



**FINAL ENVIRONMENTAL IMPACT STATEMENT
BUS AND SHUTTLE SERVICE PLAN
TECHNICAL MEMORANDUM**

Prepared for:

Southeastern Pennsylvania Transportation Authority (SEPTA)



Prepared by:

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Version 2 (FINAL): October 2020**

Table of Contents

1	Introduction and Background	1
2	Summary of Proposed Service Modifications	4
2.1	KOP Rail Preferred Alternative	4
2.2	Proposed Bus and Shuttle Service Modifications	6
3	Proposed Bus and Shuttle Services	8
3.1	Proposed Bus Route Revisions.....	8
3.1.1	Route 92.....	8
3.1.2	Route 99.....	9
3.1.3	Route 123.....	10
3.1.4	Route 124.....	10
3.1.5	Route 125.....	11
3.1.6	Route 139.....	12
3.2	Proposed Shuttle Service Revisions	13
3.2.1	Upper Merion Rambler.....	13
3.2.2	theconnector - Norristown Route.....	14
3.2.3	theconnector - Wayne Route	14
3.2.4	Inner Loop Shuttle	15
3.3	Stations Served by Bus Routes.....	16
3.3.1	Route 92.....	16
3.3.2	Route 99A.....	16
3.3.3	Route 99B.....	16
3.3.4	Route 124.....	16
3.3.5	Route 125.....	16
3.3.6	Route 139.....	16
3.4	Stations Served by Shuttle Routes.....	17
3.4.1	Upper Merion Rambler.....	17
3.4.2	theconnector – Wayne Route.....	17
3.4.3	Inner Loop Shuttle	17

List of Tables

Table 1: Current SEPTA Bus Services	2
Table 2: Current Shuttle Services	3
Table 3: Proposed SEPTA Bus Weekday Service Headways (in minutes)	6
Table 4: Proposed Shuttle Service Headways (in minutes)	6

List of Figures

Figure 1: Current SEPTA Bus Services	2
Figure 2: Current Shuttle Services	3
Figure 3: KOP Rail Preferred Alternative	4
Figure 4: Proposed 1st & Moore Station	5
Figure 5: Proposed Bus Services	7
Figure 6: Proposed Shuttle Services	7
Figure 7: Current Route 92	8
Figure 8: Proposed Route 92	8
Figure 9: Current Route 99	9
Figure 10: Proposed Routes 99A and 99B	9
Figure 11: Current Route 124	10
Figure 12: Proposed Route 124	10
Figure 13: Current Route 125	11
Figure 14: Proposed Route 125	11
Figure 15: Current Route 139	12
Figure 16: Proposed Route 139	12
Figure 17: Current Rambler Route	13
Figure 18: Proposed Ramble Route	13
Figure 19: Current theconnector, Wayne Route	14
Figure 20: Proposed theconnector, Wayne Route	14
Figure 21: Proposed Inner Loop Shuttle	15

Appendices

- A. Estimated Daily Vehicle Hours and Vehicle Miles, Current and Proposed

1 Introduction and Background

This report provides a summary of proposed future revisions to bus and shuttle service operations to complement the planned Norristown High Speed Line (NHSL) rail service extension (KOP Rail). These proposed future route revisions and service frequencies are conceptual and support the development of the Final Environmental Impact Statement (FEIS) for KOP Rail; the actual plans for future bus and shuttle services will be developed in later phases of design for KOP Rail.

SEPTA will use information on proposed bus and shuttle services in this report for the following two main objectives:

- To serve as a set of inputs for the development of updated KOP Rail ridership forecasts. It is anticipated that bus and shuttle service that is coordinated with KOP Rail service arrivals and departures at KOP Rail stations will be a positive factor in ridership. Updated draft ridership forecasts are in progress, and the ridership forecasts will be included in the FEIS document.
- To inform estimates of SEPTA operating and maintenance (O&M) costs due to implementing KOP Rail. The potential for KOP Rail to reduce bus service could lead to lower bus O&M costs, which could partially offset the projected increase in rail O&M costs due to implementing KOP Rail. Based upon preliminary estimates of daily vehicle hours and vehicle miles for weekday service, the proposed future bus service as contained in this plan would be reduced by 38% in both daily vehicle hours and vehicle miles for the bus services examined. On the other hand, the proposed expansion of shuttle services, which SEPTA does not operate, would generate a substantial increase in daily vehicle hours and vehicle miles for these operations (see **Appendix A**). These preliminary O&M cost estimates do not include weekend service and thus are an incomplete picture of O&M information.

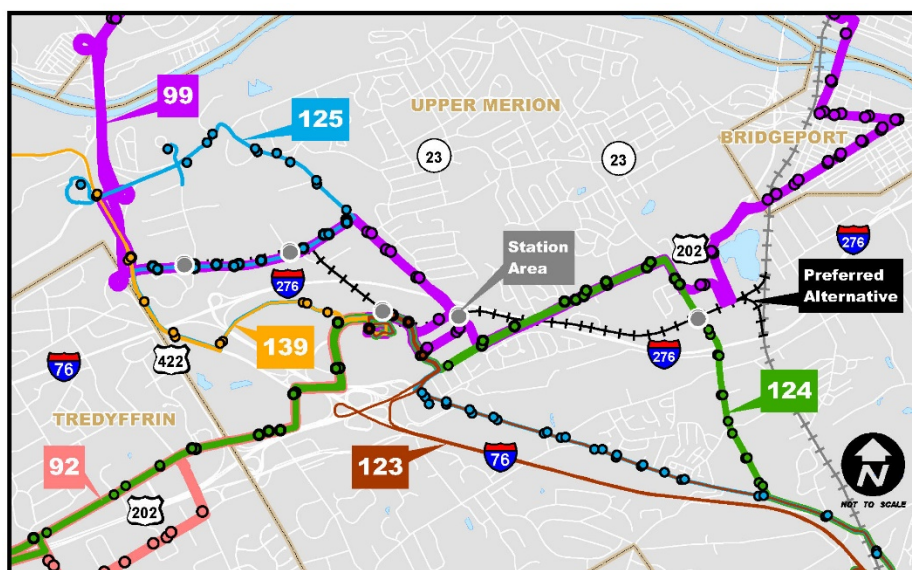
Summary of Current Services

SEPTA currently operates six bus routes (92, 99, 123, 124, 125, and 139) to, from, and within the King of Prussia area (see **Figure 1** and **Table 1**). Route 123 connects to the 69th Street Transportation Center, two routes (124 and 125) connect to Center City Philadelphia via the Schuylkill Expressway, and three routes (92, 99, and 139) connect to areas to the north and west. Each route serves the King of Prussia Transit Center, located near the former JC Penney store at the King of Prussia Mall. This stop includes an enclosed waiting area.

In addition, three shuttle routes, not operated by SEPTA, serve the area (see **Figure 2** and **Table 2**). Two routes focus on providing “last mile” connections between nearby SEPTA Regional Rail stations and employment areas. These routes, which together are named “theconnector”, are administered by the King of Prussia District. One of these routes provides weekday peak period service between Moore Park (known in the Draft Environmental Impact Statement (DEIS) as KOP Business Park) and SEPTA’s

Regional Rail system at the Norristown Transportation Center on the Manayunk/Norristown line, and the second runs between the business park and the Wayne Station on the Paoli/Thorndale line. The other route, the Upper Merion Rambler, managed by the Greater Valley Forge Transportation Management Association (GVFTMA), provides local circulation during weekdays among residential neighborhoods and key destinations within Upper Merion Township.

Figure 1: Current SEPTA Bus Services

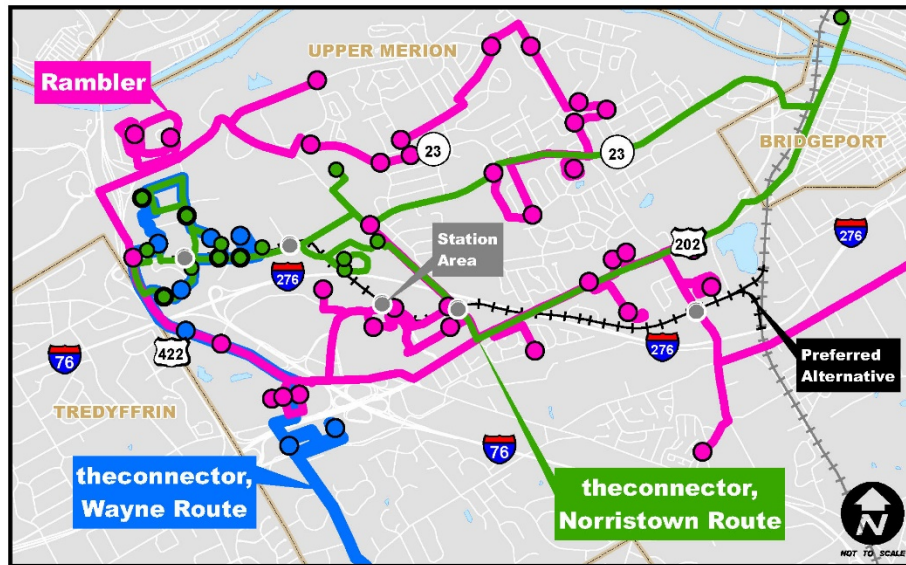


Source: SEPTA.

Table 1: Current SEPTA Bus Services

Route	Origin - Destination	Peak vehicles	Weekday trips	Weekday passengers
92	King of Prussia - West Chester	3	25	384
99	Norristown - King of Prussia - Phoenixville	7	61	1,198
123	King of Prussia - Upper Darby	4	54	882
124	King of Prussia - Wissahickon	8	61	1,826
125	King of Prussia - Gulph Mills	7	75	2,200
139	King of Prussia - Limerick	3	32	461

Sources: SEPTA bus schedules, FY 2020 Annual Service Plan.

Figure 2: Current Shuttle Services

Sources: Upper Merion Township, King of Prussia District.

Table 2: Current Shuttle Services

Route	Peak vehicles	Weekday trips
Upper Merion Rambler	2	12
theconnector - Norristown	2	11
theconnector – Wayne	2	10

Sources: Upper Merion Township, King of Prussia District.

2 Summary of Proposed Service Modifications

This section presents a summary of proposed bus and shuttle route service changes in conjunction with implementing KOP Rail service as developed for the FEIS for KOP Rail. These proposed changes include modifying current services, adding new services, and discontinuing services that would no longer be necessary. The proposed future modifications to routes and service frequencies are conceptual for the purpose of preparing the FEIS, the KOP Rail ridership forecasts and estimating future SEPTA operating and maintenance costs. The actual plan for future bus and shuttle services will be developed in later phases of design for KOP Rail.

2.1 KOP Rail Preferred Alternative

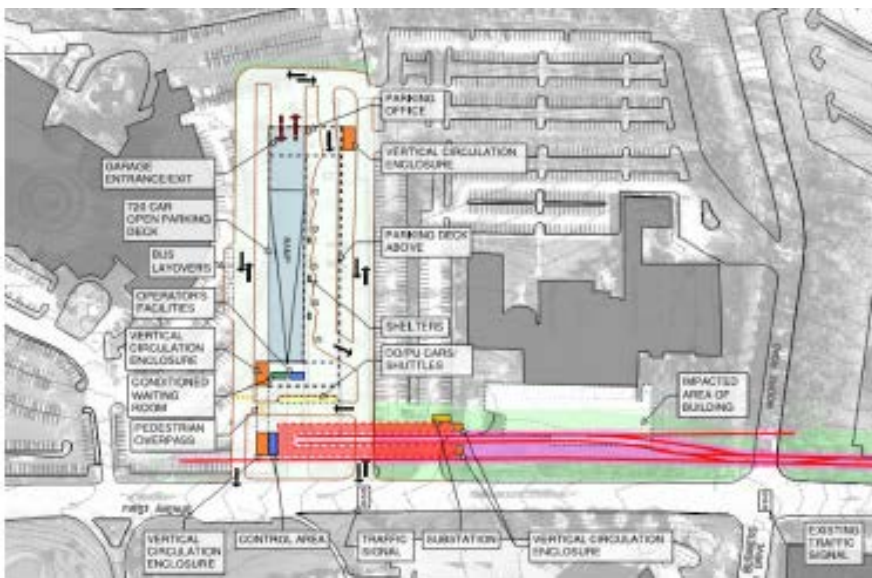
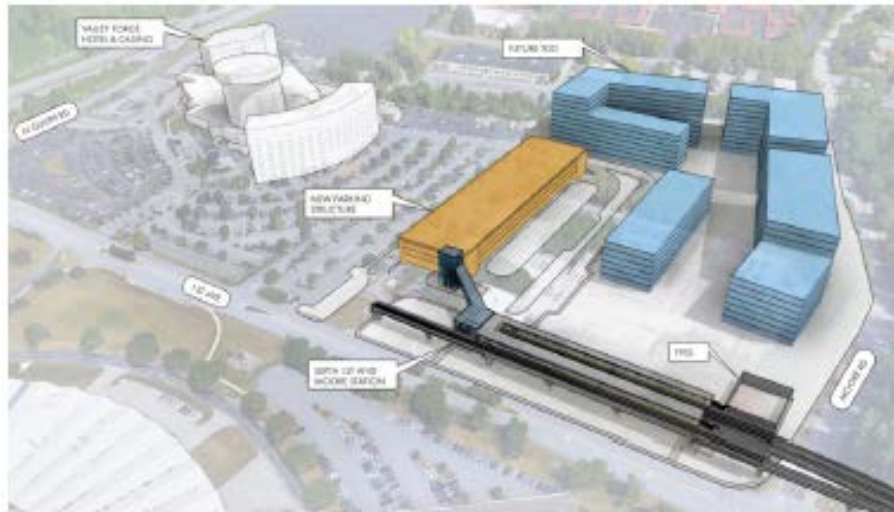
The Preferred Alternative for KOP Rail would extend from a junction with the existing NHSL to a terminus near the Valley Forge Casino Resort, a distance of about 3.9 miles. The proposed extension would have five stations: Henderson Road, Allendale Road, Mall Blvd, 1st & American, and 1st & Moore (see **Figure 3**).

The 1st & Moore Station is proposed to have a parking garage, bus layover spaces, and bus driver facilities, and will serve as a new terminal and transfer point for bus services (see **Figure 4**).

Figure 3: KOP Rail Preferred Alternative



Source: AECOM.

Figure 4: Proposed 1st & Moore Station

Source: KOP Rail Basis of Design report, HNTB.

2.2 Proposed Bus and Shuttle Service Modifications

Based upon review and discussion with SEPTA staff and review of current bus operating data, some revisions have been proposed to current SEPTA bus routes to complement and support KOP Rail service. In general, the current transfer stop at the King of Prussia Mall would be replaced by a stop at the proposed KOP Rail 1st & Moore station. **Table 3** presents the weekday proposed headways for each SEPTA bus route by time period, and **Table 4** shows the same for the shuttle routes. These tables show that the proposed service headways for SEPTA bus routes would be relatively similar to the current headways, while the shuttle services generally would have increased frequencies. **Figure 5** shows the proposed routing for the bus routes, and **Figure 6** shows the proposed routing for the shuttle routes.

These proposed future routes and service frequencies are conceptual and for use in the FEIS; the actual plans for future bus and shuttle services will be developed in later phases of design for KOP Rail. The final bus and shuttle service plans will be coordinated with the final operating plan for KOP Rail in order to provide timed transfer opportunities. The KOP Rail ridership forecasts for the FEIS will incorporate the proposed bus and shuttle service frequencies, which are for weekdays, as the forecasting model generates an average weekday ridership estimate. For this reason, this Bus and Shuttle Service Plan does not include proposed Saturday or Sunday service spans and levels of service for future bus and shuttle services.

Table 3: Proposed SEPTA Bus Weekday Service Headways (in minutes)

Route	Origin - Destination	Early AM	AM Peak	Midday	PM Peak	Early Evening	Evening
92	King of Prussia - West Chester	60	30	60	30	60	60
99A	Norristown - King of Prussia	60	30	60	30	60	60
99B	King of Prussia - Phoenixville	60	60	60	60	60	60
123	Discontinued	-	-	-	-	-	-
124	King of Prussia - Wissahickon	60	30	60	30	60	60
125	King of Prussia - Gulph Mills	30	30	60	30	30	30
139	King of Prussia - Limerick	60	60	90	60	60	90

Note: This table is a general summary of proposed service plans for each route. The timeframes correspond roughly to the following time periods: Early AM: 4 – 6 AM, AM Peak: 6 – 9 AM, Midday: 9 AM – 3:30 PM, PM Peak: 3:30 – 6:30 PM, Early Evening: 6:30 – 8 PM, and Evening: 8 – 11 PM.

Table 4: Proposed Shuttle Service Headways (in minutes)

Route	Early AM	AM Peak	Midday	PM Peak	Early Evening	Evening
Upper Merion Rambler	-	15	30	15	30	-
theconnector - Norristown	Discontinued					
theconnector – Wayne	-	16-41	-	15-50	-	-
Inner Loop Shuttle	-	10	20	10	20	-

Note: This table is a general summary of proposed service plans for each route. The timeframes correspond roughly to the following time periods: Early AM: 4 – 6 AM, AM Peak: 6 – 9 AM, Midday: 9 AM – 3:30 PM, PM Peak: 3:30 – 6:30 PM, Early Evening: 6:30 – 8 PM, and Evening: 8 – 11 PM.

Figure 5: Proposed Bus Services

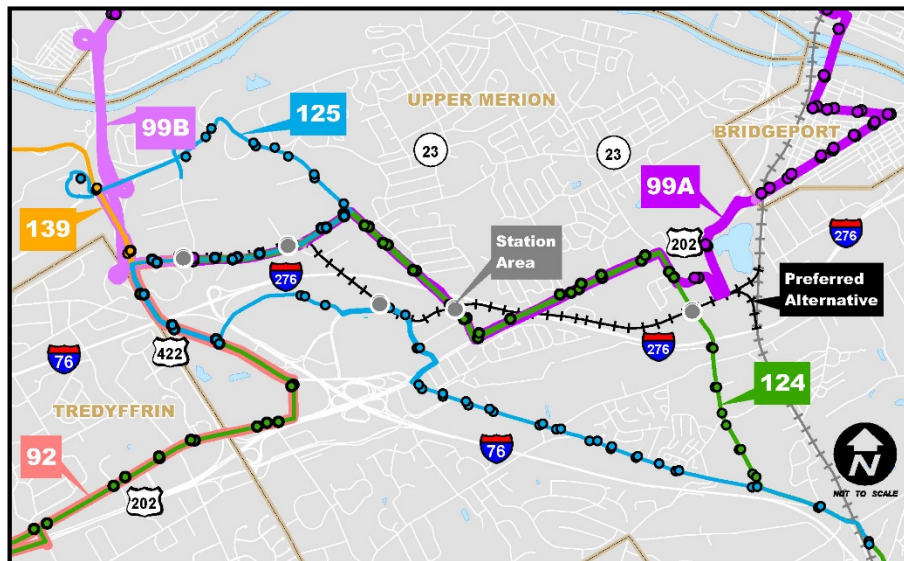
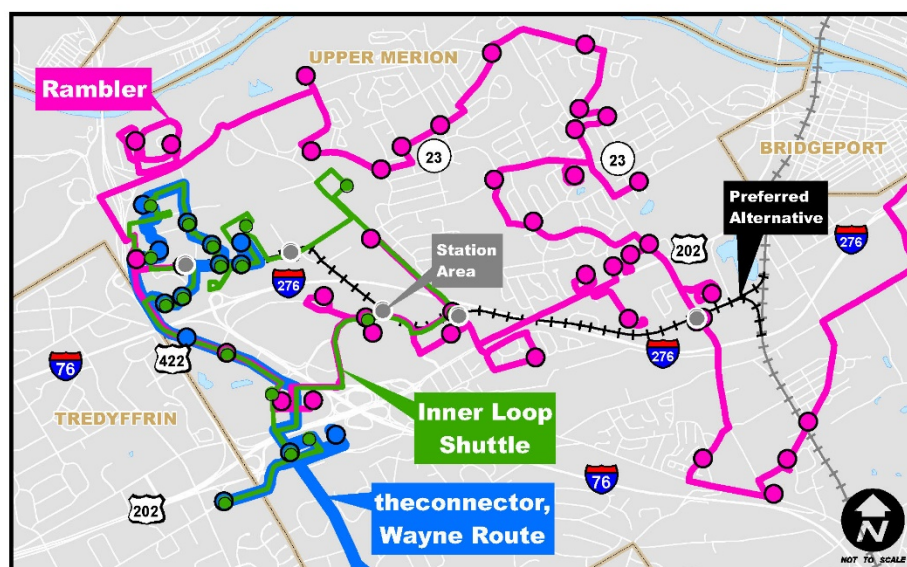


Figure 6: Proposed Shuttle Services



Although the proposed shuttle route concepts show routes and stops within the Village of Valley Forge, it is important to recognize that roadways within the Village at Valley Forge are privately owned and maintained. The master developers of the site have expressed to SEPTA that they do not want buses on roadways within the village. As such, all current SEPTA bus service is provided along the perimeter. Future bus and shuttle service planning for KOP Rail may need to take this into account.

3 Proposed Bus and Shuttle Services

This section further describes the proposed bus and shuttle service changes in the King of Prussia area for the KOP Rail Preferred Alternative for FEIS purposes at the route level, including routes and stops, stations served, and bus transfer locations.

3.1 Proposed Bus Route Revisions

3.1.1 Route 92

The current SEPTA Route 92 (see **Figure 7**) weekday route would be modified slightly. The proposed route would terminate at the 1st & Moore KOP Rail Station instead of the King of Prussia Mall, and it would run along Swedesford Road instead of Devon Park Drive (see **Figure 8**). Future service planning for this route to complement KOP Rail service could consider an independent issue related to service in the Exton area, which could lead to a more comprehensive evaluation of Route 92.

Figure 7: Current Route 92

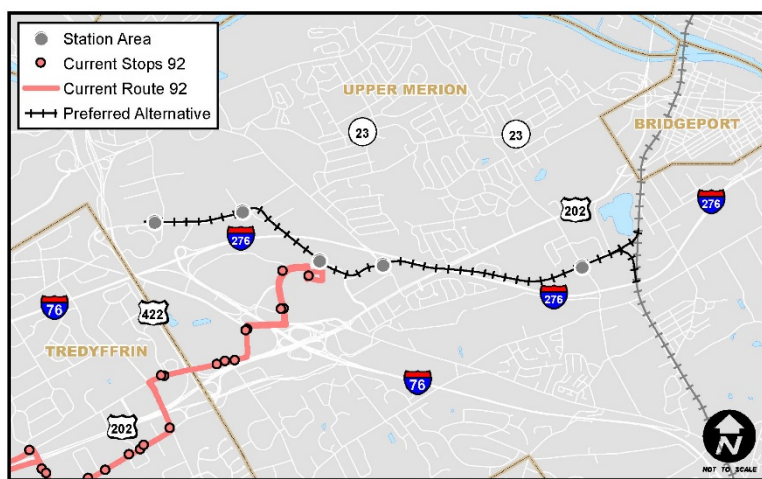
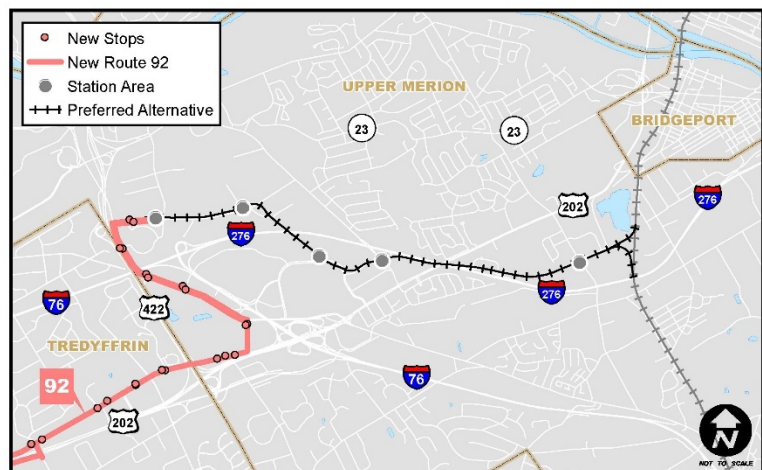


Figure 8: Proposed Route 92



3.1.2 Route 99

The current SEPTA Route 99 (see **Figure 9**) is proposed to be split into two routes, with the 1st & Moore KOP Rail Station being the breakpoint between the two routes, which would simplify scheduling and improve on-time performance. Route 99A would operate between the Norristown Transportation Center and the 1st & Moore Station, and Route 99B would operate between the 1st & Moore Station and Phoenixville (see **Figure 10**). These route designations (“A” and “B”) are temporary names simply for the purpose of this plan. If future bus service planning for KOP Rail leads to a decision to establish new routes, then SEPTA will assign a distinct new number to this route.

Figure 9: Current Route 99

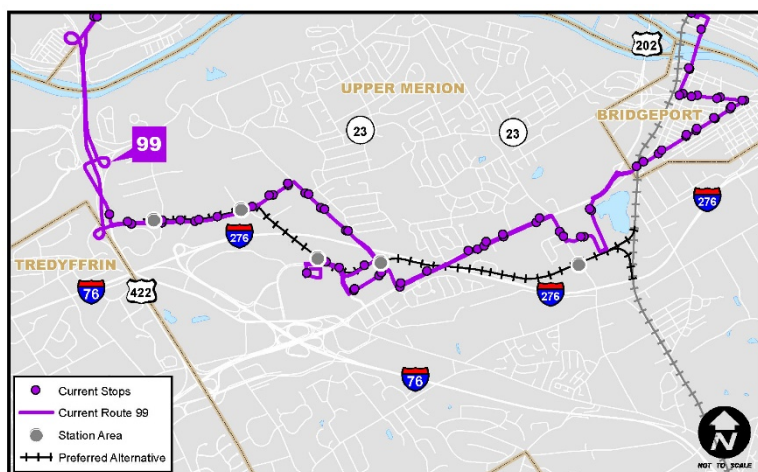
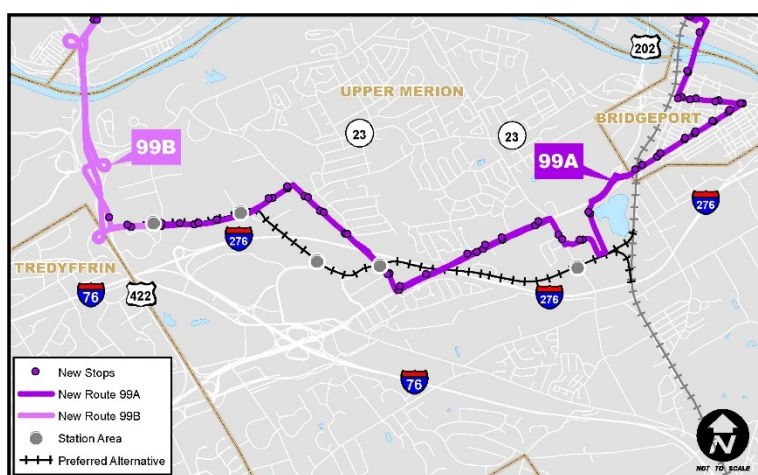


Figure 10: Proposed Routes 99A and 99B



3.1.3 Route 123

It is proposed that SEPTA discontinue the current SEPTA Route 123 because this route would be redundant to the service that KOP Rail would provide between the 69th Street Transportation Center and the King of Prussia area.

3.1.4 Route 124

The proposed revisions to the current SEPTA Route 124 (see **Figure 11**) are to discontinue the segment between Center City and the Wissahickon Transportation Center, which would become the new southern terminal, and align the route to serve the KOP Rail 1st & Moore station instead of the King of Prussia Mall (see **Figure 12**). SEPTA's actual plan for Route 124 will be developed in later phases of design for KOP Rail and this plan could include a stop at the Mall as well as at 1st & Moore.

Figure 11: Current Route 124

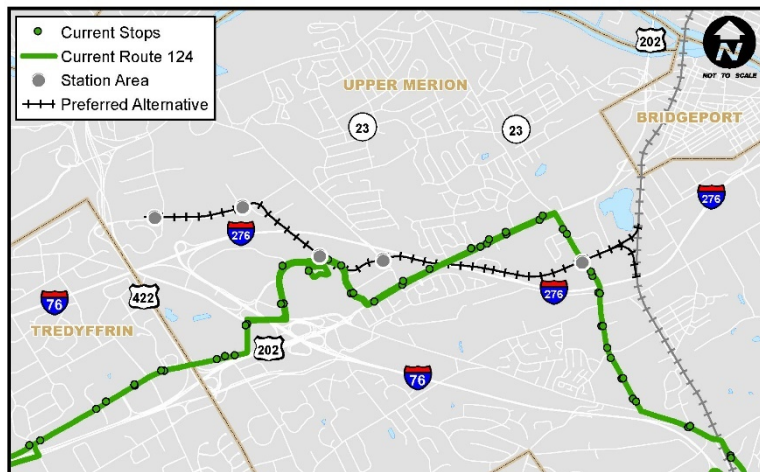
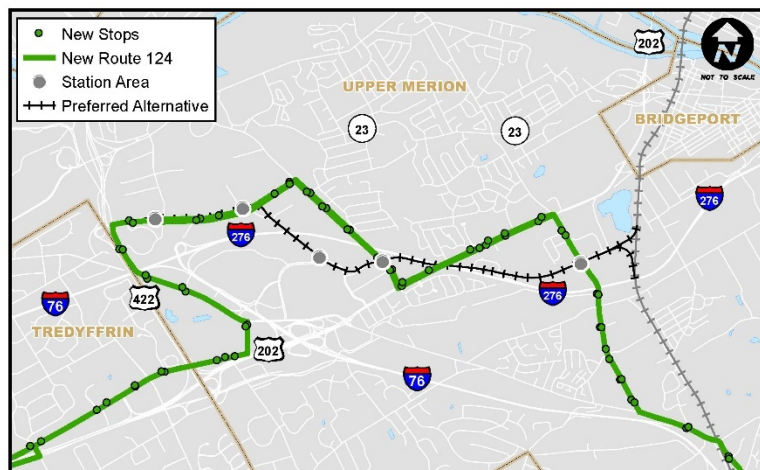


Figure 12: Proposed Route 124



3.1.5 Route 125

The current SEPTA Route 125 (see **Figure 13**) is proposed to no longer serve Wissahickon or Center City Philadelphia, and the eastern terminal would become the Gulph Mills station along the existing Norristown High Speed Rail line. The service would maintain its current routing between the Gulph Mills station and the Valley Forge National Historical Park, except that it would stop at the 1st & Moore KOP Rail Station and not the King of Prussia Mall (see **Figure 14**). Future bus service planning for this route during subsequent phases of KOP Rail design may determine that it is better suited to operate as a locally-sponsored shuttle service rather than a SEPTA bus route.

Figure 13: Current Route 125

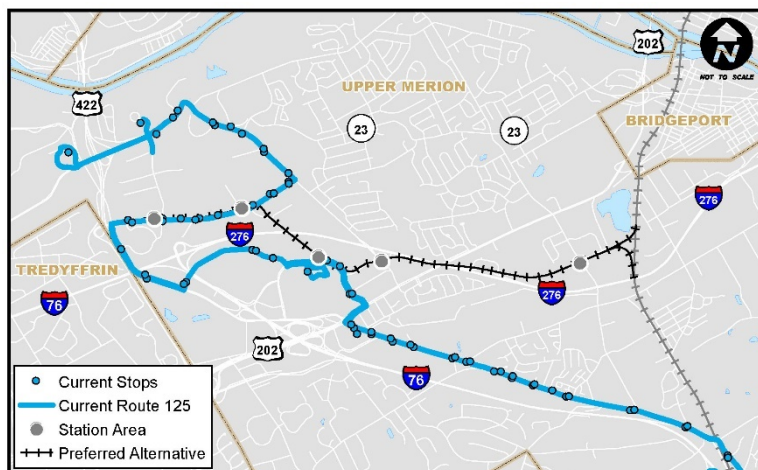
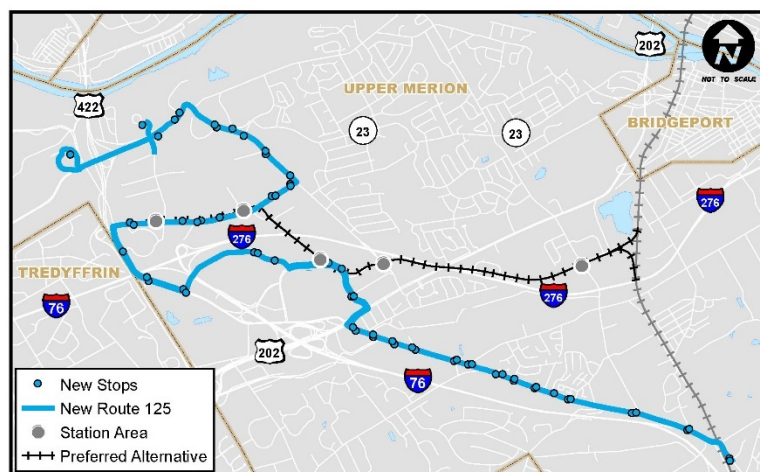


Figure 14: Proposed Route 125



3.1.6 Route 139

The only proposed revision to the current SEPTA Route 139 (see **Figure 15**) would be to extend the route to the new terminal station at the KOP Rail 1st & Moore Station instead of the King of Prussia Mall (see **Figure 16**).

Figure 15: Current Route 139

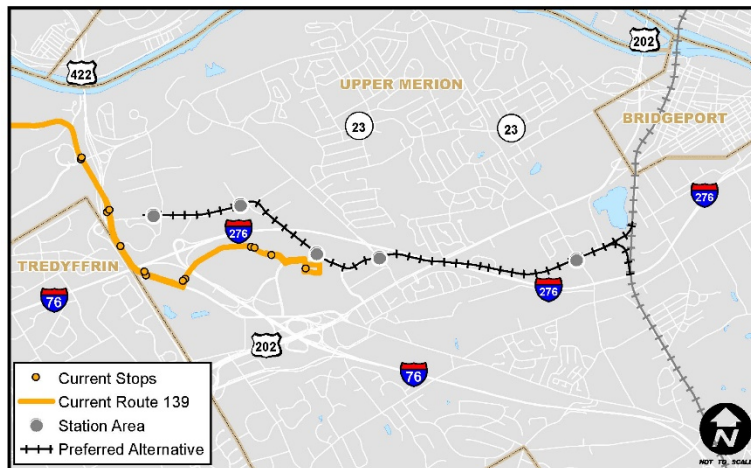
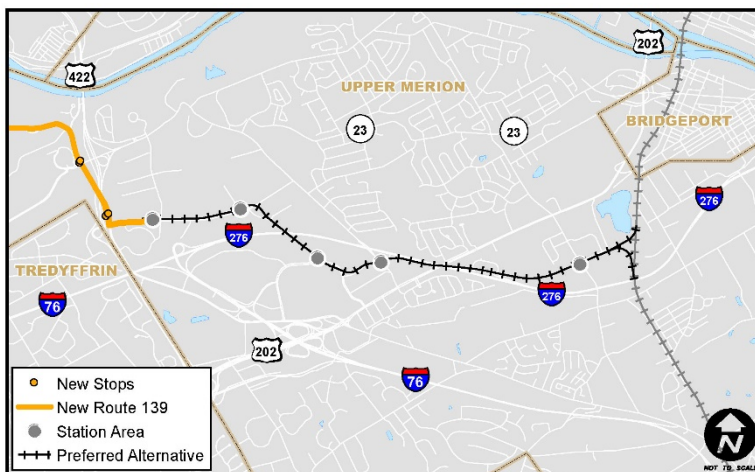


Figure 16: Proposed Route 139



3.2 Proposed Shuttle Service Revisions

3.2.1 Upper Merion Rambler

The proposed shuttle route would extend the current route (see **Figure 17**) between Upper Merion High School and Henderson Road to better connect residential neighborhoods with the KOP Rail service (see **Figure 18**). The proposed schedule would include all current regular and “request” stops. The current service would be modified to provide weekday peak period service every 15 minutes, and during the midday, service would operate every 30 minutes, and the span of service would be extended to 8:00 PM to accommodate late evening workers.

Figure 17: Current Rambler Route

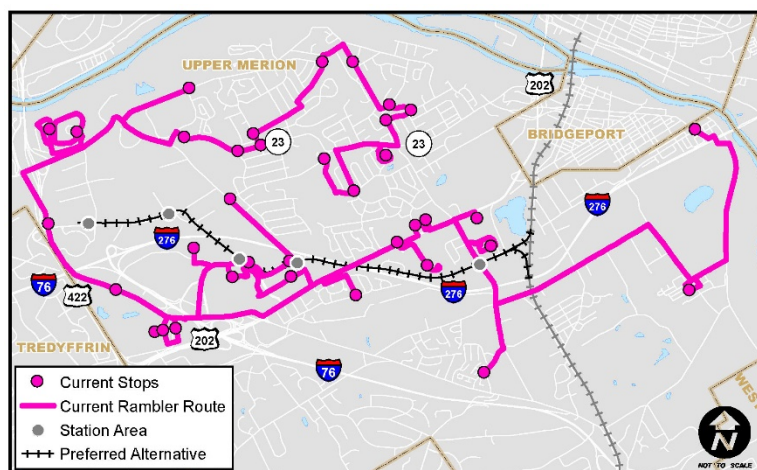
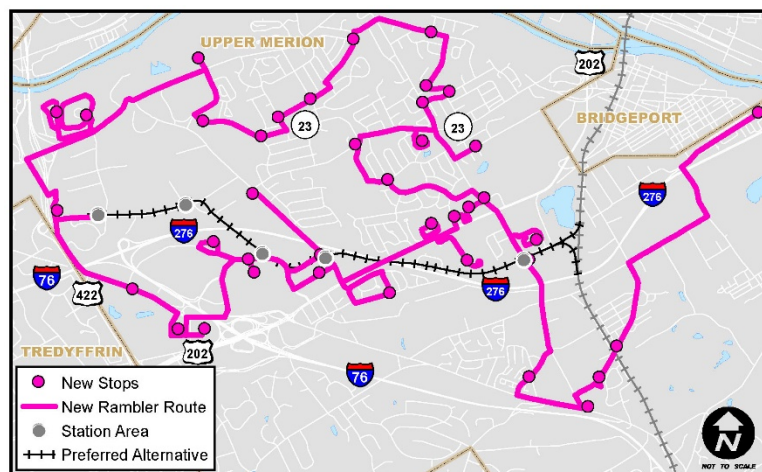


Figure 18: Proposed Rambler Route



3.2.2 theconnector - Norristown Route

This shuttle route is duplicative of the planned KOP Rail service between Norristown and King of Prussia, and thus it is proposed to be discontinued once KOP Rail service begins.

3.2.3 theconnector - Wayne Route

The current shuttle route to Wayne (see **Figure 19**) is scheduled and marketed to meet the SEPTA Regional Rail services at Wayne Station. Thus, the proposed revisions to this shuttle route are limited to adding one stop along Devon Park Drive (see **Figure 20**).

Figure 19: Current theconnector, Wayne Route

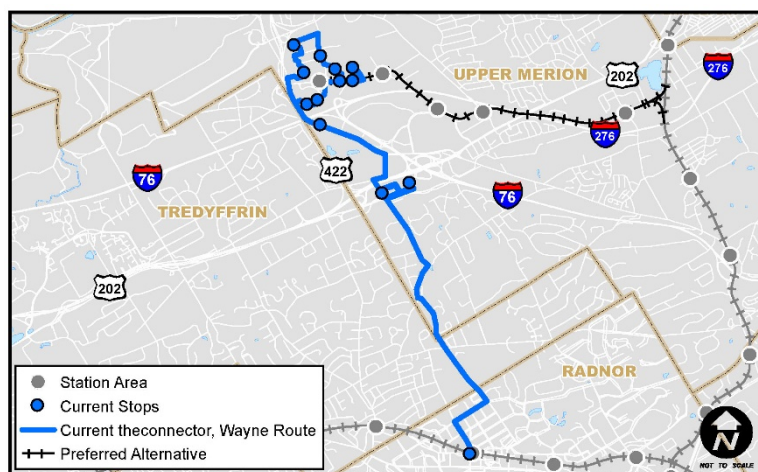
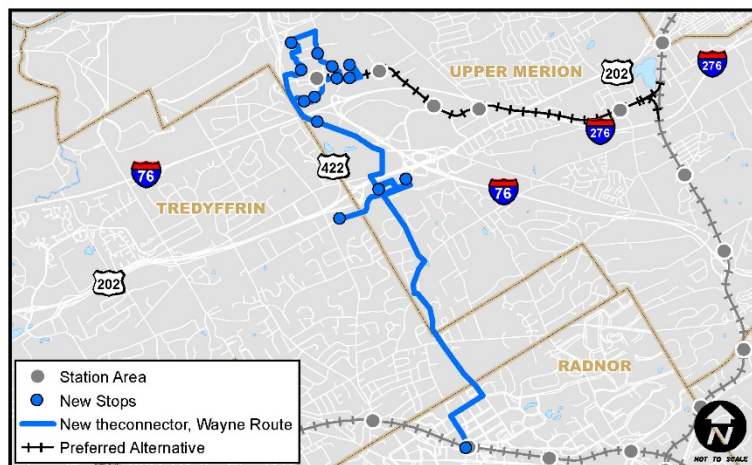


Figure 20: Proposed theconnector, Wayne Route



3.2.4 Inner Loop Shuttle

A new “Inner Loop” shuttle route is proposed to complement the current shuttle services. This route would provide all-day service between the KOP Rail stations, Moore Park office buildings, and other key destinations, including Children’s Hospital of Philadelphia (CHOP) campus at King of Prussia, the Village at Valley Forge, and the Devon Park Drive business area (see **Figure 21**).

Figure 21: Proposed Inner Loop Shuttle



3.3 Stations Served by Bus Routes

This section provides a summary of the KOP Rail stations that each proposed SEPTA bus route would serve. Bus transfers and layovers would occur at the KOP Rail 1st & Moore station.

3.3.1 Route 92

Route 92 would serve the following KOP Rail station:

- 1st & Moore

3.3.2 Route 99A

Route 99A would serve the following KOP Rail stations:

- 1st & Moore
- Henderson Road

3.3.3 Route 99B

Route 99B would serve the following KOP Rail station:

- 1st & Moore

3.3.4 Route 124

Route 124 would serve the following KOP Rail stations:

- Henderson Road
- 1st & Moore

3.3.5 Route 125

Route 125 would serve the following KOP Rail stations:

- Mall Blvd
- 1st & Moore

3.3.6 Route 139

Route 139 would serve the following KOP Rail station:

- 1st & Moore

3.4 Stations Served by Shuttle Routes

This section provides a summary of the KOP Rail stations that each proposed shuttle route would serve.

3.4.1 Upper Merion Rambler

The Upper Merion Rambler would serve the following KOP Rail stations:

- Henderson Road
- 1st & Moore
- Mall Blvd
- Allendale Road

3.4.2 theconnector – Wayne Route

The theconnector – Wayne Route would serve the following proposed KOP Rail station:

- 1st & Moore (adjacent to Parkside Tower stop)

3.4.3 Inner Loop Shuttle

The proposed Inner Loop Shuttle would serve the following KOP Rail stations:

- Mall Blvd
- Allendale Road
- 1st & American
- 1st & Moore

APPENDIX A

Estimated Daily Vehicle Hours and Vehicle Miles, Current and Proposed

KOP Rail										
Bus and Shuttle Plan										
Estimated Daily Vehicle Hours and Vehicle Miles										
	Current				Proposed			Change		
	Vehicle Hours	Vehicle Miles	Peak Vehicles		Vehicle Hours	Vehicle Miles	Peak Vehicles	Vehicle Hours	Vehicle Miles	Peak Vehicles
SEPTA Bus										
92	10,371	211,482	3		17,998	372,256	7	7,627	160,774	4
99	22,749	370,024	7		-	-	-	(22,749)	(370,024)	(7)
99A	-	-	-		4,506	69,944	2	4,506	69,944	2
99B	-	-	-		12,128	198,849	3	12,128	198,849	3
123	12,502	336,554	4		-	-	-	(12,502)	(336,554)	(4)
124	27,508	538,445	9		15,999	373,621	5	(11,509)	(164,824)	(4)
125	29,243	584,946	9		7,496	156,345	3	(21,747)	(428,601)	(6)
139	9,686	181,087	3		11,190	209,417	5	1,504	28,330	2
Total	112,059	2,222,538	35		69,317	1,380,432	25	(42,742)	(842,106)	(10)
								-38%	-38%	
Shuttles										
Rambler	2,958	39,168	2		24,731	531,331	11	21,773	492,163	9
Wayne	1,917	23,349	2		1,917	23,349	2	-	-	-
Norristown	2,981	24,888	2		-	-	-	(2,981)	(24,888)	(2)
Inner Loop	-	-	-		4,984	101,299	2	4,984	101,299	2
Total	7,856	87,405	6		31,632	655,979	15	23,776	568,574	9
								303%	651%	
Grand Total	119,915	2,309,943	41		100,949	2,036,411	40	(18,966)	(273,532)	(1)
								-16%	-12%	

* Note: Numbers in parentheses are the reductions anticipated as a result of proposed service changes as compared to existing conditions. Numbers without parentheses are the increases anticipated as a result of proposed service changes as compared to existing conditions.

Source: AECOM