ROUTE 310

Horsham Breeze Red

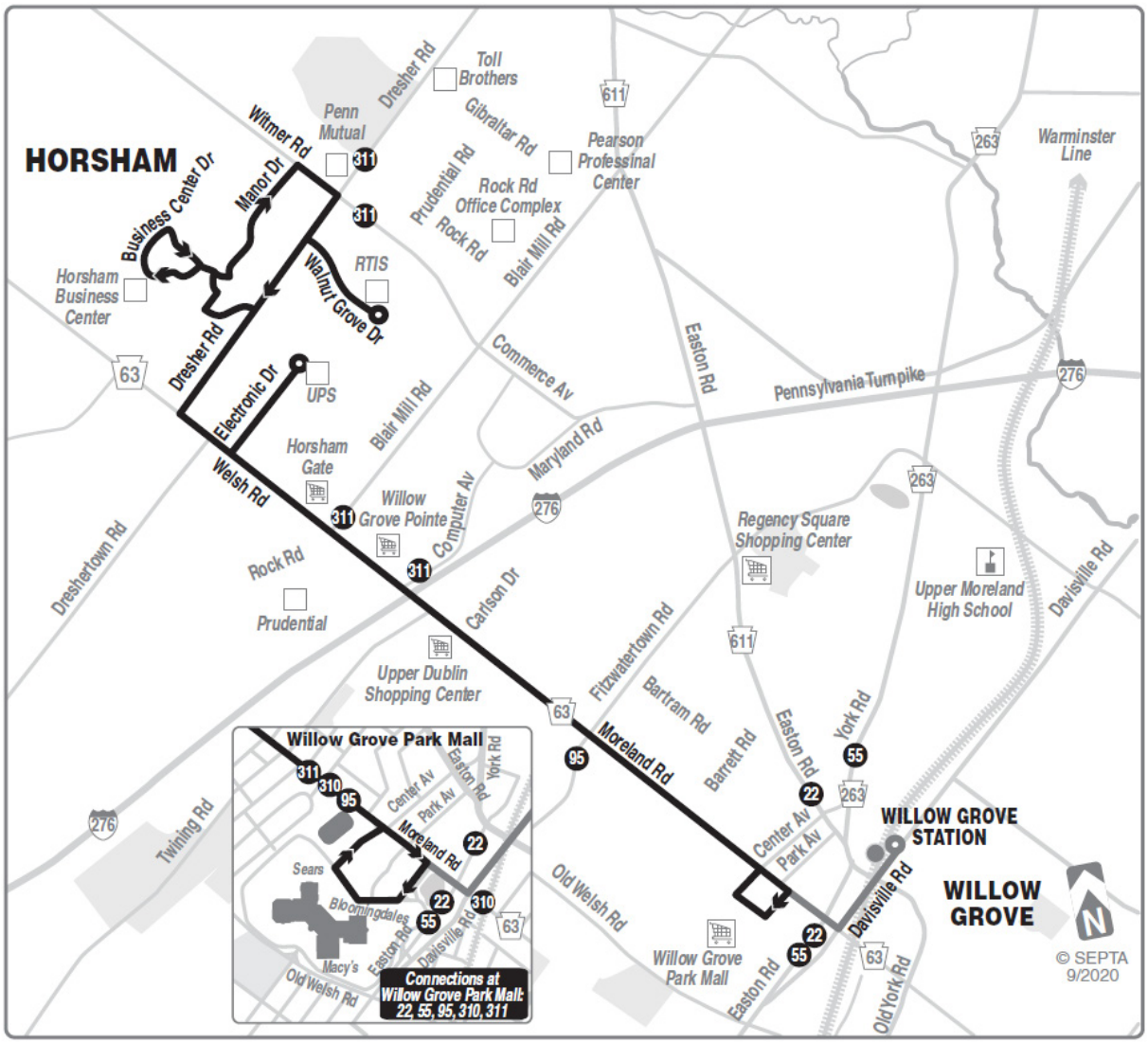
KEY SERVICE CHARACTERISTICS, ISSUES, AND OPPORTUNITIES

- *Route 310 operates as a loop that connects employment and shopping in the Willow Grove and Horsham area. It serves a SEPTA regional rail station during limited trips.*
- *Improvement opportunities consist of simplifying the route, increasing the span of service, operating with regular headways, improving the connection with rail service, and/or replacing the route with extended Route 22 and/or Route 55 service.*

ROUTE OVERVIEW

Route 310 is a loop that operates between Willow Grove Park Mall and Horsham. It serves UPS, Horsham Business Center, and the Pennsylvania Business Campus.

Figure 1 | Route Map



SERVICE OVERVIEW

Schedule

Route 310 operates on weekdays and Saturdays. It is available from approximately 5:45 AM until 10:52 PM on weekdays and between 7:29 AM and 11:27 PM on Saturdays (see Table 1).

Weekdays have average service frequencies which range from 13 to 23 minutes throughout the schedule. Actual frequencies vary, with some trips closely spaced (some trips using different service patterns depart at the same time in the same direction, meaning headways can be as low as 0 or 1 minutes) and others spaced approximately every 30 minutes.

On Saturdays, average service frequencies range from 48 to 66 minutes. Actual Saturday frequencies vary significantly, from every 1 minute to every 119 minutes.

Table 1 | Schedule Statistics

Service Day	Span Of Service	Frequency (Range)	Frequency (Average)
Weekdays	5:45 AM to 10:52 PM		
Early AM	4:00 AM to 5:59 AM		
AM Peak	6:00 AM to 8:59 AM	0-23	13
Midday	9:00 AM to 2:59 PM	1-28	16
PM Peak	3:00 PM to 5:59 PM	3-29	15
Evening	6:00 PM to 9:59 PM	1-30	21
Late Night	10:00 PM to 11:59 PM	15-28	23
Owl	Midnight to 3:59 AM		
Saturdays	7:29 AM to 11:27 PM		
Day	8:00 AM to 5:59 PM	1-119	48
Night	5:59 PM to 7:59 AM	1-89	66

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

Service Patterns

Route 310 operates with 5 service patterns. Most weekday trips use the primary alignment, beginning and ending at Willow Grove Park Mall. Most Saturday trips begin and end at Willow Grove Station (see Table 2). The service patterns reflect differences in whether the route begins and/or ends at Willow Grove Station. One pattern is a short turn.

Table 2 | Service Patterns

Pattern	Origin	Destination	Unique Feature	Unique Stops	Trips Per Day		
					Wkd	Sat	Sun
Loop							
230404	Willow Grove Park Mall	Willow Grove Park Mall	Primary Pattern		28	4	0
230402	Willow Grove Station	Willow Grove Park Mall	Origin of Willow Grove Station	1	2	1	0
230403	Willow Grove Park Mall	Willow Grove Station	Origin of Willow Grove Park Mall	1	2	0	0
230401	Willow Grove Station	Willow Grove Station	Origin & destination of	2	0	7	0

			Willow Grove Station				
230405	Willow Grove Park Mall	Willow Grove Park Mall	Late Night short-turn	0	1	0	0

Note: Unique stops are those not served by the primary pattern

RIDERSHIP

In Fall 2019, Route 310 was one of SEPTA's lowest ridership routes with 418 passengers on weekdays and 96 on Saturdays (see Table 3). Productivity data for Route 310 is unavailable.

Table 3 | Fall 2019 Ridership and Productivity

	Weekdays	Saturdays	Sundays
Daily Ridership	**418**	**96**	**N/A**
Rank	109	112	
Passengers per Revenue Vehicle Hour	**Data unavailable.**	**Data unavailable.**	**N/A**
Rank	-	-	

Transfer Patterns

The largest transfer volumes on Route 310 are to and from:

- Route 55 Doylestown and Willow Grove to Olney Transportation Center (35.2% of all trips)
- Route 22 Warminster and Willow Grove to Olney Transportation Center (26.3%)
- Broad Street Line (3.3%)
- Route 95 Gulph Mills to Willow Grove Park Mall (1.6%)

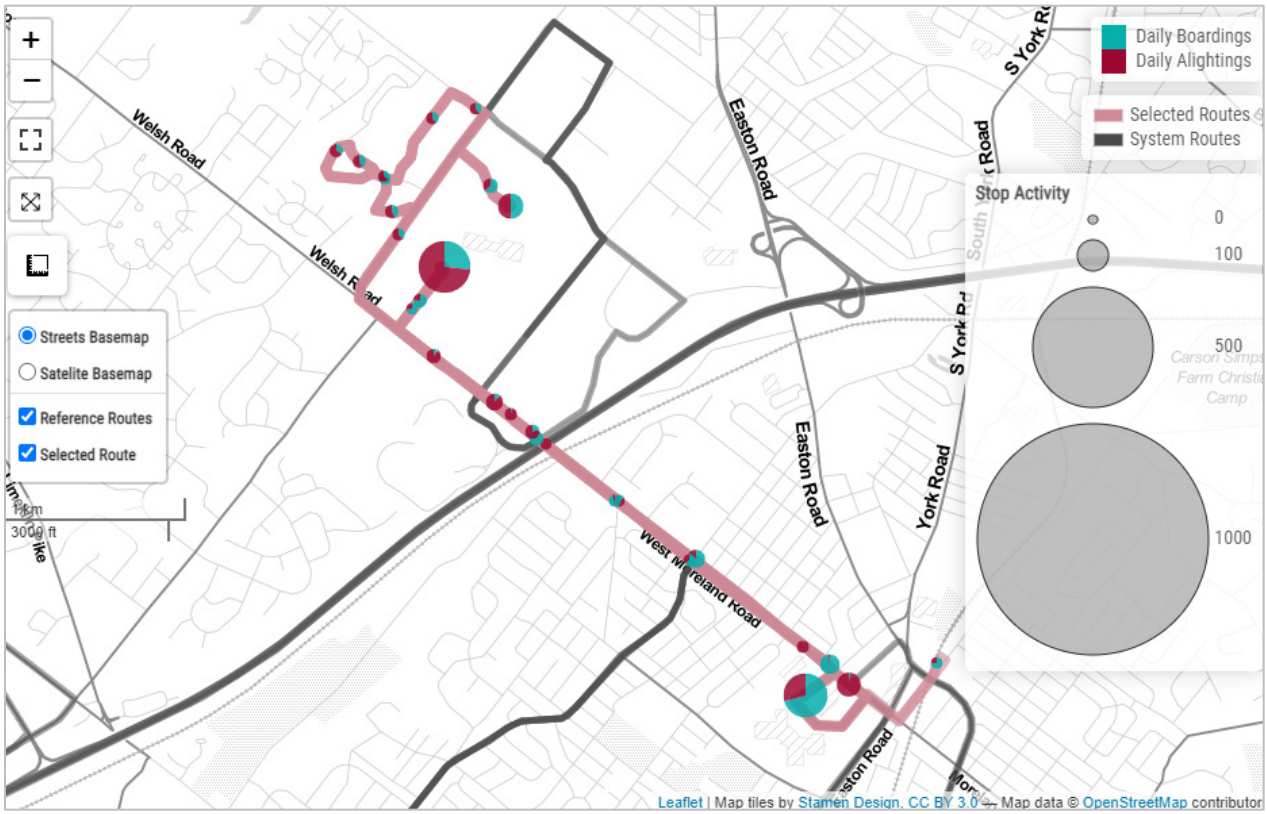
Saturday transfer rates are similar but at a slightly lower rate.

Ridership by Stop

Route 310 is a loop service that primarily connects shopping and employment centers. Ridership is low overall with activity dispersed throughout the route (see Figure 2). The route's highest ridership stops are:

- 201 passengers board and 86 alight at Willow Grove Park Mall
- 49 riders board and 134 alight at Electronic Drive at UPS

Figure 2 | Weekday Ridership by Stop

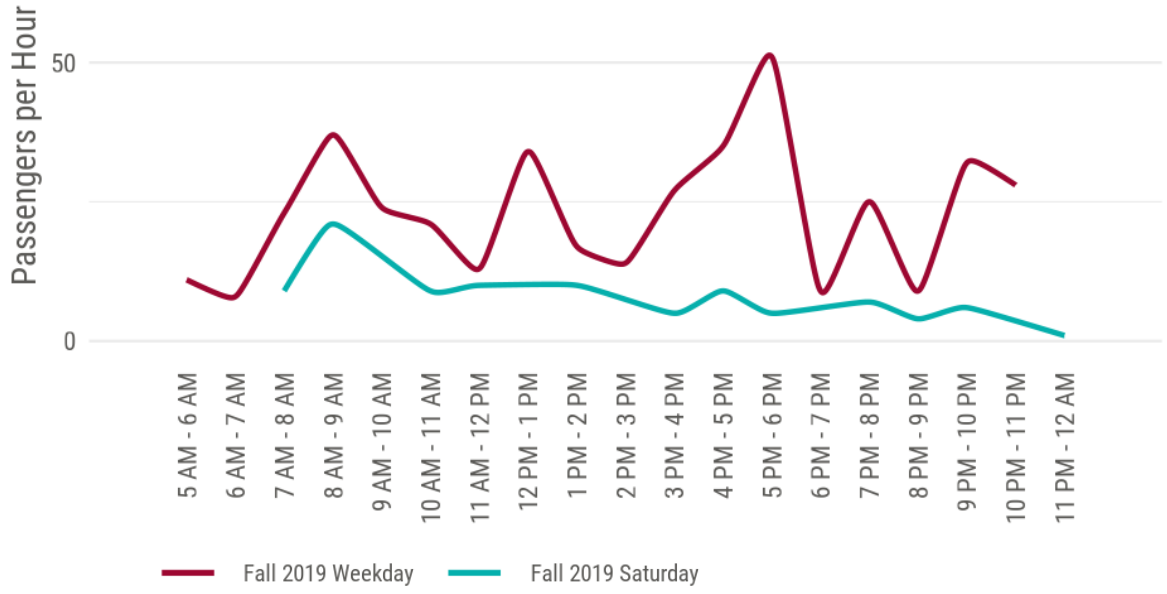


Ridership by Time of Day

Ridership by Hour

In Fall 2019, ridership per hour generally did not exceed approximately 50 passengers an hour. Weekday ridership peaked during the afternoon (5:00 PM hour) (see Figure 3).

Figure 3 | Ridership by Hour: Fall 2019

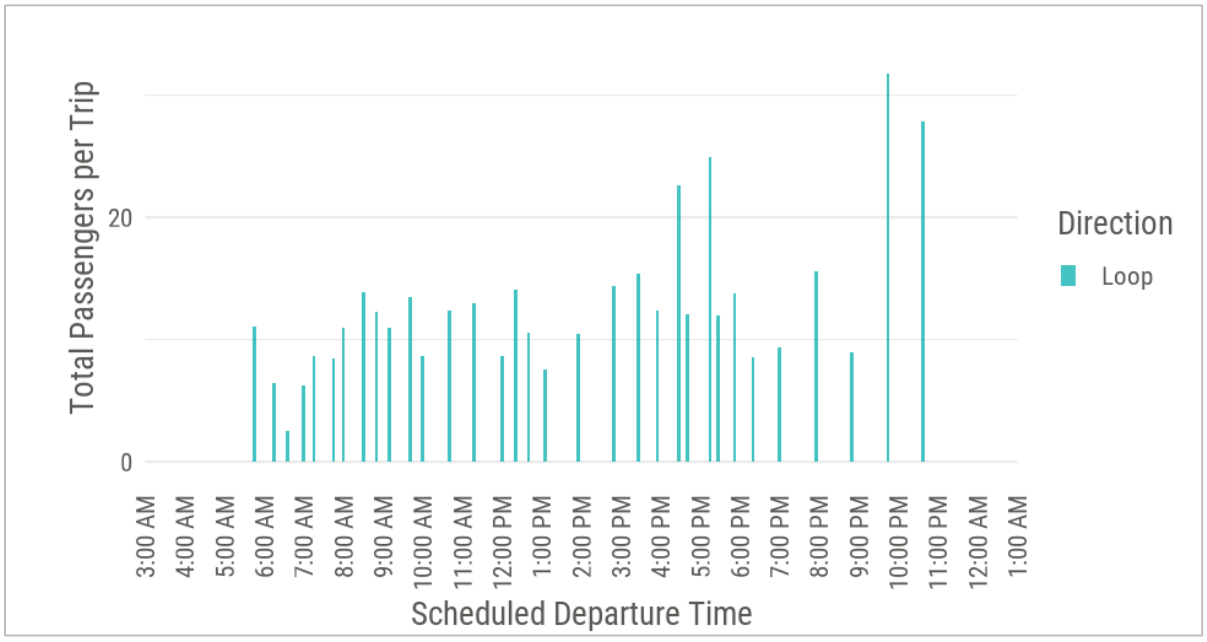


Ridership and Maximum Loads by Trip

Route 310 uses midi buses with a seated capacity of 24 seats. Weekday ridership per trip is low (see Figure 4) with most trips carrying 16 or fewer passengers. Ridership peaks during the last two trips of the day with 32 and 28 passengers, meaning some passengers are standing. There is an afternoon peak in ridership between 4:00 and 6:00 PM. Trips during this time period the route carried between roughly 12 and 25 riders.

Saturdays, trips generally carry 10 passengers or fewer. One trip serves roughly 20 passengers. All trips operate below seated capacity.

Figure 4 | Weekday Ridership by Trip



ON-TIME PERFORMANCE AND RUNNING TIMES

On-Time Performance

In Fall 2019, Route 310's on-time performance was 83% on weekdays and 71% on Saturdays (see Table 4), with off-schedule performance attributed to early and late service. While weekday service is generally on-time, there are indications of running time variability along the route weekdays and weekends.

Dropped trips were not a significant issue for Route 310.

Table 4 | Fall 2019 On-Time Performance

	Early	On Time	Late	Missed Trips
	(>2 Mins Early)	(<2 Mins Early to 6 Mins Late)	(>6 Mins Late)	
Goal		**80%**		
Fall 2019 Actual				
Weekday	3.7%	82.5%	13.8%	0.0%
Saturday	9.4%	71.0%	19.6%	0.0%

Note: On-time percentages are for trips that are run (do not include dropped trips)

AVERAGE SPEEDS AND STOP SPACING

Average speeds for Route 310 are nearly always at 15 mph or more (see Figure 5). Route 310 has fewer than 5 stops per mile (see Figure 6).

Figure 5 | Average Speeds: PM Peak Southbound

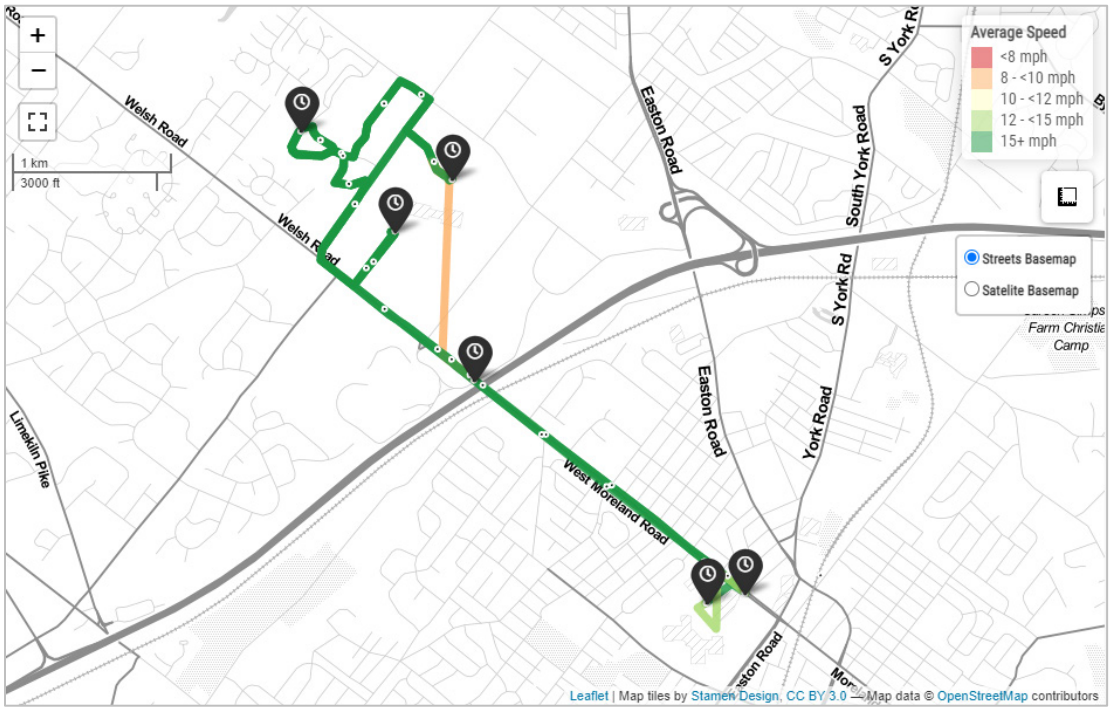
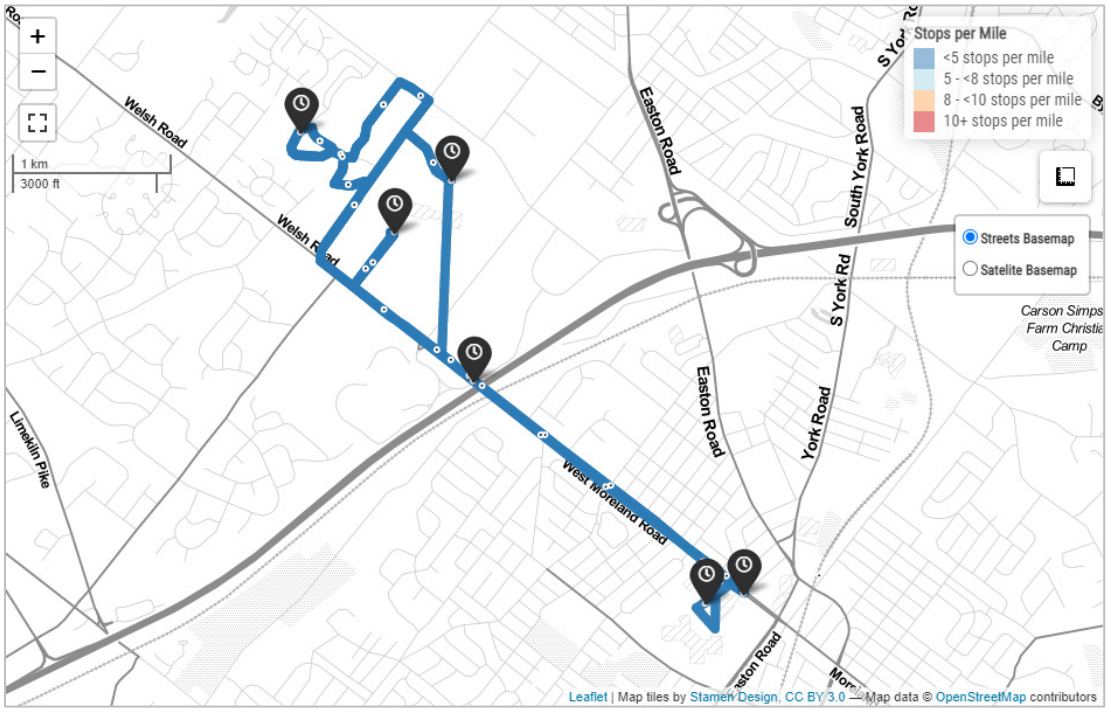


Figure 6 | Stop Spacing by Route Segment



RIDER CHARACTERISTICS

Route 310's riders are generally typical of SEPTA's service area (see Table 5). However, on average, Route 310 riders are younger, slightly wealthier (higher household incomes, slightly lower share of the population in poverty and lower share of people without a vehicle), and a higher share of riders are Black.

Table 5 | Rider Characteristics

	Route 95 Riders	Systemwide Average
Median Household Income	$36,613	$32,713
Share in Poverty	26%	30%
Ethnicity		
White	34%	38%
Black	54%	46%
Hispanic	8%	10%
Other	5%	7%
Without a Vehicle	30%	37%
Seniors	4%	15%
With a Disability	1%	2%

SERVICE IMPROVEMENT OPPORTUNITIES

Opportunities to strengthen Route 310 are listed below. Some suggestions may be contradictory, as there is usually more than one approach to improving a route.

- **Work with UPS to better serve late night shift changes:** The last 2 trips of the day have the highest ridership. SEPTA could work with UPS to align service with shift changes; however this may be difficult to do consistently because UPS does not have set shift times. They set their shifts a couple of days before based on the volume of work at that time.
- **Operate with Clockface Headways:** Route 310's headways vary widely, and some trips are currently scheduled to allow for timed transfers with Routes 22 and/or 55. Operate with more consistent headways so service is easier to understand and predict for riders.
- **Simplify Route 310:** Route 310's alignment can be circuitous and there are several service patterns. Reduce the number of service patterns and simplify the alignment through the Horsham Business Center so it does not loop around KDI Office Technology. The Horsham Business Center generally has low ridership.
- **Coordinate Service with other SEPTA routes between Olney and Willow Grove:** Three SEPTA bus routes connect Olney Transportation Center and the Willow Grove area (Routes 22, 55 and 80). Routes 22 and 55 offer local service between Olney Transportation Center and Willow Grove using different alignments, while Route 80 operates express between Olney and the office parks in Horsham. Riders using Routes 22 and 55 currently transfer to Routes 310 or 311 to get to the UPS facility and other employment destinations. Coordination opportunities include:

- Operating Routes 22 and/or 55 directly to UPS and office parks. Operating directly would create one-seat rides for riders, increasing access to the employment sites. It could also potentially eliminate the need for SEPTA routes 310 and 311 that provide connections to the employment sites. If Routes 22 and 55 operated one seat rides to UPS and the office parks, Route 80 could also be eliminated, and those resources reallocated.
- If Route 55 traveled to the UPS facility and office parks directly, service to Doylestown would need to be provided by another route like Route 80 to avoid a transfer for riders traveling from the Olney Transportation Center.
- Combine Routes 310 and 311. Another option would be to consolidate Routes 310 and 311 to make service easier to understand and reduce duplication.