SAFE ROUTES to TRANSIT

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

HUGHES PARK STATION

Improvements for Station Area Access

ABOUT DVRPC

DVRPC is the federally designated Metropolitan Planning Organization for the bi-state, nine-county Greater Philadelphia Region. DVRPC works with a variety of stakeholders, including municipal, county, and state representatives, to address issues of transportation, land use, environmental protection, and economic development. For more information, see www.dvrpc.org and www.dvrpc.org/SafeRoutesToTransit.

DVRPC Project Contact:

Cassidy Boulan
Senior Transportation Planner
215.238.2832
cboulan@dvrpc.org

Safe Routes to Transit Round 1: Fiscal Year 2017

SAFE ROUTES to TRANSIT

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

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Project Background

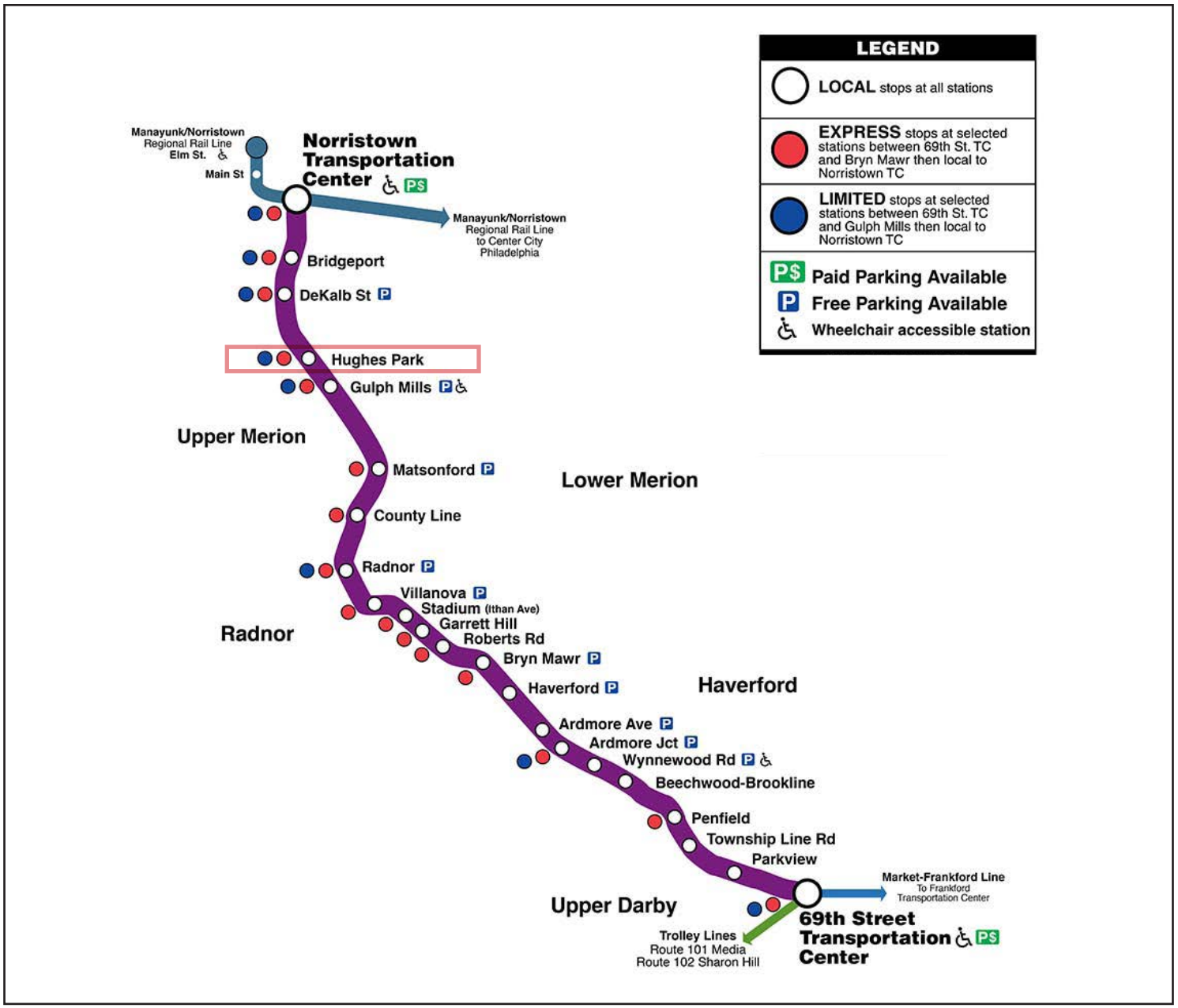
Through the Safe Routes to Transit program, Delaware Valley Regional Planning Commission (DVRPC) staff are working with municipalities to develop planning-level designs for improving and expanding walking and biking routes to train stations in the Philadelphia region. Hughes Park Station was selected in the fall of 2016 as one of DVRPC's projects for this program. The resulting design recommendations will make for strong applications for various funding sources. The project sponsor, Upper Merion Township, will pursue implementation following the completion of this study.

The Safe Routes to Transit program was created to offer technical assistance for municipalities and counties who want to improve bicycle or pedestrian access to rail stations, with a strong emphasis on implementation. The efforts of this project are intended to culminate in a safer Hughes Park Station via short-term design solutions. Thoughtful interventions that encourage accessing rail stations by walking and biking can be relatively easy to implement, promote sustainability and healthy lifestyles, and increase transit ridership while avoiding the costly addition of parking spaces. These interventions expand accessibility for bicyclists and pedestrians, building connections that better serve communities.

NORRISTOWN HIGH SPEED LINE

Hughes Park Station is on the Southeastern Pennsylvania Transportation Authority (SEPTA) Norristown High Speed Line (NHSL) in Upper Merion Township, Pennsylvania (*Figure 1*). It is located at the intersection of Yerkes Road and Crooked Lane. All NHSL trains stop at this station. There is no official parking at this station, but there is free parking available at the adjacent stations.

Figure 1: Norristown High Speed Line

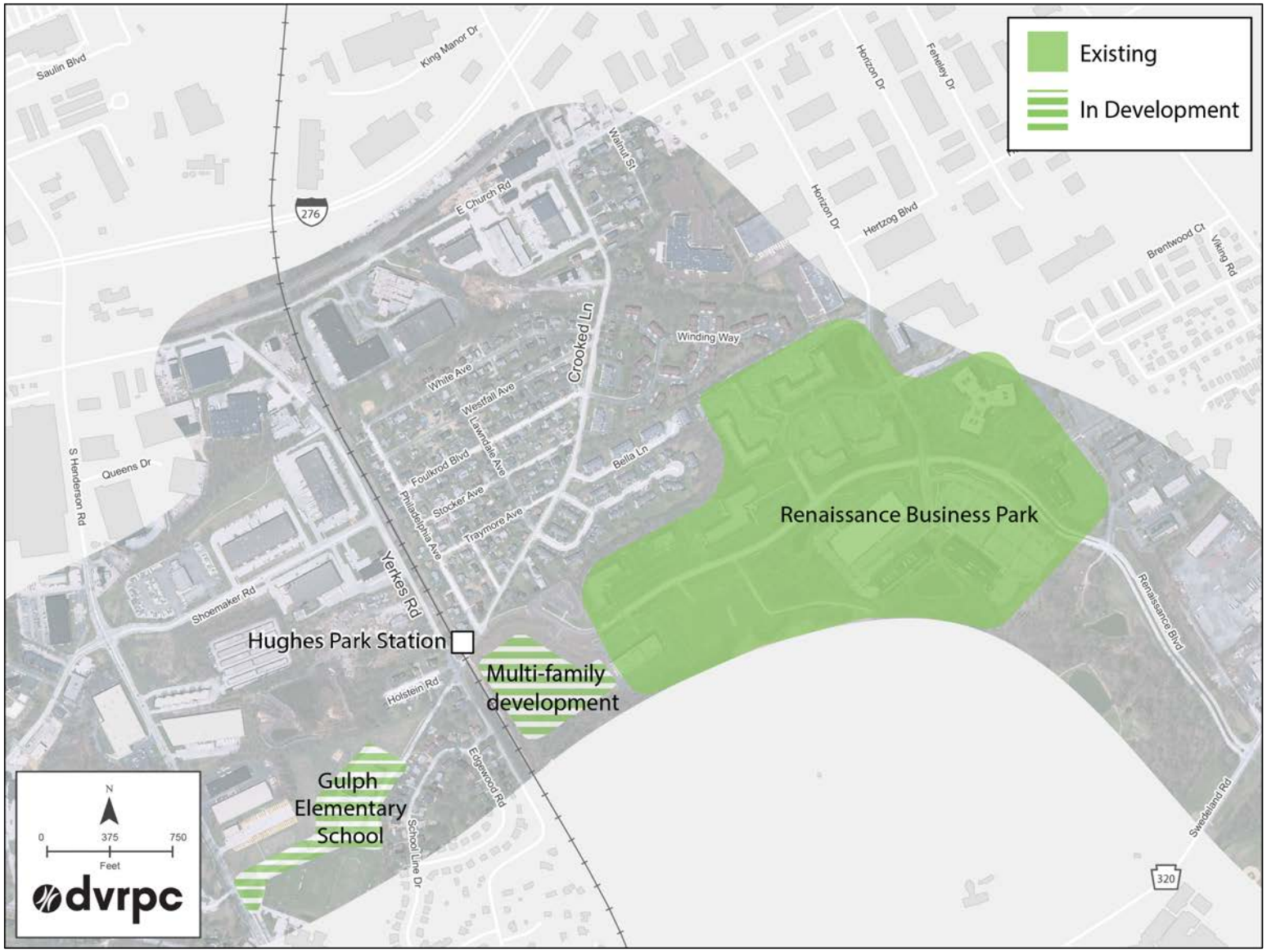


Source: SEPTA, 2017

STUDY AREA

As a first step in this process, DVRPC conducted an existing conditions analysis of Hughes Park Station and the surrounding area. *Figure 2*, below, highlights the study area of this project. It includes significant routes used to get to Hughes Park Station, including Yerkes Road, Crooked Lane, and Renaissance Boulevard. Key destinations near the station (highlighted below) are Renaissance Business Park, Gulph Elementary School (under construction, scheduled to open fall of 2018), and a proposed multi-family development by O'Neill Properties Group scheduled to break ground in 2018. Also relevant, there is a planned extension of the Chester Valley Trail, just north of the study area, that will curve around where S. Henderson Road crosses the Pennsylvania Turnpike.

Figure 2: Hughes Park Station Study Area



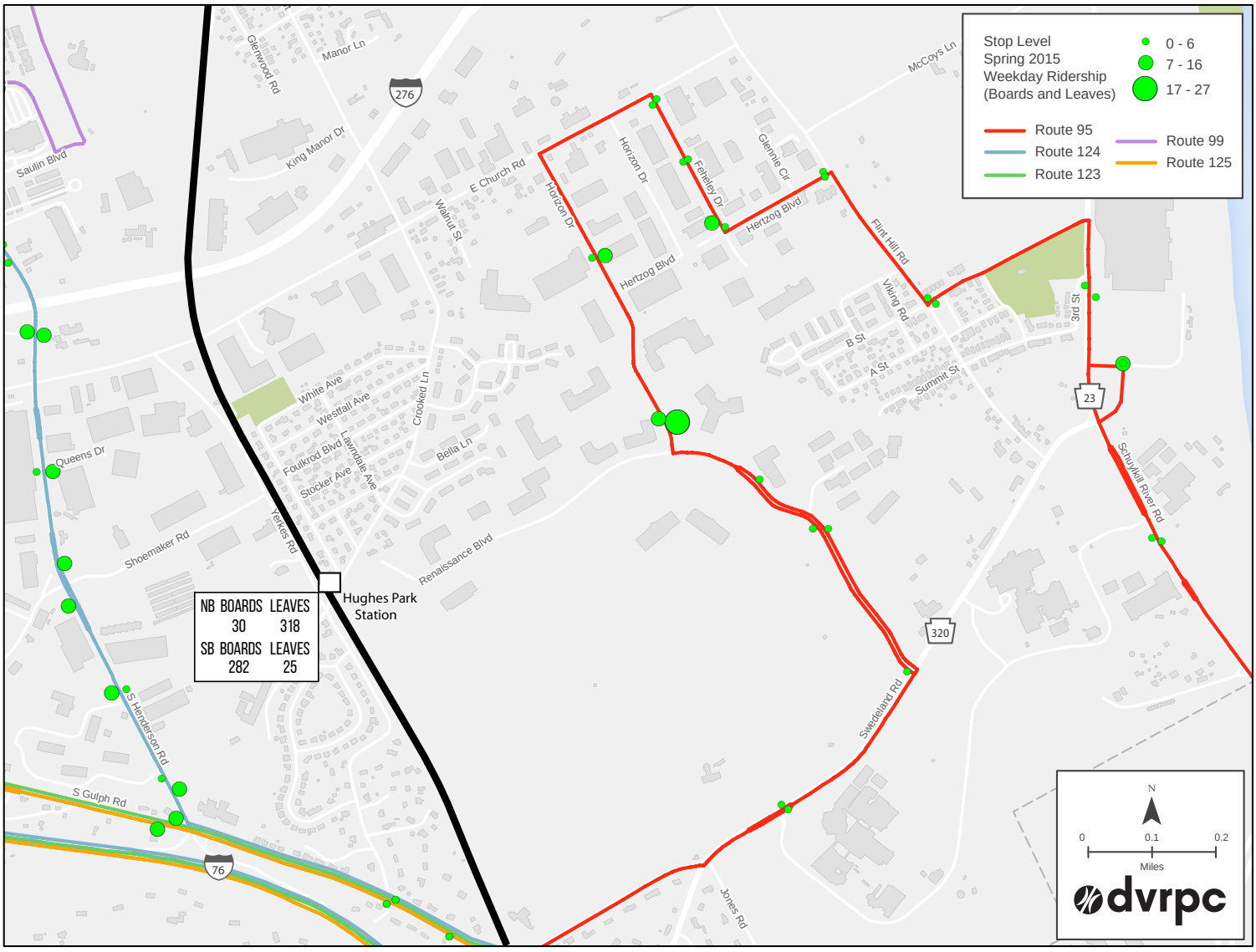
Source: DVRPC

STATION AREA TRANSIT

Figure 3 depicts daily ridership numbers for transit services in the study area. The bus ridership is from 2015 and NHSL ridership is from 2017. Daily ridership for the Hughes Park NHSL Station is 318 northbound leaves and 282 southbound boards, showing a clear "reverse commute" pattern. Station ridership is significantly higher than nearby bus stops, which primarily fall between zero to 16 boards and leaves.

Five SEPTA bus routes, shown below, connect the study area to regional destinations like Chesterbook, Willow Grove, Upper Darby, and Valley Forge National Historical Park.

Figure 3: Hughes Park Station Area Transit

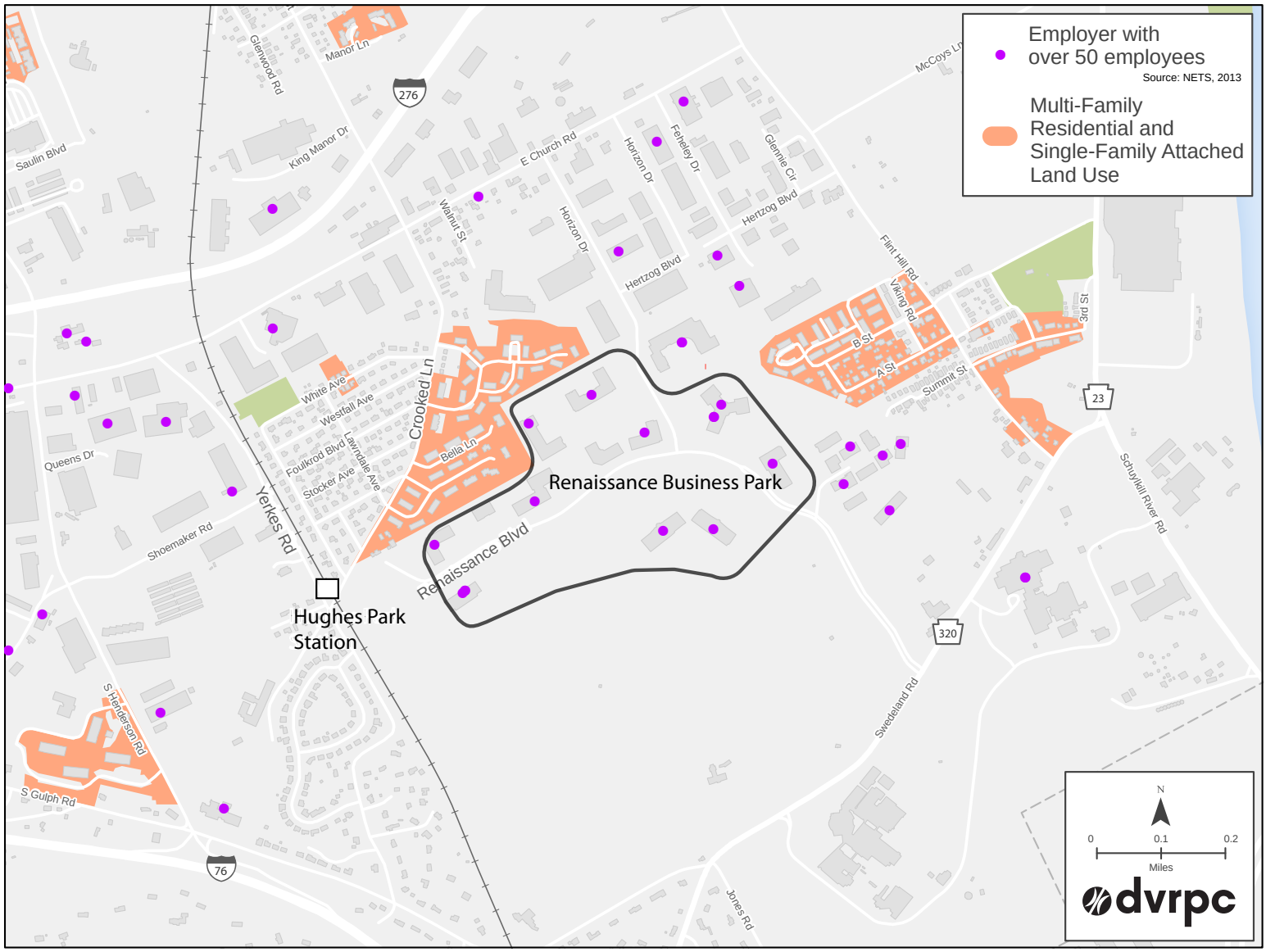


Source: DVRPC, SEPTA

HIGH DENSITY ORIGINS & DESTINATIONS

The study area contains multi-family residential homes near the station and a number of businesses with over 50 employees nearby. The business park on Renaissance Boulevard and, to a lesser extent, the businesses on Shoemaker Road, are the closest of these large employers (*Figure 4*).

Figure 4: High Density Origins & Destinations



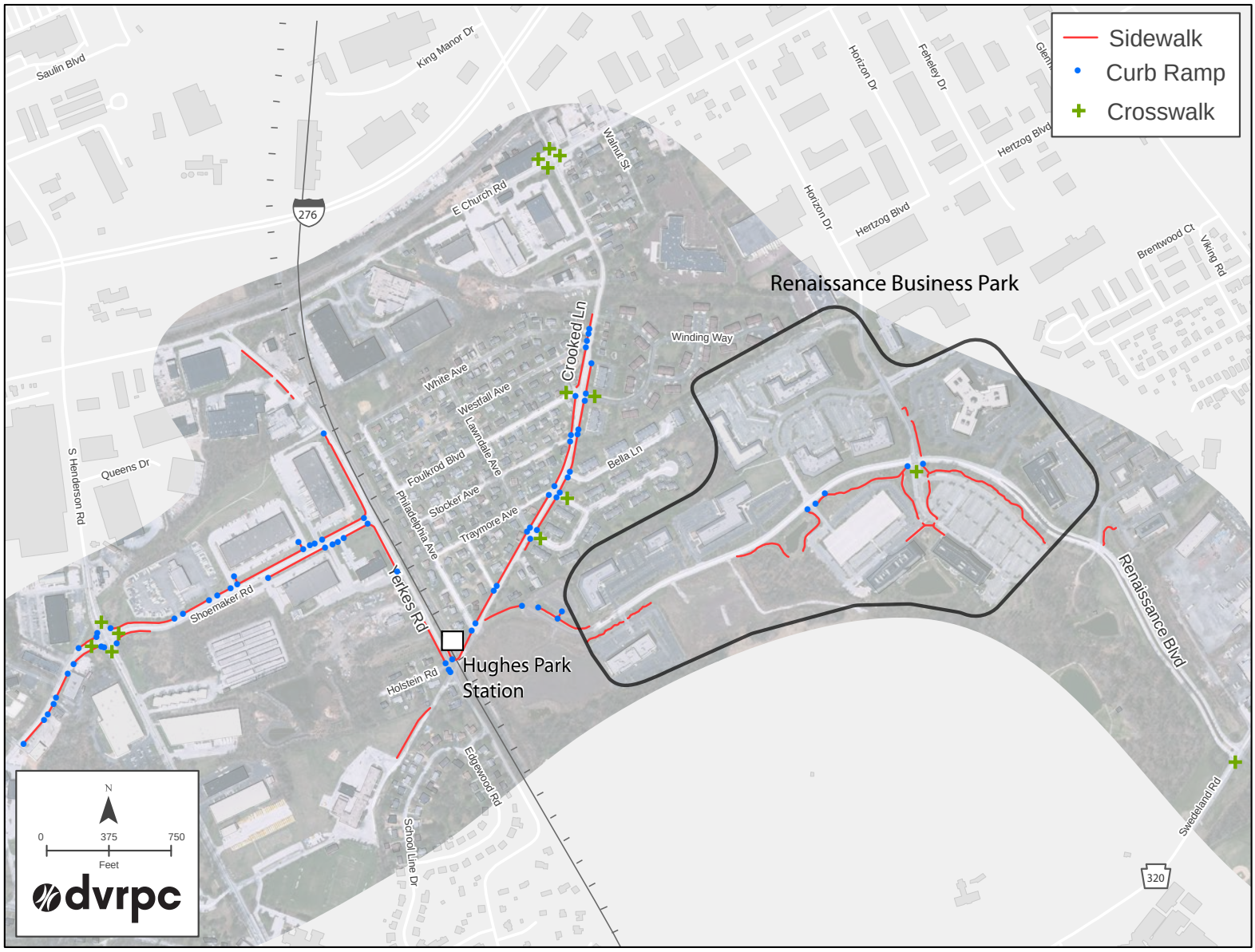
Source: DVRPC, National Establishment Time Series (2013)

SIDEWALKS & CURB RAMPS

A sidewalk analysis of the area shows a lack of connectivity within Renaissance Business Park (*Figure 5*), as well as on Yerkes Road and Crooked Lane immediately surrounding the station. These incomplete sidewalk connections in the study area also coincide with an absence of curb ramps. Given the high density of origins and destinations, ensuring pedestrian and bicycle access is important. Of the few ramps that exist in the area, most do not comply with the Americans with Disabilities Act (ADA) and will likely need to be reconstructed alongside any other improvements.

The lack of bicycle and pedestrian accommodations leads to unsafe compromises, such as walking in the street. It also influences transportation choices, causing people to opt for driving. Creating an encouraging environment for active transportation improves safety, the health of individuals and, in the study area, would enable children to access the new Gulph Elementary School without taking the bus.

Figure 5: Presence of Sidewalk and Curb Ramps

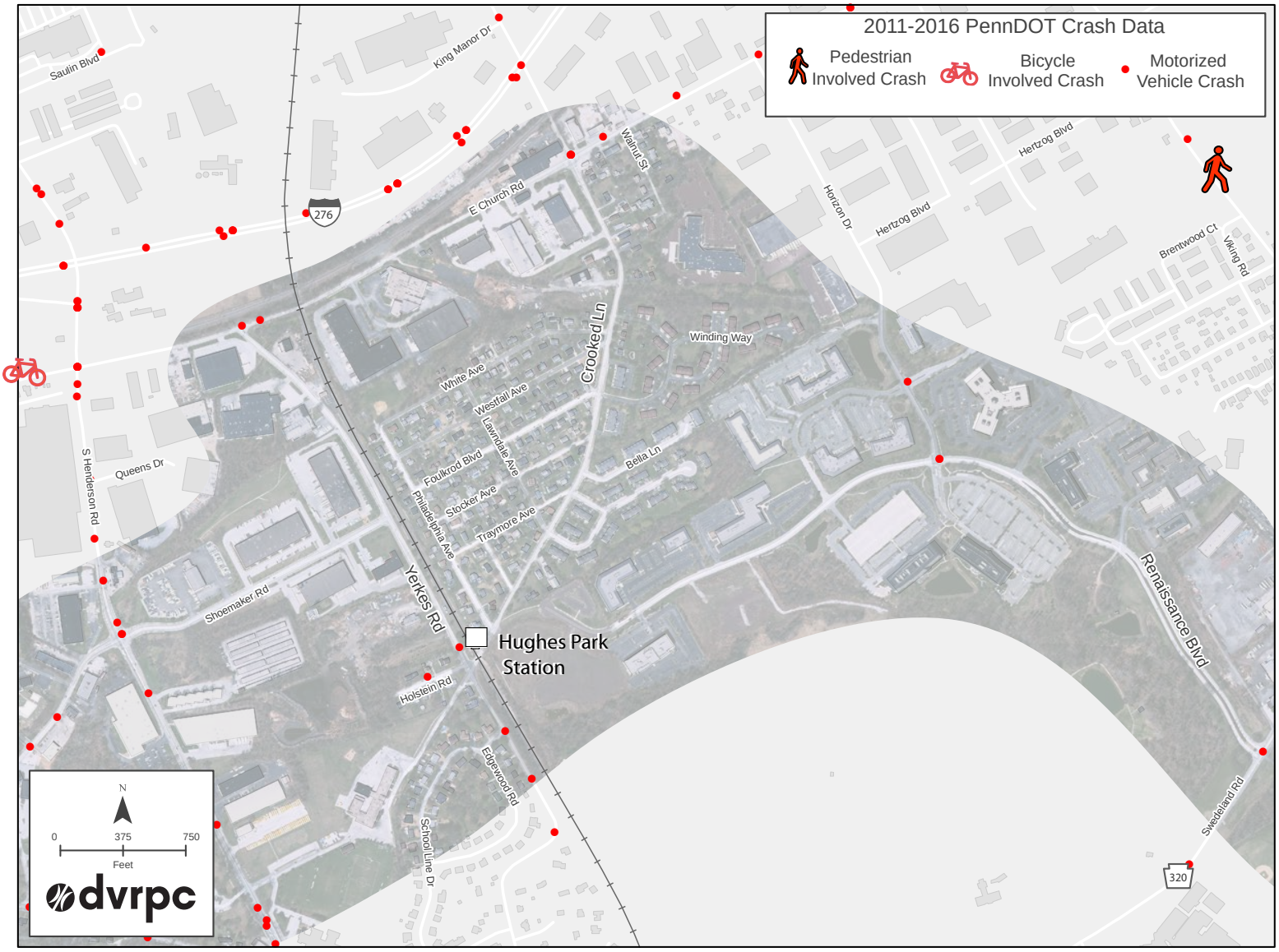


Source: DVRPC

CRASH ANALYSIS

A crash analysis (*Figure 6*) reveals a low number of motorized vehicle crashes and an absence of bicycle and pedestrian crashes within the study area. No acute safety issues are identifiable through this crash analysis. However, site conditions and community feedback highlighted a number of safety issues that can be proactively addressed.

Figure 6: Crash Analysis



Source: DVRPC; PennDOT, 2017

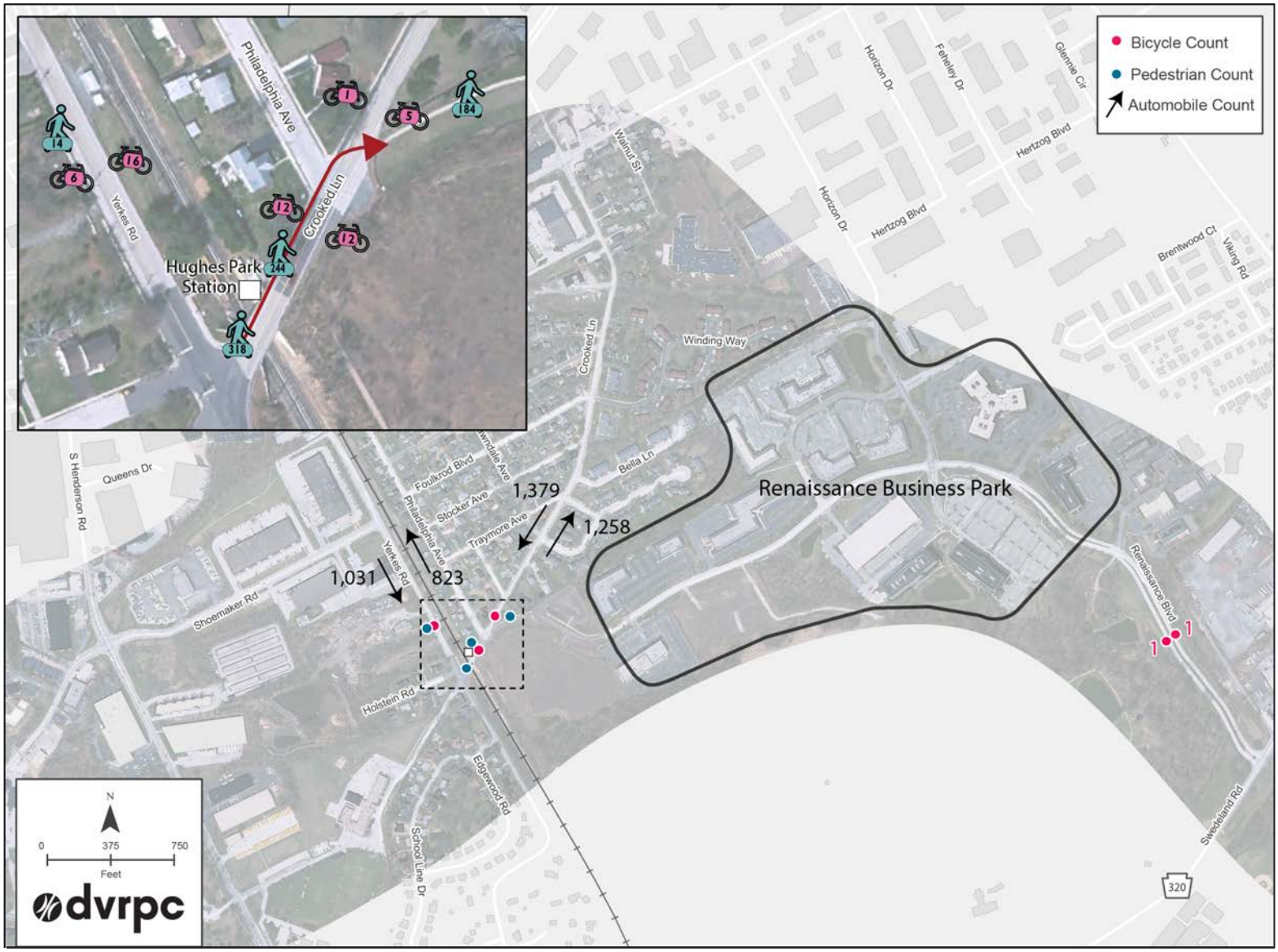
TRAVEL COUNTS

To understand travel patterns, twelve pedestrian and bicycle counts were taken near the station for seven days, 24 hours a day. The data collected was then averaged and used to calculate the Annual Daily Bicycle (ADB) and Annual Daily Pedestrian (ADP) counts. These counts, shown in *Figure 7,* show heavy foot traffic heading towards the business park on Renaissance Boulevard. Based upon the daily averages and locations of these counts, there is a clear need for pedestrian accessibility along this route (represented by the red arrow in *Figure 7)*, which connects SEPTA passengers to the employment destinations in the Renaissance Business Park. The count along Yerkes Road is likely lower than the actual pedestrian traffic. Many people walk in the street and therefore would not have been registered by the counter.

According to the bicycle counts conducted in the study area, bicycle activity is concentrated around the station, indicating a demand for bicycle accommodations along Yerkes Road and Crooked Lane.

Vehicle volumes in the study area, shown in black on the larger map, are relatively low. The speed limit of Crooked Lane, a state road, is 35 MPH, and 25 MPH on local Yerkes Road.

Figure 7: Travel Counts

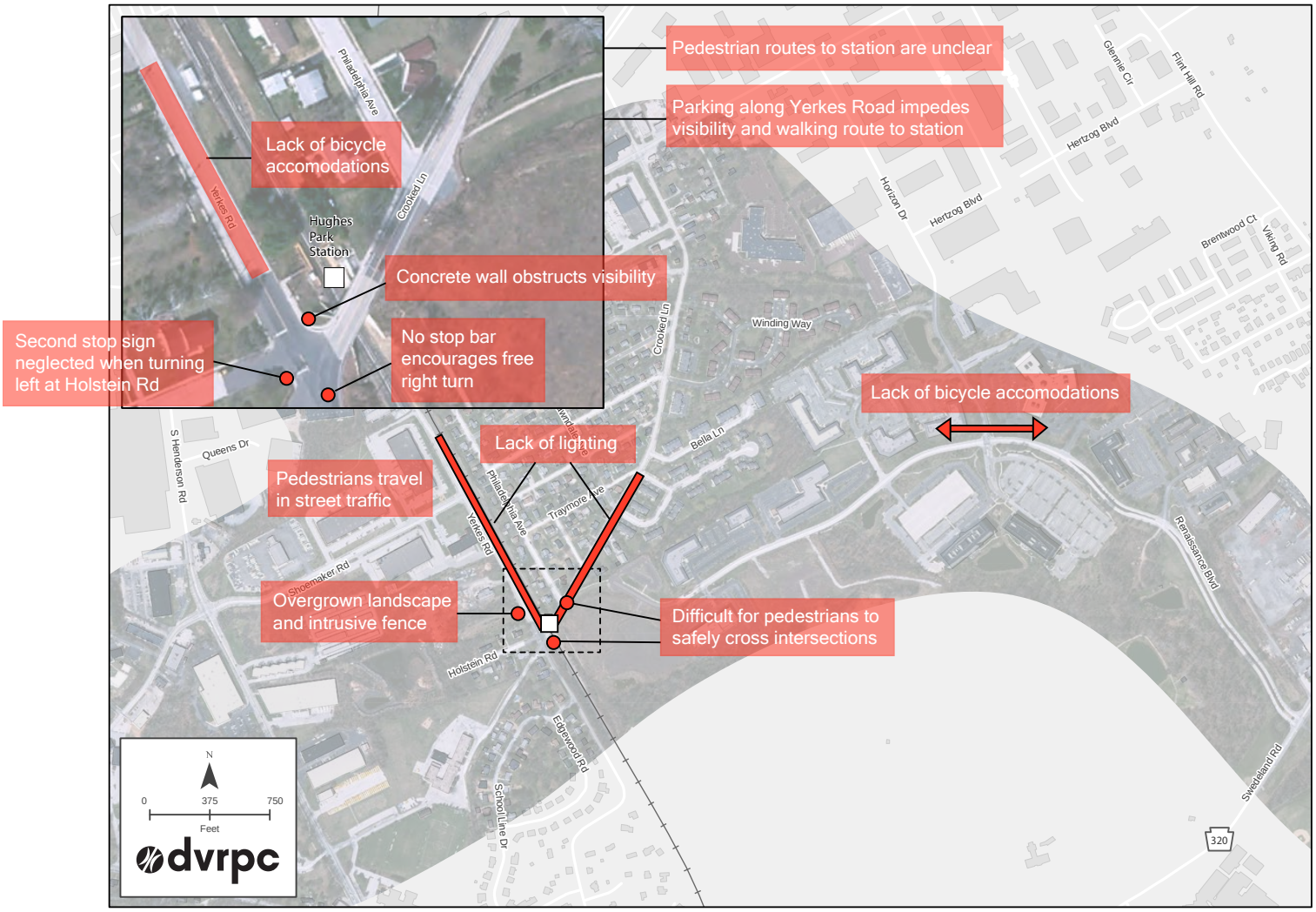


Source: DVRPC

STEERING COMMITTEE INPUT

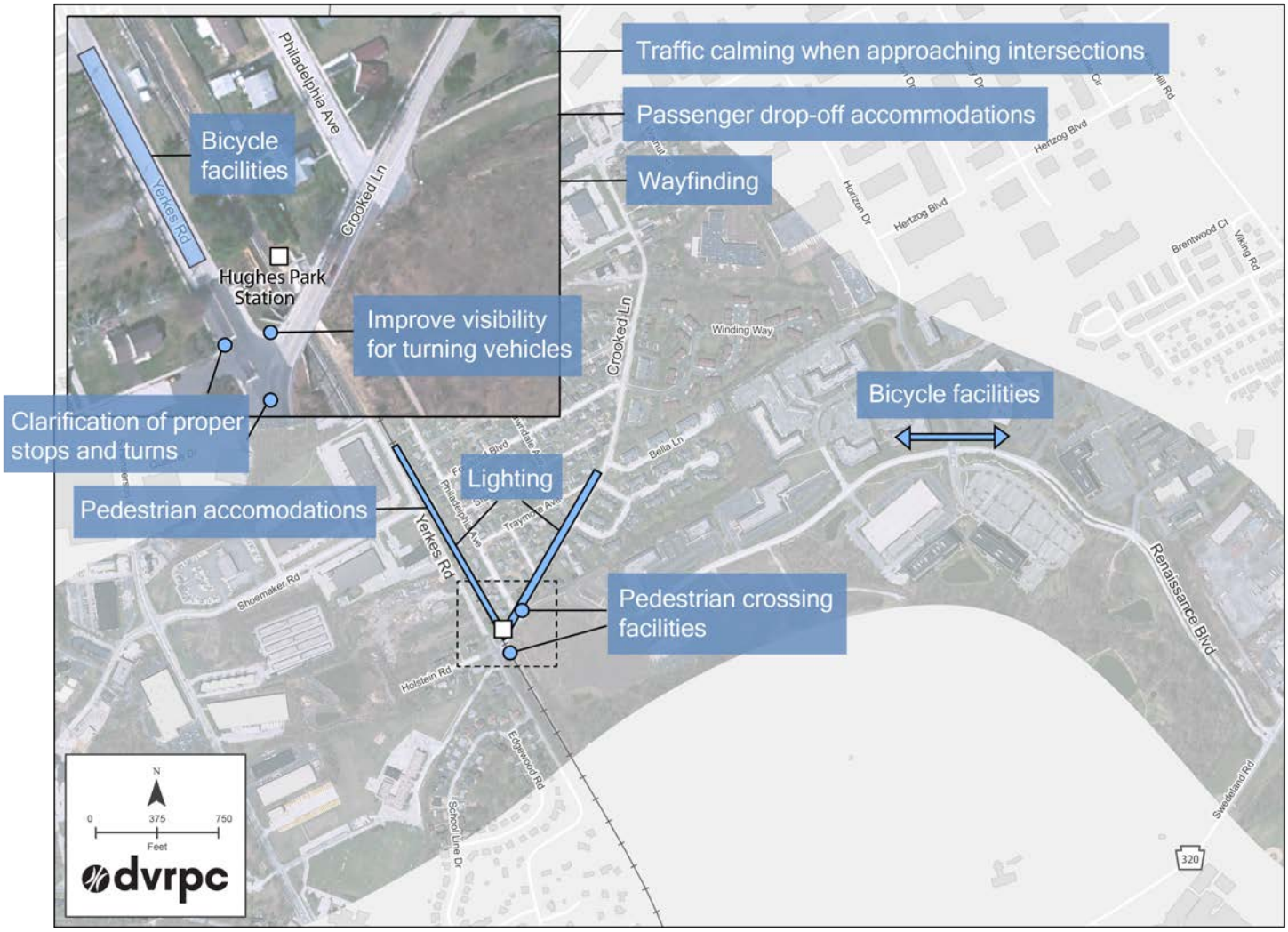
A stakeholder meeting was held on November 13th, 2017 to present on DVRPC's existing conditions analysis of the study area. In attendance were representatives from the Hughes Park Civic Association, PennDOT, Southeastern Pennsylvania Transportation Authority (SEPTA), Montgomery County, O'Neill Properties Group, and DVRPC. Results of the analysis were shared, followed by stakeholders voicing their concerns about bicycle and pedestrian access to Hughes Park Station (*Figure 8)*. All attendees discussed potential improvements, constrained by this project scope, that would address the identified concerns (*Figure 9)*.

Figure 8: Steering Committee Concerns



Source: DVRPC

Figure 9: Steering Committee Potential Interventions



Source: DVRPC

Conceptual Designs

As shown in the existing conditions, there is a prevalence of employers with 50+ employees, largely concentrated within the Renaissance Business Park located near the station. This employment hub attracts foot traffic, with 184 of 244 pedestrians heading east on Crooked Lane moving towards the business park. The station's lack of formal parking, in conjunction with gaps in the sidewalk network and missing curb ramps, has resulted in pedestrian travel within the cartway surrounding the station. This issue was reiterated by community members during the steering committee meeting, who voiced that visibility issues increase the likelihood of conflict. Steering committee members also described traffic issues at the intersection of Yerkes Road and Crooked Lane, noting that stop signs are neglected and turning guidance is unclear.

DVRPC has developed conceptual designs in response to the concerns identified by the steering committee and existing conditions. These concerns are of heightened importance due to the upcoming developments by O'Neill Properties and the Upper Merion Area School District that will likely increase traffic within the study area; the potential impacts of these developments have been taken into consideration as well. The designs have been broken up into three categories to reflect potential levels and sources of funding. The first shows the primary safety recommendation in the study area: a pedestrian crossing at Crooked Lane and the trail to access the Renaissance Business Park. The second reflects interventions that can be implemented in the short-term, using township funding. The third incorporates a full set of recommendations, intended to be grant-funded.

CONCEPTUAL DESIGNS: Crooked Lane Crossing

Figure 10: Crooked Lane Crossing Conceptual Design

Source: DVRPC

The conceptual design for the crossing of Crooked Lane (*Figure 10*) is the most important safety improvement for the study area. The recommendation includes the installation of a pedestrian-actuated flashing warning beacon mounted on a curbside signpost (example pictured below), a raised crosswalk, and ADA ramps. It also includes saw-cutting and removing the existing pavement next to Crooked Lane in order to prevent parking, which creates visibility issues. Landscaping and a "No Parking" sign are further suggested to deter vehicles from pulling off at this area.

Rapid Flashing Beacon

Source: Richard Drdul via Flickr (CC BY-SA 2.0)

1	Install pedestrian-actuated flash warning beacon mounted at curbside signpost, raised crosswalk, and ADA ramps
2	Saw-cut and remove pavement, install landscaping and "No Parking" sign

CONSTRUCTION ESTIMATES: Crooked Lane Crossing

Item	Unit	Measurement	Cost	Total Cost	Notes
Pedestrian-Actuated Rapid Flashing Beacon	1	LS	$15,000	$15,000	By others (O'Neill). One in each direction, not on a mast arm
10'W Crosswalk with Painted Arrows	150	LF	$6	$900	By others (O'Neill). 24"W
ADA Ramps	2	EA	$7,500	$15,000	By others (O'Neill). Includes concrete, curb, detectable warning surface, subbase
Advanced Warning Signage	2	EA	$300	$600	
No Parking Sign	1	EA	$300	$300	
Landscaping	5	EA	$250	$1,250	
Saw-cut & Remove Pavement	15	CY	$100	$1,500	

Total Cost: $34,550

Figure 11: Short-Term Improvements, Township-Funded Conceptual Design

Source: DVRPC

	See Figure 10: Crooked Lane Crossing
1	Shift road shoulder and median with paint to better accommodate parked cars, rebuild curb as needed
2	Install sharrows and "Bikes May Use Full Lane" signage along Yerkes Road
3	Clear landscaping and fence on south side of Yerkes Road
4	Install bike rack
5	Paint traffic through/turn pavement markings and crosswalks with ADA ramps (4)
6	Install a bench and paint pick-up/drop-off loading zone
7	Install curb bumpouts with paint and flexible bollards, straighten median lines with paint

CONCEPTUAL DESIGNS: Short-Term Improvements, Township-Funded

The following images are examples of several proposed Short-Term Improvements, Township-Funded elements (*Figure 11*). Flexible bollards are recommended to improve crossings and slow traffic as it approaches crosswalks at the intersection of Yerkes Road and Crooked Lane. Sharrows and bike signage are recommended along Yerkes Road. Bike parking would be located next to the station. The ADA ramps might be built with grant funding. However, it should be noted that if the crosswalks are painted using federal or state funds, ADA ramps would need to be built concurrently.

ADA Ramp

Source: DVRPC

Bike Signage

Source: Eric Fischer via Flickr (CC BY 2.0)

Sharrow

Source: Eric Fischer via Flickr (CC BY 2.0)

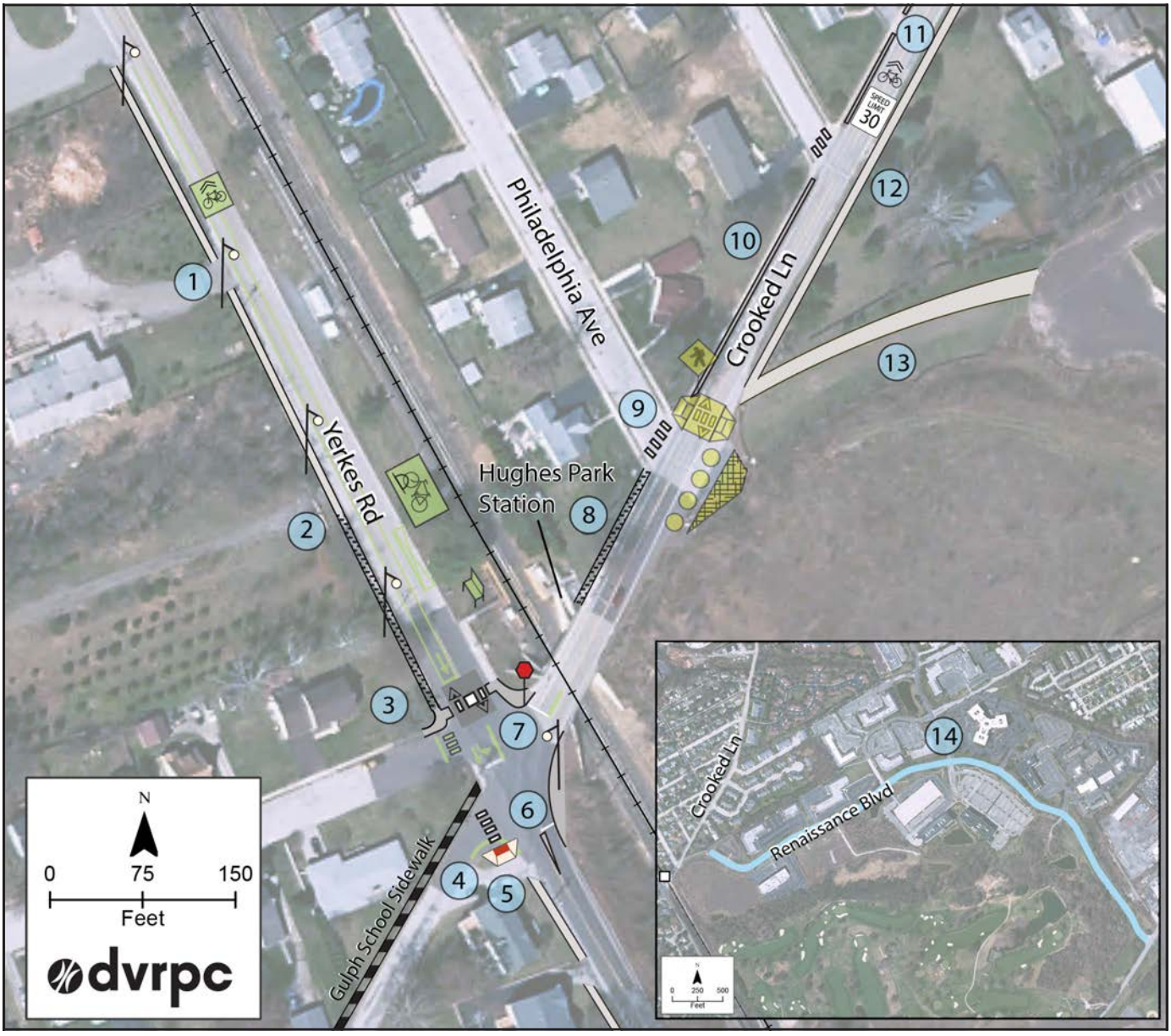
Bike Parking

Source: SEPTA

Flexible Bollards

Source: DVRPC

Figure 12: Recommended Improvements, Grant-Funded Conceptual Design



Source: DVRPC

	See Figure 10: Crooked Lane Crossing
	See Figure 11: Short-Term Improvements, Township-Funded
1	Install lighting along Yerkes Road from Shoemaker Road to Crooked Lane, and at intersection of Yerkes Road and Crooked Lane
2	Construct or rebuild existing sidewalk (5' width) with ADA ramps
3	Install a raised crosswalk with a pedestrian refuge across Yerkes Road with ADA ramps
4	Paint crosswalk at Gulph School road and construct ADA ramps
5	Install sidewalk (5' width) between Gulph School road and School Line Drive with ADA ramps
6	Construct curblines at intersection and a median to channelize traffic along Crooked Lane
7	Move stop sign to the new end of curb
8	Replace/repair existing sidwalk and construct ADA ramps
9	Paint crosswalks at Crooked Lane intersections and construct ADA ramps
10	Replace curb on north side of Crooked Lane
11	Reduce speed limit on Crooked Lane to 30 MPH, add sharrows and install "Bikes May Use Full Lane" signs
12	Install sidewalk between Renaissance Business Park path and Lawndale Avenue (5' width) with ADA ramps
13	Widen path to 12' to better accomodate bicyclists and pedestrians
14	Add painted bicycle lanes along Renaissance Boulevard

CONCEPTUAL DESIGNS: Recommended Improvements, Grant-Funded

These images are examples of suggested crosswalk interventions from the Recommended Improvements, Grant-Funded designs (*Figure 12*). A second raised crosswalk is recommended across Yerkes Road and Crooked Lane (#1 on pg. 12 and #3 on pg. 15). The pedestrian refuge would be implemented across Yerkes Road (#3 on pg. 15). Also shown is a rebuilt, wider path to Renaissance Business Park. If O'Neill moves forward with construction of the multi-family development, the design of the path and adjacent area should maintain high-quality access for pedestrians and bicyclists that directs users to the designated crossing location, as well as considering emergency access and stormwater management.

A sidewalk along Renaissance Boulevard, not included in the conceptual design, would increase pedestrian comfort and safety. However, since some paths already exist, and building or rebuilding the full extent of sidewalk would be expensive, sidewalk updates should be considered and added incrementally when possible along Renaissance Boulevard.

Pedestrian Refuge

Source: Richard Drdul via Flickr (CC BY-SA 2.0)

Raised Crosswalk

Source: Richard Drdul via Flickr (CC BY-SA 2.0)

CONSTRUCTION ESTIMATES

Estimates were prepared by DVRPC project implementation staff using item price history from Pennsylvania Department of Transportation's Engineering and Construction Management System (ECMS), insight from project experience, and measurement estimates via Google Maps. The construction estimates are intended to be an approximation of the cost for implementing the design recommendations. The actual costs of materials and construction may differ from the estimates. Pennsylvania Department of Transportation (PennDOT) reviews will mostly likely be required for improvements to Crooked Lane, as it is a state route.

Short-Term Improvements, Township-Funded

Below are construction estimates for the Short-Term Improvements, Township-Funded conceptual design (pg. 13).

Item	Unit	Measurement	Cost	Total Cost	Notes
Yerkes Road				***$14,950***	
Remove Shoulder Striping (4"W)	600	LF	$2	$1,200	
Restripe Shoulder (4"W)	600	LF	$1	$600	
Remove Centerline Striping (4"Y)	1,200	LF	$2	$2,400	
Restripe Centerline (4"Y)	1,200	LF	$1	$1,200	
Clear Landscaping & Fence	1	LS	$5,000	$5,000	By others (owners of 565-9 Yerkes Road)
"Bikes May Use Full Lane" Signs	3	EA	$300	$900	
Install Concrete Pad (10' x 5')	3	SY	$200	$600	By others (SEPTA)
Install Bike Rack	1	EA	$250	$250	By others (SEPTA)
Sharrows	8	EA	$350	$2,800	
Intersection: Yerkes Road & Crooked Lane				***$53,050***	
Bench	1	EA	$2,500	$2,500	By others (SEPTA)
Concrete Pad for Bench	3	SY	$200	$600	
10'W Painted Crosswalk	265	LF	$6	$1,590	24"W
Turning Arrows	3	EA	$300	$900	
Stop Bars	4	EA	$50	$200	
Painted Bumpouts	50	LF	$2	$100	
Painted Pick-Up/Drop-Off Loading Zone	70	LF	$6	$420	
Flexible Bollards for Curb Bumpouts	30	EA	$50	$1,500	
ADA Ramps	6	EA	$7,500	$45,000	
Remove Painted Centerline	80	LF	$2	$160	
Re-stripe Painted Centerline	80	LF	$1	$80	

Key: SY- Square Yard; LF- Linear Feet; EA-Each; LS- Lump Sum; CY- Cubic Yard
W- White; Y- Yellow

Total Cost: $68,000

Estimate does not include: Maintenance and Protection of Traffic, Mobilization, and Construction Inspection. These costs would be minimal if built with municipal funds. For Multimodal Transportation Fund projects, these items are approximately 15 to 20 percent of the project construction costs. For federally-funded projects, these items are about 18 to 25 percent of the project construction costs.

Recommended Improvements, Grant-Funded

Below are construction estimates for the Recommended Improvements, Grant-Funded conceptual design (pg. 15).

Item	Unit	Measurement	Cost	Total Cost	Notes
Yerkes Road				***$170,250***	
Lights	16	EA	$7,500	$120,000	~ Every 50'
Excavation	15	CY	$100	$1,500	Remove sidewalk
5'W Sidewalk	325	SY	$150	$48,750	
Crooked Lane				***$352,160***	
Sharrows	13	EA	$350	$4,550	Every 250'
30 MPH Speed Limit Signs	3	EA	$250	$750	
Concrete Curb	1,400	LF	$100	$140,000	
5'W Sidewalk	750	SY	$150	$112,500	
Excavation	40	CY	$100	$4,000	Remove sidewalk
10'W Crosswalk	60	LF	$6	$360	
ADA Ramps	12	EA	$7,500	$90,000	Includes concrete, curb, detectable warning surface, subbase
Renaissance Boulevard				***$83,000***	
Bike Lanes	11,000	LF	$1	$11,000	
Bike Legend	25	EA	$400	$10,000	
Excavation	20	CY	$100	$2,000	Remove existing path
Widen Path to 12'	400	SY	$150	$60,000	Concrete
Intersection: Yerkes Road and Crooked Lane				***$97,470***	
Cobra Head Street Lights	4	EA	$7,500	$30,000	Brighter, for intersection
ADA Ramps	3	EA	$7,500	$22,500	Includes concrete, curb, DWS & subbase. Quantity could be higher if no ramps are done in short term
Raised 10'W Crosswalk with Painted Arrows	1	EA	$7,500	$7,500	Includes mill & overlay, top course & hump with pavement markings
10'W Crosswalk	45	LF	$6	$270	
Concrete Sidewalk	220	SY	$150	$33,000	Bumpout & sidewalk
Concrete Curb	40	EA	$100	$4,000	Bumpout
Relocate Stop Sign	1	EA	$200	$200	

Key: SY- Square Yard; LF- Linear Feet; EA-Each; LS- Lump Sum; CY- Cubic Yard
W- White; Y- Yellow

Total Cost: $702,880

Estimate does not include: Maintenance and Protection of Traffic, Mobilization, and Construction Inspection. For Multimodal Transportation Fund projects, these items are approximately 15 to 20 percent of the project construction costs. For a federally funded projects, these items are about 18 to 25 percent of the project construction costs. Utility pole relocation is also not included. This cost could fall to the project sponsor, or for many projects it is at the cost of the utility company to be in the public right-of-way.

PLANNING AND IMPLEMENTATION SCENARIOS

Recommendations for safety around Hughes Park Station are grouped by Crooked Lane Crossing, Township-Funded and Grant-Funded. The full implementations of each are recommended. However, there are a number of pending developments within the study area that may influence the timing and priority of specific interventions. These possible implementation scenarios are described below and can be used by township staff, elected officials, and the community to make implementation decisions based on upcoming changes to the area and the needs and opportunities that may result.

Gulph Elementary School opens (September 2018)

Upper Merion Area School District has constructed the Gulph Elementary School and it is scheduled to open in the fall of 2018. The opening of this school will coincide with increased vehicle traffic from buses, faculty, and parents. While busing will be offered to all students, some families in the study area may choose to walk and this should be a safe, convenient, healthy option. To support safe routes to school, the following interventions should be prioritized. These improvements could be planned for and made as soon as possible and paid for with township funds (Total approximate cost: $50,000):

- Paint traffic through/turn pavement markings and crosswalks at the intersection of Yerkes Road and Crooked Lane with ADA ramps, as needed

- Install curb bumpouts with paint and flexible bollards, straighten median lines with paint at the intersection of Yerkes Road and Crooked Lane

Multimodal Transportation Fund Application

If Upper Merion Township applies for and receives Multimodal funds for this project, the full set of Recommended Improvements, Grant-Funded designs should be constructed. Additionally, several options from the Short-Term Improvements, Township-Funded designs should be included as well, in the event that other parties have not yet implemented them.

O'Neill moves forward with new development at Crooked Lane & Renaissance Boulevard

Should O'Neill pursue developing the property adjacent to Crooked Lane and Renaissance Boulevard (currently planned to be multi-family residential) in a timely manner, the township can use the opportunity to increase bicycle and pedestrian accommodations for the benefit of those who will inhabit the development, as well as the rest of the community. This can be done via the following (Total approximate cost: $35,000):

- Install a pedestrian-actuated crossing signal, raised crosswalk, and ADA ramps, as needed across Crooked Lane

565-9 Yerkes Road is redeveloped

565-9 Yerkes Road, located on the west side of Yerkes Road, is currently the site of a mulching business that has fencing and foliage that borders the cartway. These obstruct visibility and don't allow for a sidewalk connection, and there is not room for adding sidewalk within the existing right-of-way. The township should work with the property owners to remove the fence and landscaping. If in the future the property is redeveloped, the township development review process should ensure that the new property owners make the following improvements (Total approximate cost: $60,000):

- Clear landscaping and fence on south side of Yerkes Road

- Construct or rebuild existing sidewalk on Yerkes Road with ADA ramps, as needed

FUNDING SOURCES

The following funding programs are possible sources of support for this project. It is recommended that the township first pursue the Multimodal Transportation Fund since it is state funding and the project would not need to go through the federal process, as it would with a Transportation Alternatives grant.

PA Department of Community and Economic Development Multimodal Transportation Fund

Description: The Multimodal Transportation Fund provides grants to encourage economic development and ensure that a safe and reliable system of transportation is available to the residents of the commonwealth. Funds may be used for the development, rehabilitation and enhancement of transportation assets, streetscape, lighting, sidewalk enhancement, pedestrian safety, and connectivity of transportation assets.
Deadline: July 31st, 2018
Grant Awards: $100,000 to $3,000,000, 30% match

PennDOT Transportation Alternatives Set-Aside

Description: The program provides funding for projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities and safe routes to school projects.
Deadline: Next application round is anticipated to open in 2019
Grant Awards: $50,000 to $1 million, ~20% match (pre-construction costs, may vary)

Montco 2040 Implementation Grant Program

Description: The Program is intended to fund projects that advance priorities described in *Montco 2040: A Shared Vision*, the county's 25 year plan. Eligible projects address one of the three primary goals of the plan: Connected Communities, Sustainable Places, and Vibrant Economy.
Deadline: March 1st
Grant Awards: $200,000, 20% match

Municipal Liquid Fuels Program

Description: Municipal Liquid Fuels funds are allocated to municipalities based on population and miles of roads and can be used to maintain and repair public roads, including line and crosswalk striping, signage, and ADA ramps.

For additional resources: www.dvrpc.org/asp/MCDResource/

NEXT STEPS FOR UPPER MERION TOWNSHIP

This document is intended to be a resource for the implementation of Safe Routes to Transit designs at Hughes Park Station. In order to move towards the project goal, ensuring the work done thus far culminates in a safer and more navigable environment for pedestrians and bicyclists, Upper Merion Township should proceed by taking the following actions:

-Build support/buy-in by reaching out to the community and Board of Supervisors.

-Using this document as a reference, apply for a grant from PA Department of Community and Economic Development (DCED) Multimodal Fund to implement conceptual designs **by July 31st, 2018.**

-Send a letter to the following individuals at SEPTA to request a bench for the station (#6 in short-term design recommendations):

John Brady
Assistant Director of Maintenance
267.240.2858
JBrady@septa.org
103 Victory Ave.
Upper Darby, PA 19082

Melissa Cooper
Manager, Engineering
215.580.7862
MCooper@septa.org
1234 Market St., 13th Floor
Philadelphia, PA 19107

-Send a letter to the following individuals at SEPTA to request a bike rack for the station (#4 in short-term design recommendations):

Dennis Stefanski
Program Manager
215.580.7277
DStefanski@septa.org
1234 Market St., 12th Floor
Philadelphia, PA 19107

Jennifer Barr
Manager of Long Range Planning
215.580.7778
JBarr@septa.org
1234 Market St., 9th Floor
Philadelphia, PA 19107

-If DCED Multimodal Fund is not applied for, or is not granted, look for PennDOT Multimodal Fund call for applications in the winter of 2019.