

ROUTE 4

Broad-Pattison to Fern Rock Transportation Center

KEY SERVICE CHARACTERISTICS, ISSUES, AND OPPORTUNITIES

- *Route 4 connects North and South Philadelphia along on Broad Street for most of its length. Its alignment is simple and direct, and the route carried over 7,000 riders per weekday in Fall 2019.*
- *The route provides an alternative to the Broad Street Line with greater ADA accessibility and closer stop spacing. There may be opportunities to better coordinate Broad Street service now provided by multiple routes.*
- *As with many SEPTA urban routes, Route 4's on-time performance is below standard and service is slow, in part because stops are spaced too closely. Double parking on Broad Street is likely also a significant factor.*

ROUTE OVERVIEW

Route 4 operates between Fern Rock Transportation Center in North Philadelphia and Pattison Avenue (NRG Station) in South Philadelphia (see Figure 1). Most of the alignment is on Broad Street where it provides an ADA-accessible alternative to the subway with stops that are also more closely spaced. Route 4 has a simple and direct alignment traveling on Broad Street and 9th Street. Route 4 shares a segment of Broad Street with Route 16 and headways are coordinated between the two routes.

SERVICE OVERVIEW

Schedule

Route 4 operates until 1:49 AM on all days with service beginning at 5:15 AM on weekdays and approximately 5:50 AM on weekends. Frequencies vary by time of day (see Table 1):

- On weekdays, peak period frequencies are roughly every 15 minutes and midday frequencies are approximately every 18 minutes on average.
- On weekend days, service frequencies average 23 minutes during the day on Saturday and 30-35 minutes at other times.

Table 1 | Schedule Statistics

Service Day	Span Of Service	Frequency (Range)	Frequency (Average)
Weekdays	5:15 AM to 1:49 AM		
Early AM	5:15 AM to 5:59 AM	18-22	20
AM Peak	6:00 AM to 8:59 AM	12-24	15
Midday	9:00 AM to 2:59 PM	12-21	18
PM Peak	3:00 PM to 5:59 PM	12-22	15
Evening	6:00 PM to 9:59 PM	19-41	34
Late Night	10:00 PM to 11:59 PM	38-41	40
Owl	Midnight to 1:49 AM	37-42	40
Saturdays	5:54 AM to 1:49 AM		
Day	8:00 AM to 5:59 PM	21-30	23
Night	Before 8:00 AM & After 5:59 PM	24-42	32
Sundays	5:50 AM to 1:49 AM		
Day	8:00 AM to 5:59 PM	28-31	30
Night	Before 8:00 AM & After 5:59 PM	29-42	34

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

Service Patterns

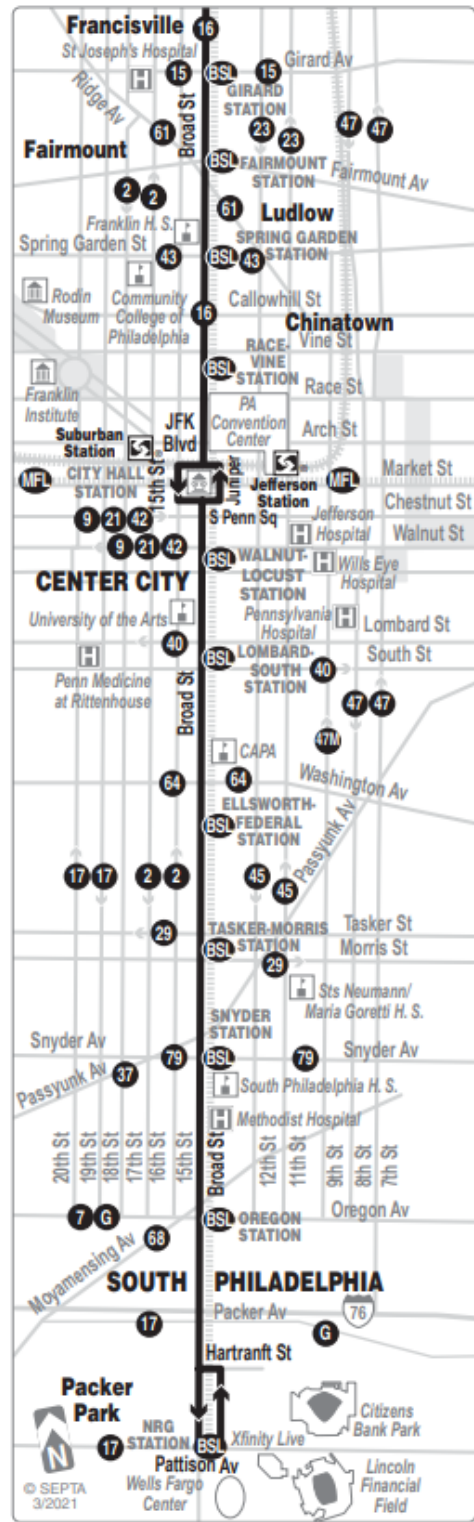
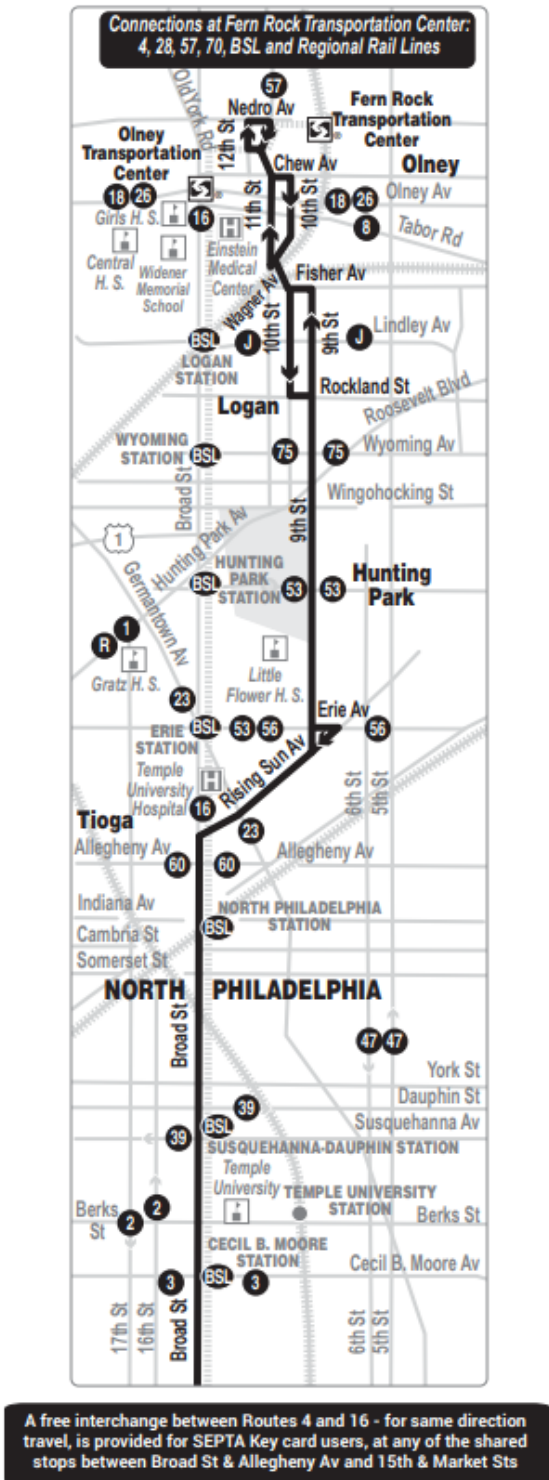
Route 4 has only two weekday service patterns, one in each direction. All trips on all days in each direction use the primary pattern (see Table 2).

Table 2 | Service Patterns

Pattern	Origin	Destination	Unique Feature	Unique Stops	Wkd	Trips Per Day	
						Sat	Sun
Northbound							
229537	NRG Station	Fern Rock Transportation Center	Primary Pattern	0	58	44	37
Southbound							
229331	Fern Rock Transportation Center	NRG Station	Primary Pattern	0	58	44	37

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

Figure 1 | Route Map



RIDERSHIP

In Fall 2019, Route 4 carried 7,075 passengers on weekdays, 3,193 on Saturdays, and 2,223 on Sundays (see Table 3). Based on weekday ridership, it was SEPTA’s 24th highest ridership route.

Table 3 | Fall 2019 Ridership and Productivity

	Weekdays	Saturdays	Sundays
Daily Ridership	7,075	3,193	2,223
Rank	24	30	34
Passengers per Revenue Vehicle Hour	55.0	37.4	32.8
Rank	33	45	49

Transfer Patterns

The largest transfer volumes are to service operating both parallel and perpendicular to Route 4. The largest transfer volumes are to and from:

- Broad Street Line (7.9 percent of trips)
- Market-Frankford Line (4.2 percent)
- Route 16 (City Hall to Cheltenham-Ogontz) (3.2 percent)
- Route 79 (Columbus Commons to 29th-Snyder) (2.9 percent)
- Route 29 (Pier 70 to 33rd-Dickinson) (2.9 percent)

Weekend transfer rates are similar to weekday.

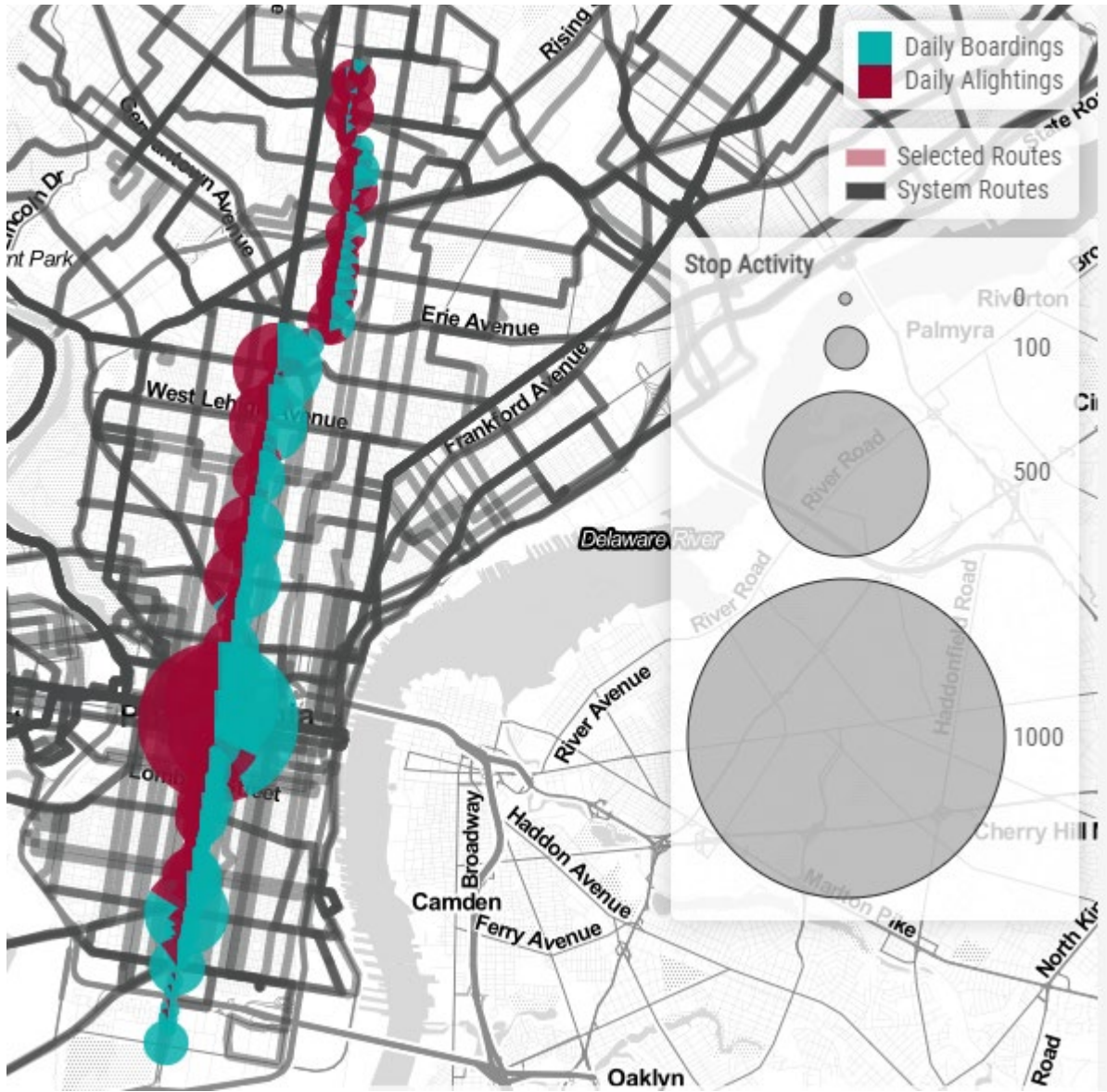
Ridership by Stop

The entire route parallels the Broad Street Line and the stops with the most boardings and alightings are at Broad Street Line stations.

- The top ten northbound boarding locations are all on Broad Street at or very near Broad Street Line stations (in order Arch [Race-Vine], South Penn Square [City Hall], Snyder, Girard, Oregon, Morris, Cecil B. Moore, Allegheny, Pattison [NRG], and Lehigh [North Philadelphia]).
- Northbound alightings are also generally greatest at Broad Street Line station locations.

Some of the Broad Street Line stations listed above are ADA-accessible, indicating that some people are likely transferring to the Route 4 bus to access locations which are not yet accessible via the Broad Street Line. City Hall Station is not ADA-accessible and is a major destination and transfer point. The higher activity at station locations also indicates that some Route 4 riders are likely using the bus instead of the Broad Street Line in order to take advantage of the closer stop spacing and/or because of accessibility or other concerns. Stops on 9th Street generally have lower ridership than stops on Broad Street.

Figure 2 | Weekday Northbound Ridership by Stop



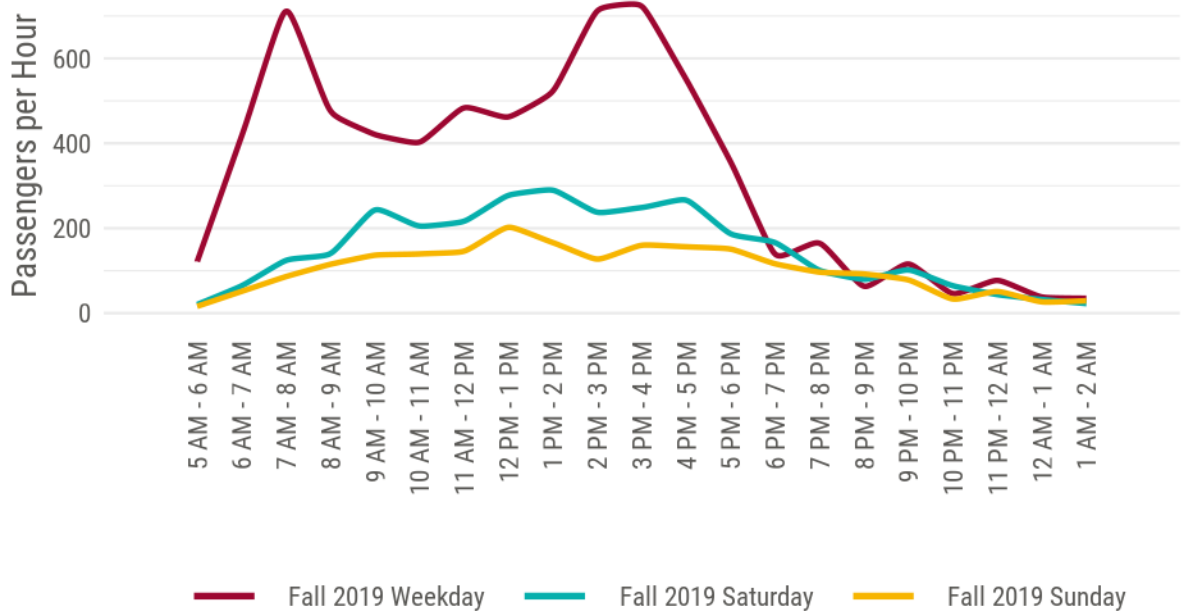
Ridership by Time of Day

Ridership by Hour

In Fall 2019, weekday ridership was somewhat peaked with both the AM peak and PM Peak service carrying about 700 passengers per hour (see Figure 3). Midday ridership was somewhat less at 400-500 passengers per hour.

Weekend ridership was much lower than weekdays and steadier throughout the day, particularly between about 9:00 AM and 5:00 PM.

Figure 3 | Ridership by Hour: Fall 2019



Ridership and Maximum Loads by Trip

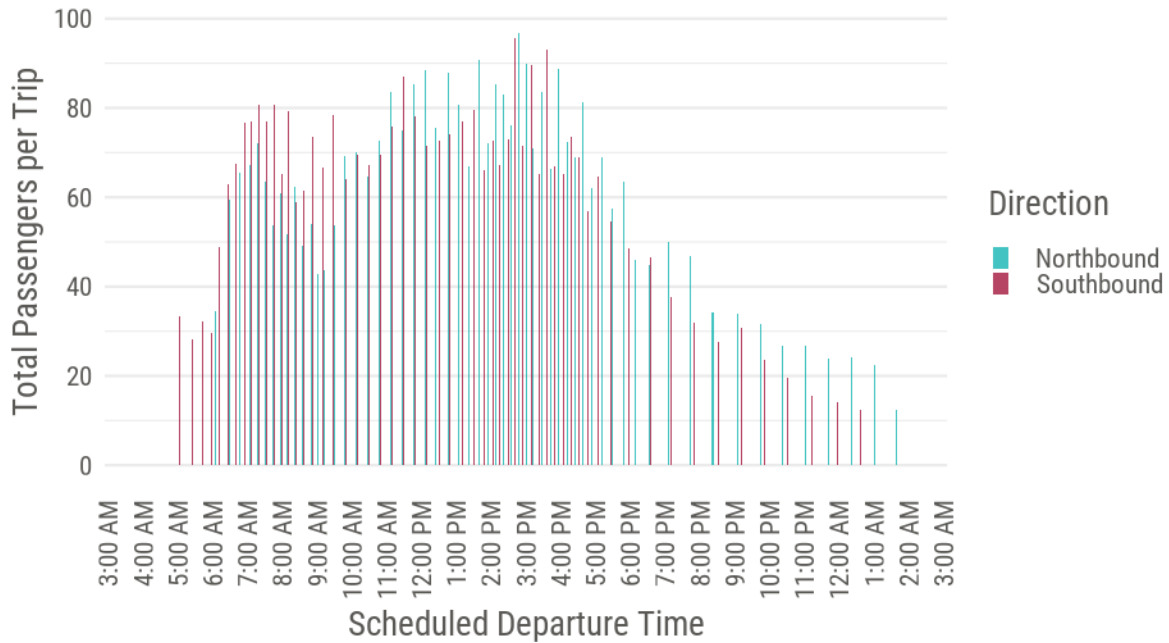
In Fall 2019, weekday ridership per trip is high on most trips with about 60-90 passengers on trips throughout much of the day (see Figure 4):

- After 6:00 PM, ridership decreased steadily from about 50 passengers per trip to around 25.

Turnover along the route is high, so no trips exceed the seating capacity on average.

Saturday ridership per trip is about 40-60 passengers through much of the day, and about 20-30 riders per trip after 6:00 PM. Sunday ridership has a similar pattern with less ridership than Saturday. No weekend trips have maximum loads exceeding the number of seats.

Figure 4 | Fall 2019 Weekday Ridership by Trip



ON-TIME PERFORMANCE AND RUNNING TIMES

On-Time Performance

In Fall 2019, Route 4’s on-time performance was 67.6 percent on weekdays, 61.9 percent on Saturdays, and 69.1 percent on Sundays (see Table 4). On all days, trips were more likely to be late than early.

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	10.3%	67.6%	22.1%	0.0%
Saturday	10.1%	61.9%	27.9%	0.0%
Sunday	11.0%	69.1%	19.9%	0.0%

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

AVERAGE SPEEDS AND STOP SPACING

On weekdays, Route 4 travels at less than 8 mph during the PM Peak, although slightly faster between Girard Avenue and Erie Avenue (see Figure 5). Slow speeds are attributable to traffic congestion as well as stop spacing along the route. Route 4 has an average of 10 stops per mile over its entire length, but some segments have more than 12 stops per mile (see Figure 6). Widespread double parking on Broad Street is likely also a factor which reduces bus speed and on-time performance.

Figure 5 | Fall 2019 PM Peak Northbound Speeds

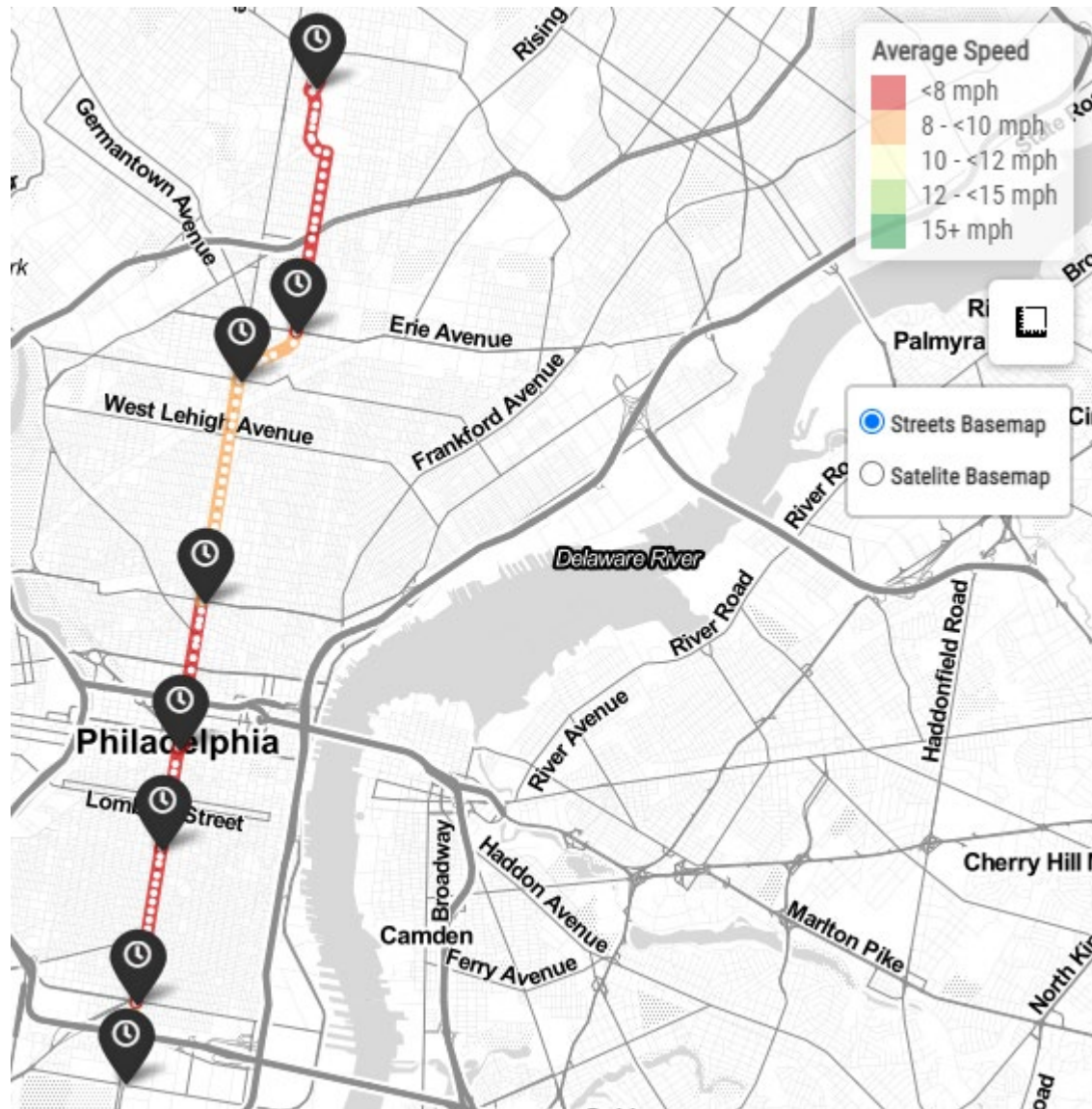
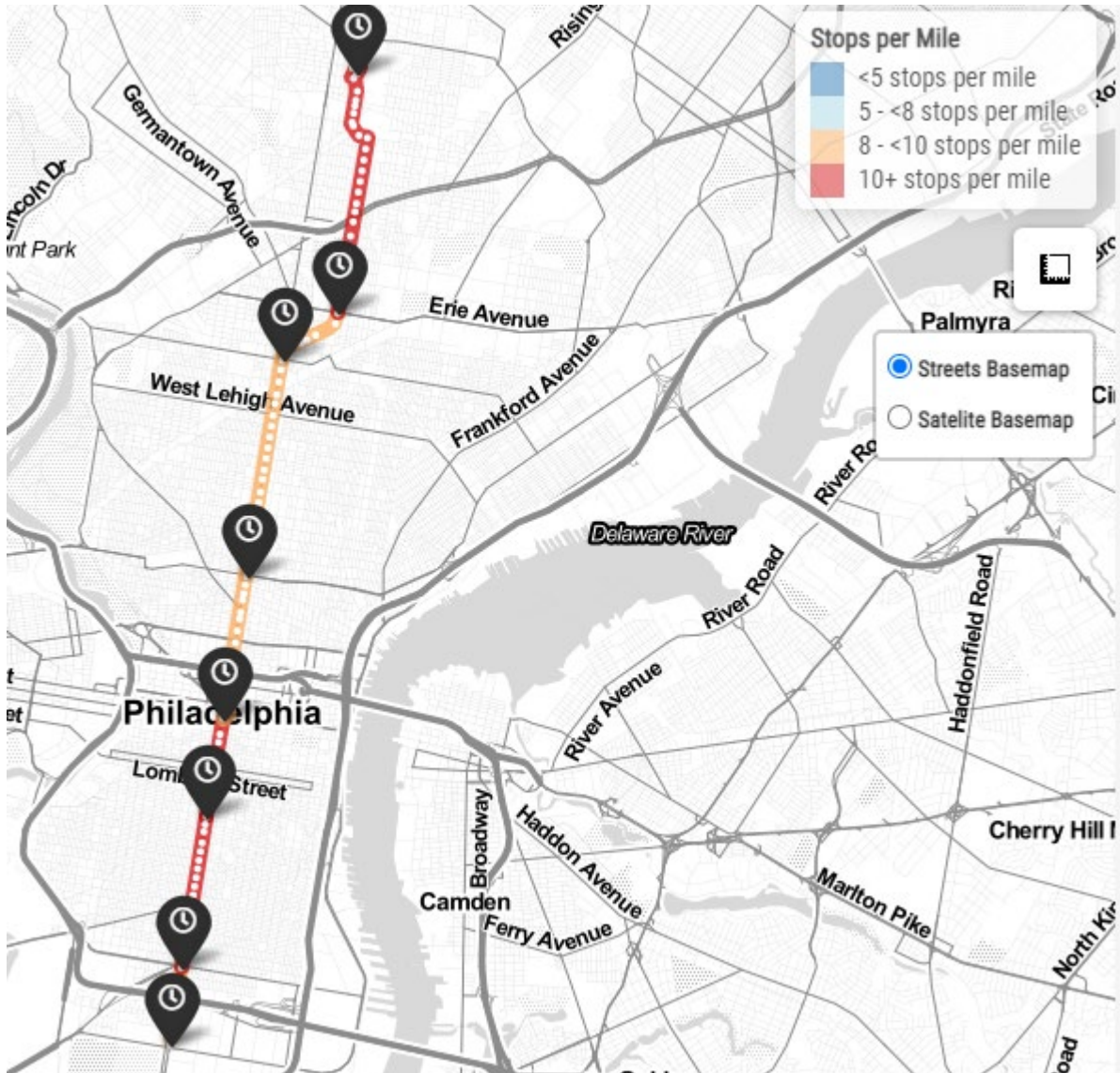


Figure 6 | Stop Spacing by Route Segment



RIDER CHARACTERISTICS

Route 4's rider demographics are typical of SEPTA's entire service area (see Table 5). However, Route 4 carries a higher percentage of seniors, people without a vehicle, and people with a disability.

Table 5 | Rider Characteristics

	Route 4 Riders	Systemwide Average
Median Household Income	\$30,778	\$32,713
Share in Poverty	35%	30%
Ethnicity		
White	33%	38%
Black	52%	46%
Hispanic	12%	10%
Other	3%	7%
Without a Vehicle	48%	37%
Seniors	27%	15%
With a Disability	4%	2%

SERVICE IMPROVEMENT OPPORTUNITIES

Opportunities to strengthen Route 4 are listed below. Some suggestions may be contradictory, as there is usually more than one approach to improving a route.

- Coordinate and Consolidate Broad Street Service:** Routes 4, 16 and 22 overlap on some select segments of Broad Street and there may be ways to simplify the service on fewer routes. Another consideration is increasing use of Fern Rock Transportation Center in order to relieve pressure on the bus berth capacity at Olney Transportation Center.
- Adjust Service as More Broad Street Line Stations Become Accessible:** The need for Route 4 service will be reduced over time as capital investments enable ADA access at stations. Also, the recent shift to free transfers allows greater use of bus service which starts and ends at accessible stations. There may be a longer-term opportunity to provide more frequent Route 4 service on a shorter route.
- Collaborate with the City on Parking/Curb Management:** New technology and policies may allow bus cameras to assist with improving parking and curbside management around bus stops and routes, particularly the illegal parking and enforcement issues, which could improve Route 4's speed and on-time performance.