



SOUTH CENTRAL TRANSIT AUTHORITY

# TRANSIT DEVELOPMENT PLAN UPDATE

## APPENDIX B: SERVICE GUIDELINES

MARCH 2018



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# 1 INTRODUCTION

The South Central Transit Authority (SCTA) strives to provide quality transit service in a cost-effective manner that is consistent and equitable. To do so, SCTA must make a number of competing decisions based on where demand is greatest, which types of services would work best and be most appropriate, and where limited resources can and should be used. This set of service guidelines defines how SCTA will:

- Determine where service should be provided
- Design service
- Determine appropriate service levels
- Ensure that service is productive

The service guidelines will be applied to the entire family of services provided by SCTA—including Berks Area Regional Transportation Authority (BARTA) and Red Rose Transit Authority (RRTA) services—and are intended to bring clarity and consistency to the process of continually adjusting and improving transit services to meet varied and changing customer needs. In most cases, the service guidelines define minimum thresholds that SCTA service must meet, and most services would exceed the minimum thresholds. However, the guidelines are also designed to—within limits—provide flexibility to respond to varied customer needs and community expectations in an accountable, equitable, and efficient manner.

Finally, it should be noted that adherence to these service guidelines is dependent upon resource availability, and in particular, funding availability. In the event of constrained resources, SCTA will meet these guidelines as closely as possible and will work to achieve consistency as resources permit.

## 2 SCTA SERVICES

SCTA provides a family of services that are designed to meet a wide array of travel needs. These services consist of the following types of routes:

- Major Local Routes
- Local Routes
- Regional Routes
- Express Routes
- Demand-Response Service

### Major Local Routes

Major Local routes are SCTA's highest ridership and/or most productive routes and form the "backbone" of the SCTA's system. These routes operate along major arterials and offer simple, straight, and direct service and connections to network hubs. Bus stops will be spaced farther apart as compared to other services. Major Local routes provide frequent service throughout the day. All Major Local Routes provide fixed-route service, which means that they operate along a designated route and serve designated stops.

### Local Routes

Local routes also operate along primary arterials, but in areas of less dense development patterns. They also typically are anchored at a transit hub, either in downtown or at the end of a frequent route. These routes offer relatively simple and direct service, with slightly closer stop spacing. All Local Routes provide fixed-route service.

### Regional Routes

Regional routes provide longer-distance service connecting the major activity centers across jurisdictions on weekdays and weekends. They have limited stops in low-density areas to provide fast travel times, and use freeways and expressways where appropriate. In the urban core, Regional routes have similar stop spacing as Local Routes. All Regional routes provide fixed-route service.

### Express Routes

Express routes are designed primarily to provide fast and direct service between the region's key downtown cores and major activity centers. Regional connector routes provide high-speed service, use freeways or major arterials, and make limited stops to provide more predictable, faster trips. These routes generally operate on weekdays only and operate a limited number of trips, but depending upon demand, some routes may operate for longer hours and/or on weekends.

## Demand-Response Service

Demand-response service offers curb-to-curb or door-to-door service upon request. Services are well suited for serving low-density areas and can be provided by a range of providers, from traditional transit agencies to app-based ride-hailing providers. Demand-response service typically operates within a geographically limited area, and provides pick-up and drop-off services within a defined zone. Demand-response service includes ADA paratransit service, which operates under specific FTA guidelines, serving individuals with disabilities and older adults. Demand-response service also includes emerging mobility options such as ride-hailing companies.

### 3 SERVICE DESIGN PRINCIPLES

SCTA works to serve as many residents, workers, and visitors as it can within its available resources. This involves many trade-offs as some service attributes that attract one type of rider will deter other riders – for example, meandering services designed to minimize walk distances are attractive to those who are not time-sensitive, but unattractive to those who are. SCTA’s family of services attempts to balance these competing demands to develop a network that meets the greatest public good. At the same time, there are also certain service design principles that will improve service for nearly all riders.

#### Service Should be Simple

To encourage people to use transit, service should be designed so that it is easy to understand. In this way, current and potential riders can grasp and use the transportation options available to take them where and when they want to go with ease. Most of the guidelines in this section are aimed at making service intuitive, logical, and easy to understand.

#### Routes Should Operate Along a Direct Path

Passengers and potential passengers alike prefer faster, more direct transit services. In order to remain competitive with the automobile, special attention should be placed on designing routes to operate as directly as possible to maximize average speed for the bus and minimize travel time for passengers while maintaining access to service. Routes should not deviate from the most direct alignment unless there is a compelling reason to do so.

*Most riders prefer straighter and more direct service to circuitous service*

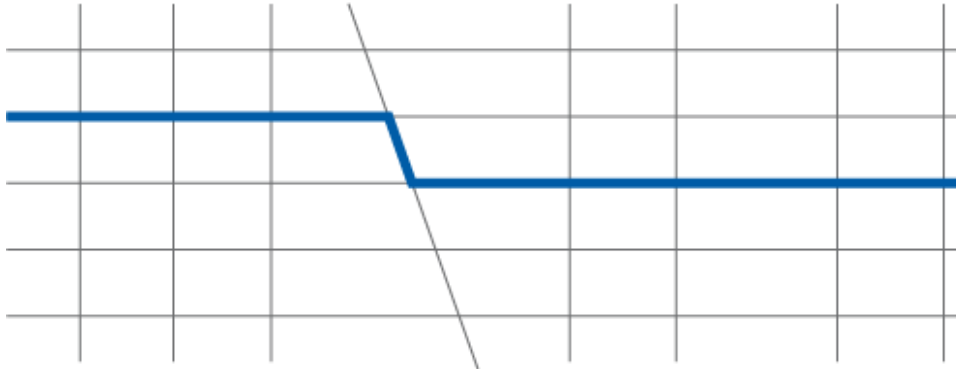


#### Route Deviations Should be Minimized

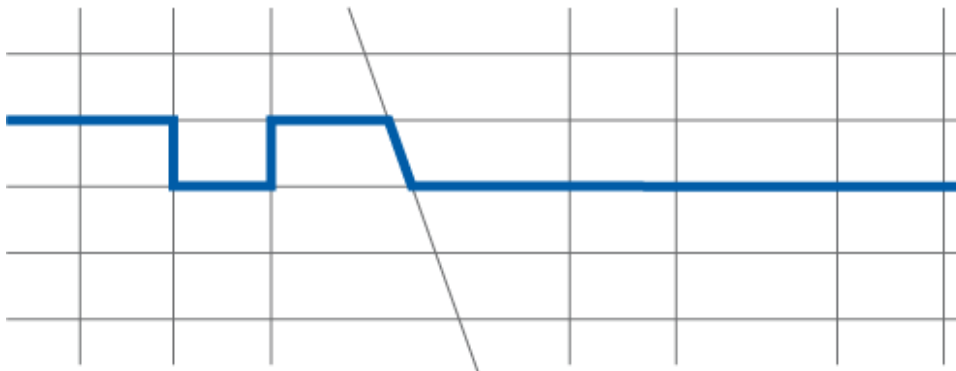
As described above, service should be relatively direct. The use of route deviations—travelling off the most direct route—should be minimized.

Serving different locations on different trips makes service complicated and inconveniences most riders

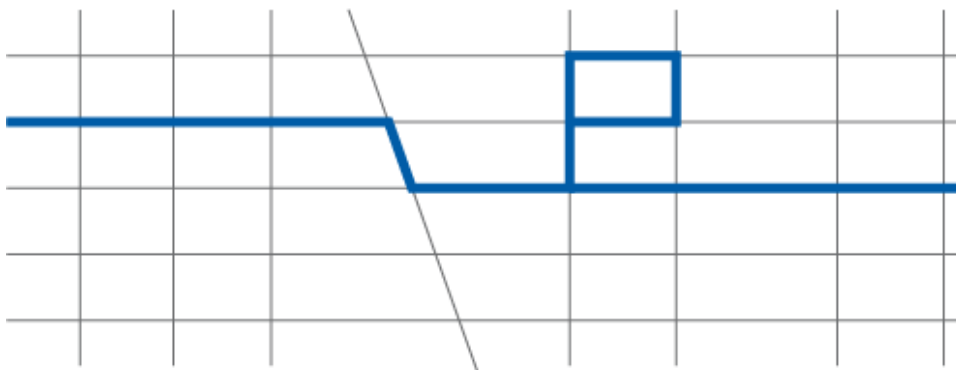
Main Route



8:43 AM Trip



2:23 PM Trip



There are instances when the deviation of service off of the most direct route is appropriate, for example to avoid a bottleneck or to provide service to major shopping centers, employment sites, schools, etc. In these cases, the benefits of operating the route off of the main route must be weighed against the inconvenience caused to passengers already on board. Route deviations should be considered only under the following conditions:

1. The deviation will result in an increase in overall route productivity
2. The number of new passengers that would be served is equal to or greater than 25% of the number of passengers who would be inconvenienced by the additional travel time on any particular deviated trip

- The deviation would not interfere with the provision of regular frequencies and/or the provision of coordinated service with other routes operating in the same corridor

In most cases where route deviations are provided, they should be provided on an all-day basis. Exceptions are during times when the sites that the route deviations serve have no activity—for example, route deviations to shopping centers do not need to serve those locations early in the morning before employees start commuting to work.

## Fixed Routes Should Operate Along Arterials Where Possible

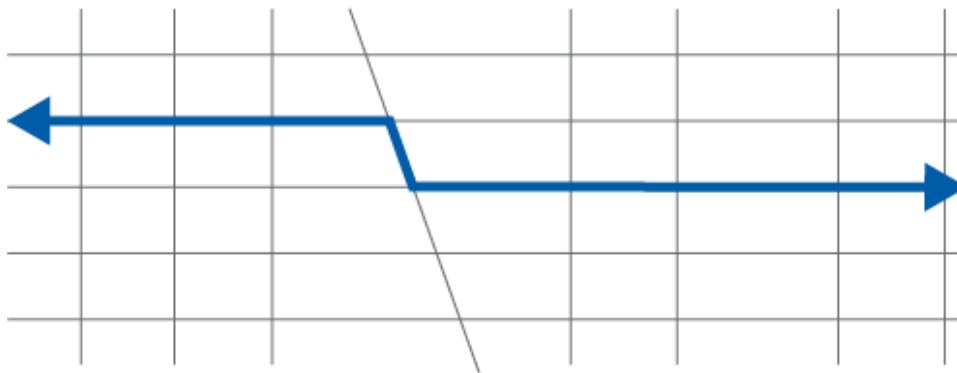
Major Local, Local, and Regional routes should operate on major roadways and should avoid deviations to provide local circulation. Riders and potential transit users typically have a general knowledge of an area’s arterial road system and use that knowledge for geographic points of reference. The operation of bus service along arterials makes transit service faster and easier for riders to understand and use.

## Routes Should be Symmetrical

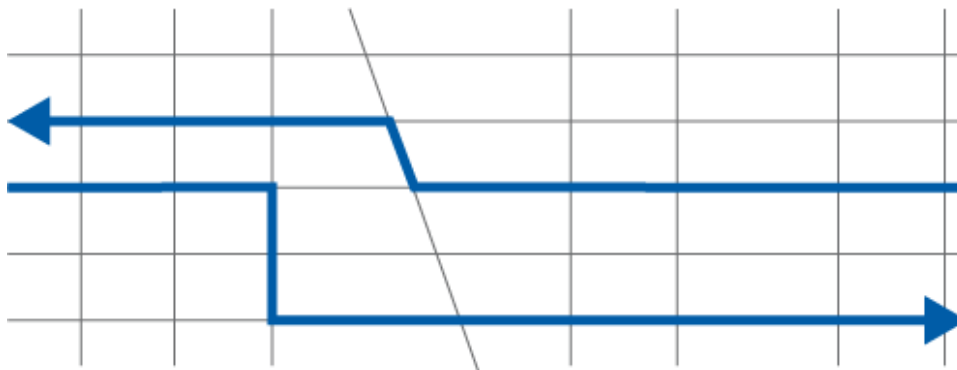
Routes should operate along the same alignment in both directions to make it easy for riders to know how to make their return trip. When a route operates in a one-way loop, offering service in only one direction, passengers are forced to travel out of their way on at least one segment of their round trip. Exceptions can be made in cases where such operation is not possible due to one-way streets or turn restrictions. In those cases, routes should be designed so that the opposite directions parallel each other as closely as possible.

***Operating service along the same alignment in both directions makes it easier for riders to understand service and find their return trip***

### Symmetrical



### Non-Symmetrical





## Service Should Serve Well-Defined Markets

To make service easy to understand and to eliminate service duplication, service should be developed to serve well-defined markets. Ideally, major corridors should be served by only one route of each route type—for example, one Regional route and one Local route, and not by multiple Regional routes and multiple Local routes. However, exceptions should be made when multiple routes should logically operate through the same corridor to unique destinations.

## Services Should be Well Coordinated

Where routes connect, schedules should be coordinated to the greatest extent possible to minimize connection times for the predominant transfer flows.

## Service Should Operate with Consistent Schedules

Routes should be scheduled to operate at regular intervals (headways). People can easily remember repeating patterns but have difficulty remembering irregular ones. For example, routes that provide four trips an hour should depart from their terminals every 15 minutes. Limited exceptions can be made in cases where demand spikes during a short period in order to eliminate or reduce crowding on individual trips.

*People can remember repeating patterns much more easily than non-repeating ones*

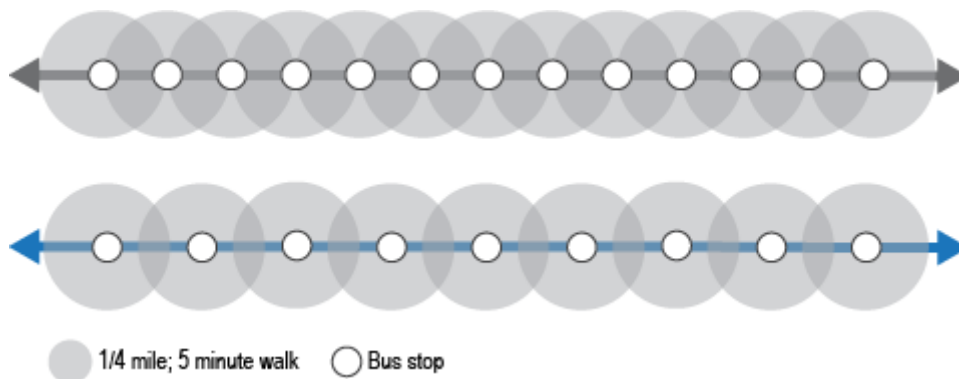
Departures with Clockface Headways: 8:00, 8:15, 8:30, 8:45, 9:00, 9:15, 9:30, etc.

Departures with Inconsistent Frequencies: 8:00, 8:17, 8:32, 8:44, 9:01, 9:13, 9:30, etc.

## Stops Should be Spaced Appropriately

The distance between stops significantly impacts travel times. More closely spaced stops provide customers with more convenient access, as they are likely to experience a shorter walk to the nearest bus stop. However, they also increase travel times and are the major reason that transit is slower than automobile travel. Each additional stop requires the bus to decelerate, come to a complete stop, load and unload riders, and then accelerate and re-merge into traffic. Most riders want service that balances convenience and speed, and the number and location of stops is a key component of determining that balance.

*Too many stops can make a service unacceptably slow for many potential riders*



SCTA’s family of services is tailored toward serving different types of trips and needs, and therefore fixed-route services have different stop spacing guidelines. In general, Major Local services, designed to serve a dense areas with relatively high frequency, should have fewer stops. Local services, which emphasize accessibility, should have more frequent stops. Regional services should have one to two stops per mile in the low-density regions they serve outside of urban core areas, but increase stop frequency closer to downtowns. Express services should only have stops at the major transfer centers they connect.

Guidelines for minimum stop spacing and maximum stops per mile are shown in Table 1. Exceptions to these guidelines can and should be made in locations where walking conditions are poor (which is the case along many rural routes) or there are other significant considerations.

**Table 1 | Bus Stop Spacing Guidelines**

	Major Local	Local	Regional	Express	Demand-Response
Minimum Stop Spacing (feet)	1,300	800	1,300 (within urban areas) 2,000 (outside of urban areas)	2,600	—
Maximum Stops per Mile	4	4-6	4 (within urban areas) 1-2 (outside of urban areas)	1	—

## Service Design Should Maximize Service

The distance and travel time of a route determine how efficiently a bus can operate. The length of the route and the time it takes to make each trip impact how long of a layover is required at each end and how many buses are needed to provide the service. Service should be designed to maximize the time a vehicle is in service and minimize the amount of time it is out of service. Often, it may be more efficient to extend a route to pick up a few more passengers and limit the amount of layover time.

## 4 SERVICE LEVEL GUIDELINES

Service level guidelines define when service should be provided and how often it should be provided. There are five service level guidelines:

1. Service Coverage
2. Minimum Spans of Service
3. Minimum Service Frequencies/Trips
4. On-Time Performance
5. Passenger Loadings

In combination with the Performance and Productivity Guidelines presented in Section 5, the Service Level Guidelines help to determine appropriate service levels for each route. On an ongoing basis, each bus service type should operate based on these span of service guidelines and service frequency guidelines. If minimum productivity guidelines can be met, service spans may be expanded to earlier in the morning and later at night. In addition, service should be added when ridership increases to levels that exceed maximum loading guidelines. Conversely, service should be evaluated and potentially reduced when ridership falls below the minimum productivity guidelines.

### Service Guidelines Basis

In order to ensure delivery of equitable, reliable, and productive transit service, SCTA should establish Minimum Spans of Service, Minimum Service Frequencies/Trips, On-Time Performance, and Passenger Loadings guidelines similar to those required of large transit service operators by the Federal Transit Administration. The additional Performance and Productivity Guidelines presented in Section 5 are metrics used by the Pennsylvania Department of Transportation to ensure that SCTA is performing in accordance with the commonwealth's Act 44 productivity requirements.

### Service Coverage

Public transit is designed to be mass transportation rather than personalized transportation. Accordingly, it is most effective in areas where sufficient numbers of people live and work in close proximity. Population density and employment density are the best indicators of whether there will be underlying demand for productive transit service. At minimum, local fixed-route service requires densities of at least three households per acre, four jobs per acre, or a combination thereof. More frequent service is appropriate for areas with higher population and job densities (see Figure 1). SCTA will endeavor to provide local service in all areas where population and employment densities exceed these thresholds.

**Figure 1 | Transit Supportive Population and Employment Densities**



Source: Composite data compiled from various sources by Nelson\Nygaard

SCTA will also consider other factors when examining demand for service. Socioeconomic characteristics can increase or decrease underlying demand; for example, income levels or the number of households without automobiles or fewer automobiles than workers.

## Minimum Spans of Service

The number of hours per day when transit service is provided along a route, a segment of a route, or between two locations plays a role in determining the attractiveness of transit service to potential users. Transit service must be available near the time a trip needs to be made in order for transit to be a travel option. Passenger needs and SCTA's financial capacity are key considerations in setting weekday service spans and in deciding which routes are operated on Saturdays and Sundays. Weekday routes should permit workers and students to make their morning start times, and they should end late enough to provide return trips home for second shift workers. Service oriented to non-work travel can start later and end sooner.

The guidelines for minimum spans of service define the minimum periods of time during which each service type should operate. Minimum span of service guidelines are presented in Table 2. Express services have an AM and PM peak service span on weekdays. Note that service can start earlier and end later if demand warrants, but the extra service would be subject to the minimum Performance and Productivity Guidelines presented in Section 5.

**Table 2 | Minimum Span of Service Guidelines**

	Major Local	Local	Regional	Express	Demand-Response
<b>Weekdays</b>					
Begin	6 AM	6 AM	6 AM	6 AM   4 PM	6 AM
End	10 PM	7 PM	6 PM	8 AM   6 PM	6 PM
<b>Saturdays</b>					
Begin	7 AM	7 AM	As needed	As needed	As needed
End	10 PM	7 PM			
<b>Sundays</b>					
Begin	8 AM	11 AM	As needed	As needed	As needed
End	8 PM	6 PM			

Note: The beginning span of service refers to the departure of the first inbound trip. The ending span of service refers to the departure time of the last outbound direction trip.

## Minimum Service Frequencies

Service frequency is measured as either the time interval between two vehicles traveling in the same direction on the same route, or the number of one-way trips per time period for Regional and Express service. It has a major influence on transit ridership: high frequency service is considered a key characteristic of attractive service. At the same time, frequency has a significant impact on operating costs, and vehicle and service hour requirements increase with improvements in service frequency.

Because of the expense of high frequency service, transit service frequency is normally based upon existing or potential demand. This often translates into variations in service frequency throughout the day, with higher frequency in peak periods and less frequent service outside of the peak.

In general, frequencies are established to provide enough vehicles past the maximum load point(s) on a route to accommodate the passenger volume and stay within recommended loading guidelines. Minimum service frequency guidelines are presented in Table 3. When not specified, there is no respective frequency standard. Frequencies for these services are set based on demand. When a corridor is served by multiple routes, effective service frequencies in the corridor would be more frequent than those of individual routes.

**Table 3 | Minimum Service Frequency Guidelines (in minutes or trips per period)**

	Major Local	Local	Regional	Express	Demand-Response
<b>Weekdays</b>					
Early AM (before 6 AM)	30 min.	60 min.	—	—	
AM Peak (6 AM – 8 AM)	15 min.	30 min.	6 trips	6 trips	N/A
Midday (8 AM – 4 PM)	15 min.	60 min.	4 trips	—	
PM Peak (4 PM – 6 PM)	15 min.	30 min.	6 trips	6 trips	
Evening (after 6 PM)	30 min.	60 min.	—	—	
<b>Saturdays</b>					
Day (before 6 PM)	30 min.	60 min.	8 trips	—	N/A
Evening (after 6 PM)	60 min.	60 min.	—	—	
<b>Sundays</b>					
All Day	60 min.	60 min.	8 trips	—	N/A

Note: “—” indicates that the guideline does not apply. The guidelines apply to services that SCTA provides during the given periods; they do not imply that all services will be provided at all times.

Clockface service intervals (e.g. every 10, 15, 20, 30, or 60 minutes) are easier for passengers to remember and can help facilitate better transfer connections between routes. Whenever possible, frequencies should be set at regular clockface intervals. However, there are two key exceptions:

1. Where individual trips must be adjusted away from clock-face intervals to meet shift times, work times, transfer connections, or other special circumstances
2. Where the desired frequency of service causes round trip recovery time to exceed 20% of the total round-trip vehicle time, leading to inefficient service

## On-Time Performance

SCTA may consider a bus serving a fixed-route “on-time” within a window of zero minutes early to five minutes late. An exception to this definition is for a bus that arrives early at its final timepoint, as no passengers will be boarding there. The on-time performance considers the percentage of time that a route performs within this window. The percentage allowed for on-time performance for fixed-route service should not be less than 85 percent.

SCTA may consider a demand-response vehicle “on time” within 15 minutes before or after the scheduled pickup and dropoff time. The percentage allowed for on-time performance for demand-response service should not be less than 90 percent.

## Passenger Loading

SCTA will design its services to keep the number of passengers on its vehicles at a comfortable level, always within the limits of safety. During peak periods, some passengers may have to stand for part of the trip. During off-peak periods and for service that operates long distances, service will be designed to try to provide a seat to all customers. To keep passenger loads within acceptable levels, SCTA will provide more frequent service, with service frequencies set to keep passenger loads within the limits presented in Table 4.

The vehicle load standard is calculated on the basis of an average for both the peak and off-peak periods, at the busiest point on the route. For instance, if a route operates every 15 minutes, then four buses would pass the busiest point in an hour. The average number of passengers for those four buses must fall within the service standards, even though any one of those buses may be more crowded than the average. If the average number exceeds the passenger load standard, SCTA will consider more frequent service to improve the situation.

**Table 4 | Average Vehicle Load Maximums**

	Major Local	Local	Regional	Express	Demand-Response
<b>Average Maximum Passenger Loading (as a percentage of seating capacity)</b>					
Peak (7-9 AM and 4-6 PM)	120%	120%	100%	100%	100%
Off-Peak (all other times)	100%	100%	100%	100%	100%

*Note: Maximums are averages over one-hour periods; individual trips may exceed averages.*

## 5 PERFORMANCE AND PRODUCTIVITY GUIDELINES

SCTA must use its resources effectively, and all routes should achieve a minimum level of productivity and performance. To assess route productivity and to ensure compliance with the Commonwealth of Pennsylvania's Act 44-mandated five-year performance targets, SCTA applies four performance and productivity guidelines to all routes:<sup>1</sup>

1. Passengers per Revenue Vehicle Hour
2. Operating Cost per Passenger
3. Operating Revenue per Revenue Vehicle Hour
4. Operating Cost per Passenger

### Applying Performance and Productivity Guidelines

In accordance with Act 44, each of the four target measures increase annually at a consistent rate for fixed-route services. All service should achieve at minimum 60% of each target measure for the year operated. Changes should be made to improve route performance in cases where routes do not meet the 60% of target performance guideline. These changes can include a variety of measures, including reconfiguring the route alignment to attract more passengers, targeted marketing, eliminating particularly unproductive segments, and reducing service levels. If no changes that improve performance can be identified, steps may be taken to discontinue the route unless it serves a demonstrable critical need that is not served by other routes or services (including paratransit service).

Routes whose performance and productivity measures fall between 60% and 80% of the target need improvement. To increase productivity levels on routes that need improvement, SCTA should consider minor service design changes, schedule adjustments, and targeted marketing.

Routes attaining a productivity level of at least 80% of the target are operating at a satisfactory level. In cases where a route's performance and productivity measures are higher than the Target measure, SCTA may consider service expansion. In cases where service expansion is considered, SCTA should develop performance and productivity estimates that indicate that there is a reasonable certainty that the new service will perform above 60% of the Target measure within 12 months of implementation.

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<sup>1</sup> These performance targets are required to comply with Act 44 performance criteria and represent the minimum performance levels that SCTA should work to achieve during the next review cycle in 2021. These performance measures were established by the Pennsylvania Department of Transportation using a comparison of the historical operating data of peer transit systems. SCTA's performance and productivity guidelines must be updated following the release of every PennDOT Act 44 Performance Review Report.

## Targets for Passengers per Revenue Vehicle Hour

Ridership targets are expressed in terms of Passengers per Revenue Vehicle Hour, or in simpler terms, the average number of passengers that a bus should serve for each hour it is in service. As established by PennDOT for SCTA, these targets for Passengers per Revenue Vehicle Hour increase at a rate of 2% per year. The “Satisfactory” target for Major Local routes reflects PennDOT’s year-by-year targets for Passengers per Revenue Vehicle Hour. Tables 1 – 5 present these target measures by service type.

**Table 1 | Major Local Routes Targets for Passengers per Revenue Vehicle Hour**

Passengers per Revenue Vehicle Hour	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	29.0	29.5	30.0	30.5
<b>Satisfactory</b> (80% of Target)	23.0	23.5	24.0	24.5
<b>Needs Improvement</b> (60% of Target)	17.0	17.5	18.0	18.5

**Table 2 | Local Routes Targets for Passengers per Revenue Vehicle Hour**

Passengers per Revenue Vehicle Hour	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	19.0	19.4	19.8	20.2
<b>Satisfactory</b> (80% of Target)	15.0	15.3	15.7	16.0
<b>Needs Improvement</b> (60% of Target)	12.0	12.3	12.5	12.8



Table 3 | Regional Routes Targets for Passengers per Revenue Vehicle Hour

Passengers per Revenue Vehicle Hour	2018	2019	2020	2021
Weekdays and Weekends				12.75
<b>Good</b> (Target)				10.25
<b>Satisfactory</b> (80% of Target)	12.0	12.25	12.5	7.75
	9.5	9.75	10.0	
<b>Needs Improvement</b> (60% of Target)	7.0	7.25	7.5	

Table 4 | Express Routes Targets for Passengers per Revenue Vehicle Hour

Passengers per Revenue Vehicle Hour	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	11.0	11.2	11.4	11.7
<b>Satisfactory</b> (80% of Target)	9.0	9.2	9.4	9.6
<b>Needs Improvement</b> (60% of Target)	6.0	6.1	6.2	6.4

Table 5 | Demand-Response Targets for Passengers per Revenue Vehicle Hour

Passengers per Revenue Vehicle Hour	Demand-Response
Weekdays and Weekends	
<b>Good</b> (Target)	2.5
<b>Satisfactory</b> (80% of Target)	2.0
<b>Needs Improvement</b> (60% of Target)	1.5

## Targets for Operating Cost per Passenger

Cost effectiveness targets are expressed in terms of Operating Cost per Passenger, or in simpler terms, the average amount that it costs to provide service per passenger. As established by PennDOT for SCTA, these targets for Operating Cost per Passenger increase at a rate of 1% per year for every fixed-route service type. The “Satisfactory” target for Major Local routes reflects PennDOT’s year-by-year targets for Operating Cost per Passenger. Tables 6 – 10 present these target measures for Operating Cost per Passenger by service type.

**Table 6 | Major Local Routes Targets for Cost per Passenger**

Cost per Passenger	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$3.20	\$3.25	\$3.30	\$3.35
<b>Satisfactory</b> (80% of Target)	\$4.00	\$4.10	\$4.20	\$4.25
<b>Needs Improvement</b> (60% of Target)	\$4.80	\$4.90	\$5.00	\$5.10

**Table 7 | Local Routes Targets for Cost per Passenger**

Cost per Passenger	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$3.60	\$3.65	\$3.70	\$3.75
<b>Satisfactory</b> (80% of Target)	\$4.50	\$4.55	\$4.60	\$4.65
<b>Needs Improvement</b> (60% of Target)	\$5.40	\$5.45	\$5.50	\$5.55

**Table 8 | Regional Routes Targets for Cost per Passenger**

Cost per Passenger	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$6.00	\$6.05	\$6.10	\$6.15
<b>Satisfactory</b> (80% of Target)	\$7.50	\$7.60	\$7.70	\$7.80
<b>Needs Improvement</b> (60% of Target)	\$9.00	\$9.10	\$9.20	\$9.30

**Table 9 | Express Routes Targets for Cost per Passenger**

Cost per Passenger	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$6.40	\$6.45	\$6.55	\$7.00
<b>Satisfactory</b> (80% of Target)	\$7.90	\$8.00	\$8.10	\$8.15
<b>Needs Improvement</b> (60% of Target)	\$9.40	\$9.50	\$9.60	\$9.70

Table 10 | Demand-Response Targets for Cost per Passenger

Cost per Passenger	Demand-Response
Weekdays and Weekends	
<b>Good</b> (Target)	\$8.00
<b>Satisfactory</b> (80% of Target)	\$9.60
<b>Needs Improvement</b> (60% of Target)	\$11.10

## Targets for Operating Cost per Revenue Vehicle Hour

The efficiency of service delivery may also be quantified with a measure of Operating Cost per Revenue Vehicle Hour. As established by PennDOT for SCTA, these targets for Cost per Revenue Vehicle Hour are set to increase at a rate of no more than 3% per year for all fixed-route services. The “Satisfactory” target for Regional Routes reflects PennDOT’s year-by-year targets for Operating Cost per Revenue Vehicle Hour. Tables 11 – 15 present the target measures for Operating Cost per Revenue Vehicle Hour by service type.

**Table 11 | Major Local Routes Targets for Cost per Revenue Vehicle Hour**

Cost per RVH	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$64.00	\$66.00	\$68.00	\$70.00
<b>Satisfactory</b> (80% of Target)	\$74.00	\$76.25	\$78.50	\$80.75
<b>Needs Improvement</b> (60% of Target)	\$84.00	\$86.50	\$89.00	\$92.00

**Table 12 | Local Routes Targets for Cost per Revenue Vehicle Hour**

Cost per RVH	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$64.00	\$66.00	\$68.00	\$70.00
<b>Satisfactory</b> (80% of Target)	\$74.00	\$76.25	\$78.50	\$80.75
<b>Needs Improvement</b> (60% of Target)	\$84.00	\$86.50	\$89.00	\$92.00

**Table 13 | Regional Routes Targets for Cost per Revenue Vehicle Hour**

Cost per RVH	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$84.00	\$86.50	\$89.00	\$92.00
<b>Satisfactory</b> (80% of Target)	\$94.00	\$97.00	\$100.00	\$103.00
<b>Needs Improvement</b> (60% of Target)	\$104.00	\$107.00	\$110.00	\$113.50

**Table 14 | Express Routes Targets for Cost per Revenue Vehicle Hour**

Cost per RVH	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$88.70	\$91.40	\$94.10	\$96.60
<b>Satisfactory</b> (80% of Target)	\$98.70	\$101.70	\$104.70	\$107.90
<b>Needs Improvement</b> (60% of Target)	\$108.70	\$112.00	\$115.30	\$118.80

Table 15 | Demand-Response Targets for Cost per Revenue Vehicle Hour

Cost per RVH	Demand-Response
Weekdays and Weekends	
<b>Good</b> (Target)	\$55.00
<b>Satisfactory</b> (80% of Target)	\$66.00
<b>Needs Improvement</b> (60% of Target)	\$77.00

## Targets for Operating Revenue per Revenue Vehicle Hour

The cost-efficiency of service delivery may also be quantified with a measure of Operating Revenue per Revenue Vehicle Hour. Operating revenue is composed of fares and other non-subsidy revenues. As established by PennDOT for SCTA, these targets for Revenue per Revenue Vehicle Hour are set to increase at a rate of 2% per year for all fixed-route services. The “Satisfactory” target for Local Routes reflects PennDOT’s year-by-year targets for Operating Cost per Revenue Vehicle Hour. Tables 16 – 20 present the target measures for Operating Revenue per Revenue Vehicle Hour by service type.

**Table 16 | Major Local Routes Targets for Revenue per Revenue Vehicle Hour**

Revenue per RVH	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$46.00	\$47.00	\$48.00	\$49.00
<b>Satisfactory</b> (80% of Target)	\$37.00	\$37.75	\$38.50	\$39.25
<b>Needs Improvement</b> (60% of Target)	\$28.00	\$28.50	\$29.00	\$29.50

**Table 17 | Local Routes Targets for Revenue per Revenue Vehicle Hour**

Revenue per RVH	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$37.00	\$37.75	\$38.50	\$39.25
<b>Satisfactory</b> (80% of Target)	\$30.00	\$30.50	\$31.00	\$31.75
<b>Needs Improvement</b> (60% of Target)	\$22.50	\$23.00	\$23.50	\$24.00

**Table 18 | Regional Routes Targets for Revenue per Revenue Vehicle Hour**

Revenue per RVH	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$25.00	\$25.50	\$26.00	\$26.50
<b>Satisfactory</b> (80% of Target)	\$20.00	\$20.50	\$21.00	\$21.50
<b>Needs Improvement</b> (60% of Target)	\$15.00	\$15.30	\$15.60	\$16.00

**Table 19 | Express Routes Targets for Revenue per Revenue Vehicle Hour**

Revenue per RVH	2018	2019	2020	2021
Weekdays and Weekends				
<b>Good</b> (Target)	\$24.00	\$24.50	\$25.00	\$25.50
<b>Satisfactory</b> (80% of Target)	\$19.00	\$19.50	\$20.00	\$20.50
<b>Needs Improvement</b> (60% of Target)	\$14.00	\$14.30	\$14.60	\$15.00

Table 20 | Demand-Response Targets for Revenue per Revenue Vehicle Hour

Revenue per RVH	Demand-Response
Weekdays and Weekends	
<b>Good</b> (Target)	\$5.50
<b>Satisfactory</b> (80% of Target)	\$4.25
<b>Needs Improvement</b> (60% of Target)	\$3.00

# 6 SCTA Route Classifications

## BARTA

### Major Local Routes

- 1 – Temple via 5<sup>th</sup> Street
- 4 – 10<sup>th</sup>/11<sup>th</sup> Street
- 15 – Berkshire Mall
- 16 – Broadcasting Square

### Local Routes

- 5 – Albright College
- 7 – Pennside
- 8 – Reiffstown / Exeter Square
- 9 – Grill via Kenhorst
- 10 – Brookline
- 11 – Mohnton via Shillington
- 12 – Lincoln Park via Reading Hospital
- 17 – Glenside / Airport / Berks Heim
- 18 – Schuylkill Avenue
- 19 – Riverside / First Energy / Cotton Street

### Regional Routes

- 14 – Wernersville via Sinking Spring
- 20 – Route 61 / Hamburg
- 23 – Sinking Spring / Temple via Berkshire Mall

### Express Routes

- 8X – Birdsboro via Exeter Square

## Inter-County

### Express Routes

- RLX – Reading-Lancaster Express via Ephrata

## RRTA

### Major Local Routes

- 14 – Rockvale Square

### Local Routes

- 1 – Park City A – Southeast
- 2 – Manor Ave – 6<sup>th</sup> Ward
- 3 – Park City C – 8<sup>th</sup> Ward
- 5 – Grandview / Rossmere
- 16 – Millersville
- 20 – Greenfield

### Regional Routes

- 10 – Lititz
- 11 – Ephrata
- 12 – New Holland
- 13 – White Horse
- 15 – Willow Street
- 17 – Columbia
- 18 – Elizabethtown
- 19 – Manheim
- 30 – Columbia / Park City / Lititz Pike

### Express Routes

- 14X – Gap via Rockvale Square

### Other Services

- MU Xpress
- MU Park City Xpress