

ROUTE 57

Whitman Plaza to Rising Sun-Olney or Fern Rock Transportation Center

KEY SERVICE CHARACTERISTICS, ISSUES, AND OPPORTUNITIES

- *Route 57 connects North Philadelphia and South Philadelphia traveling on the east side of Broad Street. Its alignment is long and circuitous. The route carried more than 10,000 riders per weekday in the fall of 2019.*
- *While Route 57 is a strong route in terms of overall ridership, a one-way trip on the full alignment takes almost 90 minutes during peak periods. The slow speed and route length mean that the route does not rank highly for productivity as measured by passengers per vehicle hour.*
- *Especially at the northern end of the route, there may be opportunities to have other routes provide service so that Route 57 can be streamlined into a shorter and more direct alignment. The number of service patterns should also be reduced.*

ROUTE OVERVIEW

Route 57 operates between North Philadelphia and Whitman Plaza in South Philadelphia (see Figure 1). The route carried more than 10,000 weekday riders during Fall 2019. However, the full alignment is more than 13 miles long and a one-way trip takes almost 90 minutes during peak periods, so the route's productivity is not high. Particularly on the northern end of the route, there may be opportunities to redesign the bus network so that Route 57 can shift to a shorter and more direct alignment. Existing Route 57 service has fourteen patterns which makes the service more difficult to understand.

SERVICE OVERVIEW

Schedule

Route 57 operates from approximately 4:35 AM to 1:11 AM on all days of the week. Frequencies vary by time of day (see Table 1):

- On weekdays, peak period frequencies are roughly every 6 minutes. Midday frequencies are approximately every 9 minutes on average.
- On weekend days, service frequencies average 16 minutes during the day and every 20-24 minutes at night.

Figure 1 | Route Map

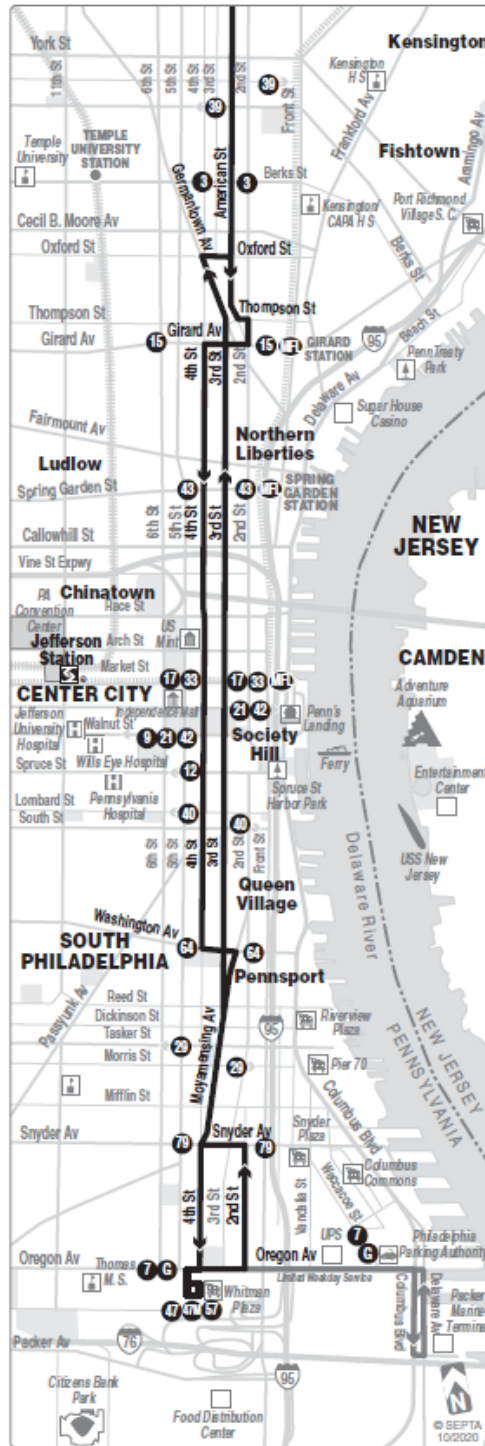
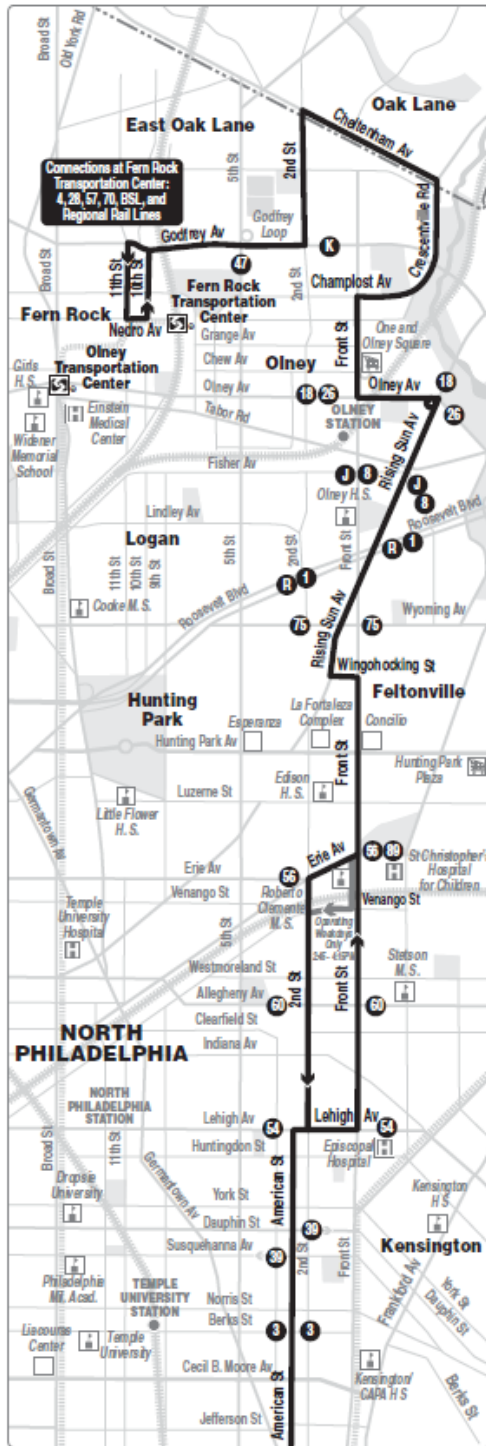


Table 1 | Schedule Statistics

| Service Day | Span Of Service | Frequency (Range) | Frequency (Average) |
|------------------|--------------------------------|-------------------|---------------------|
| Weekdays | 4:37 AM to 1:11 AM | | |
| Early AM | 4:37 AM to 5:59 AM | 17-30 | 22 |
| AM Peak | 6:00 AM to 8:59 AM | 0-21 | 6 |
| Midday | 9:00 AM to 2:59 PM | 0-13 | 9 |
| PM Peak | 3:00 PM to 5:59 PM | 0-17 | 6 |
| Evening | 6:00 PM to 9:59 PM | 0-40 | 17 |
| Late Night | 10:00 PM to 11:59 PM | 0-46 | 29 |
| Owl | Midnight to 1:11 AM | 0-58 | 39 |
| Saturdays | 4:34 AM to 1:11 AM | | |
| Day | 8:00 AM to 5:59 PM | 0-22 | 16 |
| Night | Before 8:00 AM & After 5:59 PM | 0-58 | 20 |
| Sundays | 4:34 AM to 1:11 AM | | |
| Day | 8:00 AM to 5:59 PM | 0-23 | 16 |
| Night | Before 8:00 AM & After 5:59 PM | 0-58 | 24 |

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

Service Patterns

Route 57 has fourteen weekday service patterns. The full alignment operates between Fern Rock Transportation Center at the northern end and Whitman Plaza in the south (see Table 2). However, a significant percentage of trips short-turn, with the northern terminus at Olney Avenue and Rising Sun Avenue. A few trips have various southern termini, including the Packer Marine Terminal, and there are some trips with other variations as well.

Table 2 | Service Patterns

| Pattern | Origin | Destination | Unique Feature | Unique Stops | Trips Per Day | | |
|-------------------|---------------------------------|--------------------------------|-----------------|--------------|---------------|-----|-----|
| | | | | | Wkd | Sat | Sun |
| Southbound | | | | | | | |
| 229678 | Fern Rock Transportation Center | Whitman Plaza - 1 | Primary Pattern | 0 | 51 | 33 | 24 |
| 229676 | Olney Av & Rising Sun Av Loop | Whitman Plaza - 1 | Short-turn | 1 | 36 | 18 | 27 |
| 229682 | Girard Av & 3rd St | Whitman Plaza - 1 | Short-turn | 0 | 5 | 0 | 0 |
| 229679 | Fern Rock Transportation Center | Columbus Blvd & Packer Av - FS | Alternate Route | 12 | 3 | 0 | 0 |
| 229677 | Olney Av & Rising Sun Av Loop | Columbus Blvd & Packer Av - FS | Alternate Route | 13 | 2 | 0 | 0 |

| | | | | | | | |
|-------------------|--------------------------------|---------------------------------|-----------------|----|----|----|----|
| 229675 | Olney Av & Rising Sun Av Loop | 4th St & Oregon Av | Short-turn | 1 | 1 | 1 | 1 |
| Northbound | | | | | | | |
| 229696 | Whitman Plaza - 2 | Fern Rock Transportation Center | Primary Pattern | 0 | 53 | 32 | 27 |
| 229695 | Whitman Plaza - 2 | Olney Av & Rising Sun Av Loop | Alternate Route | 1 | 27 | 20 | 23 |
| 229692 | 2nd St & Oregon Av - FS | Olney Av & Rising Sun Av Loop | Short-turn | 1 | 8 | 0 | 0 |
| 229693 | 2nd St & Oregon Av - FS | Fern Rock Transportation Center | Alternate Route | 0 | 7 | 0 | 0 |
| 229694 | Whitman Plaza - 2 | 3rd St & Girard Av | Short-turn | 0 | 5 | 0 | 0 |
| 229688 | Columbus Blvd & Packer Av - FS | Olney Av & Rising Sun Av Loop | Short-turn | 10 | 4 | 0 | 0 |
| 229683 | Olney Av & Arbor St | Fern Rock Transportation Center | Short-turn | 0 | 2 | 0 | 0 |
| 229690 | Columbus Blvd & Packer Av - FS | Fern Rock Transportation Center | Short-turn | 9 | 1 | 0 | 0 |

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

RIDERSHIP

In Fall 2019, Route 57 carried 10,673 passengers on weekdays, 4,175 on Saturdays, and 3,087 on Sundays (see Table 3). Based on weekday ridership, it was SEPTA's 10th highest ridership route. However, productivity for the route did not rank as highly due to route length and slow operating speeds.

Table 3 | Fall 2019 Ridership and Productivity

| | Weekdays | Saturdays | Sundays |
|--|---------------|--------------|--------------|
| Daily Ridership | 10,673 | 4,175 | 3,087 |
| Rank | 10 | 18 | 17 |
| Passengers per Revenue Vehicle Hour | 47.7 | 38.9 | 32.4 |
| Rank | 42 | 36 | 51 |

Transfer Patterns

The route connects with both the Broad Street and Market Frankford Lines, as well as many east-west bus routes. The largest transfer percentages are to and from:

- Market-Frankford Line (10.7% of all trips)

- Broad Street Line (6.9%)
- Route 33 (Penn's Landing to 23rd Street and Venango Street) (3.8%)
- Route 17 (Front Street and Market Street to 20th Street and Johnston Street and Broad Street Pattison Avenue) (3.4%)
- Route 18 (Fox Chase Loop to Cedarbrook Plaza) (2.9%)

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

Ridership by Stop

Demand is consistent at stops all along Route 57 with less activity at the stops between Fern Rock Transportation Center and Rising Sun Street and Olney Avenue (see Figure 2). The stops served by only a few trips per day have very little ridership – only five people per day board at the Packer Marine Terminal. For weekday northbound trips some highlights include:

- A combined 331 riders board at the first two stops at or near Whitman Plaza
- Center City stops have high activity, with the single busiest stop at 3rd Street and Market Street showing 271 boardings and 707 alightings
- 160 riders board and 98 alight at 3rd Street and Girard Avenue
- There are 260 boardings and 135 alightings at Front Street and Allegheny Avenue
- 182 riders board and 134 alight at Front Street and Erie Avenue
- There are 368 combined alightings at the two stops at Olney Avenue and Rising Sun Street (off-street loop for trips ending there and on-street stop for trips continuing to Fern Rock Transportation Center)
- There are 394 alightings at Fern Rock Transportation Center

Figure 2 | Weekday Northbound Ridership by Stop

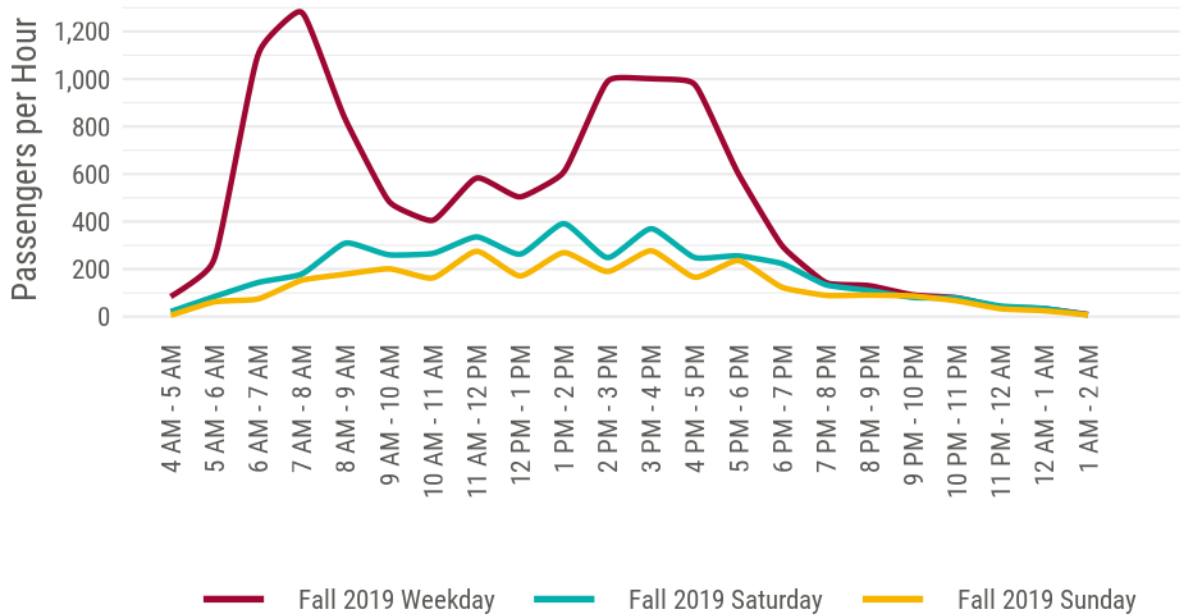

Ridership by Time of Day

Ridership by Hour

In Fall 2019, weekday ridership was somewhat peaked with slightly higher ridership in the morning (see Figure 3). The high ridership between 6:00-7:00 AM and 2:00-3:00 PM likely indicates that students are a significant percentage of ridership. Midday ridership, on a per hour basis, was about half of the peak periods. Evening ridership was much lower and fell quickly

after 6:00 PM. Weekend ridership did not exhibit peaks and remained steady between 9:00 AM and 6:00 PM.

Figure 3 | Ridership by Hour: Fall 2019



Ridership and Maximum Loads by Trip

In Fall 2019, weekday ridership per trip was high on peak trips and moderate at other times (see Figure 4):

- AM peak trips carried 70 to 90 passengers with one trip over 100 passengers likely due to students
- Midday trips carried 50 to 60 passengers
- PM peak trips carried 80 to 100 passengers
- After 6:00 PM, ridership decreased steadily from 60 passengers to around 40
- After 10:00 PM ridership continued to drop to fewer than 20 on the last trips

Due to turnover along the route, no trips averaged standing loads but there are some peak period trips where maximum loads approach seating capacity on average (see Figure 5). Bus bunching likely increased the number of trips which had standing loads on occasion. Outside of the peak periods, maximum loads remain below the seated capacity.

Weekend trips each carry 50 to 75 passengers through much of the day and somewhat fewer passengers during mornings and evenings. Maximum loads on weekends were within the seating capacity.

Figure 4 | Fall 2019 Weekday Ridership by Trip

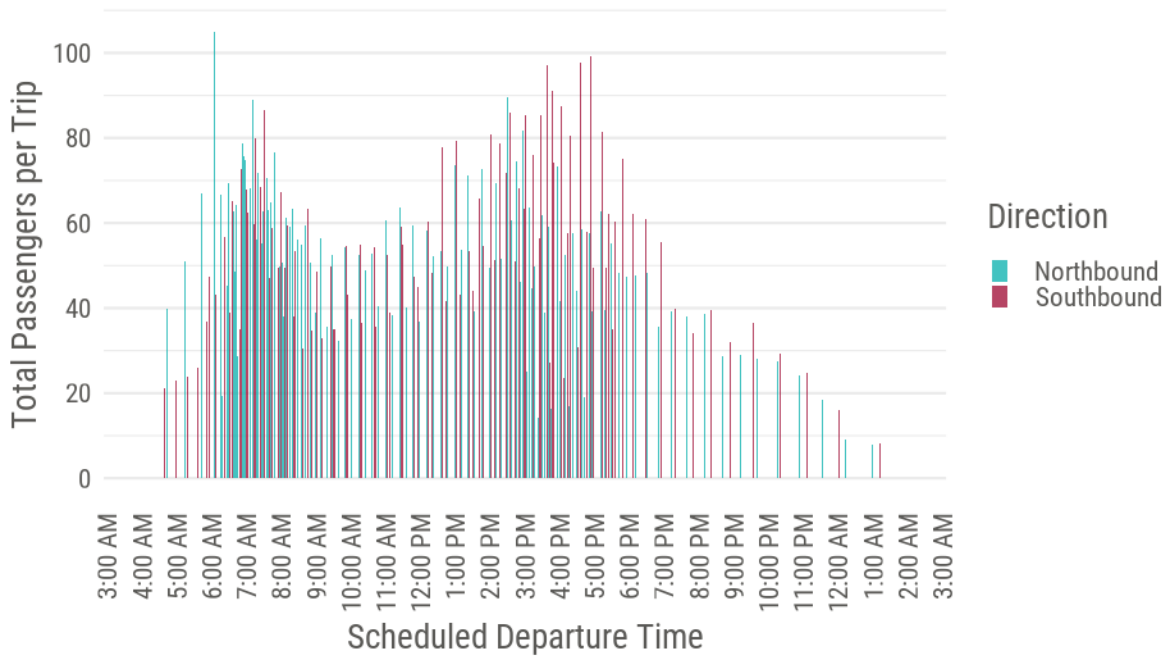
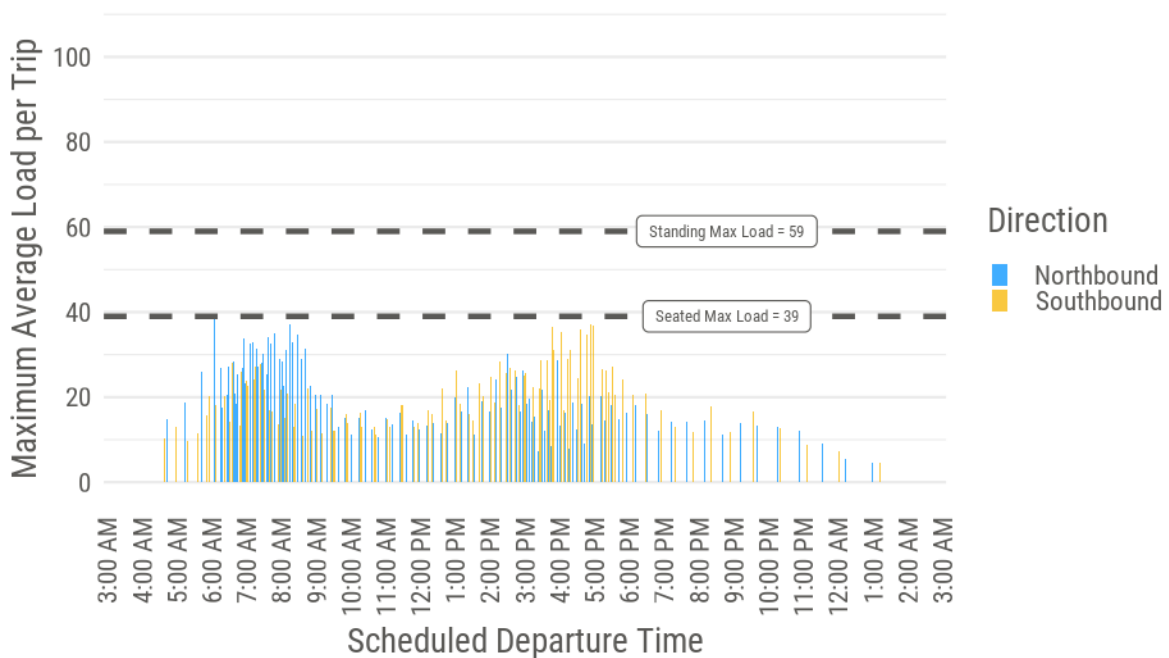


Figure 5 | Fall 2019 Weekday Maximum Loads by Trip



ON-TIME PERFORMANCE AND RUNNING TIMES

On-Time Performance

In Fall 2019, Route 57’s on-time performance was 69.1 percent on weekdays, 72.3 percent on Saturdays, and 78.4 percent on Sundays (see Table 4). On all days trips were much 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 | 8.7% | 69.1% | 22.3% | 4.7% |
| Saturday | 6.2% | 72.3% | 21.5% | 4.1% |
| Sunday | 5.8% | 78.4% | 15.8% | 2.0% |

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

AVERAGE SPEEDS AND STOP SPACING

On weekdays, Route 57 travels at less than 8 mph on many segments and somewhat faster on other parts of the route (see Figure 6). Slow speeds are attributable to traffic congestion on narrow streets as well as stop spacing along the route. Route 57 has an average of more than 9 stops per mile over its entire length; but some segments have more than 14 stops per mile (see Figure 7).

Figure 6 | Fall 2019 PM Peak Northbound Speeds

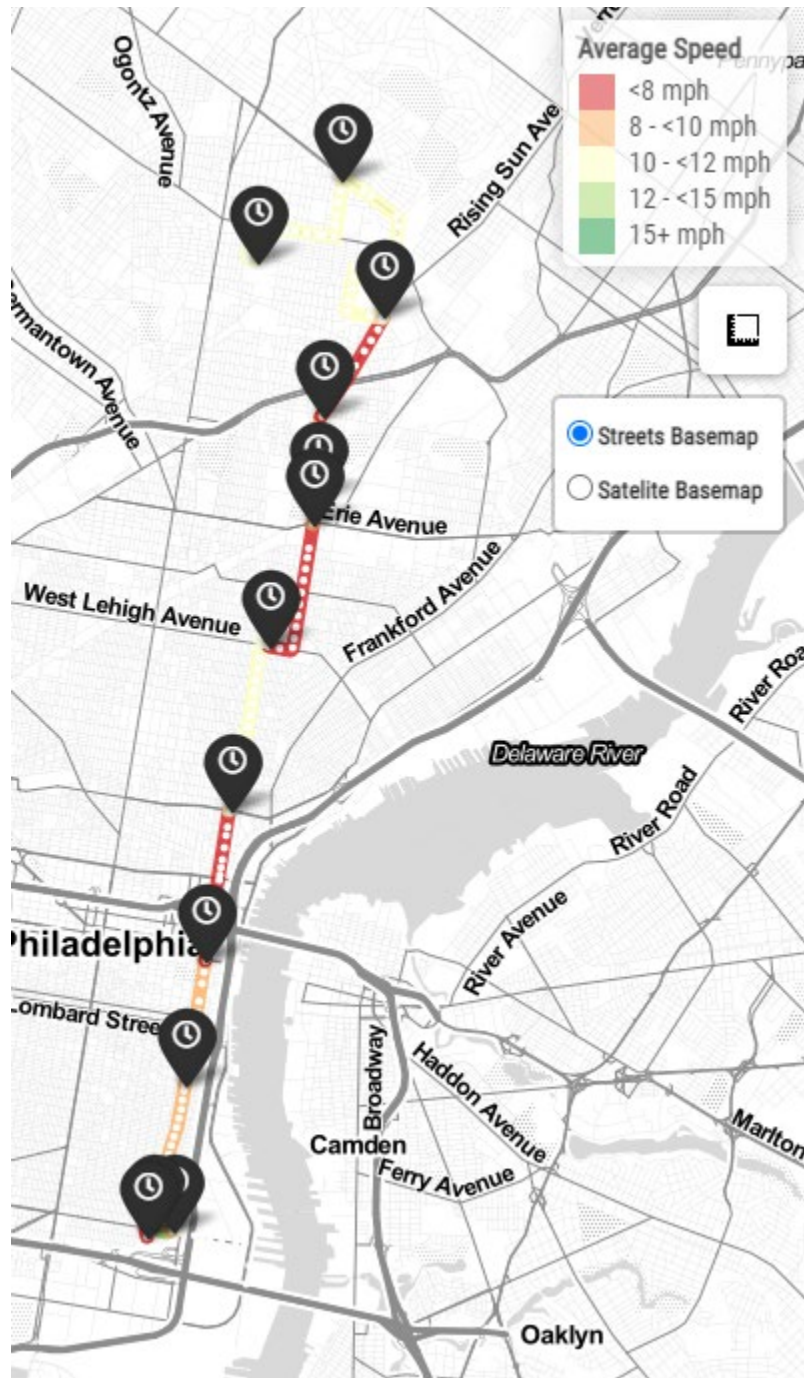
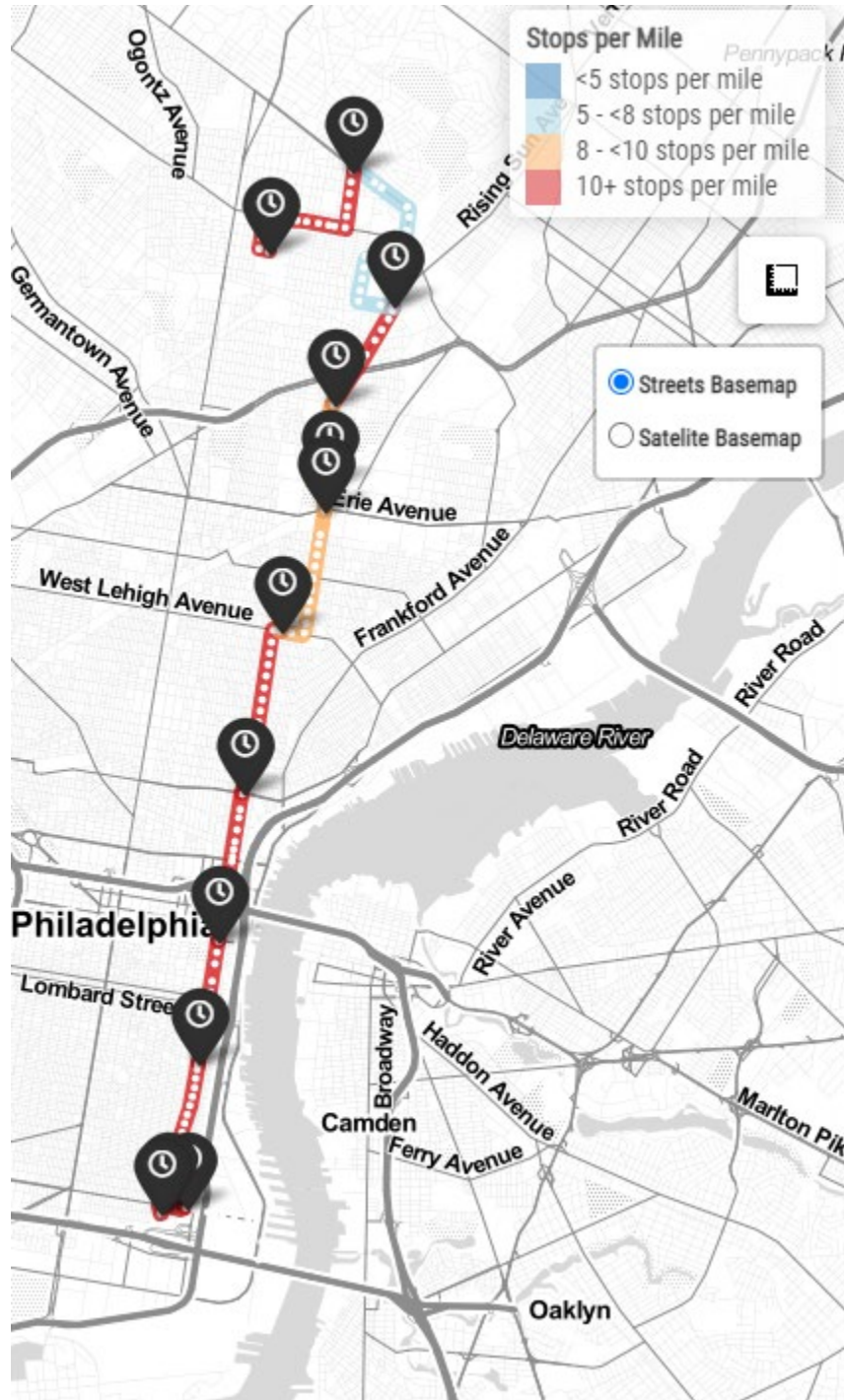


Figure 7 | Stop Spacing by Route Segment



RIDER CHARACTERISTICS

Route 57's rider demographics are similar to SEPTA's entire service area (see Table 5). Route 57 riders are more likely to be Hispanic.

Table 5 | Rider Characteristics

| | Route 57 Riders | Systemwide Average |
|-------------------------|-----------------|--------------------|
| Median Household Income | \$31,703 | \$32,713 |
| Share in Poverty | 32% | 30% |
| Ethnicity | | |
| White | 37% | 38% |
| Black | 35% | 46% |
| Hispanic | 20% | 10% |
| Other | 8% | 7% |
| Without a Vehicle | 38% | 37% |
| Seniors | 17% | 15% |
| With a Disability | 2% | 2% |

SERVICE IMPROVEMENT OPPORTUNITIES

Opportunities to strengthen Route 57 are listed below. Some suggestions may be contradictory, as there is usually more than one approach to improving a route.

- All Trips Serve Fern Rock with More Direct Alignment:** Route 57 sees high activity at Fern Rock Transportation Center but not at many of the stops between Fern Rock and Rising Sun Avenue. The network redesign may enable other routes to serve the Oak Lane area so that Route 57 can become shorter and more direct. Additionally, shortening the route would prevent it from operating on Crescentville Road which has been an area of safety concern. Whatever route does serve the Oak Lane area should factor in the safety concerns.
- Simplify Service:** The various service patterns on Route 57 can be confusing and the unique stops served by only a few trips, such as Packer Marine Terminal, have very low ridership. An effort to reduce the number of service patterns can attract ridership by reducing complexity.
- Switch to 60-Foot Buses:** Improved service on the densest parts of Route 57 that attracts ridership may cause overcrowding on the route. Post-COVID ridership patterns may enable articulated buses to be reallocated from other routes.
- Collaborate with City to Improve Parking/Curb Management Operations:** Route 57 travels on many narrow streets and new policies and technology could enable bus cameras to assist with improving curb management and potentially providing transit priority.