

ROUTE L

Erdenheim or Plymouth Meeting Mall to Olney Transportation Center

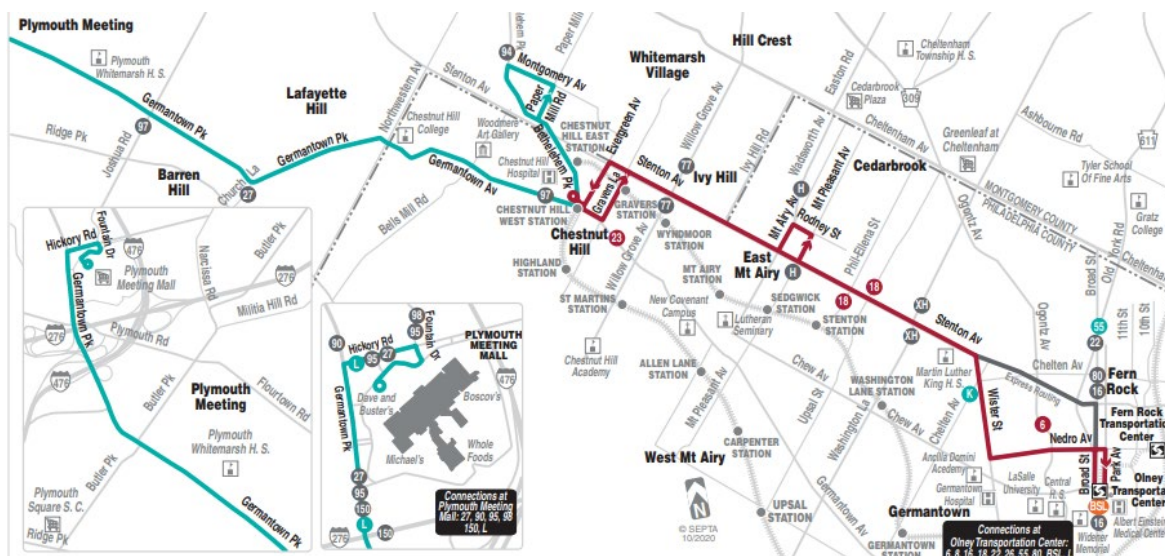
KEY SERVICE CHARACTERISTICS, ISSUES, AND OPPORTUNITIES

- *Route L connects Olney Transportation Center and the Plymouth Meeting Mall via Stenton Avenue, Chestnut Hill, and Germantown Pike.*
- *Some Route L trips short-turn in Chestnut Hill. The highest productivity corridor on Route L's alignment is between Chestnut Hill and the Olney Transportation Center, where Route L provides frequent service all day on weekdays and Saturdays. In Fall 2019, the route carried nearly 7,500 passengers per day.*
- *Route L service is complicated by its 11 service patterns which make service difficult to understand. While some service patterns help match service levels and demand, other patterns complicate the service. Opportunities to improve the service are focused on simplifying or shortening the route and improving on-time performance.*

ROUTE OVERVIEW

Route L travels through Northwest Philadelphia connecting the Olney Transportation Center and the Plymouth Meeting Mall via East Mount Airy and Chestnut Hill (see Figure 1). Service on Route L is divided into two parts. The southeastern portion of the route between Olney and Chestnut Hill operates more frequently than the northwestern portion of the route between Chestnut Hill and Plymouth Meeting Mall. Riders use Route L for local connections to transportation hubs as well as to connect to employment and services in Montgomery County. Route L's primary alignment is direct, but its service is complicated by its 11 service patterns with different northern terminals and an express routing.

Figure 1 | Route Map



SERVICE OVERVIEW

Route L operates 23 hours a day from 4:00 AM until 3:00 AM seven days a week (see Table 1). The following section describes frequencies for the portion of the route between the Olney Transportation Center and Chestnut Hill.

- During peak periods, service has average frequencies of 7 minutes during the AM peak and 6 minutes during the PM peak. Average frequencies during the midday and evening hours are 12 minutes. During the late night through to early AM, average frequencies range from 23 minutes to 34 minutes. Headways of zero minutes indicate two different service patterns beginning simultaneously in the same direction.
- Average service frequencies on Saturday are 15 minutes during the day and 27 minutes at night.
- On Sundays, frequencies average 21 minutes during the day and 33 minutes at night.

At all times, actual frequencies vary from averages.

Table 1 | Schedule Statistics

Service Day	Span Of Service	Frequency (Range)	Frequency (Average)
Weekdays	3:57 AM to 3:02 AM		
Owl	Before 4:00 AM	32 – 35	34
Early AM	4:00 AM - 5:59 AM	12 – 46	23
AM Peak	6:00 AM - 8:59 AM	4 – 16	7
Midday	9:00 AM - 2:59 PM	6 – 15	12
PM Peak	3:00 PM - 5:59 PM	0 – 9	6
Evening	6:00 PM - 9:59 PM	6 – 33	13
Late Night	After 10:00 PM	28 – 35	33
Saturdays	3:53 AM to 3:02 AM		
Day	8:00 AM - 5:59 PM	14 – 22	15
Night	Before 8:00 AM & After 5:59 PM	15 – 46	27
Sundays	3:53 AM to 3:02 AM		
Day	8:00 AM – 5:59 PM	19 – 31	21
Night	Before 8:00 AM & After 5:59 PM	20 – 46	33

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

Service Patterns

Route L operates with 11 service patterns, although most trips use one of the three major service patterns on weekdays and one of two service patterns on weekends (see Table 2). Route L’s primary pattern operates between Plymouth Meeting Mall and Olney Transportation Center. Most remaining trips operate between Olney Transportation Center and either Montgomery Avenue at Paper Mill Road (north of Chestnut Hill at Erdenheim) or Mt Airy Avenue (to provide more frequent service along the highest ridership portions of Stenton Avenue). Route L also operates a couple of peak period express trips

Table 2 | Service Patterns

Pattern	Origin	Destination	Unique Feature	Unique Stops	Trips Per Day		
					Wkd	Sat	Sun
Inbound/Northbound							
230025	Olney Transportation Center	Plymouth Meeting Mall	Primary Pattern	-	50	35	27
230029	Olney Transportation Center	Montgomery Av & Paper Mill Rd	Ends north of Chestnut Hill in Erdenheim	6	39	32	24
230027	Olney Transportation Center	Rodney St & Mt Airy Av	Peak-only short-turn at Mt Airy Av	1	27	0	0
230030	Olney Transportation Center	Plymouth Meeting Mall	AM only express trip via Old York Rd instead of Wister St	2	4	0	0
230028	Olney Transportation Center	Germantown Av & Bethlehem Pk	Late-night short-turn trip at Bethlehem Pk	0	1	0	0
Outbound/Southbound							
230036	Plymouth Meeting Mall	Olney Transportation Center	Primary Pattern	-	53	35	27
230035	Montgomery Av & Paper Mill Rd	Olney Transportation Center	Begins north of Chestnut Hill in Erdenheim	8	36	32	24
230033	Rodney St & Mt Airy Av	Olney Transportation Center	Peak-only short-turn at Mt Airy Av	3	27	0	0
230032	Stenton Av & Haines St	Olney Transportation Center	PM Peak short trip from Haines St	0	1	0	0
230034	Germantown Av & Bethlehem Pk	Olney Transportation Center	Late-night short-turn trip at Bethlehem Pk	0	1	0	0
230037	Plymouth Meeting Mall	Olney Transportation Center	Evening trip that deviates via Northwestern Av and Bethlehem Pk	4	1	0	0

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

RIDERSHIP

In Fall 2019, Route L carried nearly 7,500 passengers on weekdays, 3,300 on Saturdays, and 2,300 on Sundays (see Table 3). In terms of weekday ridership, it ranked 22nd among all SEPTA bus routes.

Table 3 | Fall 2019 Ridership and Productivity

	Weekdays	Saturdays	Sundays
Daily Ridership	7,722	3,530	2,581
Rank	22	26	28
Passengers per Revenue Vehicle Hour	23.2	26.3	49.9
Rank	49	44	18

Transfer Patterns

By far the largest share of trips involving a transfer to and from Route L are coming from the Broad Street Line at Olney Transportation Center. And many trips involving a transfer to the Broad Street Line are also transferring to the Market Frankford Line at City Hall. The largest transfer volumes are to and from:

- The Broad Street Line (32.7% of all trips)
- Route 18 Fox Chase to Cedarbrook Plaza (5.5%)
- The Market-Frankford Line (4.4%)
- Route 98 Plymouth Meeting Mall to Norristown Transportation Center (3.4%)
- Route K Ridge-Midvale to Arrott Transportation Center (3.3%)
- Route 23 Center City to Chestnut Hill (3.1%)

Weekend transfer patterns are similar but slightly lower.

Ridership by Stop

Route L provides a combination of local and longer distance connections. Many riders use Route L between Germantown and Olney Transportation Center; this part of the route also has more service. A smaller number of riders use Route L to travel north of Germantown and to/from the Plymouth Meeting Mall (Figure 2).

High ridership stops on northbound trips include:

- 2,483 riders board at the Olney Transportation Center (30.4% of all riders)
- 190 board and 111 alight at Wister Street and Cheltenham Avenue (3.7%)
- 80 riders board and 131 alight at Stenton Avenue and Haines Street (2.6%)
- 58 riders board and 141 alight at Stenton Avenue and Walnut Lane (2.4%)
- 32 riders board and 196 alight at Stenton Avenue and Tulpehocken Street (2.8%)
- 138 board and 292 alight at Stenton Avenue and Washington Lane (5.3%)

- 47 board and 148 alight at Stenton Avenue and Upsal Street (2.4%)
- 407 riders alight at the Plymouth Meeting Mall (5%)

Figure 2 | Weekday Northbound Ridership by Stop: Fall 2019

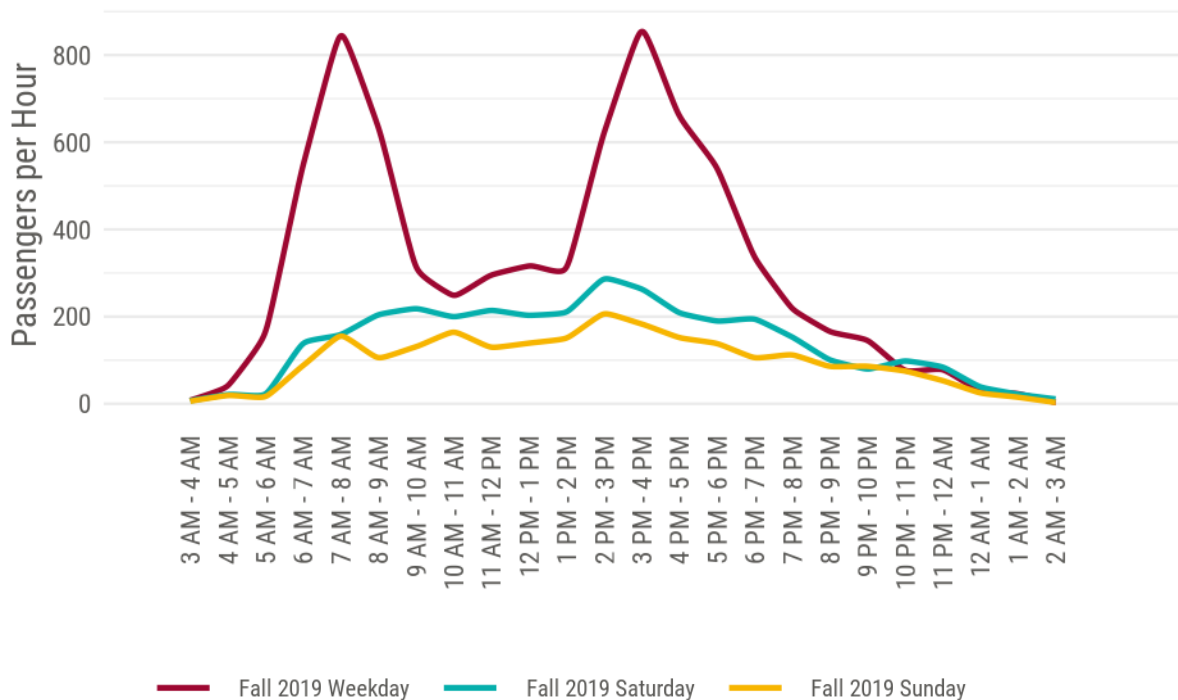

Ridership by Time of Day

Ridership by Hour

On weekdays, pre-pandemic ridership was peaked, with 63% of all ridership during the morning and afternoon peak periods (see Figure 3). Midday ridership, on a per hour basis, generally equaled about 40% peak period ridership. Evening ridership fell quickly after 7:00 PM.

Saturday and Sunday ridership did not exhibit peaks and gradually increased through mid-afternoon and then gradually decreased into the evening.

Figure 3 | Ridership by Hour: Pre-Pandemic; Fall 2019 and Summer 2020



Ridership and Maximum Loads by Trip

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

- During the AM and PM peak, most trips carry between 20 and 50 total passengers, with some trips carrying more than 50 riders.
- Midday trips generally carry between 20 and 50 riders.
- In the evening, ridership dips between 7:30 PM and 9:30 PM and then increases to 30 to 40 riders until 11:00 PM.

Turnover along busier segments of the route helps mitigate loads and nearly all trips operate below seated capacity, except for two southbound trips in the morning (see Figure 5).

On Saturdays, ridership ramps up to approximately 40 riders per trip at 6:00 AM. Most Saturday trips carried between 25 and 40 riders throughout the day. Ridership slowly declines starting around 9:00 PM, dropping further during the late night.

Sunday ridership patterns and volumes are similar, with ridership exceeding 40 riders per trip by 9:00 AM and most trips carrying between 20 and 40 riders throughout the day.

Figure 4 | Weekday Ridership by Trip: Fall 2019

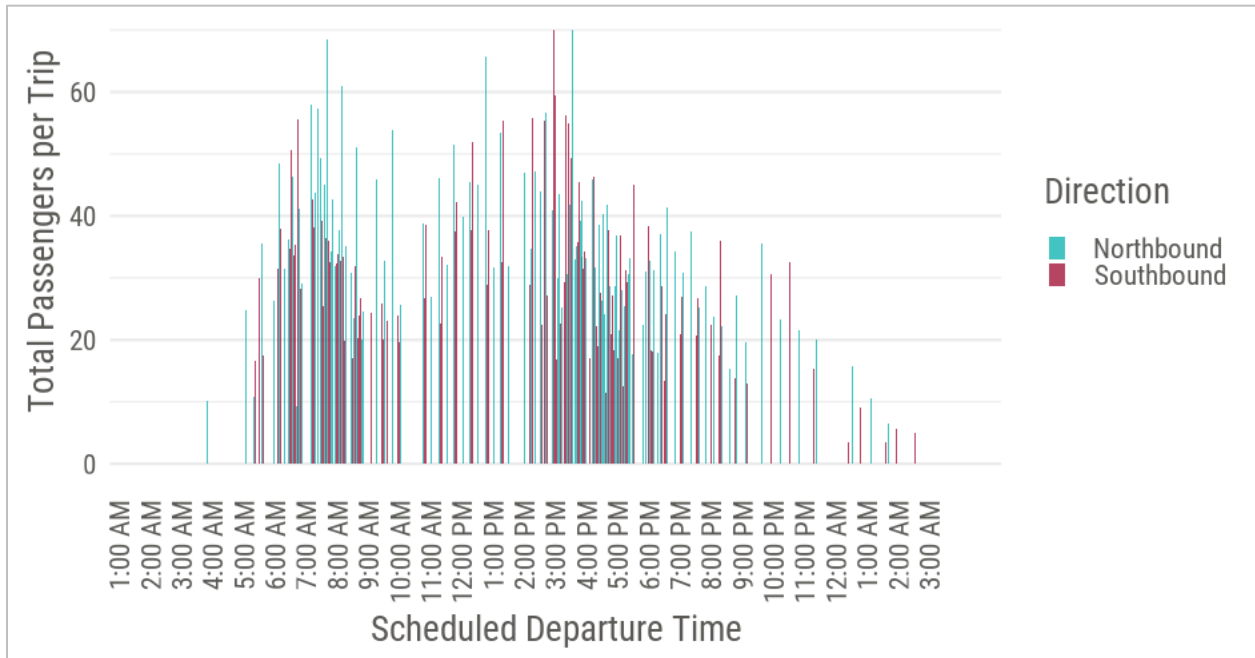
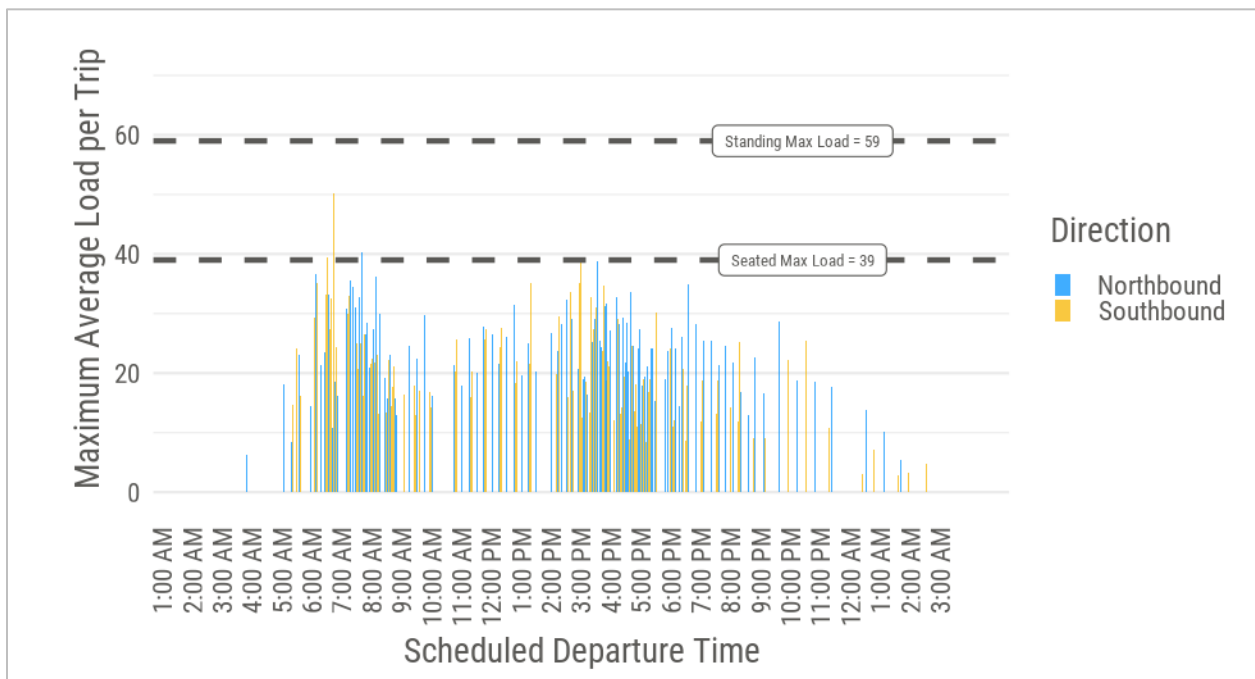


Figure 5 | Weekday Maximum Loads by Trip: Fall 2019



ON-TIME PERFORMANCE

In Fall 2019, Route L's on-time performance was 78% on weekdays, 82% on Saturdays, and 85% on Sundays (see Table 4). Off-schedule performance was due to service running late, particularly on weekdays and Saturdays; on weekdays, twice as many off-schedule trips were late than they were early.

Table 4 | On-Time Performance: Fall 2019

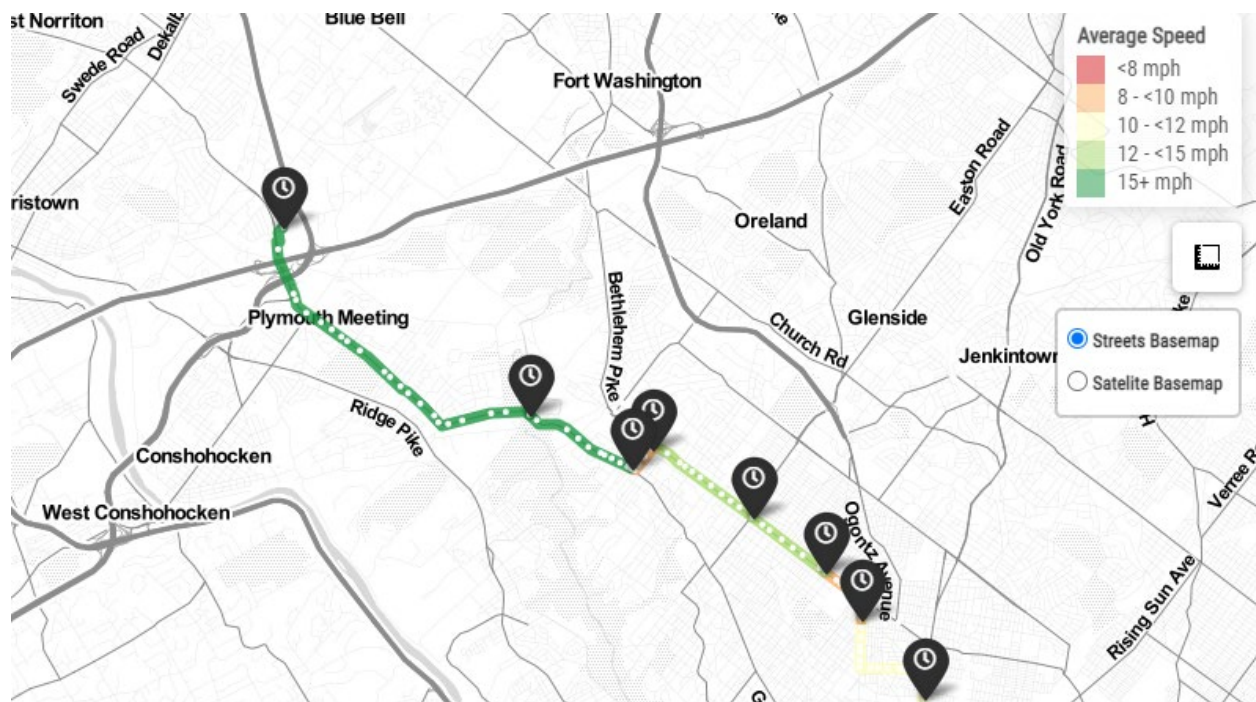
	Early (>2 Mins Early)	On Time (<2 Mins Early to 6 Mins Late)	Late (>6 Mins Late)	Missed Trips
Goal		80%		
Fall 2019 Actual				
Weekday	7.4%	77.6%	15.0%	1.7%
Saturday	6.9%	81.9%	11.2%	1.5%
Sunday	6.9%	85.3%	7.8%	0.7%

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

AVERAGE SPEEDS AND STOP SPACING

Route L speeds vary along the route (see Figure 6). Speeds are slower between the Olney Transportation Center and Chestnut Hill; buses travel at speeds less than 10 mph on some segments along Stenton Avenue. North of Chestnut Hill, speeds are faster and more consistent.

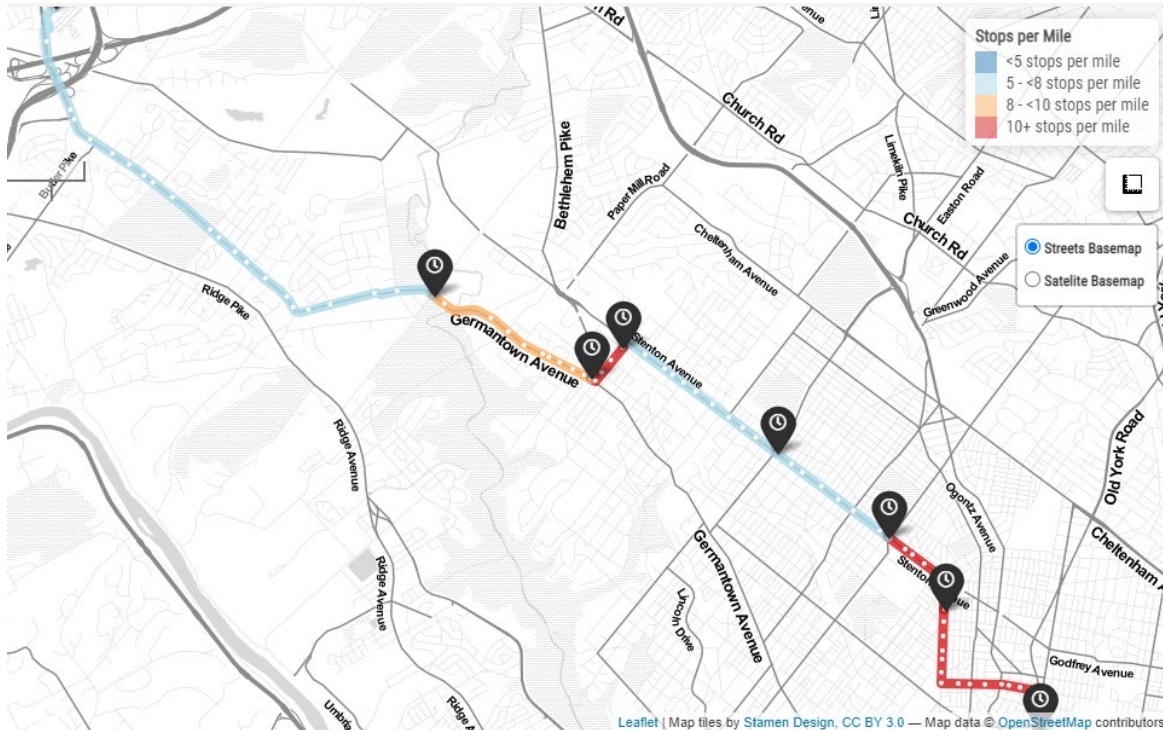
Figure 6 | Average Speeds: PM Peak Southbound



Stop spacing on Route L varies. Close to the Olney Transportation Center, parts of Route L (along Nedro Avenue, Wister Street and Stenton Avenue) have 10 or more stops per mile (see

Figure 7). Stops are also spaced closely along Evergreen Avenue and parts of Germantown Avenue. North of Northwestern Avenue, on Germantown Pike, stops are spaced further apart.

Figure 7 | Stop Spacing by Route Segment



RIDER CHARACTERISTICS

Table 5 | Rider Characteristics

	Route L Riders	Systemwide Average
Median Household Income	\$31,547	\$32,713
Share in Poverty	28%	30%
Ethnicity		
White	20%	38%
Black	70%	46%
Hispanic	6%	10%
Without a Vehicle	36%	37%
Seniors	12%	15%
With a Disability	2%	2%

In most respects Route L’s service area is typical of SEPTA’s service area as a whole (see Table 5). One difference is that the route carries a higher percentage of Black riders.

SERVICE IMPROVEMENT OPPORTUNITIES

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

- **Make Service Simpler:** Route L operates with 11 service patterns which makes the route complex and difficult to understand. There are a couple of opportunities to make Route L simpler:
 - **Consolidate Service Patterns.** Route L operates with 11 service patterns. Since service demand is much higher east of Chestnut Hill, it makes sense to maintain short-turn trips. Other service patterns, however, accommodate minor alignment differences. These patterns may be eliminated to simplify the route and make it easier to understand and use for riders.
 - **Reassign service to Enfield Elementary School to Route 94.** Route L deviates roughly a half a mile to stop at a nursing home. Roughly 39 weekday trips serve this location and about 125 riders use stops along the deviation. The home could be more easily served by Route 94, which travels closer to the home and provides a level of service more in line with demand. Riders on Route L could transfer at Chestnut Hill to get to the home. Terminating Route L at Chestnut Hill West would make it more direct and faster, however there may be capacity constraints at Chestnut Hill which would need to be addressed.
 - **Split Route at Chestnut Hill:** Route L is a very long route, which makes service difficult to operate reliably. Instead of operating short-turns along its alignment, SEPTA could operate Route L between Chestnut Hill and Olney Transportation Center, where demand for service is highest. The Germantown Pike alignment between Plymouth Meeting Mall and Chestnut Hill could be served by a new route.
- **Use Transit Signal Priority to Improve Speeds near Olney Transportation Center:** Route L's weekday on-time performance is poor, and speeds are the slowest accessing and egressing from the Olney Transportation Center. One potential improvement would be to use transit signal priority and other roadway improvements at the "hot spots" where vehicles are getting tangled in traffic traveling into and out of the transportation center. These types of targeted capital improvements could have a significant impact on operating conditions by improving travel speed and reliability.