

# ROUTE 97

## Chestnut Hill to Norristown Transportation Center

### KEY SERVICE CHARACTERISTICS, ISSUES, AND OPPORTUNITIES

- *Route 97 connects Chestnut Hill, Conshohocken, the Metroplex Shopping Center, and the Norristown Transportation Center.*
- *Route 97 is challenged by low ridership throughout the route.*

## ROUTE OVERVIEW

Route 97 operates between Chestnut Hill and Norristown Transportation Center. The route serves Metroplex Center, Conshohocken Station, Barren Hill, and Chestnut Hill West Station.

## SERVICE OVERVIEW

### Schedule

On weekdays Route 97 is available between 4:54 AM until 12:34 AM (see Table 1). Average frequencies are hourly, except for late night and early morning when average frequencies are between 40 and 50 minutes.

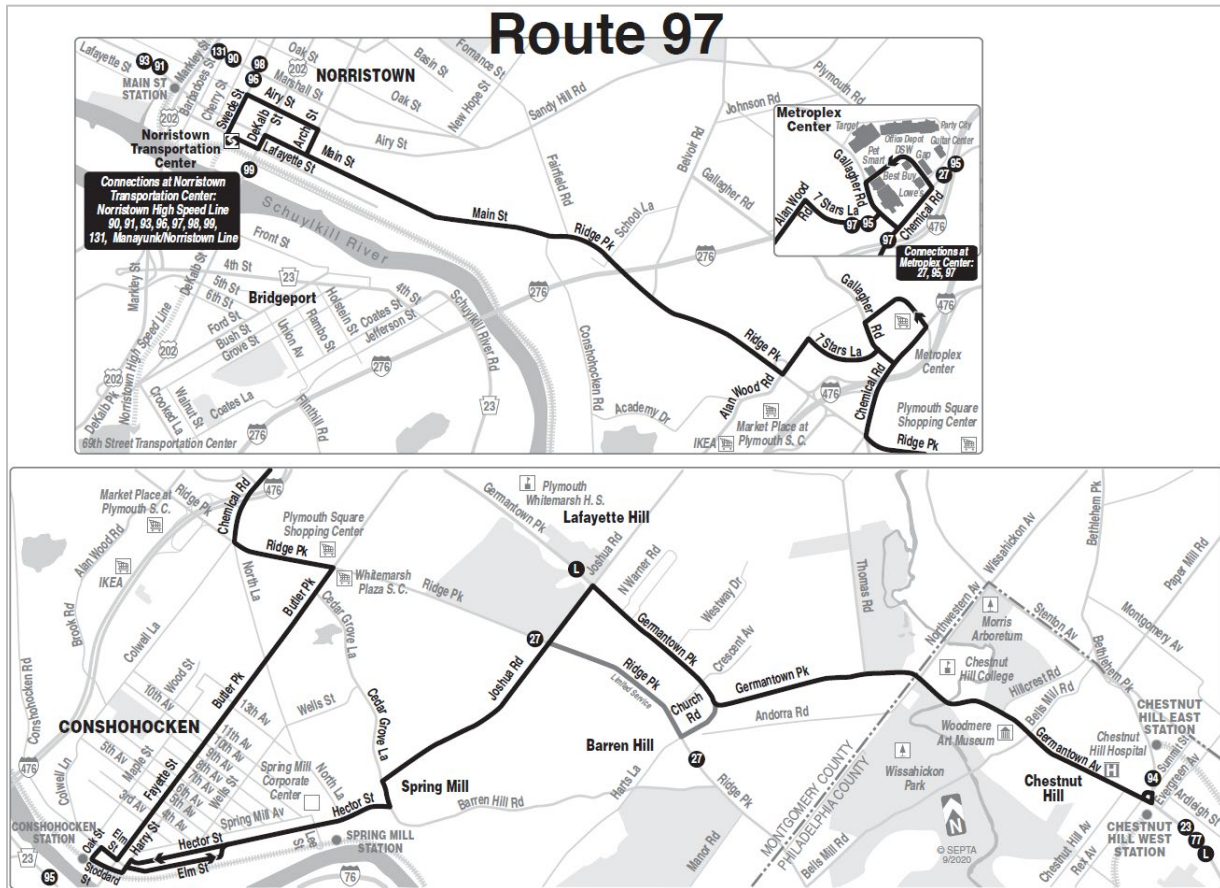
On Saturdays, Route 97 operates between 6:00 AM and 11:15 PM with average frequencies of 60 minutes. Service operates hourly all day. Sunday service on Route 97 begins at 7:15 AM and ends at 9:45 PM. Average frequencies are 60 minutes during the day and 64 minutes at night.

**Table 1 | Schedule Statistics**

Service Day	Span Of Service	Frequency (Range)	Frequency (Average)
<b>Weekdays</b>	4:00 AM to 12:18 AM		
Early AM	4:00 AM to 5:59 AM	51-51	51
AM Peak	6:00 AM to 8:59 AM	47-68	59
Midday	9:00 AM to 2:59 PM	58-67	60
PM Peak	3:00 PM to 5:59 PM	60-60	60
Evening	6:00 PM to 9:59 PM	60-75	69
Late Night	10:00 PM to 11:59 PM	45-75	60
Owl	Midnight to 3:59 AM	17-60	40
<b>Saturdays</b>	8:00 AM to 7:59 AM		
Day	8:00 AM to 5:59 PM	60-61	60
Night	5:59 PM to 7:59 AM	49-71	61
<b>Sundays</b>	6:43 AM to 10:29 PM		
Day	8:00 AM to 5:59 PM	60-62	60
Night	5:59 PM to 7:59 AM	55-95	64

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

Figure 1 | Route Map



### Service Patterns

Route 97 operates with 8 service patterns (see Table 2). The service patterns are generally short-turns of the primary alignment. One service pattern slightly deviates from the primary alignment in addition to being a short-turn.

Table 2 | Service Patterns

Pattern	Origin	Destination	Unique Feature	Unique Stops	Trips Per Day		
					Wkd	Sat	Sun
<b>Inbound</b>							
230894 (A)	Norristown Transportation Center	Chestnut Hill Loop	Primary Pattern		14	12	13
230896 (B)	Norristown Transportation Center	Alan Wood Rd & Ridge Pk	Short-turn to garage	0	3	1	2
230895 (C)	Norristown Transportation Center	Germantown Pk & Church Rd	Short-turn	0	3	1	0
230897 (D)	Norristown Transportation Center	Stoddard Av & Fayette St	Short-turn	0	0	4	0

Outbound							
230899 (A)	Chestnut Hill Loop	Norristown Transportation Center	Primary Pattern		13	13	13
230901 (B)	Germantown Pk & Church Rd	Norristown Transportation Center	Short-turn & serves Ridge Pk	6	6	1	0
230900 (C)	Alan Wood Rd & Ridge Pk	Norristown Transportation Center	AM short-turn	0	1	1	0
230898 (D)	Stoddard Av & Fayette St	Norristown Transportation Center	Short-turn Saturday late night	0	0	3	0

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

## RIDERSHIP

In the fall of 2019, Route 97 carried 720 passengers on weekdays, 447 on Saturdays, and 349 on Sundays (see Table 3).

**Table 3 | Fall 2019 Ridership and Productivity**

	Weekdays	Saturdays	Sundays
<b>Daily Ridership</b>	<b>720</b>	<b>447</b>	<b>349</b>
Rank	100	91	84
<b>Passengers per Revenue Vehicle Hour</b>	<b>24.6</b>	<b>25.4</b>	<b>17.2</b>
Rank	101	82	88

## Transfer Patterns

The largest transfer volumes on Route 97 are to and from:

- The Norristown High Speed Line (16.2% of all trips)
- Route L Erdenheim or Plymouth Meeting Mall to Olney Transportation Center (10.8%)
- Route 23 Center City to Chestnut Hill (7.3%)
- Route 27 Broad-Carpenter to Plymouth Meeting Mall (4.0%)
- Route 99 Phoenixville to Norristown Transportation Center (3.4%)

Weekend transfer volumes are slightly lower – 55% on Saturdays, and 48% on Sundays.

## Ridership by Stop

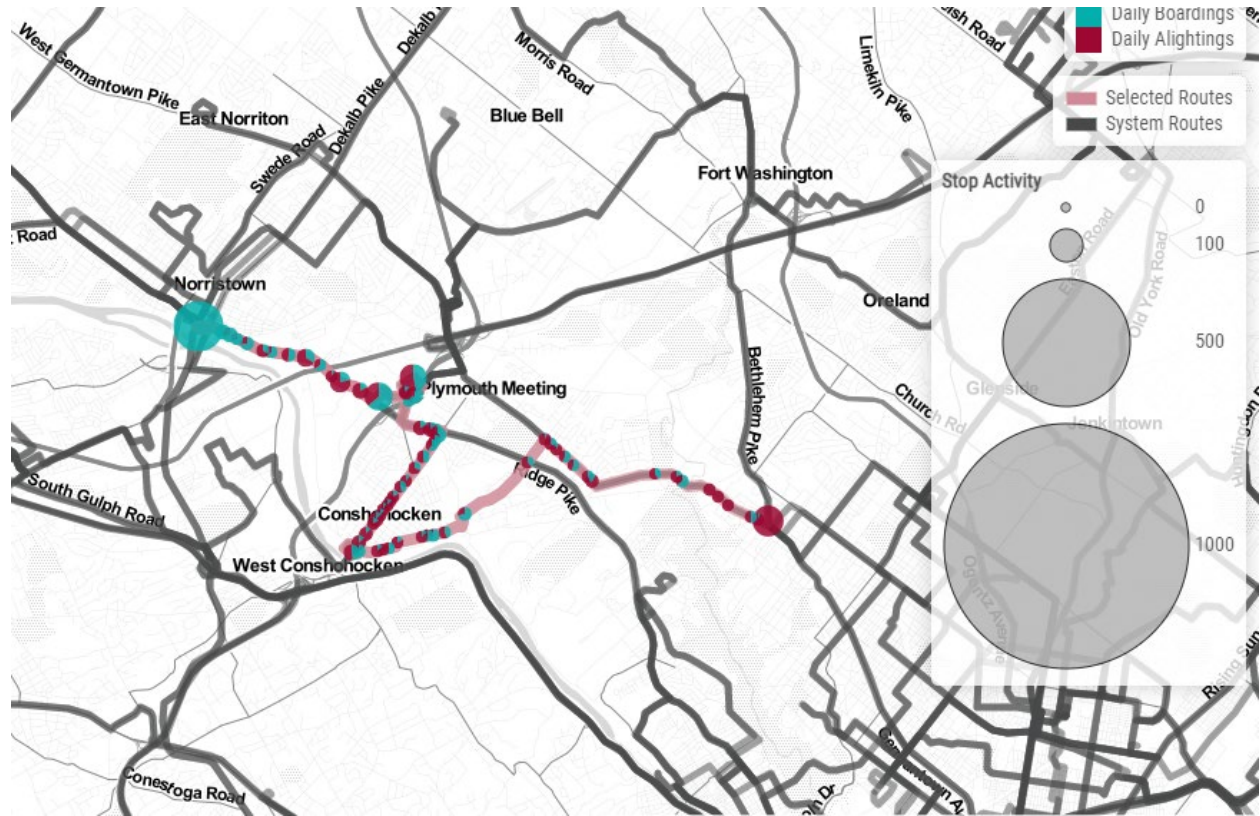
Route 97’s ridership is modest with most riders traveling between the Norristown Transportation Center and the Metroplex Shopping Center (see Figure 2). The highest ridership stops on Route 97 traveling eastbound are:

- 163 boardings at Norristown Transportation Center (20.9% of all boardings)
- 38 riders board and 102 alight along Ridge Avenue, combined these stops account for 18.0% of ridership
- 31 riders board and 36 alight at the Metroplex Shopping Center (8.5%)

- 80 passengers alight at the Chestnut Hill Loop (10.3%)

Weekend patterns are also similar but with lower volumes.

**Figure 2 | Weekday Westbound Ridership by Stop**



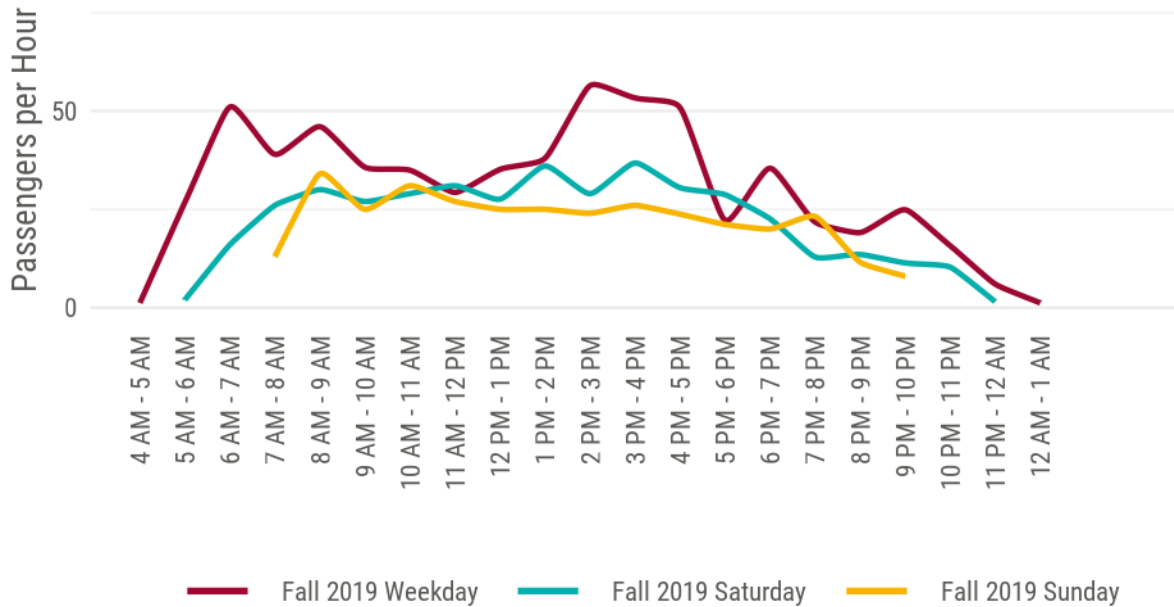
### Ridership by Time of Day

#### Ridership by Hour

Ridership on Route 97 is peaked during the morning (6:00 AM and 8:00 AM) and afternoon (2:00 PM and 4:00 PM) when demand is at or above 50 riders per hour (see Figure 3). At its lowest point, midday ridership is at just over half of peak hour demand. After 5:00 PM ridership starts to decline.

Weekend day ridership does not have peaking patterns; instead, demand was strongest in the middle of the day, between 11:00 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 between 10 and 30 (see Figure 4) with the following patterns:

- Ridership per trip was relatively strong (8-22 riders per trip) for most of the day, decreasing after 6:00 PM.
- Demand in the early morning and late evening trips was low.

Maximum loads are below seating capacity on all trips (see Figure 5).

Figure 4 | Fall 2019 Weekday Ridership by Trip

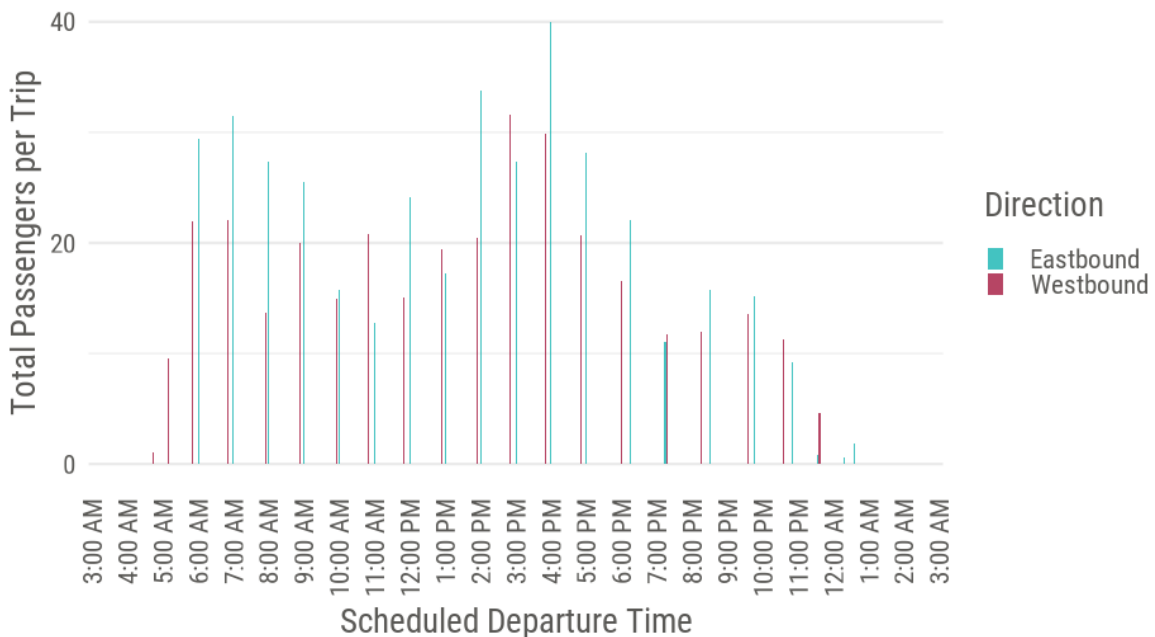
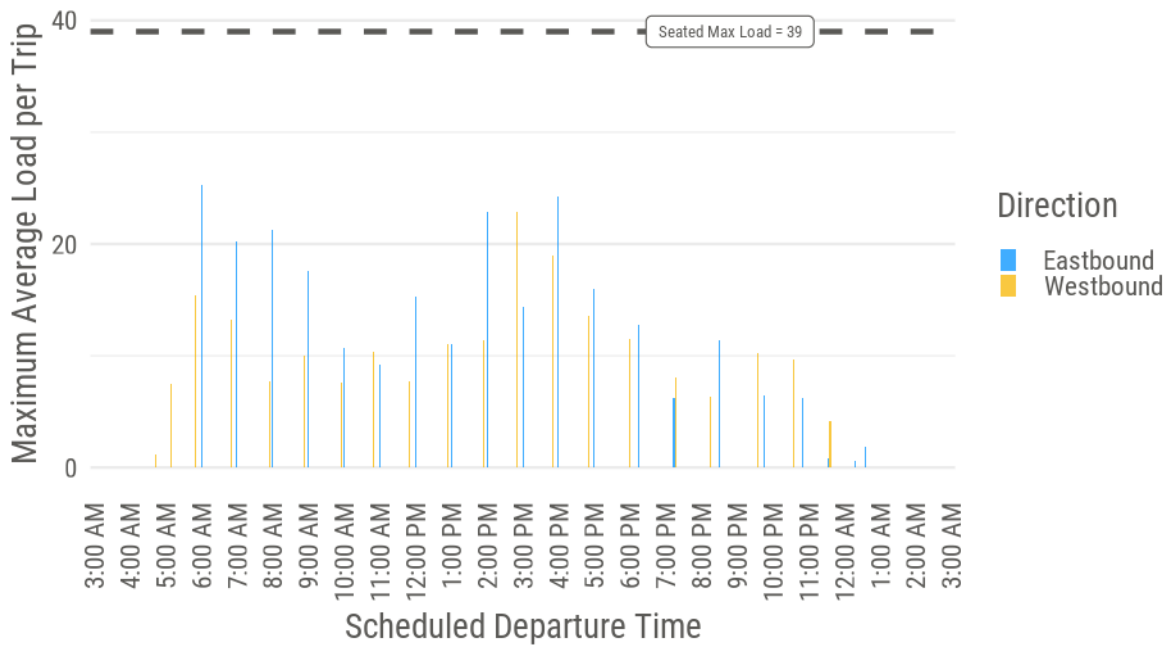


Figure 5 | Fall 2019 Weekday Maximum Loads by Trip



## ON-TIME PERFORMANCE AND RUNNING TIMES

### On-Time Performance

In the fall of 2019, Route 97’s on-time performance was 83% on weekdays, 86% on Saturdays, and 85% on Sundays, exceeding SEPTA’s on-time performance goal (see Table 4). Off-schedule performance split relatively equally between early and late service weekdays and Saturdays. On Sundays, early service is a greater contributor to off-schedule service than late service.

Dropped trips were not a significant issue for Route 97.

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
<b>Goal</b>		<b>80%</b>		
<b>Fall 2019 Actual</b>				
Weekday	7.6%	82.9%	9.5%	0.7%
Saturday	7.4%	86.0%	6.6%	0.4%
Sunday	11.6%	85.4%	3.0%	0.0%

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

## AVERAGE SPEEDS AND STOP SPACING

In Fall 2019, average speeds varied between 10 and 15 mph (see Figure 6). Bus stop spacing was between 5 and 8 stops per mile for most of the route, although some segments had wider spacing with fewer than 5 stops per mile (see Figure 7).

Figure 6 | Fall 2019 PM Peak Northbound Speeds

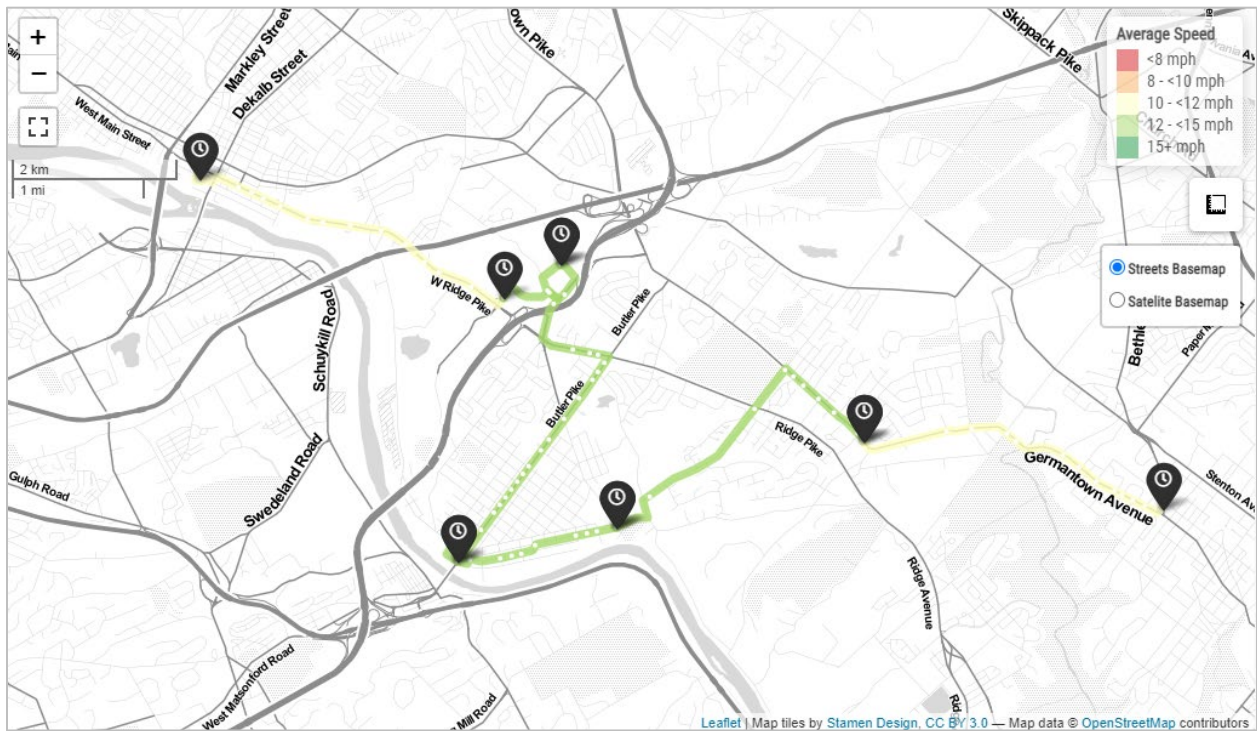
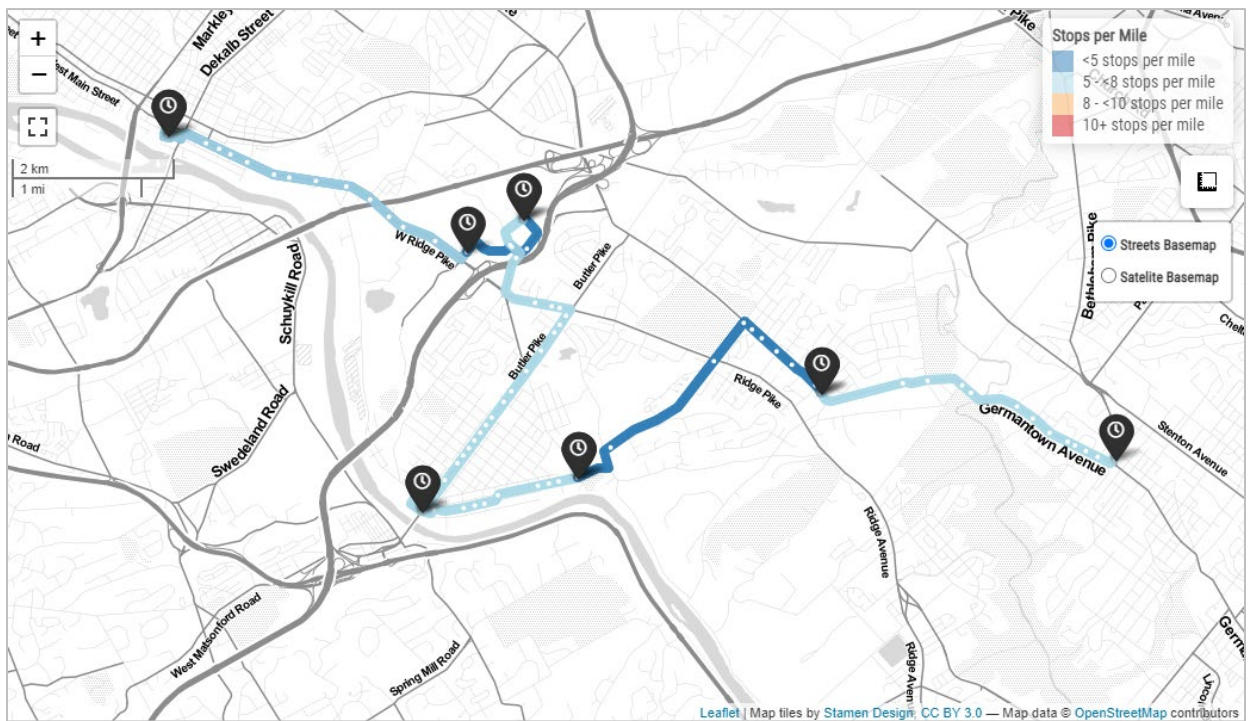


Figure 7 | Stop Spacing by Route Segment



## RIDER CHARACTERISTICS

As compared with SEPTA’s service area overall, Route 97 riders are more likely to be white. They are also less likely to be seniors but more likely to have a disability (see Table 5).

**Table 5 | Rider Characteristics**

	Route 97 Riders	Systemwide Average
Median Household Income	\$35,015	\$32,713
Share in Poverty	29%	30%
Ethnicity		
White	41%	38%
Black	40%	46%
Hispanic	12%	10%
Other	7%	7%
Without a Vehicle	31%	37%
Seniors	10%	15%
With a Disability	5%	2%

## SERVICE IMPROVEMENT OPPORTUNITIES

Opportunities to strengthen Route 97 are listed below. Some suggestions may be contradictory, as there is usually more than one approach to improving a route.

- **Simplify and Coordinate Service:** Several routes service similar markets, creating opportunities for more coordination among the routes. Potential coordination strategies include:
  - **Dividing Route 97 into Two Routes:** Route 97 serves multiple markets. Ridership is grouped around connections between 1) the Norristown Transportation Center, the Metroplex shopping center and Conshohocken and 2) between Conshohocken and Chestnut Hill. These two segments could be separate routes and restructured around rider needs in each market with service levels set to meet market demand. **Coordinate Routes 27, 97 and L:** Routes 27, 97 and L have unique alignments but serve similar markets. Route 27 connects to Wissahickon Transportation Center, while Routes 97 and L connect with Chestnut Hill. The three routes converge along Germantown Pike and Ridge Pike, which creates a potential opportunity for Route 97 to travel more directly, staying on Germantown Pike on both the inbound and outbound alignments and/or reducing service patterns.
  - **Alternate Trips from Norristown to Conshohocken and Chestnut Hill:** Another way Route 97 could be restructured would be to alternate trips between the Norristown Transportation Center and Conshohocken and trips between the Norristown Transportation Center and Chestnut Hill Loop. This would absorb some of the service patterns into the route design. It would provide more service on the western half of the route and retain the full route alignment.
- **Reduce the number of variants:** Route 97 operates with 8 service patterns, some of which have low ridership or are only used for a handful of trips. Where feasible, reducing



the number of patterns that operate along Route 97 to make service easier to understand and more customer-friendly. Some of the service patterns could also be folded into a restructured route (see above).