 the quasi-governmental agency

Conrail was formed to take over operations of Penn Central and other northeastern railroads. Subsequently Southeastern Pennsylvania Transportation Authority assumed ownership of the railroad from its beginning point in West Philadelphia to Ivy Ridge/Manayunk.

In 1982 SEPTA took one set of tracks out of service, thereafter running both inbound and outbound passenger trains on what was the inbound track. In 1986 SEPTA cut back rail service from Ivy Ridge/Manayunk to Cynwyd. This left just three stations on the line: Cynwyd and Bala in Lower Merion, and Wynnefield Avenue in Philadelphia. The frequency of train service was reduced to less than a dozen round trips a day.

In 1988, SEPTA discontinued train service on the Cynwyd Line. However, service was restored after four months in response to community and political pressure. When ridership dropped to a daily total of 248 in 1995, SEPTA again proposed elimination of service on the line.

In 2014, an average of 722 passengers utilized the Cynwyd Line daily.<sup>3</sup> This is by far the lowest passenger count of any regional rail line. By way of comparison, the next lightest-patronized regional rail line carries on average 5,420 passengers each day (Chestnut Hill West) and the most heavily patronized line carries 22,359 (Paoli Thorndale).<sup>4</sup>

Service is often provided by a single rail car rather than by two or more cars coupled together as a train. Cynwyd Line service is not through-routed through the Center City tunnel, instead terminating at Suburban Station. No service is provided on Saturdays, Sundays or holidays.

The Cynwyd Line's outbound track-bay is vacant, with rails and ties removed. The stone ballast remains in place.



Cynwyd Line train approaching Wynnefield Avenue Station. Vacant track-bay at right

<sup>3</sup> SEPTA Route Statistics 2015, SEPTA Service Planning Department

<sup>4</sup> Ibid.

**Sheet 2** (sheet numbers refer to the key map, and to plan sheets provided in the appendix)

Sta. 100+00 (stations reference the baseline delineated on the plan sheets)

A concrete arch bridge carries four-lane wide City Avenue over the railroad, adjacent to Bala train station. The clear distance between the bridge abutments is 57 feet. The track centerline is located 34 feet from the north abutment. An unused macadam boarding platform that once served trains on the since-removed outbound track extends beneath the City Avenue bridge. With the platform in poor condition and no longer serving any purpose, it is a candidate for removal. Field view in July 2015 noted extensive ponding on the west side of the bridge; removal of the platform would allow runoff to drain to an existing drainage channel. Safety netting affixed to the underside of the bridge attests to the ongoing deterioration of its concrete structure. This bridge is slated for rehabilitation or replacement, with construction tentatively scheduled for 2020.<sup>5</sup>



City Avenue bridge. View standing in Philadelphia looking into Lower Merion. Unused train platform at right

Improvements to the Bala train station so that it may function as both a transit station and as a trail-head are recommended in the concurrent trail study under way for Lower Merion Township.

Sta. 113+30



Erosion of railroad ballast caused by storm-water runoff

For most of the study area, the outbound set of rails and ties have been removed, but the vacant track-bay appears to be well supported by the remaining railroad ballast. Field view did reveal areas of minor damage caused by storm-water erosion, and drainage structures whose carrying capacity has been compromised by accumulated silt and debris.

In the 85 years since their installation, the steel cross-members that support the overhead catenary wire have been subject to corrosion, with some corroded to the point that there are holes rusted

completely through. SEPTA is in the process or replacing these with new steel.

<sup>5</sup> PennDOT Multimodal Project Management System (MPMS) project no. 17511



Between City Avenue and the bridge at Woodbine Avenue the railroad was graded for and built with two tracks.

### Sheet 3

Sta. 114+40

Implementation of Positive Train Control (PTC) technology on SEPTA railroad lines in 2015 necessitated the installation of new signals, cable conduits, and trackside signal buildings. One 8 foot wide by 10 foot long PTC building has been placed directly on the vacant outbound track-bay at this location. The distance from the centerline of track to the signal building is 12'-4" (far less than the space required to place the trail). Although there is adequate space within the right-of-way to route the trail behind the building, that



Signal building erected on vacant outbound track-bay, and catenary supports with guy wires, north of Woodbine Avenue

alignment will need to take into account the presence of a nearby guy wires. This support, bearing the label S/13 220/20, is steadied by a series of three guy wires, two of which are anchored 14 feet from the base of the catenary support. Two of these guy wires and possibly a third will need to be relocated. The projected cost of the relocation has been included in the preliminary cost estimate included as Appendix C. The railroad here varies from virtually level with, to slightly higher than, the surrounding terrain. The adjacent property owner is Bala Golf Club.

Sta. 118+57



Twin bridges over vacant alignment of Woodbine Avenue

The railroad crosses over the “paper street” alignment of Woodbine Avenue on dual 85-foot long deck girder bridges constructed in 1899. At this location Woodbine Avenue’s roadway and sidewalks have been removed and access has been blocked by a chain link fence. There are no plans to re-open the street. Therefore SEPTA plans to remove the aging steel bridges and replace them with an earthen embankment. SEPTA officials have proposed that if the final design of the trail includes the design of the replacement earthen fill, SEPTA will bear the expense of removing the bridges and placing the fill.

The rail-bed between Woodbine Avenue and Wynnefield Avenue was built for two tracks.

#### Sheet 4

Sta. 134+60

Wynnefield Avenue is crossed on a three-span dual bay 105 foot long through girder bridge. The track-bay that once carried the outbound track is vacant. Exelon/PECO, Amtrak, and on a more regular basis SEPTA maintenance vehicles travel over the railroad ballast often enough to leave wheel ruts in the stone ballast (see photo at right). The tops of the girders of the two shorter spans are 32 inches tall; the top of the girder of the long span is 50 inches tall. The concrete that encases the steel knee brace plates displays some evidence of corrosion, in both the vacant and the active track-bays.



Vacant track-bay on railroad bridge over Wynnefield Avenue



Sta. 138+40



Wynnefield Avenue Station

Wynnefield Avenue Station is a station stop on the SEPTA Cynwyd line. A paved parking lot, bus stop-style waiting shelter, and 300 foot-long macadam boarding platform are located on the west side of the track. A 120 foot long step is attached to the edge of the platform to facilitate passengers boarding and alighting from trains. A five foot wide wooden walkway allows pedestrians to cross the track at grade.

A gravel parking area is located on the east side of the track, with access from Wynnefield Avenue provided by a 14

foot wide macadam driveway. A chain link fence blocks vehicular access to the southern portion of the gravel area. SEPTA has prepared conceptual plans that would replace the existing station with a new one built on the east side of the tracks. The driveway would be widened, and 45 parking spaces provided. SEPTA's conceptual plans include provision for the Parkside Cynwyd Trail. This study recommends that any future iterations of the plan also include the trail.

The railroad between Wynnefield Avenue Station and Bryn Mawr Avenue was graded for three tracks.

## Sheet 5

Sta. 146+80

Bryn Mawr Avenue is crossed on a three-span three bay 110 foot-long half-through girder bridge. One bay is occupied by active railroad track. The center bay is utilized by maintenance vehicles. The third bay is unused, with vegetation taking hold in the stone ballast (refer to photo at right).

South of Bryn Mawr Avenue the rail-bed is three tracks wide.



3-bay bridge over Bryn Mawr Avenue.  
Active track occupies bay at far right

Sta. 153+50



Signal buildings occupy a fenced-in area occupying the vacant third track-bay. The location is known as Jeff Interlocking. There is sufficient space to route the trail around this area. From this point south the railroad consists of two active tracks, rather than one. South of Jeff Interlocking, SEPTA's Cynwyd Access Project intends to construct a new track located to the east of the existing track (please refer to study plan sheets, Appendix D). Existing #4 Valley Track would be retired. Because the level gravel area flares out to approximately 60 feet wide here, and widens still more progressing south, the proposed track realignment would still leave ample space for a trail.

## Sheet 6

Sta. 163+00



View from Parkside Avenue looking up gravel maintenance road

A single-lane access road descends from the railroad down to Parkside Avenue here. This maintenance access road is steep (approximately 14%) and is surfaced with crushed stone. A locking cable at the point where the road meets Parkside Avenue limits public access.

SEPTA owns the wooded hillside between the railroad and the right-of-way line of Parkside Avenue.

A 2003 Delaware Valley Regional Planning Commission traffic study assigned Parkside Avenue an ADT of 10,504.<sup>6</sup>

Directly across Parkside Avenue from the base of the gravel access road is a Fairmount Park public parking area with a capacity of 32 cars. This parking lot is positioned between three basketball courts and nine tennis courts. On the far side of the tennis courts is Philly Pumptrack, a public BMX bicycle facility. Adjacent to the basketball courts is Parkside-Evans Recreation Center.

From the parking lot entrance to 53<sup>rd</sup> Street, an asphalt sidewalk runs along Parkside Avenue on its east side. There is no sidewalk on its west side. Although it is thickly overgrown with vegetation, there is a level bench within the street



West curb line of Parkside Avenue looking from foot of railroad access road toward signalized intersection with 53<sup>rd</sup> Street

<sup>6</sup> DVRPC file nos. 33090 and 33091.

right-of-way outside Parkside Avenue's west curb line (see photo at right).

Two hundred and fifty feet (250') south of the point where the gravel access road meets Parkside Avenue, is the intersection of 53<sup>rd</sup> Street and Parkside Avenue. The signalized intersection of 53<sup>rd</sup> & Parkside is the point where Fairmount Park's interconnected network of paved shared-use paths begins. Continental crosswalks and ADA-compliant curb ramps are in place across the 53<sup>rd</sup> Street approach and Parkside Avenue's east approach, but there are no pedestrian signal heads. Suggested improvements to this intersection are outlined on page 13 of this report, and depicted on Sheet 7 of Appendix D.

Following an existing 8 foot wide asphalt side path from the intersection of 53<sup>rd</sup> & Parkside Avenue, for a distance of 350 feet, brings trail users to a trail junction. At this point trail users may continue on the Parkside Avenue side path or choose to follow the shared-use path built on the abandoned grade-separated trolley track-bed of the former Fairmount Park Transit Company.



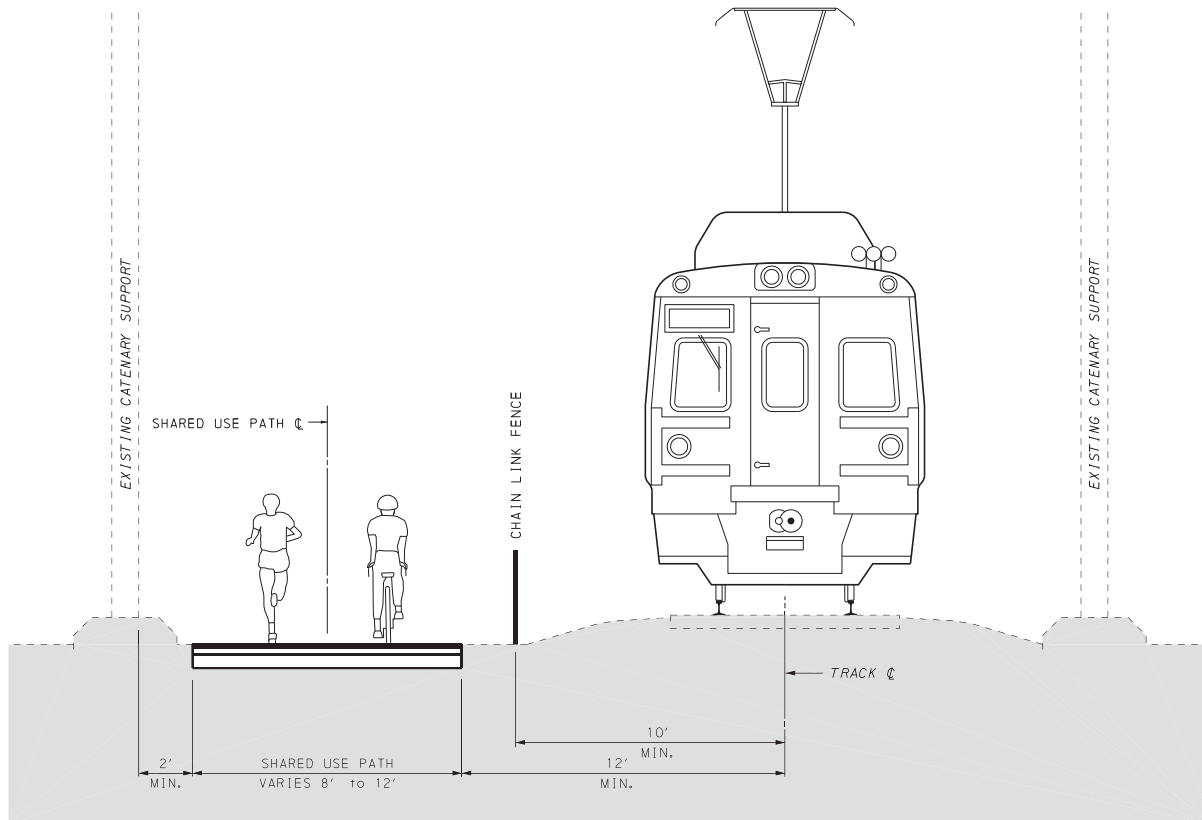
Asphalt side path at 53<sup>rd</sup> & Parkside, looking east toward junction with Fairmount Park shared-use path network



Existing conditions at 53<sup>rd</sup> Street & Parkside Avenue, looking north.



## Alternatives Analysis and Recommendations



Proposed typical section, Parkside Cynwyd Trail

Based on field view of existing conditions, research into property ownership, meetings and correspondence with representatives of SEPTA and Streets Department, and input from the public, this section describes and analyzes alignment alternatives along the proposed corridor. Please refer to the plan included in Appendix B.

All recommendations are in accordance with the “Guide for the Development of Bicycle Facilities” 2012-Fourth Edition developed by the American Association of State Highway and Transportation Officials (AASHTO), and with the National Association of City Transportation Officials (NACTO) “Urban Bikeway Design Guide,” Second Edition dated March 2014.

### Overview

This study recommends that a 10 foot wide asphalt trail be constructed on the unused outbound track-bay of the SEPTA Cynwyd Line, from City Avenue to a point south of the bridge over Bryn Mawr Avenue. A new chain link fence would separate the trail from the active railroad track.



The southernmost segment of trail would be constructed as a side path along the west curb line of Parkside Avenue. The trail would end at the existing crosswalk at the intersection of 53<sup>rd</sup> Street and Parkside Avenue. This study describes two alternate trail alignments (A and B) for the transition from railroad right-of-way to side path along Parkside Avenue.

This study recommends that the intersection of 53<sup>rd</sup> & Parkside be improved to enhance the safety of trail users crossing to connect with the existing trail system in Fairmount Park.

### **Alternates A and B**

The study identifies two potential alignments south of Bryn Mawr Avenue, for transitioning from rail-with-trail to the Parkside Avenue side path. Please refer to plan sheets 5 and 6 provided in the appendix.

#### **Alternate A**

After crossing over Bryn Mawr Avenue in an unused track-bay of the existing railroad bridge, Alternate 2A leaves the railroad right-of-way as soon as is practicable and descends from the railroad to the street right-of-way alongside Parkside Avenue. This thickly wooded slope is owned by SEPTA; the precise trail alignment should be adjusted as necessary to avoid removal of mature trees. To enhance visibility, lesser trees and undergrowth should be cleared adjacent to the trail and between the trail and Parkside Avenue.

The final  $\frac{3}{4}$  mile of trail would be constructed as a side path along the west side of Parkside Avenue. A 5 foot wide grass strip would separate the roadway from the 10 foot wide asphalt trail.

#### **Alternate B**

After crossing over Bryn Mawr Avenue, this alternate continues on the railroad embankment for an additional quarter mile before descending to the road below. Rather than utilize an existing maintenance access road, the trail would descend the slope on its own alignment, thus avoiding both the steep grade of the maintenance road and potential conflict with maintenance vehicles. As with Alternate A, the precise trail alignment on the SEPTA-owned hillside should be adjusted as necessary to avoid removal of mature trees; lesser trees and undergrowth should be cleared adjacent to and downhill from the trail.

A drawback to Alternate B is the presence of significant railroad equipment in this area, known as Jeff Interlocking. In addition, when SEPTA's proposed Cynwyd Access Project is implemented, there will be changes to the track configuration south of Jeff Interlocking. The new outbound Cynwyd Connecting Track will occupy a significant portion of the unused space in this area, leaving a significantly narrowed space leftover for the trail, fence, and access for maintenance vehicles.

### **Green Stormwater Infrastructure**

Philadelphia Water Department's Office of Watersheds is investigating the feasibility of installing green stormwater infrastructure (GSI) along Parkside Avenue between Bryn Mawr Avenue and Jefferson Street. As of March 2016, PWD's plans suggest the installation of GSI on the east side of Parkside Avenue near Philly Pumptrack, and in what's now a concrete island at the intersection of Bryn Mawr Avenue and Parkside Avenue. Both locations are across the road from Parkside Cynwyd trail's recommended alignment.

### **53<sup>rd</sup> Street & Parkside Avenue Intersection Improvements**

The Parkside Cynwyd Trail's planned southern terminus is at the signalized intersection of 53<sup>rd</sup> Street and Parkside Avenue.

On the opposite side of this intersection, an existing asphalt side path ties into the extensive trail network within Fairmont Park. As configured now, trail users wishing to continue here would need to cross both 53<sup>rd</sup> Street, and Parkside Avenue, at existing curb ramps and crosswalks.

The existing crossing of Parkside Avenue is a safety concern due to observed motorist behavior at the intersection. The geometry of the intersection is skewed in an inverted "Y"-shape where the northern approach of Parkside Avenue forks at the intersection toward the southeastern approach (continuation of Parkside Ave) and the southeastern approach (53<sup>rd</sup> Street). Due to the skewed geometry of the intersection, northbound motorists on Parkside Avenue who intend to remain on Parkside Avenue are presented with more of a through-movement than a right-hand turn. That geometry compounded by the wide curb-to-curb distance invites motorists to drive through the intersection at speeds in excess of the posted speed limit. In addition, right-turn-on-red is not prohibited here and the mandatory stop during the red signal is often treated as a continuous right-hand "yield."

Study committee members met with representatives of Philadelphia Streets Department at two meetings, convened on November 3, 2015 and on February 25, 2016, to discuss how best to convey pedestrians and potential trail users across the intersection. In order to provide a safer intersection for trail users and for motorists, the Streets Department requested the study team prepare a concept plan that reconfigures the intersection away from the existing Y scenario toward a three-way, right angle intersection. The recently completed realignment of Harbison Avenue at Bustleton Avenue in Northeast Philadelphia was offered as an exemplar.

The outcome of these suggestions is a concept plan, included as Sheet 7 Appendix D, that adds a curve to the southern approach of Parkside Avenue so that Parkside meets 53<sup>rd</sup> Street at a 90 degree angle. A bump-out is provided along the eastern curb-line of Parkside Avenue in order to shorten the length of the crossing. A new crosswalk crosses the northern approach to the intersection; new traffic signal phasing will provide temporal separation between trail users in the crosswalk, and turning motor vehicles. Existing roadside parking and existing bike lanes have been incorporated into the conceptual design. The new configuration provides a more direct path between the existing and proposed trails while improving safety for all intersection users.

## Public Involvement

The concept of the Parkside Cynwyd Trail was presented to members of the public at three meetings during 2016.

Meeting attendees were presented with an overview of the proposed trail, and asked questions and provided comments to representatives of the City departments of Parks & Recreation, Philadelphia City Planning Commission, and Office of Transportation and Infrastructure Systems.

The meeting dates and venues were as follows:

May 17, 2016 –Wynnefield Residents Association monthly meeting

June 16, 2016 – Parkside Civic Association monthly meeting

June 17, 2016 – Parkside Business Association monthly meeting

## Best Practices

The proposed design of the Parkside Cynwyd Trail conforms to recommendations and best practices of comparable Rails-with-Trails already in service in the United States.

Recommendations are those specified in U.S. Department of Transportation’s *Rails-with-Trails: Lessons Learned*, published in 2002.

Best practices are those summarized in Rails-to-Trail’s Conservancy’s *America’s Rails with Trails: A Resource for Planners, Agencies and Advocates On Trails along Active Railroad Corridors*, published in 2013.

Relevant facts regarding Rails-with-Trails:

1. 161 Rails-with-Trails exist, in 41 states
  - a. This is a notable increase from 61 Rails-with-Trails, in 20 states, in 2000
    - 2013 mileage = 1,397; year 2000 mileage = 523.
2. 80% of Rails-with-Trails include a barrier (such as a fence) between trail and active rails
3. 15% of Rails-with-Trails are located adjacent to mass transit corridors:

“There is a growing trend of rail-with-trail development alongside local and regional transit corridors, such as the popular M-Path in Miami, Fla., the extensive BeltLine system being developed in Atlanta, Ga., and the new West Rail Line and trail in Denver, Colorado.”<sup>7</sup>

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<sup>7</sup> Rails-to-Trails Conservancy, “America’s Rails with Trails: A Resource for Planners, Agencies and Advocates On Trails along Active Railroad Corridors,” Washington DC, 2013, p. 3



4. Currently there are no national standards or guidelines governing the design and development of rails-with-trails. The 2002 USDOT publication, *Rails-with-Trails: Lessons Learned*, remains the most comprehensive and authoritative resource for rail-with-trail development.
5. The 160+ Rails-with-Trails in operation in the United States have a very good safety record. In the last twenty years only one fatality and two injuries caused by collision with trains have been reported on Rails-with-Trails.<sup>8</sup>

The single fatality occurred on the South Bay Trail, Bellingham, Washington. The collision occurred at a point where *the trail crosses active tracks at-grade*. Cyclist disregarded a railroad warning sign, a “cross-buck” symbolic sign, and a stop sign. Neither the railroad nor the trail manager were found to be liable.
6. At least one state-wide transportation authority’s policy explicitly authorizes Rails-with-Trails. In 2013, Massachusetts Department of Transportation issued a letter stating that all Rail-with-Trail proposals going forward will be permitted, provided appropriate fencing separates the two uses.

### **USDOT setback recommendations**

Setback is defined as the distance from centerline of active track to the nearest edge of trail.<sup>9</sup> USDOT states that appropriate setback must be determined on a case-by-case basis. Trail planners are encouraged to incorporate into the feasibility study analysis of technical factors, including:

- Type, speed, and frequency of trains in the corridor
  - On Cynwyd Line, electric multiple unit commuter trains, usually run as single cars, provide base service. Occasional diesel powered maintenance trains
  - 40 mph top speed
  - Eleven round trips per day; no service on Saturdays or Sundays
- Separation technique
  - Recommend continuous chain link fence with tight anti-climb mesh
- Topography
  - Most of the corridor was a double track railroad, with some sections three tracks wide. Width of the corridor is constrained by earthwork (below-grade in cut; elevated on fill)
- Sight distance
  - No problems anticipated
- Maintenance requirements
  - Recommend asphalt trail suitable for railroad and high tension line maintenance vehicles; fence to include locking gates at signal buildings
- Historical problems

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<sup>8</sup> Ibid., p. 12

<sup>9</sup> U.S. Department of Transportation, “Rails-with-Trails: Lessons Learned,” Washington DC, 2002, p. 64  
*Parkside Cynwyd Trail in the City of Philadelphia - Feasibility Study*

- None have been brought to the study team’s attention. The railroad is not fenced at the present time

The minimum setback distance recommended by the USDOT document is 10 feet, with a fence located within that 10 foot envelope. **This study suggests a minimum 12 foot setback distance** for the Parkside Cynwyd Trail, with a fence located 10 feet from the centerline of track – an arrangement that exceeds the minimum recommendations. This study’s suggested minimum dimensions -- 10 feet to fence and 12 feet to trail -- are the same as those used for the 800 foot long section of Rail-with-Trail constructed in 2011 north of SEPTA’s Cynwyd Station on the Cynwyd Line. This study recommends a setback of 17 feet where more space is available (e.g., those sections of the corridor that once consisted of three tracks).

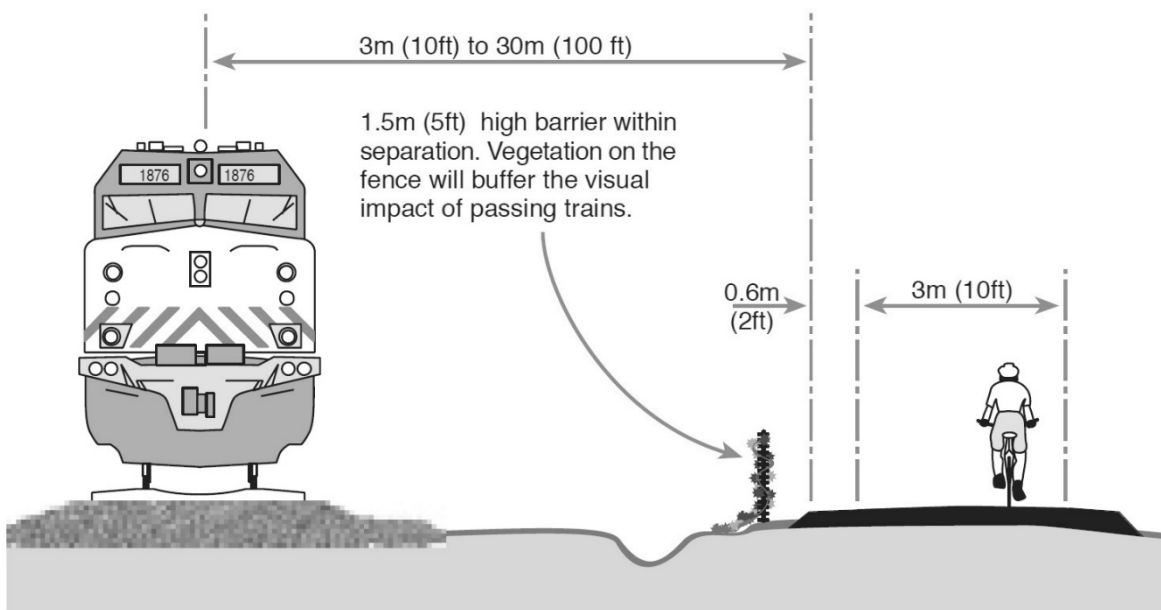
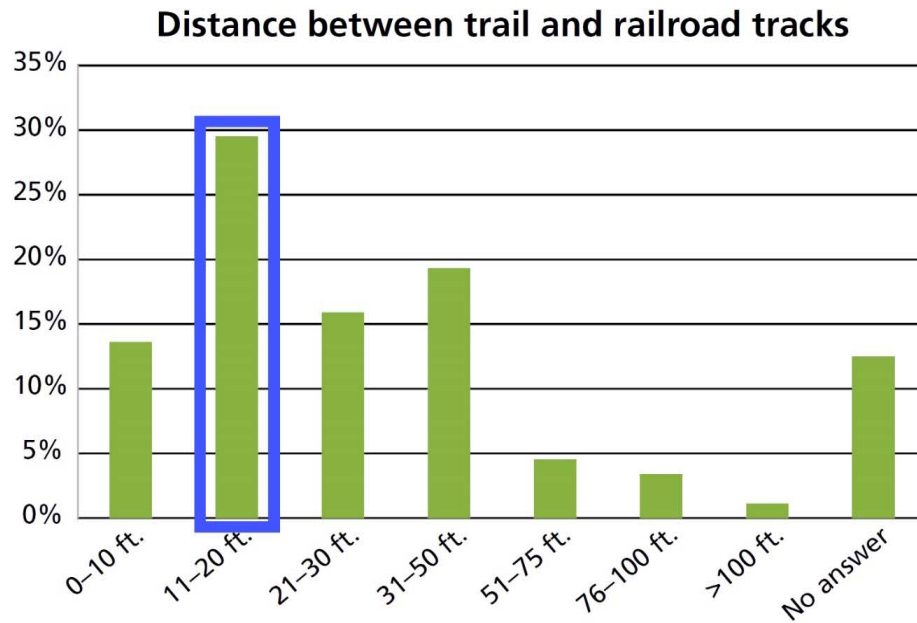


Diagram published on page 64 of USDOT’s *Rails-with-Trails: Lessons Learned*

In 2013, Rails-to-Trails Conservancy surveyed the existing inventory of Rails-with-Trails across the United States, summarizing their attributes in an effort to determine trends and patterns. Among the criteria tabulated were:

- Width of railroad corridor
  - Nearly half of the railroad corridor rights-of-way studied were between 31 and 100 feet wide
- Type of railroad operation

- Varied, with freight most common
- Frequency of rail service
  - As high as six trains per hour
- Maximum train speed
  - Between 5 and 150 mph, with 32 mph average



Blue box indicates how the setback of the proposed Parkside Cywnyd Trail compares to setbacks of other Rails-with-Trails. Adapted from p. 27 of RTC's America's Rails with Trails



## Comparable Rails-with-Trails

### Inland Rail Trail, San Diego, California

In 1992, North County Transit District in San Diego California purchased a 22 mile long freight railroad from Santa Fe Railroad, with the intention of implementing new commuter rail service. NCTD's design called for re-construction of tracks, erection of passenger stations, and construction of a parallel asphalt-surface shared use path within



Inland Rail Trail, San Diego, California

the right-of-way. SPRINTER train service was inaugurated in 2008. The tracks are utilized by local freight trains at night, and by diesel multiple unit (DMU) commuter trains during the day. Top speed is 55 mph. Trains operate on a half-hour headway. Continuous chain link fence, and in some places a retaining wall, separate the trail from active tracks. The minimum distance from centerline of track to the fence is 10 feet, a distance deemed adequate in the event a passenger train should need to be evacuated. The near edge of trail is three feet from the fence.

## **Hiawatha Bike Trail, Minneapolis, Minnesota**

An asphalt-surface shared use path parallels the double-track Hiawatha light rail Blue Line for a distance of 4.7 miles. Trains run on a 10 minute headway all day.

The distance from the centerline of the track to the edge of trail varies from 10 feet to 15 feet. A simple wooden post and wire fence, and in some locations a low retaining wall, separate the trail from tracks.



Hiawatha Bike Trail, Minneapolis, Minnesota



Traction Line Recreation Trail, Morristown, New Jersey

## **Traction Line Recreation Trail, Morristown, NJ**

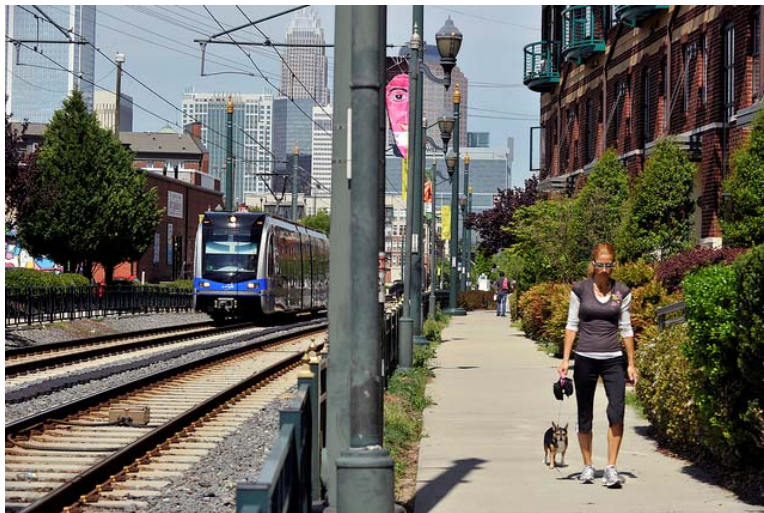
Three miles in length, this asphalt-surface shared use path parallels NJTransit's double-track electrified Morris & Essex Line. Forty commuter trains a day utilize the adjacent rails on weekdays.

A continuous chain link fence separates trail from active track; setback distance varies between 15 and 20 feet.





Neponset Trail, Mattapan Ashmont High Speed Line, Boston, MA



Charlotte Trolley Trail, Charlotte, NC



West Rail Line Bike Path, Denver, CO

*Parkside Cynwyd Trail in the City of Philadelphia - Feasibility Study*



## Implementation Plan

This proposed rail-with-trail will be the first of its kind for SEPTA. The transit authority has completed eleven trail lease agreements to date, but none of those are for rail *with* trail. In order to be considered for approval by SEPTA, rail-with-trail proposals must meet the following criteria:

Rails-with-Trails -- very site specific / limited opportunities

- Qualifications:
  - Trail design and construction will address all safety considerations
  - Sufficiently wide right-of-way for separation that allows fencing, maintenance access, and safe distance between rail and trail
  - Trail does not preclude future expansion plans including additional service or extension of service that requires additional track
  - Trail does not preclude any plans for new passing track, siding track, interlockings or switches
  - Creates connections with existing, established trails
  - SEPTA reserves the right to resume rail service on any part of the right-of-way
  - Limited service weekdays: No service Saturdays and Sundays (specific to Cynwyd Line)

The City will need to work with SEPTA to obtain authorization for this rail-with-trail from the Pennsylvania Public Utility Commission.

Because inter-jurisdictional applications are given higher priority by funding sources, a joint application for funding -- combining the ½ mile of Parkside Cynwyd Trail in Lower Merion with the 1- ¼ mile of Parkside Cynwyd Trail in Philadelphia -- may be advantageous.

This study's preliminary construction cost estimate determined an approximate cost of \$2,000,000 to complete the 1-¼ mile of Parkside Cynwyd Trail in Philadelphia. Please refer to Appendix C.

A preliminary construction cost estimate determined an approximate cost of \$560,000 to complete the adjoining section of Parkside Cynwyd Trail in Lower Merion Township.

Steps forward are summarized in the following table:

Public Outreach / Meetings*	2016
Lease Agreement w SEPTA	2016
Grant Writing	2017
Design	2018
Construction	2019

\*Update: The Parkside Cynwyd Trail concept was presented at three public meetings during second quarter 2016. These are detailed on page 14 of this report.

After a lease agreement is drafted and executed between the City of Philadelphia and SEPTA, the design and construction of this project can be completed within a 2 to 3 year time frame.

This project is a likely candidate for funding from DCED Act 13 Grants: Greenways, Trails and Recreation Program (GTRP) and/or from the Pennsylvania Department of Conservation and Natural Resources (DCNR).

**a. Funding Options**

Finding the funding for the design and construction of these types of projects can be a challenge. The following is a list of potential funding sources for this project:

Congestion Mitigation and Air Quality (CMAQ) Improvement Program

Delaware Valley Regional Planning Commission's CMAQ program seeks to fund transportation projects that will improve air quality and reduce traffic congestion in the DVRPC Region. CMAQ eligible projects will demonstrably reduce air pollution emissions and will help the DVRPC region meet the federal health based air quality standards.

Examples of eligible CMAQ projects include pedestrian and bicycle projects, transit improvement programs, congestion reduction and traffic flow improvements, diesel retrofit projects, and funding of transportation demand management programs, among others.

<http://www.dvrpc.org/CMAQ/>

DVRPC Southeastern Pennsylvania TIP funding for Circuit Trails

Beginning in 2015, Delaware Valley Regional Planning Commission has included a specific line item in the TIP (Transportation Improvement Program) dedicated to implementation of pedestrian and bicycle infrastructure, including trails specifically within the Circuit Trails network. The TIP is the regionally agreed-upon list of priority transportation projects, as required by federal law. The TIP document must list all projects that intend to use federal funds, along with all non-federally funded projects that are regionally significant.

<http://www.dvrpc.org/TIP/>

Pennsylvania Transportation Alternatives Program (TAP)

There will be solicitation for TAP funding for the DVRPC Pennsylvania counties (Bucks, Chester, Delaware, Montgomery and Philadelphia) for bicycle and pedestrian facilities, conversion of abandoned railway corridors to trails, and stormwater management projects in 2016. Local governments, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts, local education agencies, schools, and tribal governments are eligible to apply for the competitive TAP funds.

<http://www.dvrpc.org/TAP/>

#### Robert Wood Johnson Foundation

The mission of the Robert Wood Johnson Foundation is to improve the health and health care of all Americans. Our goal is clear: To help our society transform itself for the better.

<http://www.rwjf.org/en/grants.html>

#### National Parks Service – Trails Assistance Program

The Rivers, Trails, and Conservation Assistance Program is the community assistance arm of the National Park Service. RTCA supports community-led natural resource conservation and outdoor recreation projects. RTCA staff provides technical assistance to communities so they can conserve rivers, preserve open space, and develop trails and greenways.

<http://www.nps.gov/ncrc/programs/rtca/>

#### PA Department of Conservation and Natural Resources – Keystone Grant Program and Recreational Trails Program

Established on July 1, 1995, the Pennsylvania Department of Conservation and Natural Resources is charged with maintaining and preserving the 117 state parks; managing the 2.1 million acres of state forest land; providing information on the state's ecological and geologic resources; and establishing community conservation partnerships with grants and technical assistance to benefit rivers, trails, greenways, local parks and recreation, regional heritage parks, open space and natural areas.

Local governments, county governments and non-profit organizations can apply for Community Conservation Partnerships Program (C2P2) funding to assist them with addressing their



recreation and conservation needs as well as supporting economically beneficial recreational tourism initiatives.

<http://www.dcnr.state.pa.us/applyforgrants/index.htm>

Contact:

Southeast Regional Office: (Region 1)

Drew Gilchrist.....215-560-1183.....[agilchrist@pa.gov](mailto:agilchrist@pa.gov)

#### DCED Act 13 Grants: Greenways, Trails and Recreation Program (GTRP)

Act 13 of 2012 establishes the Marcellus Legacy Fund and allocates funds to the Commonwealth Financing Authority (the “Authority”) for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects using the Greenways, Trails and Recreation Program (GTRP).

<http://www.newpa.com/find-and-apply-for-funding/funding-and-program-finder/greenways-trails-and-recreation-program-grp>

In addition to those listed above, the following local funding sources may also be available:

- Philadelphia Parks and Recreation funds
- William Penn Foundation
- DVRPC Regional Trails Program

# Parkside Cynwyd Trail Feasibility Study

## **Appendix A**

### Single Page FAQ



## Parkside Cynwyd Trail Feasibility Study: Frequently Asked Questions

### What is the Parkside Cynwyd Trail?

The Parkside Cynwyd Trail is a proposed trail to connect West Fairmount Park at Parkside Evans Playground and Parkside Avenue to the Cynwyd Trail in Lower Merion Township. The proposed alignment is adjacent to the SEPTA Cynwyd Line in former rail track right-of-way that is currently not used by SEPTA.

### How will it impact the SEPTA Cynwyd Train Line?

There will be no impact on SEPTA Cynwyd Line service. The proposed trail will be separated from the rail line by a fence.

### How will I access the trail?

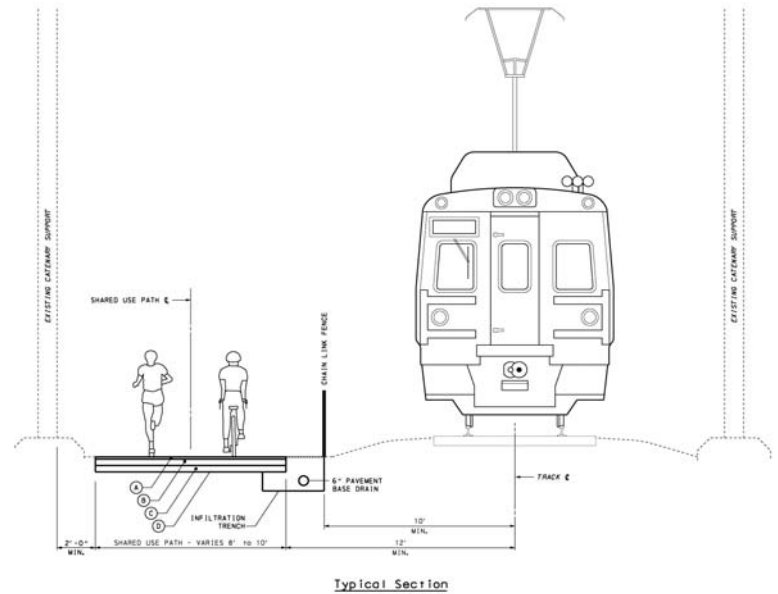
There are proposed trailheads at several locations, including Parkside Avenue, Wynnefield Avenue, and City Avenue.

### Who will maintain the trail?

Philadelphia Parks & Recreation and Lower Merion Township are the lead maintenance entities for the trail at this point.

### What is the project schedule?

The feasibility study will be completed in late Spring 2016. At that point, the City and Lower Merion Township will work with SEPTA on a lease agreement and pursue final design and construction funding.



### How can I find out more information?

- Wynnefield Residents Association Monthly Meeting at the John C. Anderson Cultural Center, 5301 Overbrook Avenue, Tuesday, May 17, 7PM
- Parkside Association of Philadelphia Monthly Meeting at the Parkside Evans Recreation Center at 53<sup>rd</sup> & Parkside, Thursday, June 16, 6:30PM
- Upon completion, the feasibility study will be posted at the Philadelphia City Planning Commission website: [www.phila.gov/cityplanning](http://www.phila.gov/cityplanning)



### PARKSIDE CYNWYD TRAIL FEASIBILITY STUDY



Michael Baker  
INTERNATIONAL  
PREPARED BY  
MICHAEL BAKER INTERNATIONAL  
1818 MARKET STREET, SUITE 3110  
PHILADELPHIA, PA 19103



0 200 400 800 FEET

FEBRUARY 2016

#### LEGEND:

- PROPOSED SHARED-USE PATH
- - - PROPOSED SHARED-USE PATH BY OTHERS
- - - EXISTING SHARED-USE PATH
- - - EXISTING BIKE LANES



Parkside Cynwyd Trail Feasibility Study

**Appendix B**

Overview Plan







# Parkside Cynwyd Trail Feasibility Study

## **Appendix C**

### Preliminary Cost Estimate



**Parkside Cynwyd Trail - City Av to 53rd & Parkside**  
**Preliminary Project Cost Estimate**

**Michael Baker**  
INTERNATIONAL

DRAFT

10' shared use path	1-1/2" wearing course on 4" bit base course on 4" stone subbase	7,556	SY	\$60.00	\$453,360.00
Geotextile	class 4	7,556	CY	\$3.00	\$22,668.00
Excavation	class 1	2,508	CY	\$40.00	\$100,320.00
Infiltration Trench		6,800	CY	\$25.00	\$170,000.00
4' Chain Link Fence		5,280	LF	\$25.00	\$132,000.00
Catenary tower guy wire adjustment		3	LS	\$35,000.00	\$105,000.00
53rd & Parkside intersection		1	LS		\$200,000.00
				subtotal	\$1,183,348.00
E&S Control (2%)		1	LS		\$23,666.96
Drainage (5%)		1	LS		\$59,167.40
Design (20%)		1	LS		\$236,669.60
CM/CI (10%)		1	LS		\$118,334.80
Survey (5%)		1	LS		\$59,167.40
Traffic Control (5%)		1	LS		\$59,167.40
Mobilization (4%)		1	LS		\$47,333.92
Contingency (15%)		1	LS		\$177,502.20
					\$1,964,357.68
<b>Total</b>					<b>\$1,965,000.00</b> *

\*Total does not include:  
Wynnefield Avenue station improvements  
Replacement of Woodbine Avenue bridge

# Parkside Cynwyd Trail Feasibility Study

## **Appendix D**

### Conceptual Plans

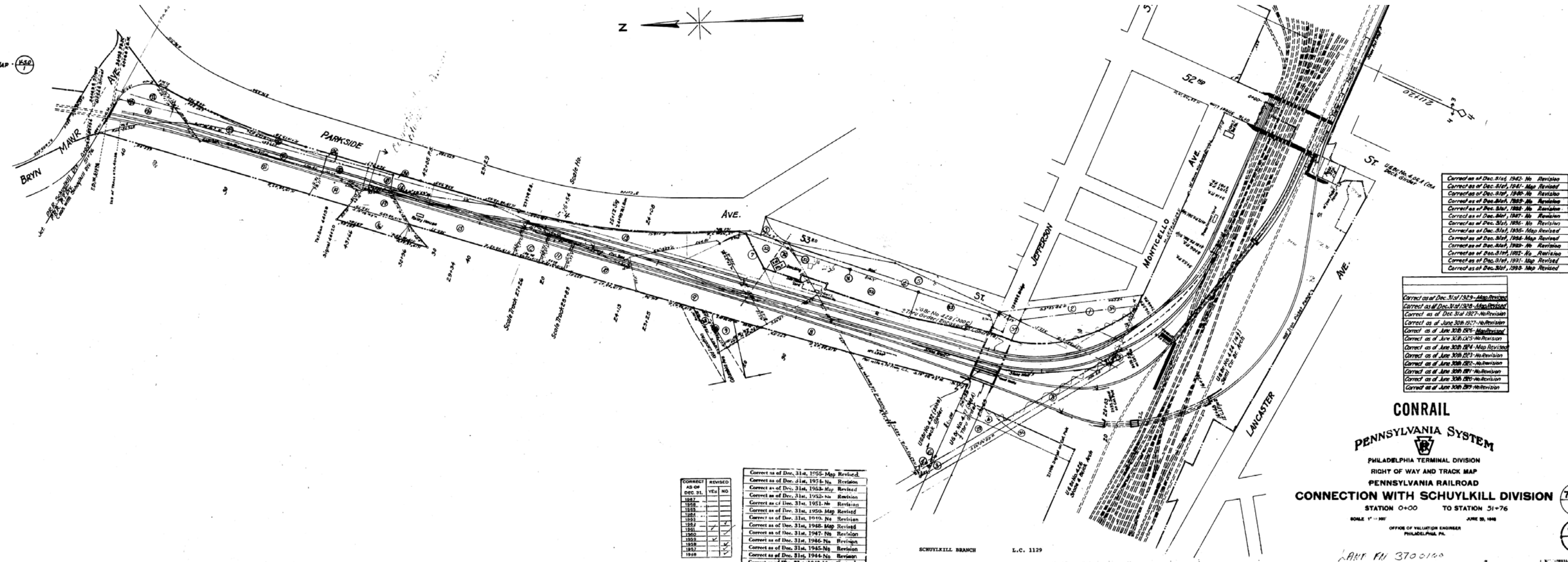
Appendix D is provided as a separate pdf due to its large size (22 Mb).



# Parkside Cynwyd Trail Feasibility Study

## **Appendix E**

### Railroad Maps



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CONRAIL  
PENNSYLVANIA SYSTEM  
PHILADELPHIA TERMINAL DIVISION  
RIGHT OF WAY AND TRACK MAP  
PENNSYLVANIA RAILROAD  
CONNECTION WITH SCHUYLKILL DIVISION  
STATION 0+00 TO STATION 51+76

SCALE 1" = 100'  
OFFICE OF VALUATION ENGINEER  
PHILADELPHIA, PA.  
JUNE 30, 1948

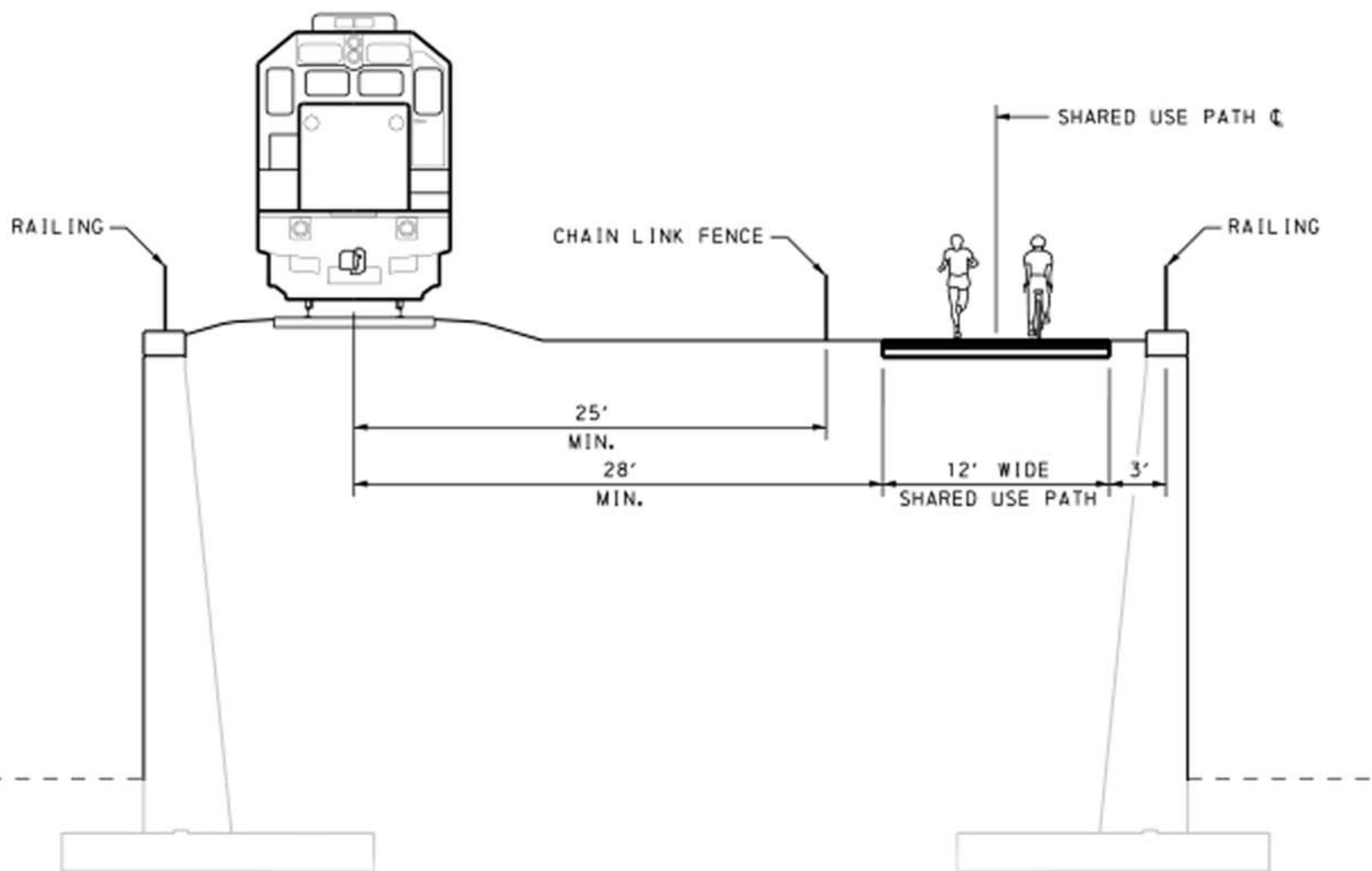
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# Feasibility Study for the Bartram's Fort Mifflin Trail with 60th Street Rail Corridor Reactivation in the City of Philadelphia

June 2016

prepared by

**Michael Baker**  
INTERNATIONAL

submitted to

PHILADELPHIA  
**PARKS &  
RECREATION**



**Feasibility Study  
for the Bartram's Fort Mifflin Trail  
with 60<sup>th</sup> Street Rail Corridor Reactivation**

**June 2016**

Summary .....	1
Alternatives Analysis.....	3
Conceptual Overview of Quantities .....	7
Best Practices.....	8

Appendices

A. Conceptual Typical Sections

B. Conceptual Plans



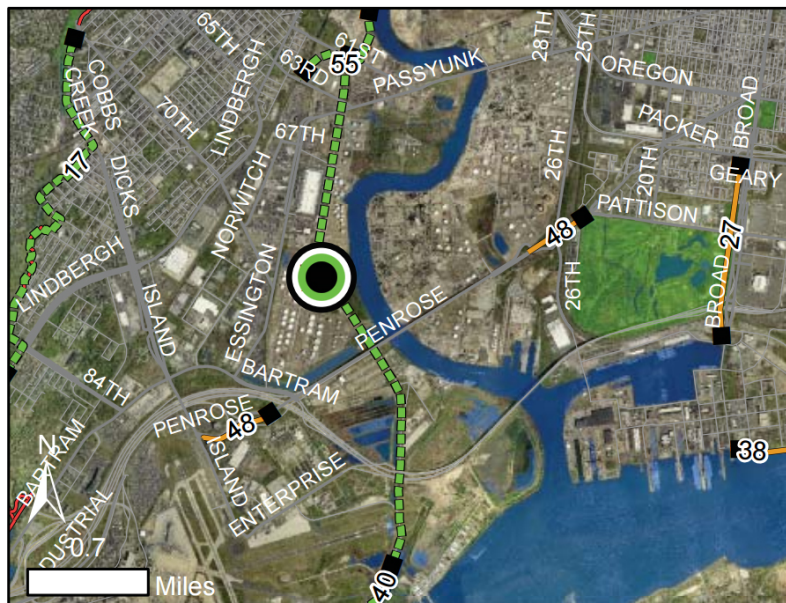
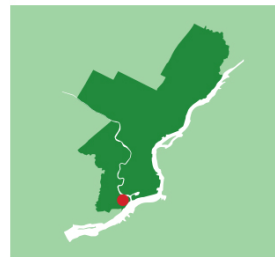
## 1. Summary

The City of Philadelphia applied for and received Transportation and Community Development Initiative (TCDI) funding from Delaware Valley Regional Planning Commission to investigate the feasibility of developing shared-use paths on three rail corridors in the City. Included in the year 2013 Philadelphia Trail Master Plan,<sup>1</sup> the three potential trails are:

- Fox Chase Lorimer Trail (northeast Philadelphia)
- Parkside Cynwyd Trail (west Philadelphia)
- Bartram's Fort Mifflin Trail (southwest Philadelphia)

This chapter of the document focuses on the Bartram's Fort Mifflin Trail.

The Bartram's Fort Mifflin Trail is envisioned as the southernmost reach of the 130-mile long Schuylkill River Trail. The Bartram's Fort Mifflin Trail will extend 3-1/2 miles from 61<sup>st</sup> Street near Passyunk Avenue to historic Fort Mifflin on the Delaware River.



Excerpt from Philadelphia Trail Master Plan indicating location of Airport Fort Mifflin Trail

<sup>1</sup> <http://www.phila.gov/CityPlanning/plans/Pages/TrailsMasterPlan.aspx>





**BARTRAM'S  
FORT MIFFLIN  
TRAIL**

**FEASIBILITY STUDY**


**KEY MAP**

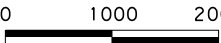
LEGEND:

POTENTIAL  
SHARED-USE PATH  
ALIGNMENT

**SHEET 8**  
OUTLINES OF  
DETAILED  
CONCEPTUAL PLANS  
PROVIDED IN  
THE APPENDIX

  
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0 1000 2000  
Scale in feet

June 2016

**Michael Baker**

**INTERNATIONAL**  
1818 Market Street  
Suite 3110  
Philadelphia, PA 19103



E:\146415\_Philadelphia\_RailTrail\_Study\Gen\PR\T\_Airport Fort Mifflin KEY PLAN.dgn



Moving northward from the Bartram's Fort Mifflin trail proposed southern terminus, at Fort Mifflin, the first two miles of trail will utilize a combination of low-volume roads and driveways, reallocated roadway (including through an existing 500 foot long road tunnel beneath an airport runway), and new shared-use paths built on the alignment of existing earth-surface roadways. A further 1-1/2 miles will place a new shared-use path within the reactivated 60<sup>th</sup> Street Rail Corridor.

At-grade crossings of existing Conrail Shared Assets railroad tracks will occur only at existing public grade crossings. Because the legal status of two grade crossings is unclear at this time, alignment alternatives have been developed.

South of the George C. Platt Bridge, much of the area traversed by the trail alignment is owned by the federal government and is slated for use by the US Army Corps of Engineers as a dredge disposal facility. The Conrail Shared Assets railroad right-of-way runs through USACE Fort Mifflin Dredge Disposal Facility Proposed Cell D. This study recommends that a trail easement adjoining the existing rail right-of-way be negotiated, allowing the trail to follow the alignment of existing earth-surface, low-traffic-volume roadways. Utilizing existing roadways allows the trail to avoid the lagoons and wetlands located immediately adjacent to the railroad.

A new trail bridge approximately 400 feet in length will be needed to cross Mingo Creek.

The Philadelphia International Airport Capacity Enhancement Program would require freight rail service to be reactivated on a 1-1/2 mile stretch of abandoned 60<sup>th</sup> Street Corridor, from a point a quarter mile north of Mingo Creek to north of 61<sup>st</sup> Street. This may afford an opportunity to locate a portion of the Bartram's Fort Mifflin Trail alongside the new railroad through a heavily industrialized part of the City where trail alignment options are otherwise difficult.

The Airport's plans to develop the CEP new southern runway are currently (June 2016) on hold. Therefore there is no active pursuit of acquiring the former right-of-way for reinstatement of rail service. No design work has been initiated; hence, there is no definitive direction regarding whether or not there would be enough space in the right-of-way to co-locate a shared-use path.

This study recommends that should the CEP project move forward, any right-of-way obtained by the City be wide enough for both a freight railroad **and** a parallel shared-use path. Depending upon constraints imposed by adjacent land uses, the width of right-of-way required for the railroad would vary from a minimum of 43 feet to a maximum of 130 feet. The **additional** right-of-way required for the trail would vary from a minimum of 15 feet to a maximum of 20 feet in width; the City would need to support the cost of this additional land acquisition.

The widest right-of-way (130' + 20') would be required in those areas where the railroad and trail would be placed on elevated fill at the approaches to bridges over 61<sup>st</sup> Street, 63<sup>rd</sup> Street, and Passyunk Avenue. However, in those cases where adjacent land uses would prove expensive to relocate, retaining walls could be constructed instead of fill slopes. In that case the railroad, trail and supporting structures could be confined to a corridor as narrow as 58 feet. It should be noted that if retaining walls are the option chosen, that will add significant cost to the project. Individual locations are analyzed in greater detail in this study's Alternatives Analysis. Typical sections depicting various scenarios are included as Sheets 1 through 5 in Appendix A.



## 2. Alternatives Analysis

This analysis begins at Fort Mifflin and moves north to 61<sup>st</sup> Street. Please refer to the key map, and to the plan sheets included as Appendix B.

### Sheet 6

The first 800 feet utilizes the existing driveway to Fort Mifflin, and an existing public grade crossing of Conrail Shared Assets.

The next quarter mile of trail would be located between the edge of Fort Mifflin Road and the existing Conrail Shared Assets single track railroad. Depending on the location of the public road right-of-way line and the railroad right-of-way line, the trail could be placed behind the existing guide rail along the east side of Fort Mifflin Road, or in space made available by reallocating the road's 42 foot wide cartway. Year 2014 traffic data indicates an ADT of 3,736 on Fort Mifflin Road.<sup>2</sup>

Philadelphia International Airport runway 8/26 is underpassed by two parallel tunnels. Conrail Shared Assets tunnel is 36 feet wide and includes a single track railroad. Fort Mifflin Road's tunnel is 56 feet wide, containing 12' lanes, 10' shoulders and 6' sidewalks protected by steel guide rails.

The rail tunnel does not contain adequate clearance for a shared-use path. This study recommends a reallocation of space within the Fort Mifflin Road tunnel. With the proposed PHL International Airport runway extension, the tunnel may be reconstructed, depending on runway alignment. The City and PHL should work together during design of the tunnel to account for potential trail alignment.

After exiting the tunnel, for a distance of 500 feet the shared-use path would continue as it did before the tunnel: either behind Fort Mifflin Road's existing guide rail or in a reallocated cartway where the northbound shoulder is now.

The trail alignment leaves Fort Mifflin Road and turns north, traversing undeveloped land that is now the site of illegal short-dumping. New fencing and movable bollards at the trail entrance may alleviate this situation.

Approaching Interstate 95's twin viaducts, two alternate alignments present themselves. One continues on the west side of Conrail Shared Assets, utilizing the alignment of an existing earth-surface roadway. The other crosses the railroad utilizing an existing at-grade crossing, then follows the seldom-used paved cartway of Old Hog Island Road. It is unclear whether the grade crossing of Conrail Shared Assets below the I-95 viaduct is a public grade crossing, a private crossing, or a rogue crossing. If other than a public grade crossing, Conrail Shared Assets is likely

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<sup>2</sup> DVRPC file no. 109618. <http://www.dvrpc.org/asp/trafficCount/default.aspx?recnum=109618>

to prohibit the trail crossing here, thereby rendering the latter alternate infeasible. The trail alternates are labelled Alternate 1A and Alternate 1B, respectively.

## Sheet 7

Alternate 1A roughly parallels the existing Conrail Shared Assets railroad on its west side; Alt 1B does the same on its east side. Alternate 1A follows an existing earth-surface lane located on a wide berm with intermittent ponds on both sides, including vestiges of channelized Eagle Creek. Alternate 1B follows low-traffic-volume Old Hog Island Road, little used today and described on a 1910 map as “Trolley Road and Drive.” Alternate 1B (as well as Alternates 2B and 3B) are those recommended by a year 2003 feasibility study completed for the Clean Air Council.<sup>3</sup>

One half mile north of the I-95 viaduct both alternate alignments cross low-traffic-volume Old Penrose Ferry Road. At this point Alt 1A continues as Alt 2A, and Alt 1B continues as Alt 2B. The existing grade crossing of Old Penrose Ferry Road may afford the opportunity for the trail alignment to cross the tracks, thus switching from 1A to 2B, or 1B to 2A. Crossing here is dependent on the Old Penrose Ferry Road grade crossing’s current legal status. If Old Penrose Ferry Road is no longer a public grade crossing, Conrail Shared Assets is not likely to allow a trail crossing.

The next opportunity to cross the railroad tracks is at the existing grade crossing of Penrose Ferry Road (if Alternate 2B is the alignment between Old Penrose Ferry Road and Penrose Ferry Road, no railroad crossing will be necessary here). This is a city street, so if a crossing is needed, crossing the railroad here will not be an issue.

North of Penrose Ferry Road, Alternate 3A is the most direct alignment, passing beneath the Platt Bridge. Alternate 3B is more circuitous but gives trail users a more interesting trail experience by approaching the confluence of the tidal Schuylkill River and Mingo Creek.

Alternates 3A and 3B converge just north of the Platt Bridge. North from here, a new approximately 400 foot long trail bridge will be required to span Mingo Creek.

Paralleling the east side of the railroad, after crossing Mingo Creek an easement will need to be acquired from Philadelphia Energy Solutions Refining and Marketing LLC, owners of the former Gulf Oil Schuylkill River Tank Farm. The railroad passes beneath a multi-span pipe bridge; the trail could also pass beneath the pipe bridge by utilizing one of several adjacent spans.

## Sheet 8

For a distance of 800 feet the proposed shared-use path alignment parallels the final section of extant Conrail Shared Assets railroad, traversing wooded lands owned by Philadelphia Energy Solutions Refining and Marketing LLC. An easement will need to be negotiated or right-of-way acquired.

---

<sup>3</sup> Trail Development Study for the Tinicum-Fort Mifflin Trail, June 2003.

[http://www.cleanair.org/program/transportation/bikepedestrian\\_trails/2003\\_tinicum\\_ft\\_mifflin\\_trail\\_development\\_study](http://www.cleanair.org/program/transportation/bikepedestrian_trails/2003_tinicum_ft_mifflin_trail_development_study)

The trail alignment described from this point northward is contingent upon reactivation of the 60<sup>th</sup> Street Rail Corridor. Because reactivation is a long-term prospect -- potentially ten or more years in the future -- a design for the corridor has not yet been developed. This study makes the assumption that the new track will be placed in the same location as the track that was removed, and develops a potential design from that premise.

This study recommends that a 12' wide shared use path be constructed parallel to the new single-track freight railroad. Recommended distance from centerline of track to security fence is 25 feet. The near edge of path is another 3' away from the track centerline. Total width of the right-of-way take would be 70 feet. Please refer to **Sheet 1** included in Appendix A.

The typical section depicted on Sheet 1, with 70 foot wide right-of-way, is appropriate for flat terrain, which is an accurate description of this area. However, that typical section cannot be used for large portions of this project due to several grade separations that will likely be required.

High traffic volumes will probably require grade separation at 61<sup>st</sup> Street (where there had in fact been a railroad overpass), at 63<sup>rd</sup> Street, and at Passyunk Avenue. 67<sup>th</sup> Street may also warrant grade separation due to the presence of active tank farms at 67<sup>th</sup> Street, between the corridor and the Schuylkill River. Two easements providing access to active petroleum tank farms that cross the former rail right-of-way 2000 feet south of 67<sup>th</sup> Street will also need to be considered. Can a new at-grade rail crossing be built across those access easements? Or will grade separation be required here as well? **Sheet 2** depicts the rail-with-trail on fill of sufficient height to match the grade of proposed overpasses. Right-of-way sufficient to span the entire fill will be 150' wide. Of that, 20' would be dedicated to the trail.

Due to intensive land uses immediately adjacent to the corridor (e.g., Philadelphia Wholesale Produce Market, petroleum tank farms) a 150' right-of-way take may not be practicable. In that case, in order to save space the railroad and adjacent trail may be supported by retaining walls on one or both sides. This is depicted on **Sheet 3**. Retaining walls save space but are significantly more expensive to construct and maintain; thus their use should be limited, if possible. For instance, if operations at Philadelphia Wholesale Produce Market can be reconfigured -- e.g., a trailer truck storage lot moved away from the rail corridor and onto nearby vacant property owned by Philadelphia Industrial Development Corporation -- a retaining wall on that side of the rail corridor may not be required.

If conditions require the narrowest possible footprint, the setback (distance from track centerline to near edge of trail) can be reduced from 25' to 12 feet. This results in a 58' wide right-of-way and is depicted on **Sheet 4**.

## **Sheet 9**

It's envisioned that the trail will jump over streets on separate bridges parallel to the railroad bridges; the side-by-side structures can be supported by common abutments. At those locations where the trail is grade separated from streets, ADA-compliant ramps should connect the trail to the street below in order to maximize connectivity with nearby neighborhoods, employment

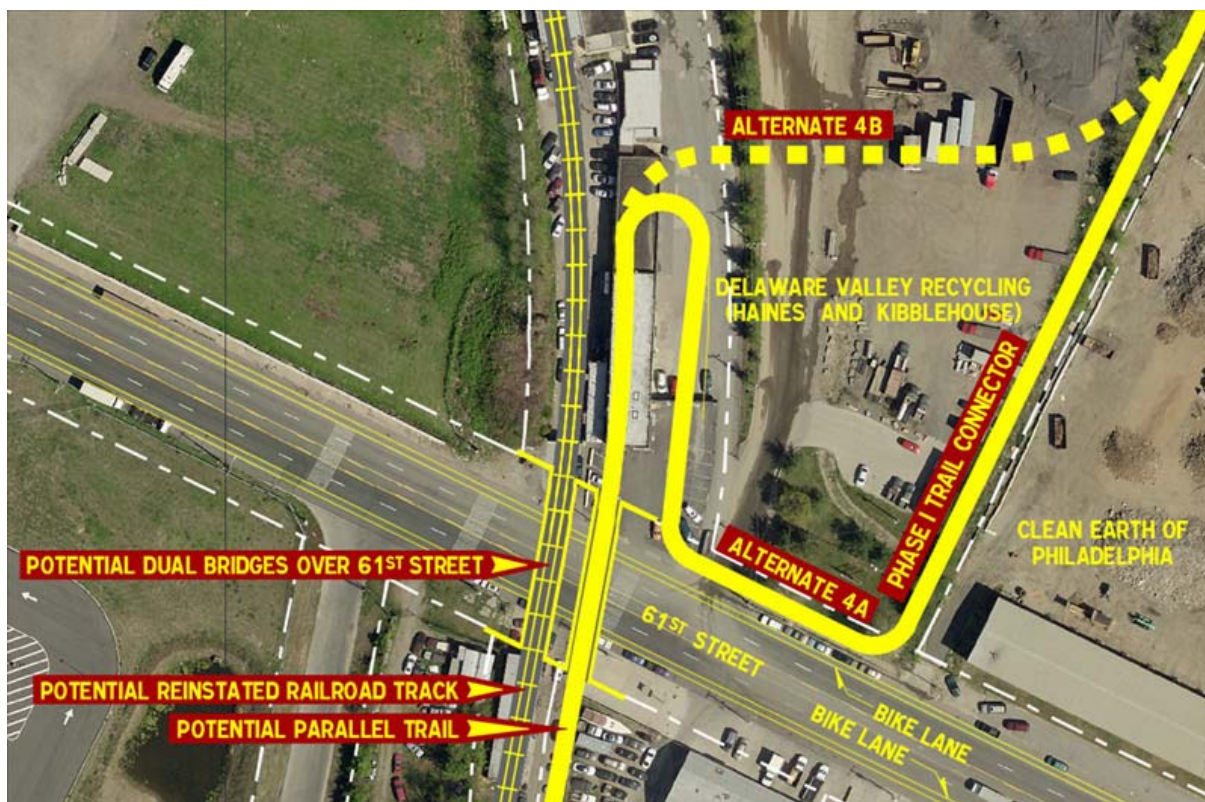


centers, and the city-wide bike lane network. The provision of these access ramps will require that the right-of-way flare out an additional 20' approaching the streets that are to be connected with.

In its original configuration, the 60<sup>th</sup> Street branch crossed Passyunk Avenue and 63<sup>rd</sup> Street at-grade. Because traffic volumes are significantly higher today, it's assumed that the new 60<sup>th</sup> Street rail corridor will include grade separations at both these streets (the crossings are approximately 200 feet apart). Because depressing the railroad in a cut here would result in finished grades at or below sea level, it's further assumed that the railroad will cross over rather than tunnel beneath the streets.

61<sup>st</sup> Street was crossed by a railroad bridge (since demolished); this report makes the assumption that the reactivated 60<sup>th</sup> Street rail corridor will cross over 61<sup>st</sup> Street on a bridge also.

Once across 61<sup>st</sup> Street, the trail will connect with the 56<sup>th</sup> Street – 61<sup>st</sup> Street section of Schuylkill River Trail now being designed. The trail will descend from the elevation of the overpass down to street level as soon as practicable while still conforming to ADA slope specifications. This report sketches two alternates that will accomplish this. Alternate 4A utilizes a "hairpin" configuration leading the trail to a short section of side path on the north side of 61<sup>st</sup> Street, then connecting with the 56<sup>th</sup> Street – 61<sup>st</sup> Street section of the SRT. Alternate 4B utilizes a more direct route but is contingent on additional right-of-way being made available.



Potential railroad and trail configuration at 61<sup>st</sup> Street. Orientation: North is at top of drawing

### 3. Conceptual Overview of Quantities

15,240 l.f. (~3 miles)	12 foot wide asphalt shared-use path
2350 l.f. (~1/2 mile)	Pavement reallocation (Fort Mifflin Road)
1	Trail bridge over tidal waterway (400 feet long over Mingo Creek)
3	Trail overpasses over city streets: 140 feet long over Passyunk Avenue 110 feet long over 63 <sup>rd</sup> Street 130 feet long over 61 <sup>st</sup> Street
6	At-grade trail crossings with public streets or private roads
139,000 s.f. (~3 acres)	20 foot wide trail easement
167,000 s.f. (~4 acres)	20 foot wide trail easement within new 60 <sup>th</sup> St. Corridor right-of-way
16	Number of properties from which easements/right-of-way may need to be acquired

#### 4. Best Practices

The conceptual design of the 60<sup>th</sup> Street Corridor conforms to recommendations and best practices of comparable Rails-with-Trails already in service in the United States.

Recommendations are those specified in U.S. Department of Transportation's *Rails-with-Trails: Lessons Learned*, published in 2002.

Best practices are those summarized in Rails-to-Trail's Conservancy's *America's Rails with Trails: A Resource for Planners, Agencies and Advocates On Trails along Active Railroad Corridors*, published in 2013.

Relevant facts regarding Rails-with-Trails:

1. 161 Rails-with-Trails exist, in 41 states
  - a. This is a notable increase from 61 Rails-with-Trails, in 20 states, in 2000
    - 2013 mileage = 1,397; year 2000 mileage = 523.
2. 80% of Rails-with-Trails include a barrier (such as a fence) between trail and active rails
3. Currently there are no national standards or guidelines governing the design and development of rails-with-trails. The 2002 USDOT publication, *Rails-with-Trails: Lessons Learned*, remains the most comprehensive and authoritative resource for rail-with-trail development.
4. The 160+ Rails-with-Trails in operation in the United States have a very good safety record. In the last twenty years only one fatality and two injuries caused by collision with trains have been reported on Rails-with-Trails.<sup>4</sup>

The single fatality occurred on the South Bay Trail, Bellingham, Washington. The collision occurred at a point where *the trail crosses active tracks at-grade*. Cyclist disregarded a railroad warning sign, a "cross-buck" symbolic sign, and a stop sign. Neither the railroad nor the trail manager were found to be liable.
5. At least one state-wide transportation authority's policy explicitly authorizes Rails-with-Trails. In 2013, Massachusetts Department of Transportation issued a letter stating that all Rail-with-Trail proposals going forward will be permitted, provided appropriate fencing separates the two uses.

#### USDOT setback recommendations

Setback is defined as the distance from centerline of active track to the nearest edge of trail.<sup>5</sup> USDOT states that appropriate setback must be determined on a case-by-case basis. Trail planners are encouraged to incorporate into the feasibility study analysis of technical factors, including:

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<sup>4</sup> Ibid., p. 12

<sup>5</sup> U.S. Department of Transportation, "Rails-with-Trails: Lessons Learned," Washington DC, 2002, p. 64



- Type, speed, and frequency of trains in the corridor
  - 60<sup>th</sup> Street Corridor will be designed for slow-moving local freight trains
- Separation technique
  - Recommend continuous chain link fence with tight anti-climb mesh. Locking gates would be provided at frequent intervals for the use of maintenance staff
- Topography
  - Level topography; some grading necessary to accommodate grade-separated overpasses. Width of the corridor will likely be constrained by space available for earthwork or retaining walls (portions will likely be elevated on fill)
- Sight distance
  - No problems anticipated
- Maintenance requirements
  - Recommend asphalt trail suitable for use by railroad maintenance vehicles
- Historical problems
  - None have been brought to the study team's attention. Prior to abandonment, the railroad was not fenced

The minimum setback distance recommended by the USDOT document is 10 feet, with a fence located within that 10 foot envelope.

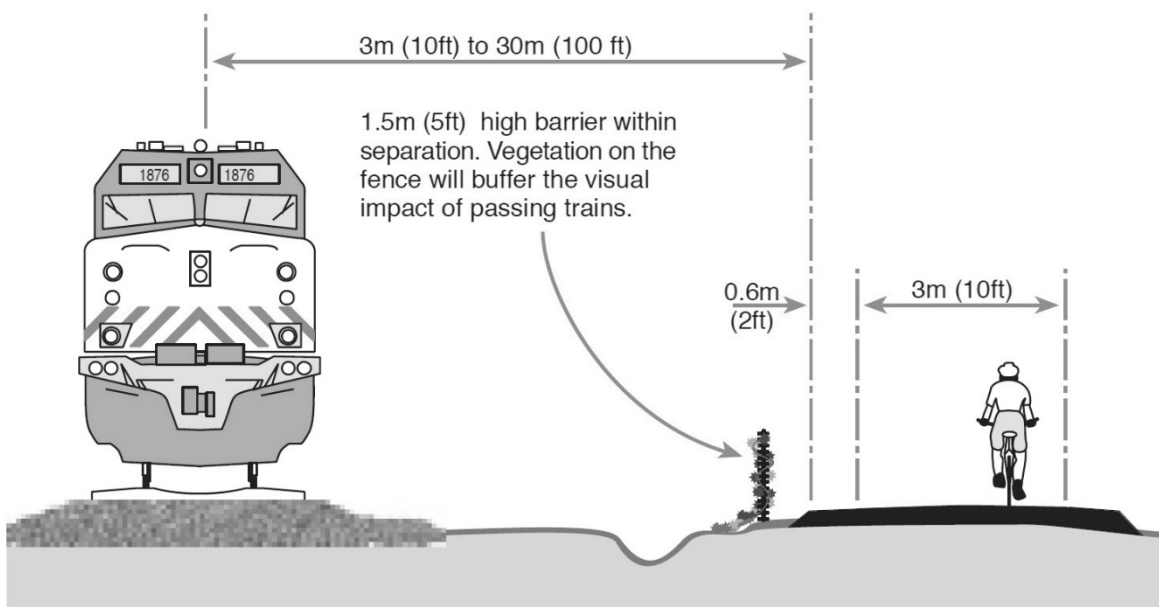


Diagram published on page 64 of USDOT's *Rails-with-Trails: Lessons Learned*

## Railroad policies regarding Rail-with-Trail

Individual railroads have in place a range of policies and standards regarding rails-with-trails. Conrail Shared Assets, owned jointly by Norfolk Southern and CSX, has in the past opposed parallel trails on railroad property within 80 feet of active tracks.

This study researched rail-with-trail standards in other areas that may have relevance to the 60<sup>th</sup> Street Corridor. Susquehanna Economic Development Association - Council of Governments is an economic development agency in central Pennsylvania. SEDA-COG's Joint Rail Authority owns a freight railroad network that spans the Pennsylvania counties of Centre, Clinton, Columbia, Lycoming, Mifflin, Montour, Northumberland and Union. Like Conrail Shared Assets, SEDA-COG "is opposed, in principle, to pedestrian/bike trails on its property." However, permission may be granted if the trail is more than 50 feet from active track. If a continuous fencing separating rail from trail is provided, the minimum required distance is 25 feet.

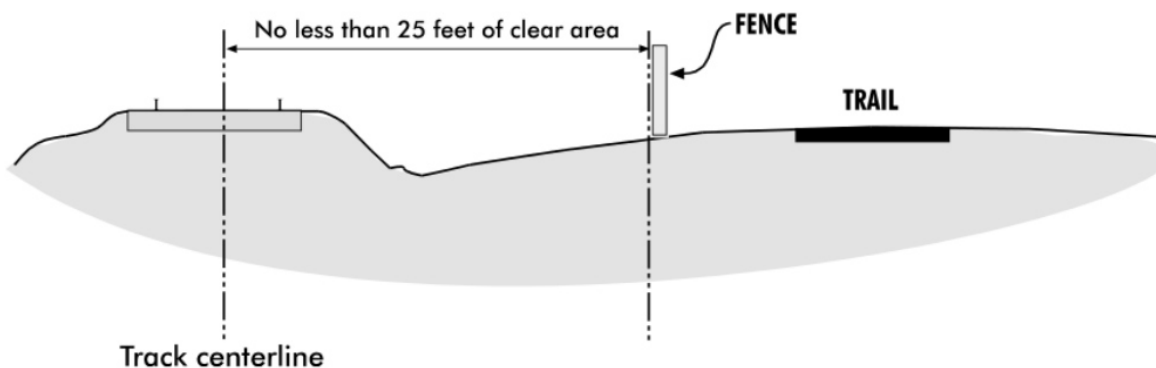


Diagram from SEDA-COG Joint Rail Authority Rails-with-Trails Standards, June 2001, amended June 2008

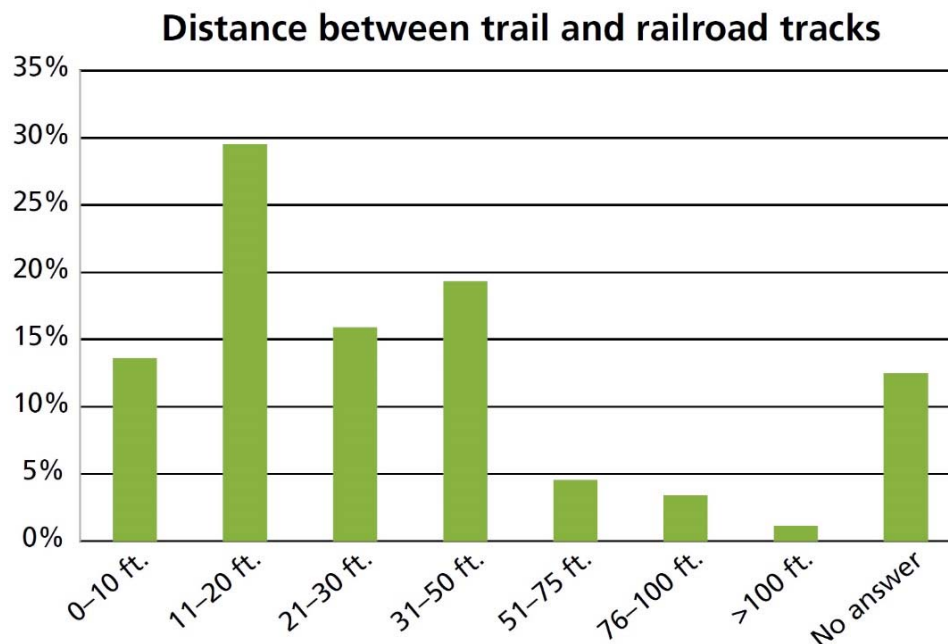
Because the 60<sup>th</sup> Street Corridor is envisioned as a city-owned right-of-way, divided into parallel easements for Conrail Shared Assets and the trail, the shared-use path will not be located on railroad property. The railroad and trail will, however, be located in close proximity.

**This study suggests a minimum 28 foot setback distance** for the 60<sup>th</sup> Street Corridor, with a fence located 25 feet from the centerline of track – an arrangement that conforms to SEDA-COG's standards and exceeds the USDOT recommendations by a wide margin. The wide setback allows for a railroad maintenance road between the railroad track and the fence.

**Should constraints imposed by adjacent land uses limit available space, this study recommends a minimum 12 foot setback with fence 10 feet from centerline of track.** This is less than the SEDA-COG requirements, but exceeds the USDOT recommendations. With this more limited setback, the shared-use path would also serve as a maintenance road for the railroad.

In 2013, Rails-to-Trails Conservancy surveyed the existing inventory of Rails-with-Trails across the United States, summarizing their attributes in an effort to determine trends and patterns. Among the criteria tabulated were:

- Width of railroad corridor
  - Nearly half of the railroad corridor rights-of-way studied were between 31 and 100 feet wide
- Type of railroad operation
  - Varied, with freight most common
- Frequency of rail service
  - As high as six trains per hour
- Maximum train speed
  - Between 5 and 150 mph, with 32 mph average
- Setback distances
  - Please refer to table below



Setbacks of existing Rails-with-Trails. Published on p. 27 of RTC's *America's Rails with Trails*



## **Comparable Rail-with-Trails**

### **Montour Rail-Trail Westland Branch**

Opened in 2013, the four mile long Montour Rail-Trail Westland Branch is located in Washington County, Pennsylvania.

Both the railroad and the parallel trail were designed and built together. Separation between rail and trail is provided by a four foot high chain link fence.

The majority of trains consist of tank cars carrying petroleum products including liquefied natural gas.



**Montour Rail-Trail, Westland, PA**



**Luzerne County National Recreation Trail in Pittston, PA**

### **Luzerne County National Recreation Trail**

The first 1.8 miles of a planned 16 mile long rail-with-trail opened in 2007. When complete the trail will connect towns along the Susquehanna River including Wilkes Barre and Pittston. The railroad and adjacent trail are owned and maintained by the Redevelopment Authority of Luzerne County.



Schuylkill River Trail in Plymouth Township, Montgomery County, PA



BNSF freight corridor with trail in San Diego, CA



BNSF freight corridor with trail in White Rock, Vancouver, BC

# Bartram's Fort Mifflin Trail Feasibility Study

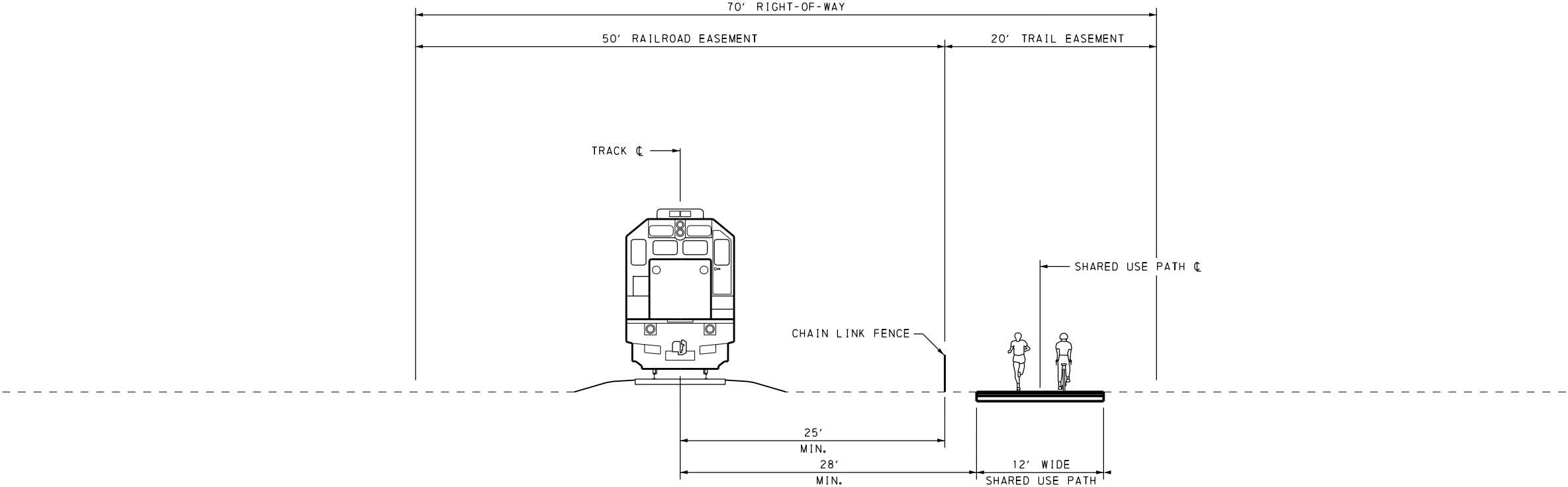
## **Appendix A**

### Conceptual Typical Sections

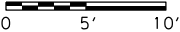


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CITY OF PHILADELPHIA					
REVISION NUMBER	REVISIONS			DATE	BY



Typical Section  
Reactivated 60th Street Rail Corridor

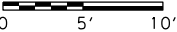
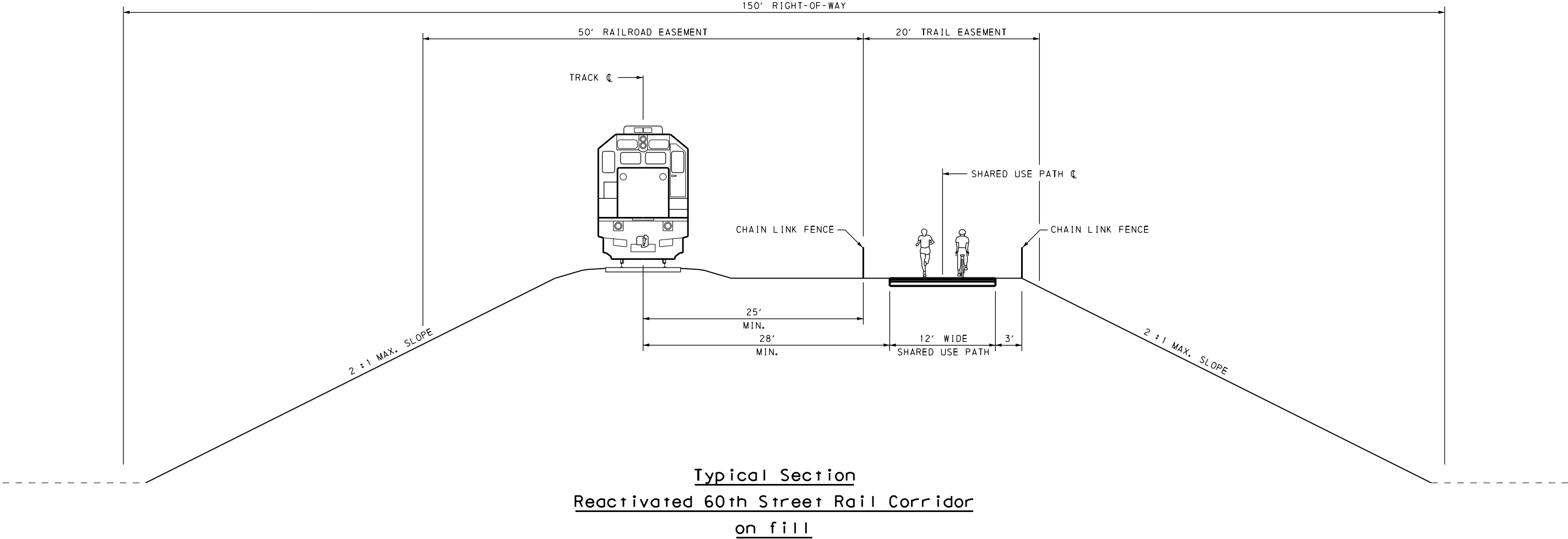


Conceptual Plan - Bartram's Fort Mifflin Trail

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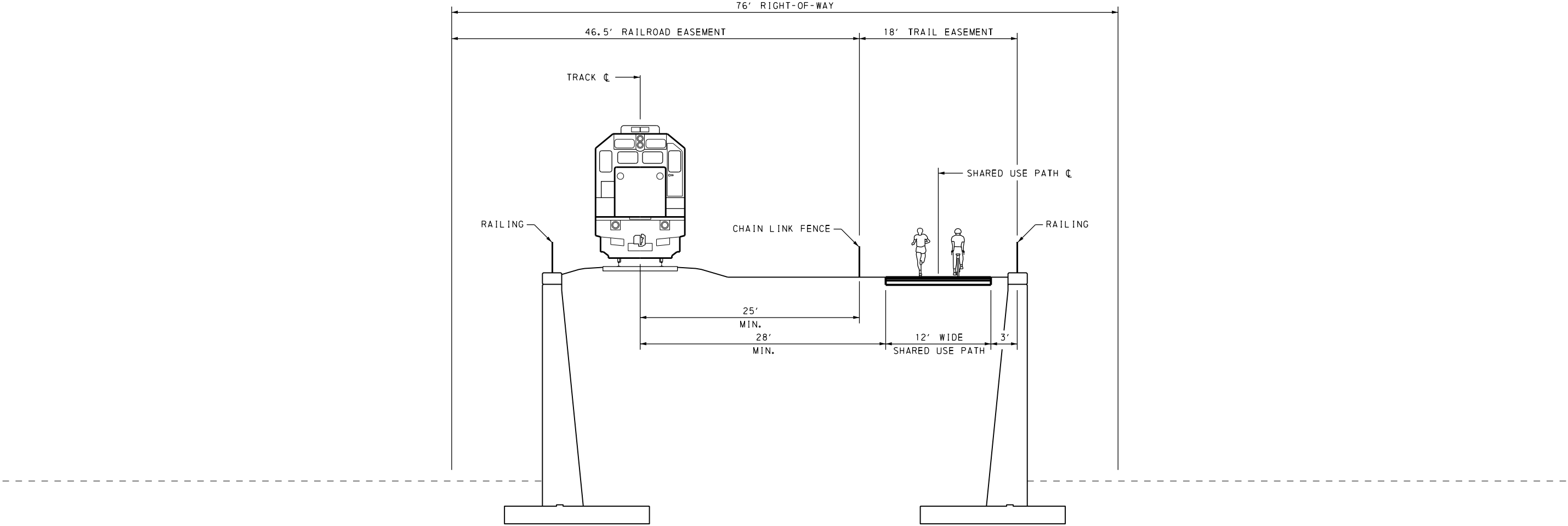
Conceptual Plan - Bartram's Fort Mifflin Trail

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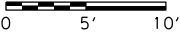
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Typical Section  
Reactivated 60th Street Rail Corridor  
approaches to overpasses - with retaining walls

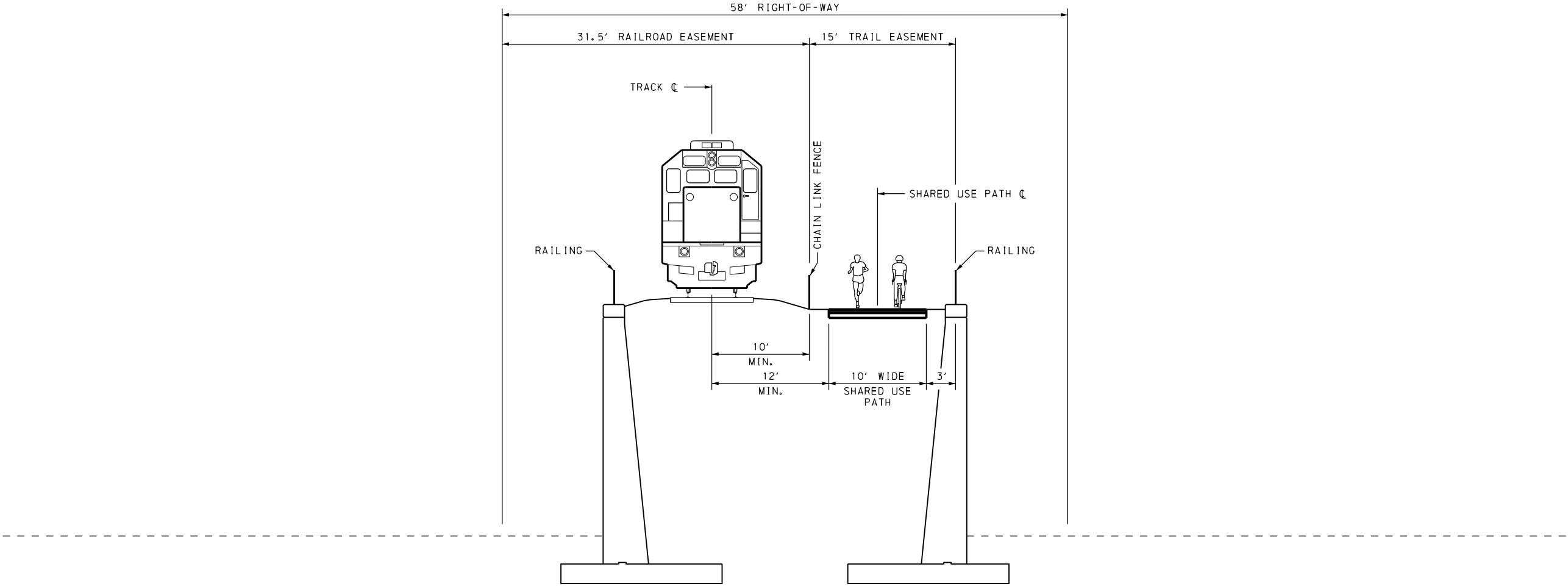


Conceptual Plan - Bartram's Fort Mifflin Trail

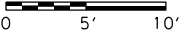
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CITY OF PHILADELPHIA					
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Typical Section  
Reactivated 60th Street Rail Corridor  
approaches to overpasses - with retaining walls - tight conditions



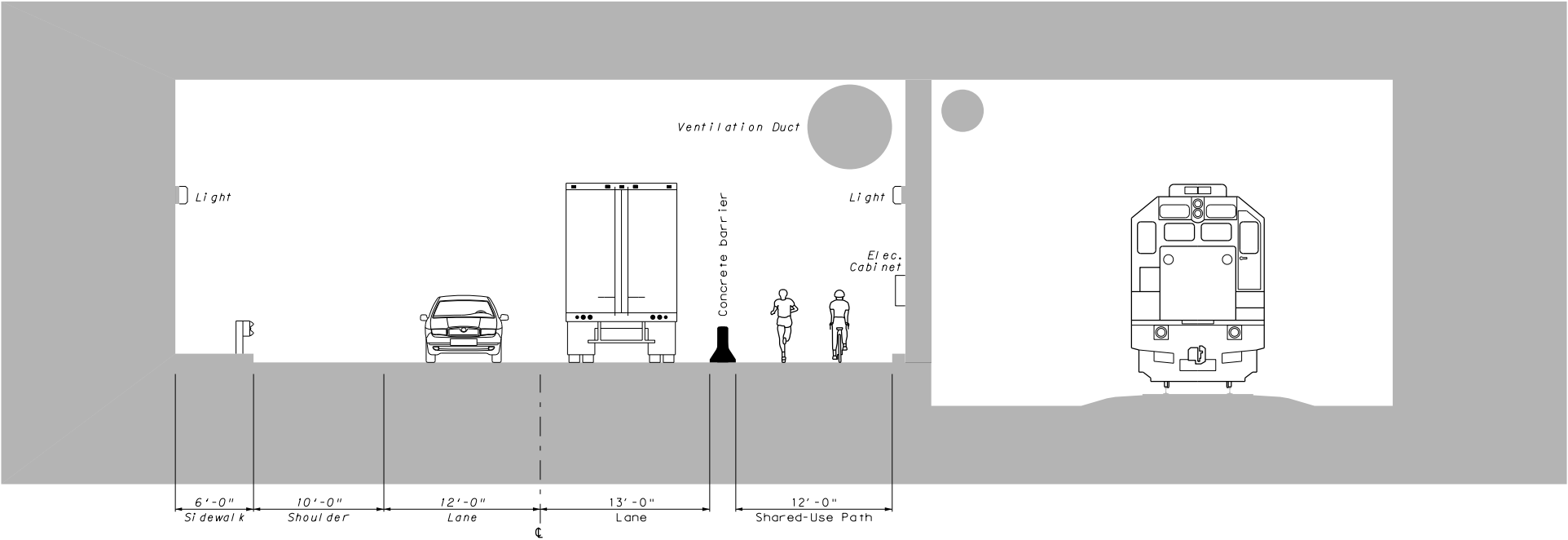
Conceptual Plan - Bartram's Fort Mifflin Trail

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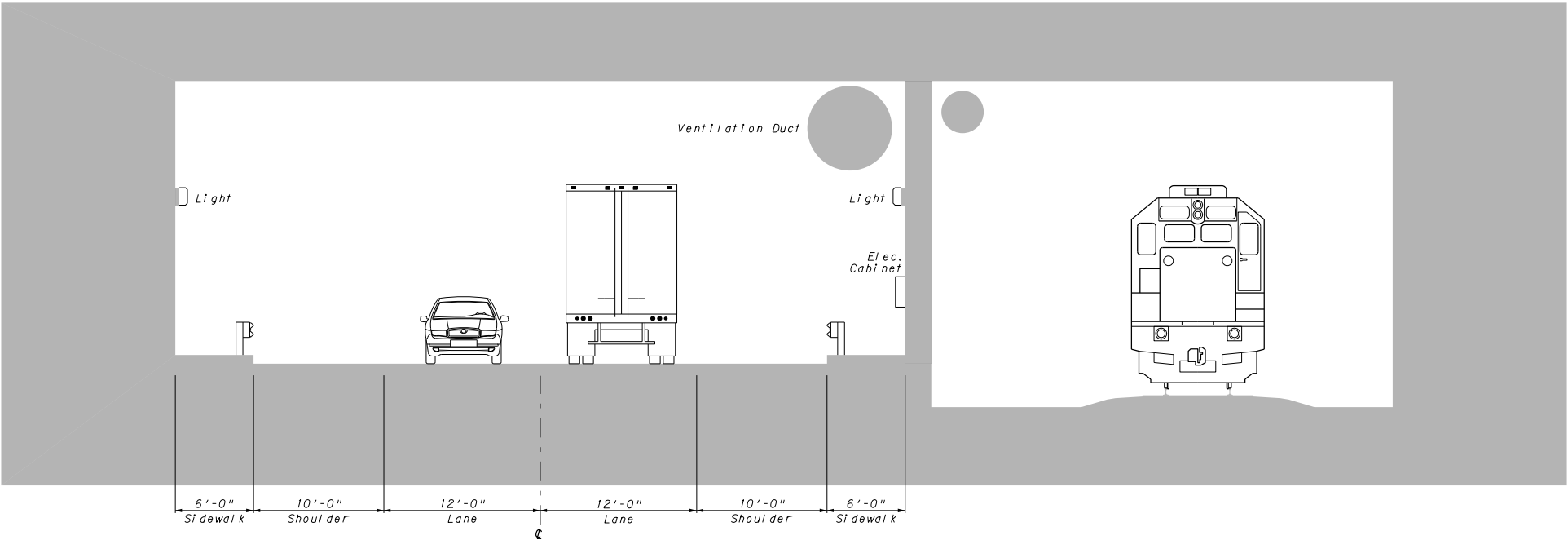


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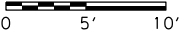
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Potential Section - Fort Mifflin Road Tunnel beneath Runway 8/26



Existing Section - Fort Mifflin Road Tunnel beneath Runway 8/26



Conceptual Plan - Bartram's Fort Mifflin Trail

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# Bartram's Fort Mifflin Trail Feasibility Study

## **Appendix B**

### Conceptual Plans

Appendix B is provided as a separate pdf due to its large size (12 Mb).

