

## TRANSIT STRATEGIES

# MORE FREQUENT SERVICE FOR LONGER HOURS

Transit service consists of two fundamental elements: frequency (how often service operates) and service span (how long service runs during the day). Combined, these two factors measure how much service is available, which determines how convenient and attractive transit service is to current and potential riders.

- **More Frequent Service:** When service runs frequently enough, riders don't have to plan their day around a schedule, or even have one at all. Low service frequencies mean that riders have little flexibility in making their trip, adding to the time it takes to complete a trip or making transit incompatible with the schedules of potential riders. Most transit systems consider services that operate at least every 15 minutes throughout the day and into (at least) the early evening as frequent.
- **Longer Hours of Service:** Service that runs for longer hours during the day is more convenient, allowing people to travel when they want. In turn, riders have more flexibility: if their schedule changes, transit will still be a feasible option for getting where they need to go. When service hours are limited, transit may be incompatible with people's schedules; additionally, fewer people may use transit due to the risk of getting "stranded" if they miss the last trip.

Transit that operates frequently and for a longer period during the day and night provides a higher level of service to a broader cross-section of the population. By attracting a more diverse ridership, transit can better sustain higher levels of service throughout the day and generate a virtuous cycle where better service encourages riders to use transit for more trips. More frequent service and longer hours of service can:

- ➔ **Make transit service more convenient**
- ➔ **Give riders more flexibility with their own schedule**
- ➔ **Establish transit as a viable travel choice for more than just work trips**
- ➔ **Make transit easier to use and understand**

## MORE FREQUENT SERVICE

Frequent service is one of the most important factors in making transit a convenient choice for riders. Increased frequencies improve the flexibility and predictability of transit and increase the overall convenience of service, making transit a viable travel option for more people. Frequent service allows transit to better compete with the convenience of the personal vehicle, making it more attractive to people who have other options.

### WHATCOM TRANSPORTATION AUTHORITY (WHATCOM COUNTY, WA) GO LINE



- **Convenient:** When service runs often enough, riders understand that they can rely on transit service to get where they need to go. They won't miss an appointment, be late for work, or miss a transfer because they missed the bus, since another bus will arrive shortly. Most riders consider service that operates every 10 minutes or better as very convenient and service that operates every 15 minutes or better as relatively convenient.
- **Flexible:** Frequent service provides riders with more flexibility. When service runs infrequently, riders must adjust their schedules to accommodate the transit schedule. If a rider misses a bus, they may need to wait a long time—perhaps an entire hour—to catch the next scheduled trip. Limited service combined with the risk of time-consuming waits can discourage potential riders from trying transit if they have other travel options.

#### HOUSTON METRO SERVICE CHANGES WITH INCREASED SERVICE FREQUENCY



- **Easy to Use:** Transit is most attractive when it is frequent enough that people don't need to consult a timetable, and can instead just go to a stop and know that the train or bus will arrive shortly. Frequent service reduces barriers for new transit riders by making service easier to understand without the need to decipher a schedule and plan one's day accordingly.

Nearly all major transit systems operate a core network of frequent services. At very large transit systems, these are often comprised of rapid transit lines that are supplemented with frequent bus services. Frequent Service Networks are designed to provide a network of frequent and direct service that operates for long hours. These networks focus on serving the locations that most people want to go most often, such as downtowns, urban neighborhoods, mixed-use corridors, employment centers, and major institutions such as universities. They also create a de-facto system backbone that provides a structure for other services, with lower frequency routes and specialized services providing connections to the Frequent Service Network.

### CASE STUDY: METRO TRANSIT'S HI-FREQUENCY NETWORK

In Minneapolis/Saint Paul, Metro Transit's "Hi-Frequency Network" consists of "13 routes with service so frequent, you don't need to carry a schedule." The 13 routes include Metro Transit's two light rail lines and 11 frequent bus routes. Hi-Frequency routes operate every 15 minutes or better on weekdays from 6:00 a.m. to 7:00 p.m. and on Saturdays from 9:00 a.m. to 6:00 p.m. The routes serve downtown Minneapolis, downtown Saint Paul, Minneapolis/Saint Paul International Airport, and key crosstown corridors. Metro Transit plans to grow this network with the addition of new light rail and BRT lines.

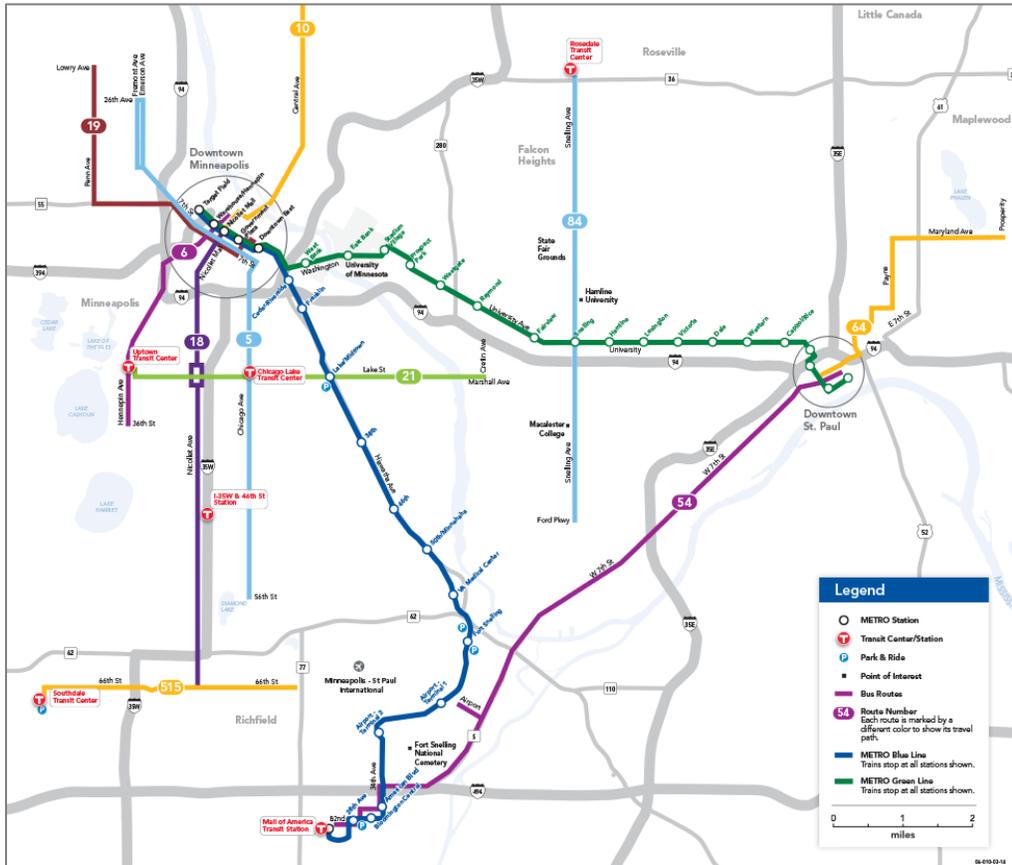
METRO TRANSIT (MINNEAPOLIS / SAINT PAUL) HI-FREQUENCY PROMISE



**The Hi-Frequency Promise**

- > Service every 15 minutes (or better)
- > Weekdays: 6 a.m. to 7 p.m.
- > Saturdays: 9 a.m. to 6 p.m.

MINNEAPOLIS/SAINT PAUL METRO TRANSIT HI-FREQUENCY SERVICE NETWORK



**CASE STUDY: PORT AUTHORITY OF ALLEGHENY COUNTY TRANSIT SERVICE GUIDELINES**

Like many transit service providers, the Port Authority of Allegheny County (Port Authority) uses a set of transit service guidelines to determine appropriate levels of service on transit routes. These guidelines define the minimum thresholds for when and how often service should be provided. Minimum levels of service are classified by service type: for example, Port Authority’s Rapid Routes are designed to provide the backbone of the system with consistently high levels of service. Accordingly, Rapid Routes should operate more frequently than Key Corridor or Local Routes. Rapid Routes and Key Corridor Routes should both generally provide service until at least 11:30 p.m. on weekdays and Saturdays and until 11:00 p.m. on Sundays.

**PORT AUTHORITY MINIMUM SERVICE FREQUENCY GUIDELINES (MINUTES)**

	Rapid Routes	Express Routes	Key Corridor Routes	Local Routes
<b>Weekdays</b>				
Early Morning	30	--	30	75
AM Peak	10	3 trips	25	60
Midday	20	--	30	75
PM Peak	10	3 trips	25	60
Evening/Night	30	--	30	75
<b>Saturdays</b>	30	--	45	90
<b>Sundays</b>	30	--	45	90

*If the route has service at this time of day/day of week.*

These guidelines are intended to establish a minimum threshold, and most routes would exceed these standards based on demand or route characteristics. Ultimately, service guidelines can define a core network of routes with high levels of service, operating at higher frequencies and providing service for longer hours and on more days of the week.

**PORT AUTHORITY MINIMUM SPAN OF SERVICE GUIDELINES**

	Rapid and Key Corridor Routes	Express Routes		Local Routes
		AM Peak	PM Peak	
<b>Weekdays</b>				
Begin	6:00 AM	6:30 AM	4:15 PM	6:00 AM
End	11:30 PM	7:30 AM	5:15 PM	6:00 PM
<b>Saturdays</b>				
Begin	6:00 AM	None	None	None
End	11:30 PM			None
<b>Sundays</b>				
Begin	7:00 AM	None	None	None
End	11:00 PM			None

## LONGER HOURS OF SERVICE

Services that operate for limited hours can also affect the convenience of transit. A lack of evening service makes it challenging to reach work, school, shopping, and other activities, and deters those with other options from using transit.

- **Accommodate Changing Work Schedules:** Work schedules are changing at all socioeconomic levels, with an increasing emphasis on off-peak commuting patterns. Flexible schedules, off-peak shifts for retail and service employment, and telecommuting are among the major factors shifting work travel away from the traditional peak commute hours. In particular, as employment in service and retail sectors increases, a lack of service in the evening poses challenges for workers with early or late shifts. Many shifts begin before service starts or end after service concludes, ruling out transit as a viable transportation option. Expanding service later in the evenings makes it easier for many people to reach these second- and third-shift jobs.



## CASE STUDY: BAY AREA ALL NIGHTER SERVICE

The Bay Area’s “All Nighter” Service provides late night and early morning regional bus service throughout Alameda, Contra Costa, San Francisco, and San Mateo counties in the Bay Area. All Nighter Routes operate seven days a week between approximately 1:00 a.m. and 5:00 a.m. (when BART is not in service). Routes are operated by four transit agencies in the region—AC Transit, Muni, SamTrans, and VTA—who coordinate their late night schedules to provide seamless connections between routes. All Nighter routes mostly serve BART and Caltrain stations throughout the region.

### BAY AREA LATE NIGHT SERVICES



All Nighter bus service was developed to balance demand for late night transit service with the need to mitigate operating costs of the Bay Area Rapid Transit (BART) rail network and preserve overnight hours for track maintenance and repairs. To meet demand and provide effective late night service when BART does not operate, the agency worked with other transit agencies in the region to coordinate late night bus service.

## CASE STUDY: UTA ENHANCED BUS AND RAIL ROUTES

The Utah Transit Authority (UTA) focused service improvements on select routes in August 2015, primarily by extending hours of service and increasing frequency on several routes. Since these changes, all routes have experienced increased ridership compared to the same period in the previous year, particularly those where Saturday and Sunday service was improved. Overall, weekday ridership on these routes increased by 12%, while Saturday and Sunday ridership increased by nearly 20% per day. The highest gains in ridership include:

- Weber County Bus Route 603: 29% increase in Saturday boardings after frequency was improved from 30 to 15 minutes and service hours were extended earlier and later
- TRAX (Light Rail): 14% increase in Sunday boardings after Sunday hours were extended earlier and later
- S-Line (Streetcar): Boardings increased by 13.3% after service hours were extended to match those of TRAX

## OPPORTUNITIES FOR MIDDLE TENNESSEE

Perhaps the easiest way to make transit convenient is to make it frequent and to provide service over longer hours. To make service more convenient and thus more attractive, Nashville MTA and RTA will need to significantly increase the amount of service provided.

Most riders consider service that operates every 10 minutes or more frequently as very convenient and service that operates every 15 minutes or less as relatively convenient. Conversely, service that operates every 30 minutes or more becomes too infrequent for most travelers who have other opportunities to travel, such as driving.

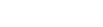
In terms of these definitions of frequency, on weekdays during the day (through the end of the afternoon peak) current frequencies are as follows:

### Nashville MTA

- Only three routes provide service every 15 minutes or better throughout the day on weekdays
- Two Music City Circuit routes provide service every 15 to 20 minutes
- 15 routes provide service every 16 to 30 minutes
- 13 routes provide service every 31 to 90 minutes
- 12 routes provide peak period-only service

On weekday evenings and on weekends, service is much less frequent. Only two Music City Circuit routes operate every 15 minutes, and only three routes operate every 30 minutes. All other routes operate less frequently, with most operating every 60 minutes or less.

### NASHVILLE MTA AND RTA ROUTES BY CLASSIFICATION

Classification	Weekday Daytime Frequency (minutes)	Number of Routes
 Most Frequent	Up to 30	18
 Frequent	30-90	14
 Limited	Limited or Express	21
 Circuit	15-40	2

### RTA

- Music City Star provides three round trips in the AM and PM peaks, plus one additional round trip on Friday nights
- Three routes provide two AM inbound and two PM outbound trips
- Two routes provide two AM inbound and three PM outbound trips
- Five routes provide three AM inbound and three PM outbound trips
- One route (Murfreesboro Relax & Ride) provides all day service

The lack of frequent service is one of the major issues facing Nashville MTA and RTA, as relatively little service operates frequently enough for most potential riders to consider it convenient. To address this issue, more service must be provided on existing routes; new routes will also need to provide sufficiently frequent service.

The span of service—meaning the hours that service operates—is another factor that strongly influences the convenience of the transit system. Nashville MTA’s services operate for more limited hours than in most major metropolitan areas.

- On weekdays, all service ends at 11:15 p.m. Of the 35 non-express/limited routes, 15 end service before 10:00 p.m. These include the BRT lite routes, which are Nashville MTA’s highest ridership routes and end service by 9:15 p.m.
- On Saturdays, most service ends by 10:15 p.m., and only two routes (the Blue and Green Music City Circuit routes) operate as late as 11:00 p.m.
- On Sundays, Route 18 Airport/Downtown Hotels operates until 10:40 p.m., but all other service ends before 10:00 p.m.

Viewed together with the service frequencies described above, Nashville MTA’s service operates neither frequently enough nor late enough to provide the flexibility that most riders with other options require. This limited service makes it difficult for riders or potential riders with alternative schedules or second- and third-shift employment. It also poses a challenge to those who would like to use transit to reach social or entertainment activities in the evening. In addition to providing more frequent service, Nashville MTA will also need to provide later service.

Most RTA services operate only during peak periods, and their schedules generally are designed to serve the very early work schedules of state employees. For example, Route 87X Gallatin Express’ last AM inbound trip arrives at Music City Central at 7:15 a.m., and the last PM peak outbound bus departs from the West End at 4:37 p.m. To make regional services more convenient, RTA will need to serve a wider range of work schedules.

To make service attractive to more people, more convenient service will be needed. One of the most important ways to do this will be to provide more frequent service for more hours (including on weekends).