

JUNCTION HOLLOW PROJECT: IMPROVING BICYCLIST/PEDESTRIAN SAFETY ON NEVILLE & BOUNDARY STREETS

Report of: Neville/Boundary Working Group
Oakland Green Team
OPDC
Bike Pittsburgh

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Executive Summary

This report makes a case for connecting the Junction Hollow trail along Neville Street to North Oakland.

Neville Street is a major bicycling corridor, providing the most direct access from Shadyside, the eastern section of Oakland, and Squirrel Hill to the popular riverfront trail system, as well as being a highly trafficked route for people driving to Central Oakland. This creates daily conflict, and occasional injury, and is generally a hazardous situation.

The recent completion of Carnegie Mellon University's (CMU) South Neville Parking Lot opened up a huge opportunity to extend the existing Junction Hollow Trail (JHT) into the heart of Oakland. Currently, access to the trail is hidden at the end of Boundary Street.

When CMU built the parking lot, they reserved space for a trail between the lot and rail road tracks. Connecting this partially built trail along railroad grade to the existing JHT would eliminate the need for bikes and cars to "share the road" within a dangerous section of the corridor. Extending the trail is an opportunity for a public-private partnership that will greatly improve its access, utility, and safety.

Between the railroad tracks and Fifth Avenue, we present an option for improving conditions for cyclists and pedestrians along city-owned streets. This completes the connection to North Oakland, Shadyside, and the city's bicycle lane and trail network.

This report summarizes current conditions and construction (Section 2 and 3), and proposes a strategy for improving the cyclist/pedestrian infrastructure (Section 4). Implementing the proposed strategy would require action from the City of Pittsburgh, Carnegie Mellon University, Central Catholic High School, and the CSX Railroad.

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1 Background

Neville and Boundary Streets form an important connection for cyclists between the Eliza Furnace Trail and Oakland. The ‘bikeshed’ extends to the Zoo, Homewood, and Squirrel Hill.

This route is heavily used by cyclists, especially commuters, and it is also used by pedestrians.

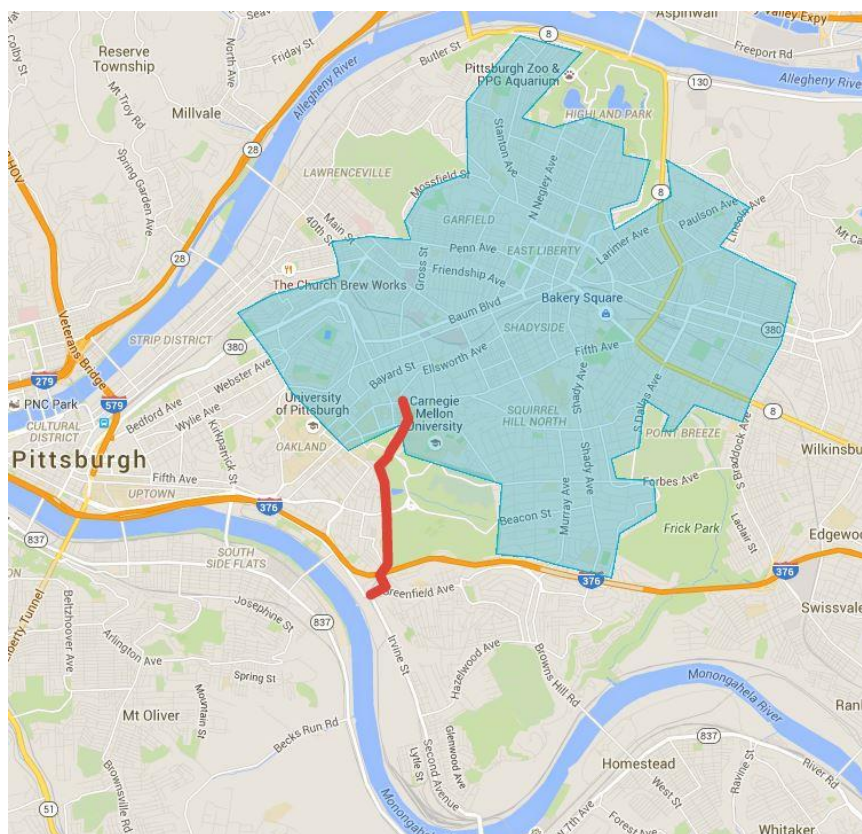
Usage might be higher if it were safer, but it is currently dangerous for both cyclists and pedestrians. The May 2015 City Cyclist and Pedestrian Count highlighted this, as Fifth and Neville was the third-highest bicycle traffic location in the city.

Currently this route is completely incompatible with the city’s vision for complete streets and leaves all modes other than vehicles at risk, especially between Fifth Avenue and Joncaire Street. Development in Hazelwood and along the riverfront will likely increase cyclist and pedestrian traffic through the corridor. However, a number of construction projects are in progress or proposed in this corridor, which present an opportunity to coordinate their contributions to improve safety.

The Neville Street Working Group was formed in December 2014 in order to look for ways to make Neville Street below Fifth Avenue more useable for cyclists and pedestrians. Most stakeholders agreed that this is a problem area and should be addressed, therefore the working group stepped up to provide impetus and move the project forward. Our thought is that a focused effort to advocate and follow up on this project will make it a concrete priority for the city and others involved.

To improve this corridor, we must address the following challenges:

- Space constraints
- Coordinating multiple stakeholders
- Working with railroad on right of way
- Funding



2 Current Conditions

2.1 Principal hazards

- Narrow road widths that make it difficult to safely accommodate all modes without conflicts
- Lack of sidewalks to ensure safe pedestrian mobility
- Excessive automobile speeds
- The pinch point at CIC building wing wall

2.2 Principal stakeholders: to engage/continue to engage

- Bike Pittsburgh
- Carnegie Mellon University
- Carnegie Museums
- City Council District 3
- City Council District 5
- City Council District 8
- City of Pittsburgh
- Hazelwood Initiative
- Oakland Green Team
- Oakland Planning and Development Corporation
- Oakland Transportation Management Association
- Pittsburgh Parks Conservancy
- Residents of Neville Street and Panther Hollow neighborhood
- Shadyside Action Coalition
- Squirrel Hill Urban Coalition: Bike-Pedestrian Committee
- University of Pittsburgh
- Greenfield Community Association
- Saline St/Run Residents

2.3 Bicyclist/pedestrian traffic

Neville and Boundary Streets form an important connection for cyclists and pedestrians to Pittsburgh's regional trail network and job centers in Downtown and Oakland. This segment has scant shoulders, poor sightlines, and excessive vehicle speeds. The map below of Strava users' data illustrates the vitality of this section to non-motor vehicle modes of transportation.

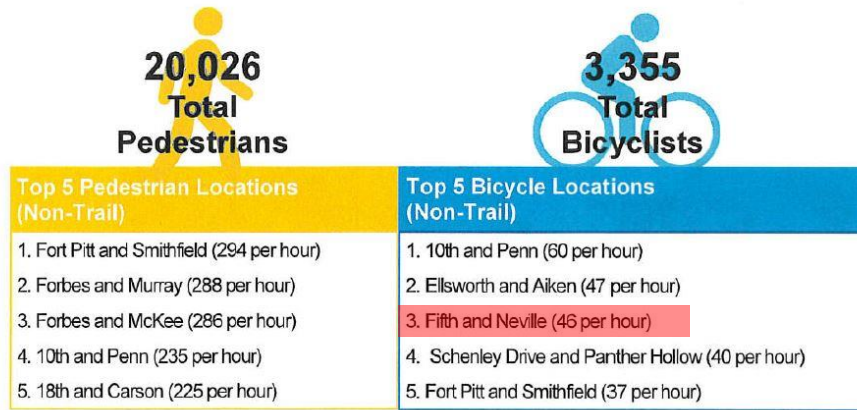


The Department of City Planning’s count Pittsburgh effort in May of 2015 measured the intersection of Fifth Avenue and Neville Street as the third highest location for bicycle traffic in the city.

Count Pittsburgh: May 2015 Bike/Ped Count

RESULTS SNAPSHOT

- 3 two-hour count periods
- 76 volunteers
- 38 locations



2.4 Motor vehicle traffic

Request made in May 2017 to Pittsburgh Police Zone 4 for a traffic speed/counter to be deployed on Neville Street in early fall 2017 once the universities resume class.

2.5 Parking

There are approximately 15 permit parking spaces on Neville Street between Filmore Street and Fifth Avenue. Neville Street residents would be affected by changes to the configuration of the road’s right of way. A systematic parking study is needed to evaluate the parking usage and potential impacts more fully.

2.6 Elevations

One of the challenges of this route is the gradient of the climb from the top of the Junction Hollow trail to Fifth Avenue almost 3% overall and 7.8% for the 0.12 miles between Filmore and Fifth. As a result, northbound (uphill) bicycle traffic is much slower than southbound (downhill) traffic. **Elevations and distances are rough estimated based on Google maps made by amateur volunteers.*

2.7 Physical conditions

The route has four distinct sections, each with its own character. **All measurements in this section are rough estimates made by amateur volunteers.*

SCOPE OF AREA // 4 SECTIONS



SECTIONS

Neville

Between Fifth & Filmore St.

Includes:

- CMU Dorm @ Corner of Fifth & Neville
- Central Catholic High School Parking Entrance

Tepper / Tracks

Between Filmore St. & CMU Neville Parking Lot

Includes:

- Tepper Quad Loading Docks (under construction);
- Entrance to CIC/Gates Parking Garage; and,
- Train Tracks Crossing & Pinch Point.

Carnegie Mellon

Between CMU Neville Parking Lot & Schenley Dr. Bridge

Includes:

- CMU FMS Trail adjacent to Train Tracks (pending connection).

Panther Hollow

Between Schenley Dr. Bridge & Start of Junction Hollow Trail

Includes:

- UPitt Parking Lot Entrance
- Potential Trail adjacent to Train Tracks (further study required)



*image from Google maps





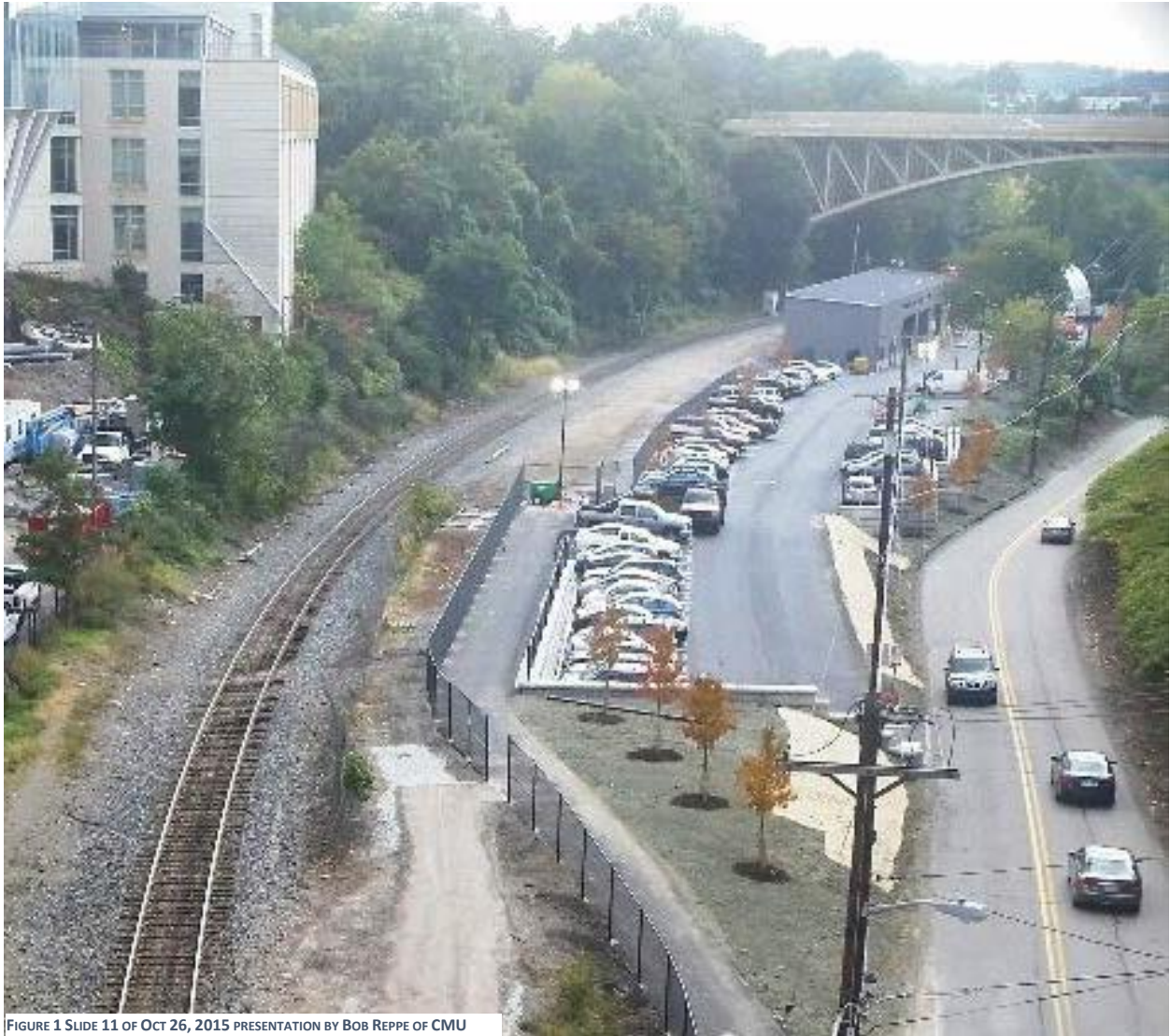


FIGURE 1 SLIDE 11 OF OCT 26, 2015 PRESENTATION BY BOB REPPE OF CMU

CMU has reserved space for a trail between its Neville parking lot and the railroad tracks. Here is a view, looking south towards the Schenley Drive bridge, of the currently paved portion as well as the future trail alignment. The completed portion is to the right of the black chain-link fence, the reserved space continues along the parking and behind the gray building. This view also shows the separation between the pedestrian exit (bottom right of image) and the vehicle exit.

3 Current Construction and Plans

Two significant construction projects are currently under way or recently finished: the STEM Building at Central Catholic and the Tepper School building at CMU. The working group has discussed coordination of Neville/Boundary plans with both Brother Anthony Baginski of Central Catholic and Bob Reppe of CMU.

3.1 Central Catholic

They built an 8' wide sidewalk in front of their STEM building. Unofficially, Central Catholic appears willing to work with CMU to finish the missing segment of sidewalk on the east side of Neville Street between Filmore Street and the Tepper building, roughly 480 linear feet.

3.2 Carnegie Mellon University

CMU is currently constructing the new Tepper School of Business. The Tepper building will have loading docks that are accessed from Neville Street. Building plans include a cyclist/pedestrian access path from Neville Street to the building. CMU has discussed with Central Catholic the need to build a sidewalk on the east side of Neville that connects Tepper/CIC garage to the sidewalks farther north along Neville Street. The CMU Master Plan shows a trail connecting to the Junction Hollow Trail. CMU has indicated that they intend to finish the trail behind their Neville Street parking lot when the City has a plan for connecting its south end to the existing trail/road infrastructure.

3.3 Pittsburgh Parks Conservancy - Four Mile Run Green Infrastructure Project

On the south end of the Junction Hollow project's area, the Pittsburgh Parks Conservancy is currently working with PWSA on a comprehensive green infrastructure plan for the M29 Four Mile Run watershed. This plan is still in early stages, but will potentially involve daylighting Four Mile Run through Junction Hollow as well as creating green infrastructure to retain and absorb stormwater in the hollow.

4 Analysis and Preferred Routes

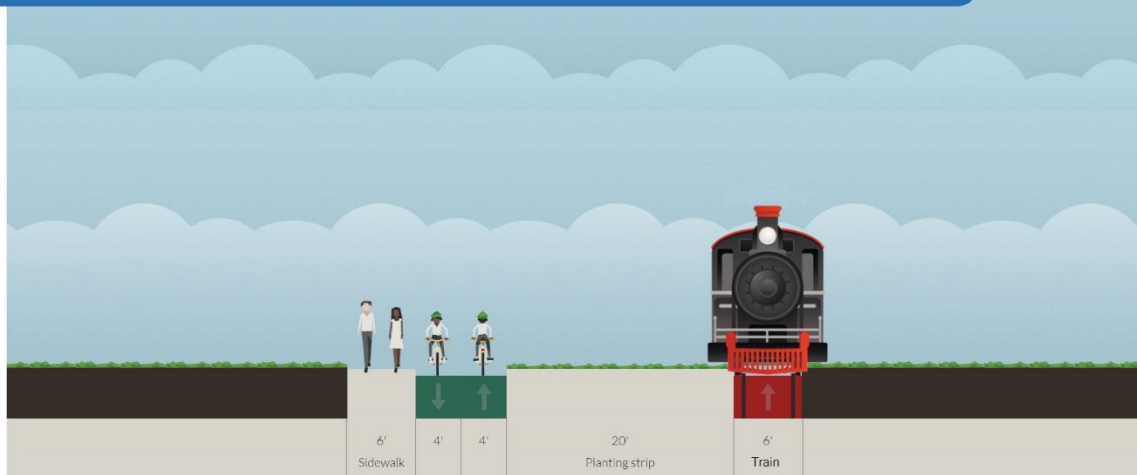
4.1 Types of street treatments

STREET TYPE A : BICYCLE CLIMBING LANE



1 Shared Lane + 1 Driving Lane + 1 Bicycle Climbing Lane (No Parking)

STREET TYPE B : PED / BIKE ROUTE



- Pedestrian & Bicycle Route, Adjacent to Existing Train Tracks (w/ 20'-25' buffer)

4.2 Recommendations

The Working Group's recommends developing a mixed-use trail at railroad grade connecting the existing JHT with the trail built by CMU behind their Neville Street parking lot. Above the Neville Street/railroad crossing, the group recommends creating a separated on-street climbing lane to provide safety for cyclists as they ride up the hill; this would be coupled with downhill 'sharrows', and a completed sidewalk connection for pedestrians on the east side of Neville Street. Widening the railroad crossing is also important as it currently has dangerous crossing angles for cyclists.

Short Term:

- Design, planning, and engineering feasibility study of this idea
- Commission survey to determine property ownership (City)
- Connect sidewalks on east side of Neville Street to Tepper Building/CIC garage (CMU/Central Catholic)
- Widen railroad crossing so that cyclists and pedestrians can cross safely. (City/Railroad)

Long Term:

- Finish trail behind CMU's Neville Street parking lot (CMU)
- Connect JHT along railroad grade to CMU portion of trail (City/Railroad)
- Install climbing lane for cyclists riding uphill on Neville Street (City)

STREET TYPE RECOMMENDATIONS



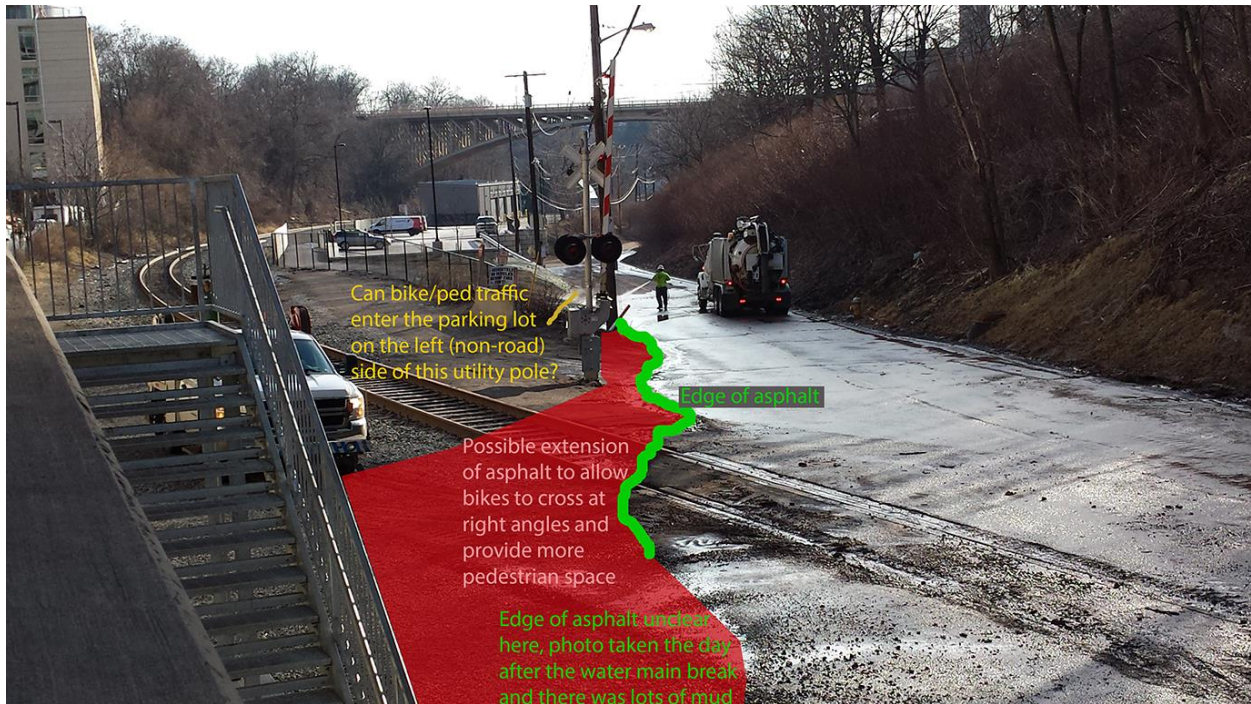
STREET TYPE

- A** 1 Bicycle Climbing Lane
1 Driving Lane
1 Shared Lane

REMOVES
~15 PARKING SPOTS
- A** 1 Bicycle Climbing Lane
1 Driving Lane
1 Shared Lane

REQUIRES
ADD'L STREET WIDTH
Requires Sidewalk Improvements / Construction
- B** Ped & Bike Route Adjacent to Train Tracks
-Additionally, existing Boundary Street Upgraded w/
Sharrows in Both Directions
-No Parking
- B** Ped & Bike Route Adjacent to Train Tracks
-Additionally, existing Boundary Street Upgraded w/
Sharrows in Both Directions
-Maintains Parking through Panther Hollow Neighbor-
hood

Short-term Opportunities





Boundary St under Schenley Drive bridge
There's a graded ramp up to RR leve. It comes out comfortably away from the tracks
Looks like there's a clear path from there to the southern end of the CMU Neville parking lot

Appendix 1. Project Participants

Working Group members include

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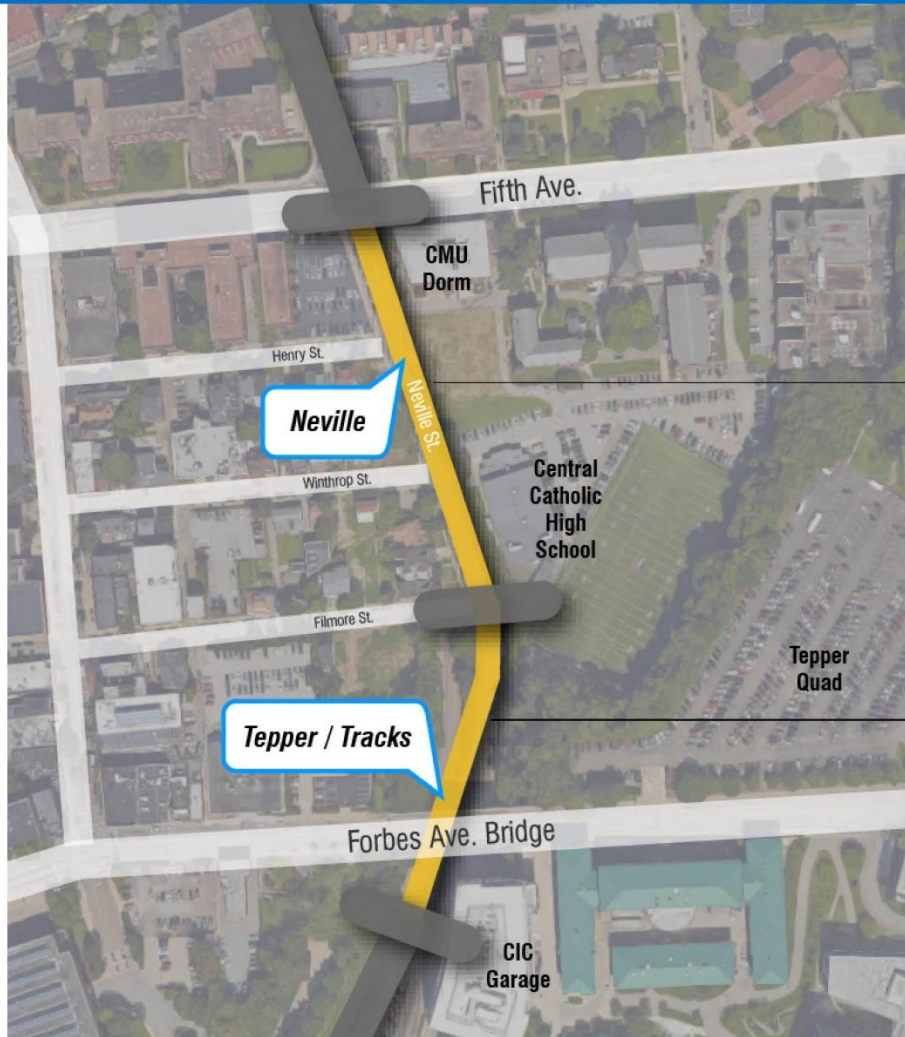
David Zwier dzwier@opdc.org

Additional feedback was gathered from attendees at multiple Oakland Green Team meetings.

Photo credits: Mary Shaw

Appendix 2. Recommendations by Segment

RECOMMENDED STREET SECTIONS // Neville & Tepper / Tracks



STREET TYPE

A

- 1 Bicycle Climbing Lane
- 1 Driving Lane
- 1 Shared Lane

REMOVES
~15 PARKING
SPOTS

STREET TYPE

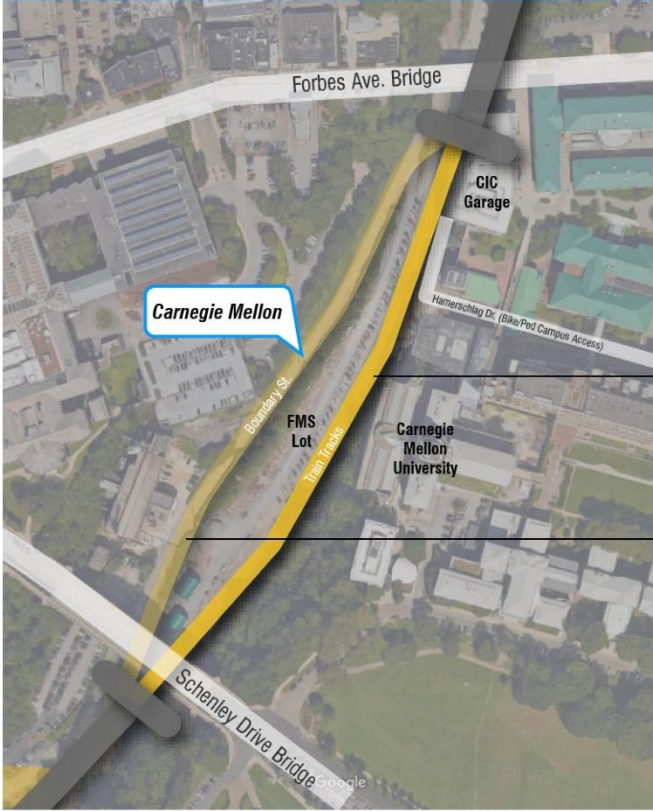
A

- 1 Bicycle Climbing Lane
- 1 Driving Lane
- 1 Shared Lane

REQUIRES
ADD'L STREET
WIDTH

- Requires Sidewalk Improvements / Construction

RECOMMENDED STREET SECTIONS // Carnegie Mellon



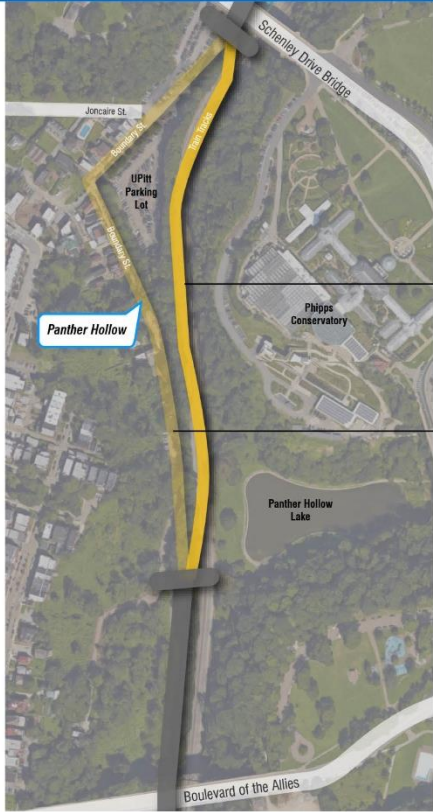
STREET TYPE

B

Ped & Bike Route Adjacent to Train Tracks

Existing Boundary Street Upgraded w/ Sharrows in Both Directions
 - No Parking

RECOMMENDED STREET SECTIONS // Panther Hollow



STREET TYPE

B

Ped & Bike Route Adjacent to Train Tracks

Existing Boundary Street Upgraded w/ Sharrows in Both Directions
 - Maintains Parking through Panther Hollow Neighborhood

Appendix 3. Property Ownership and Supporting Documents

Property Ownership

Deeds and railroad maps are in the Property Ownership section of the web site resources page of our web site, <http://neville.royweil.org/property-research/>

Supporting Documents

- City of Pittsburgh Complete Streets information page:
<http://www.pittsburghpa.gov/dcp/completestreets>
 - The city's adopted policy:
[http://apps.pittsburghpa.gov/dcp/Final Complete Streets Policy 2016 - Exhibit A.pdf](http://apps.pittsburghpa.gov/dcp/Final_Complete_Streets_Policy_2016_-_Exhibit_A.pdf)
- The CMU Master plan and the Tepper presentation can be found at
<http://www.cmu.edu/cdfd/master-plan/index.html>
- The Master Plan amendment is slide 62 and 63 from the Apr 8 2015 meeting where they mostly talked about the new Tepper building. Slide 47,page 45 shows the "Transportation Master Plan" with trail access on Neville Street all along the edge of CMUs property
<http://www.cmu.edu/cdfd/images/tepper/index-page/town-hall-slides-8-apr-2015.pdf> (39 MB)
- Campus design / facility development web site has a Tepper Section
<http://www.cmu.edu/cdfd/tepper-quad/index.html>
- Tepper Quad web site
<http://tepper.cmu.edu/who-we-are/tepper-quad/>
- Resources page of the following web site, <http://neville.royweil.com/resources/>

Design Standards

NACTO is at <http://nacto.org/wp-content/uploads/2011/03/AASHTO-Guide-for-the-Development-of-Bicycle-Facilities-1999.pdf> , don't know whether city is different]]

For detail technical explanation see Minnesota Bikeway Facility Design Manual Chapter 3.
<http://www.dot.state.mn.us/bike/pdfs/manual/Chapter3.pdf>

Appendix 4. Resources on Rails WITH Trails

The national Rails to Trails Conservancy has a resource page for Rails WITH Trails. Here's the link:
http://www.railstotrails.org/build-trails/trail-building-toolbox/planning/rail-with-trail/?utm_source=newsletter&utm_medium=email&utm_campaign=TEN_newsletter

§ 33.122. Side clearances (Pennsylvania Code)

(a) Minimum side clearances from center line of tangent railroad tracks, used or proposed to be used for transporting freight cars, shall conform with the regulations of this section, except that structures, including platforms and tracks, constructed or under construction prior to the adoption of this Subchapter may be maintained and extended at existing clearances.

(b) All structures and obstructions above the top of the rail, except those specifically exempted in this section, shall have a minimum side clearance of 12 feet from the center line of the track.

In McKeesport, the trail is just 5' from the nearest rail

