

ROUTE 46

58th-Baltimore to 63rd-Malvern

KEY SERVICE CHARACTERISTICS, ISSUES, AND OPPORTUNITIES

- *Route 46 is a strong route that provides frequent, easy to understand, and reliable crosstown service in one of the densest and transit-reliant regions of Philadelphia.*
- *Its only significant weakness is that it is very slow.*

ROUTE OVERVIEW

Route 46 provides frequent crosstown service between Overbrook and Angora, primarily along 60th Street in West Philadelphia. The route's primary function is to provide a connection to the Market-Frankford Line and other connecting services. It also serves a significant amount of intermediate ridership.

Route 46's alignment is simple and direct, and it provides unique service; it does not duplicate any other routes.

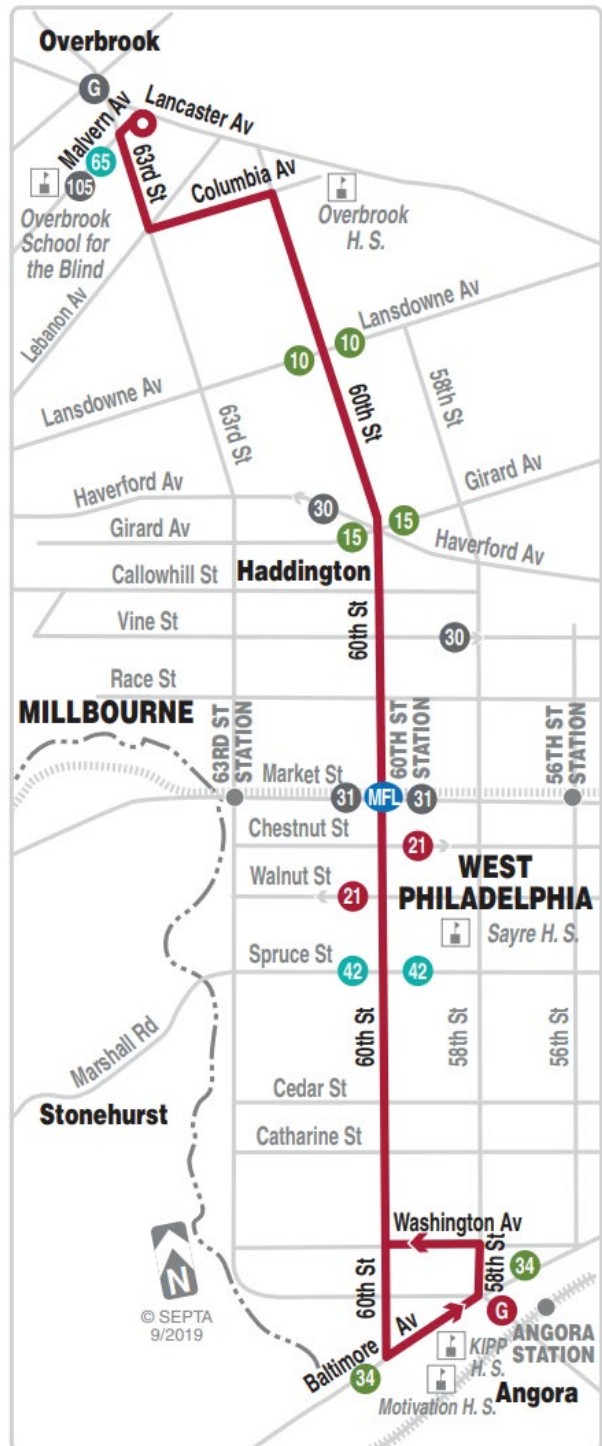
SERVICE OVERVIEW

Schedule

Route 46 operates for about 21 hours a day on weekdays from 5:10 AM to 2:08 AM and provides frequent service for most of the day on weekdays. On Saturdays and Sundays, it operates from 5:45 AM to 2:08 AM (see Table 1):

- On weekdays, Early AM frequencies average 23 minutes, peak period frequencies in the morning and afternoon average 9 minutes, midday frequencies average 13 minutes, and evening frequencies are 15 minutes. During the Late Night hours, service operates on average every 30 minutes and after midnight Route 46 operates every 33 minutes. However, actual frequencies vary during all time periods.
- On Saturdays, service frequencies average 20 minutes during the day and 29 minutes at night. As on weekdays, actual frequencies vary from the averages.

Figure 1 | Route Map



- On Sundays, frequencies average 30 minutes during the day and 32 minutes at night. As on weekdays and Saturdays, actual frequencies vary from the averages.

Table 1 | Schedule Statistics

Service Day	Span Of Service	Frequency (Range)	Frequency (Average)
Weekdays	5:10 AM to 2:08 AM		
Early AM	5:10 AM to 5:59 AM	20 - 25	23
AM Peak	6:00 AM to 8:59 AM	6 - 21	9
Midday	9:00 AM to 2:59 PM	8 - 15	13
PM Peak	3:00 PM to 5:59 PM	8 - 12	9
Evening	6:00 PM to 9:59 PM	12 - 30	15
Late Night	10:00 PM to 11:59 PM	30 - 31	30
Owl		30 - 40	33
Saturdays	Midnight to 2:08 AM		
Day	5:45 AM to 2:08 AM	19 - 22	20
Night	8:00 AM to 5:59 AM	20 - 63	29
Sundays	Before 8:00 AM & After 5:59 PM		
Day	5:45 AM to 2:08 AM	30 - 33	30
Night	8:00 AM to 5:59 AM	29 - 63	32

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

Service Patterns

Route 46 operates four service patterns: inbound and outbound primary patterns and inbound and outbound short-turns used on only the last 1-2 trips each day (see Table 2).

Table 2 | Service Patterns

Pattern	Origin	Destination	Unique Feature	Unique Stops	Trips Per Day		
					Wkd	Sat	Sun
Northbound							
229312	Malvern Ave & 63rd St Loop	58th St & Baltimore Ave	Primary Pattern	0	92	51	39
229307	Lansdowne Ave & 60th St	58th St & Baltimore Ave	Late night short-turn	0	1	1	1
Southbound							
229331	58th St & Baltimore Ave	Malvern Ave & 63rd St Loop	Primary Pattern	0	91	50	38
229330	58th St & Baltimore Ave	Lansdowne Ave & 60th St	Late night short-turn	0	2	2	2

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

RIDERSHIP AND PRODUCTIVITY

In Fall 2019, Route 46 carried 5,750 passengers on weekdays, 2,400 on Saturdays, and 1,550 on Sundays (see Table 3). Based on weekday ridership, it was SEPTA's 34th highest ridership route and its second most productive route.

Table 3 | Fall 2019 Ridership and Productivity

	Weekdays	Saturdays	Sundays
Daily Ridership	5,742	2,389	1,560
Rank	34	41	42
Passengers per Revenue Vehicle Hour	87.5	70.2	71.0
Rank	2	1	2

Transfer Patterns

Many trips on Route 46 involve a transfer to the Market-Frankford Line. The largest transfer rates are to and from:

- The Market-Frankford Line (49.1% of all trips)
- Route 65 Germantown-Cheltenham to 69th Street Transportation Center (4.5%)
- Route G Overbrook and Lankenau Medical Center to Columbus Commons or Food Distribution Center (3.9%)
- Route 21 Penn's Landing to 69th Street Transportation Center (3.3%)
- Route 34 Trolley 13th-Market to 61st-Baltimore (2.8%)

Weekend transfer volumes are similar.

Ridership by Stop

Route 46's primary function is to connect people with the Market-Frankford Line (see Figure 2). Major northbound ridership patterns in Fall 2019 were:

- The second highest number of passengers – 367 – boarded at Route 46's southern terminus at 58th Street and Baltimore Avenue.
- Between Baltimore Avenue and Market Street, most stops had 50 and 100 boardings and 10 and 30 alightings. Exceptions included:
 - 485 passengers boarded and 69 alight at the three stops on 60th Street from Catherine Street to Larchwood Street, which is a very dense area of West Philadelphia.
 - 130 passengers boarded and 46 alighted at 60th Street at Spruce Street. This is a transfer point with Route 42 Penn's Landing to Wycombe.
- 687 passengers boarded and 697 alighted at Market Street. This is a transfer point with the Market-Frankford Line and Route 31 City Hall to 76th-City. This is by far the highest ridership stop on the route.
- Between 10 and 90 passengers boarded and 60 and 100 passengers alighted at Route 46's stops between Market Street and Lansdowne Avenue. Exceptions include:
 - 209 passengers boarded and 552 alighted at the three stops on 60th Street from Vine Street to Haverford Avenue. These are transfer points with Route 30 Amtrak 30th Street Station to 69th Street Transportation Center and Trolley Route 15 63rd-Girard to Richmond-Westmoreland.
- 29 passengers boarded and 157 alighted at 60th Street at Lansdowne Avenue. This is a transfer point with Trolley Route 10 13th-Market to 63rd-Malvern.

- Through to the northern end of Route 46's alignment, most stops served between three and 12 boardings and 30 and 90 alightings. Exceptions included:
 - 121 passengers alighted at Columbia Avenue at 63rd Street. This is a transfer point with Trolley Route 10 13th-Market to 63rd-Malvern.
 - 428 passengers alighted at Malvern Avenue at 63rd Loop, which is Route 46's northern terminus. This is a transfer point with Route 65 Germantown-Cheltenham to 69th Street Transportation Center and Route 105 Rosemont to 69th Street Transportation Center.

Southbound patterns generally mirror southbound patterns. Weekend patterns are also similar but with lower volumes.

Figure 2 | Weekday Southbound Ridership by Stop



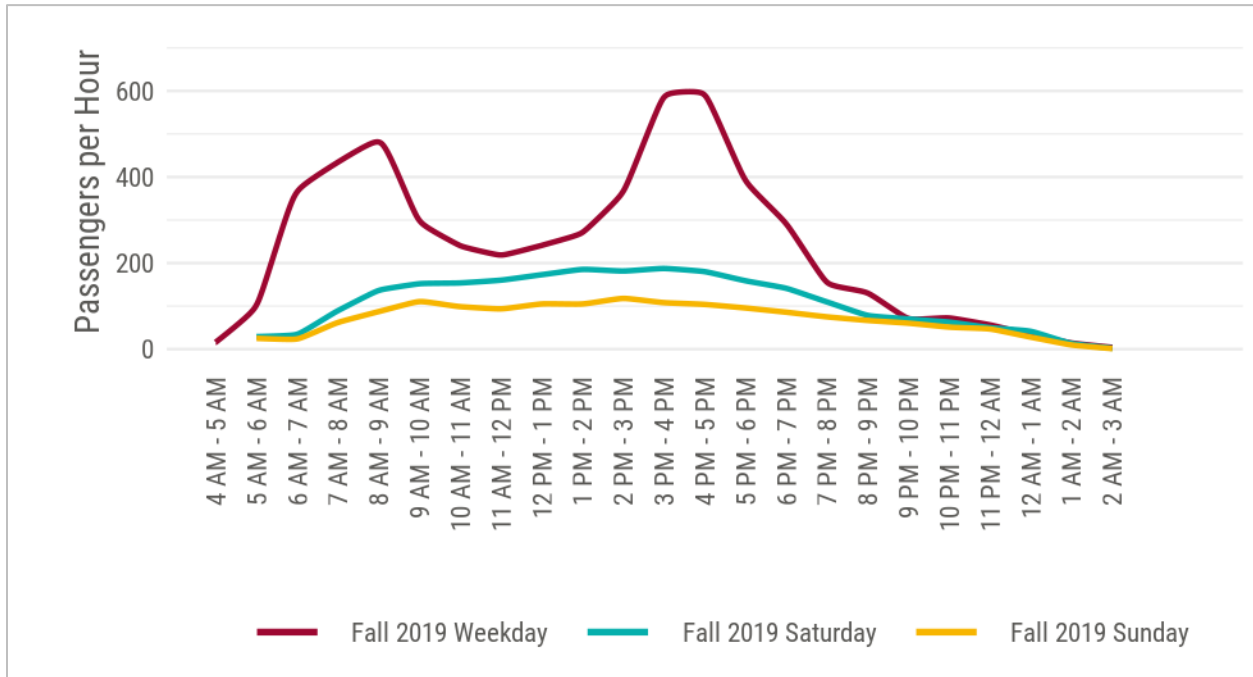
Ridership by Time of Day

Ridership by Hour

In Fall 2019, weekday ridership was heavily peaked, with 55% of all ridership in the AM peak and PM Peak (see Figure 3). Midday ridership, on a per hour basis, was about half as high as peak period ridership. Evening ridership was lower than midday ridership and fell quickly after

6:00 PM. Saturday and Sunday ridership did not exhibit peaks and gradually increased through mid-afternoon and then gradually decreased.

Figure 3 | Ridership by Hour: Fall 2019



Ridership and Maximum Loads by Trip

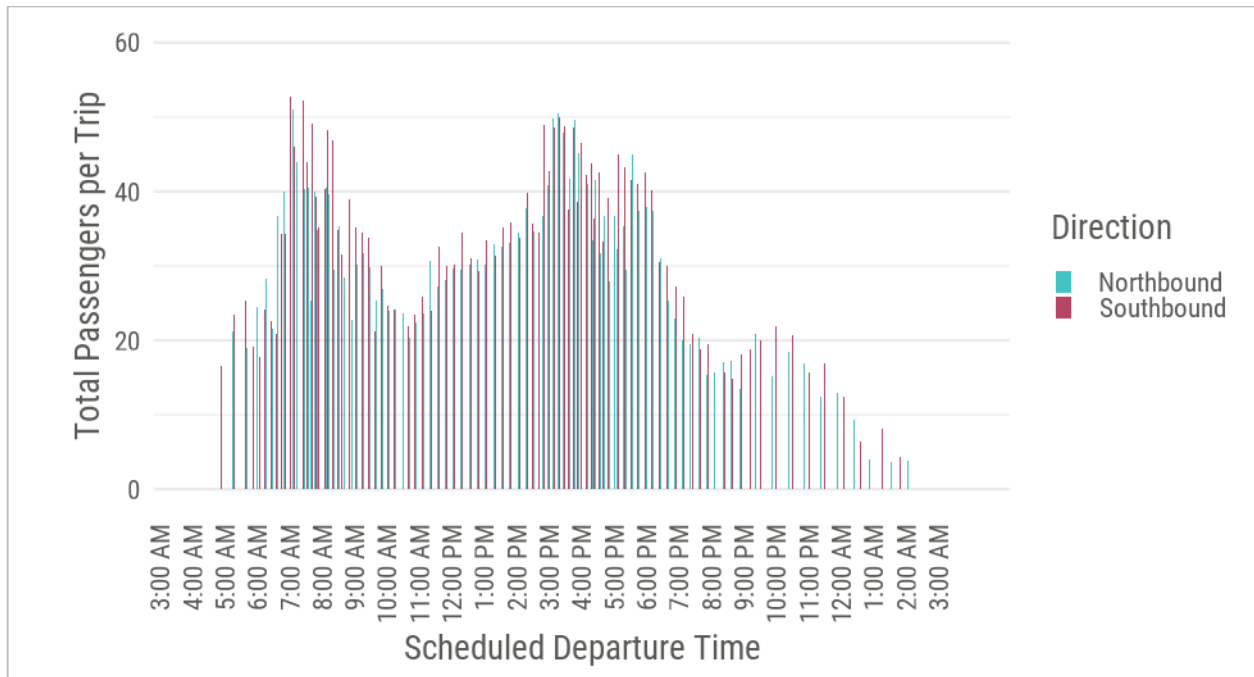
Weekday ridership per trip is high on most trips (see Figure 4).

- The first southbound trip carries nearly 20 passengers and subsequent trips carry over 20, indicating likely demand for earlier service.
- During the AM and PM peaks, most trips carried between 40 and 50 total passengers. However, there is a large amount of ridership turnover along the route, especially at the Market-Frankford Line. As a result, maximum loads were significantly lower than total ridership, and all trips operated below seated capacity on average. Furthermore, the highest maximum loads are very concentrated between 6:00 AM to 8:00 AM. At other times in the peak periods, maximum loads are often 30 passengers or fewer.
- Midday trips generally carried between 20 and 30 passengers with maximum loads of 20 or less. Ridership increases to PM peak levels at approximately 3:00 PM, when maximum loads increase to about 30.
- In the evening, ridership ramped down from approximately 30 passengers per trip to around 25 at 8:00 PM, and then to 10 or less after midnight.

On Saturdays, ridership ramped up to approximately 20 riders per trip at 8:00 AM. It then jumped to around 30 to 40 passengers per trip until about 5:00 PM. It then declined to 15 passengers per trip at midnight, and then to fewer than 10 riders per trip on the last few trips. All trips operated well below seated capacity.

Sunday ridership by trip patterns were similar to those on Saturday but with some individual AM trips carrying higher ridership.

Figure 4 | Weekday Ridership by Trip: Fall 2019



ON-TIME PERFORMANCE AND RUNNING TIMES

On-Time Performance

In Fall 2019, Route 46’s on-time performance was strong: 92% on weekdays, 86% on Saturdays, and 86% on Sundays (see Table 4), with off-schedule performance split relatively equally between early and late service.

On weekdays, dropped trips were a moderate issue, with 2% of trips not run on weekdays.

Table 4 | Fall 2019 On-Time Performance

	Early (>2 Mins Early)	On Time (<2 Mins Early to 6 Mins Late)	Late (>6 Mins Late)	Missed Trips
Goal		80%		
Fall 2019 Actual				
Weekday	3.9%	92.4%	3.7%	2.2%
Saturday	6.5%	85.6%	7.9%	0.7%
Sunday	5.7%	85.6%	8.7%	1.1%

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

AVERAGE SPEEDS AND STOP SPACING

Route 46 is a slow route, largely due to too many stops. On weekdays in the fall of 2019, Route 46 averaged only 9.3 mph with speeds especially slow in the middle of the route (see Figure 5).

Route 46 has an average of 10 stops per mile and over 12 stops per mile in some areas (see Figure 6). This means that Route 46’s stops, on average, are 530 feet, or less than a two-minute walk apart. There are significant opportunities for stop optimization on Route 46. Given

that each stop increases running times by about 20 seconds, an increase in stop spacing from 10 to six stops per mile would save five minutes in end-to-end travel times and additional walk times for riders would be one minute or less.

RIDER CHARACTERISTICS

Route 46 carries passengers with a lower median household income than the SEPTA service area average. Route 46 also carries a higher share of residents in poverty, Black riders, riders without a vehicle, and seniors (see Table 5).

Table 5 | Rider Characteristics

	Route 46 Riders	Systemwide Average
Median Household Income	\$28,240	\$32,713
Share in Poverty	36%	30%
Ethnicity		
White	12%	38%
Black	82%	46%
Hispanic	4%	10%
Other	2%	7%
Without a Vehicle	47%	37%
Seniors	19%	15%
With a Disability	2%	2%

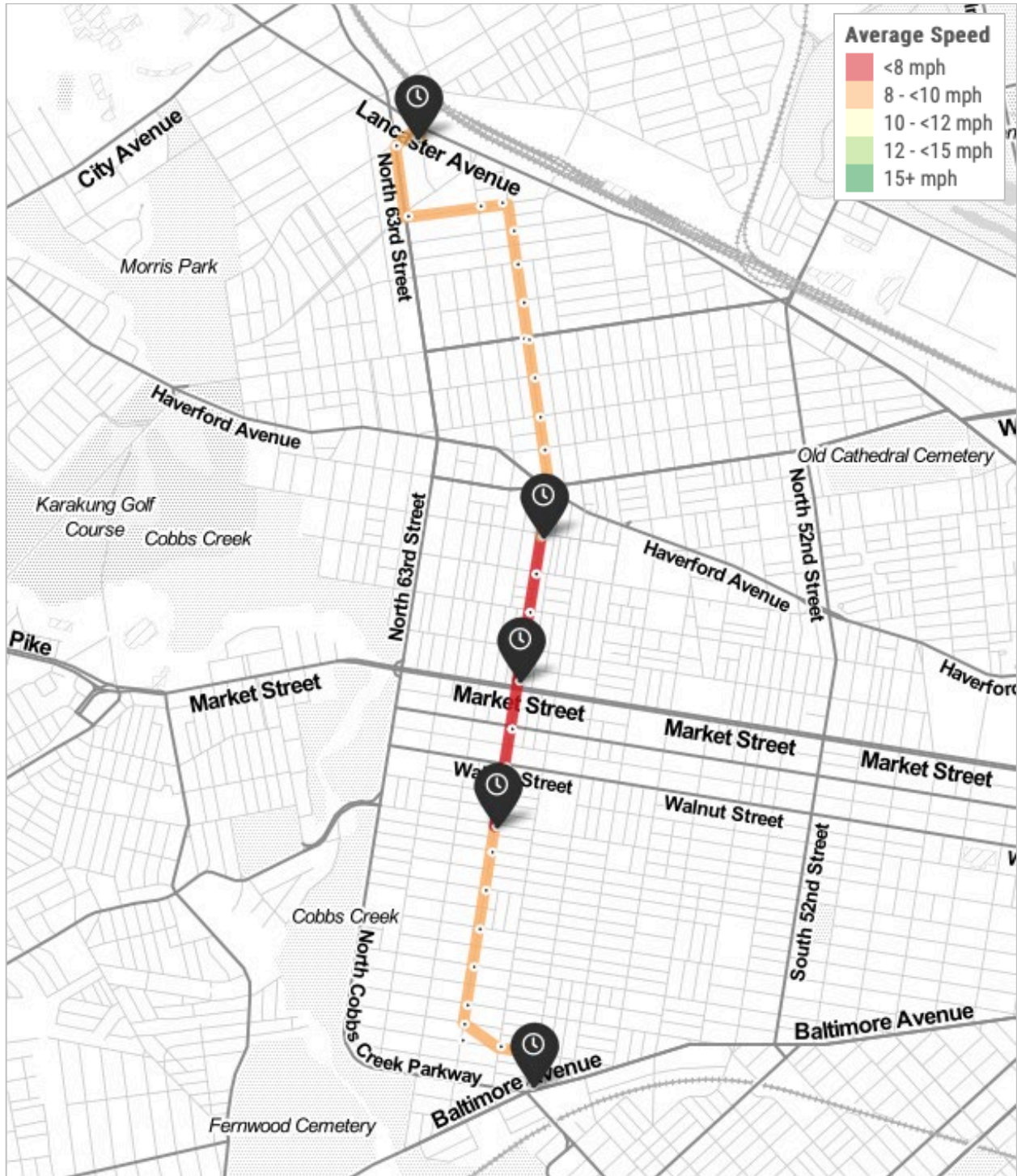
Figure 5 | Fall 2019 PM Peak Northbound Speeds


Figure 6 | Stop Spacing by Route Segment



SERVICE IMPROVEMENT OPPORTUNITIES

Opportunities to strengthen Route 46 are listed below. Some suggestions may be contradictory, as there is usually more than one approach to improving a route.

- **Make Service Faster:** As described above, Route 46 is very slow and the most impactful way to improve service will be to make it faster. Upgrades could include stop consolidation, target transit priority improvements along 60th Street or a full conversion to Rapid Bus service.
- **Provide 24-Hour Service:** The first southbound trip carries nearly 20 passengers and subsequent trips carry over 20, indicating likely demand for much earlier service seven days a week. Given Route 46's already long service spans, this route could be a prime candidate for becoming a 24-hour or OWL route.
- **Extend Service to Overbrook Station:** Route 46's northern terminal is at Malvern Loop, which has constrained capacity for bus layover. To relieve Malvern Loop, SEPTA could develop a layover facility or bus terminal at Overbrook Station, located just to the north on City Avenue. Extending Route 46 to Overbrook Station would improve operational performance and provide better transfers to routes serving City Avenue.
- **Identify Alternative Southern Terminal:** Route 46's current southern terminal near 58th Street and Baltimore Avenue provides an inadequate location for layovers. In coordination with the Trolley Modernization Project, SEPTA could identify an alternative southern terminal that provides enhanced trolley connections and an adequate layover facility.