

Summary of GA Ave. – 7th St. Rapid Bus Plan

1.0 Introduction

The service plan for the new Metro *Extra* route on the Georgia Avenue-Seventh Street corridor was drafted in November 2006. The local line Metrobus #70-71 that served the corridor had been one of the busiest and most crowded Metrobus routes. The conditions along the route and the resulting service plan were reported in the Metro *Extra* service plan. This document summarizes the components of the service plan and other recommendations for the new limited stop bus service.

2.0 Problems Addressed by Service Plan

The stated purpose of the Rapid Bus Implementation Plan was to address the following service performance problems of the local bus line:

- Long travel times due to slow travel speeds and intersection signal delay
 - The roadway operates at level of service F south of Florida Avenue and north of Piney Branch Road
 - Between Petworth and Irving, transit speeds are below 8 mph all day
 - The total trip average speed is below 10mph for all southbound midday and PM peak trips, and all northbound AM peak, midday, PM peak and evening trips
- Poor schedule adherence (reliability)
 - 22% of southbound trips are more than 5 minutes late
 - 33% of northbound trips are more than 5 minutes late
- Insufficient capacity
 - Peak period, peak direction load factors exceed 0.8 in both directions
 - The most crowded point is Irving Street, with a load factor of 0.89
- Imbalance of service between the northern and southern ends of the existing 70-71 routes
 - There are too many trips to Buzzard's Point for the service demand in the area
- Limited passenger amenities at stops
 - Most stops lack shelters and benches; no stops have real time bus arrival information

3.0 Recommendations

3.1 Service Concept

The service concept for the Georgia Avenue Rapid route is as follows:

- Limited stop bus service between Archives and Silver Spring (15 northbound stops, 14 southbound stops)
- High frequencies of service (10 minute headway)
- No printed schedule - Drivers would start at the route ends every 10 minutes, and would be encouraged to make the best time possible to the end of the routes.
- Service only during peak travel times during weekdays
 - Peak only service (5:30-9:30am, 3:00-7:00pm) for immediate implementation
 - All-day service for eventual service expansion

- Improved passenger facilities
- Running way improvements to improve travel speed and reliability
- Extensive branding for corridor service
- No reduction in underlying (existing) local bus service in the corridor

Proposed route is shown in Figure 1.

3.2 Vehicles

The proposed service would use low floor 40' buses that run on alternative fuel, either CNG or diesel-hybrid. Buses would be "branded," specially painted or otherwise marked to distinguish them from Metrobuses already operating in the corridor. Between Archives and Silver Spring, 89 minutes are required, which would call for 10 vehicles. Capital costs assume a 20% spare ratio (2 buses), which is consistent with existing WMATA Metrobus spare ratios.

Vehicles would have Metro *EXTRA* strip maps of stops on the route that resemble the maps used on rail transit systems.

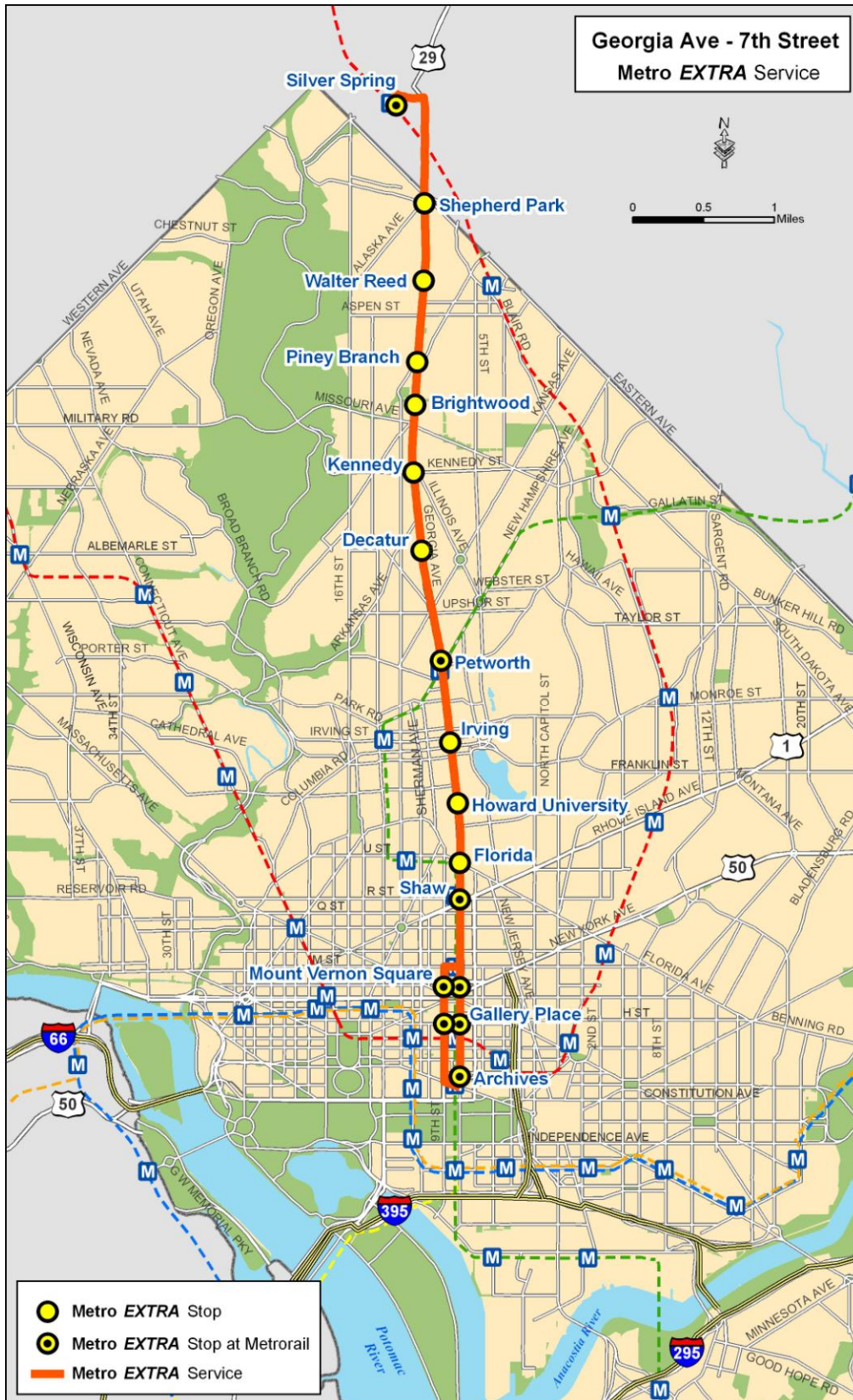
3.3 Stop Locations and Amenities

Proposed stop locations are shown in Figure 1.

Passenger amenities vary by stop. A full amenity package would include the following elements:

- A bus flag (a distinct sign for the "Metro *EXTRA*" service)
- A passenger shelter, which would include a concrete pad, bench, route strip map, and schedule
- An "ITS" feature: a screen showing real-time bus arrival information

Figure 1: Georgia Avenue - 7th Street Proposed Metro EXTRA Service



3.4 Running Way Improvements

The Service was proposed start immediately with very minimum short-term improvements and eventually all the improvements planned for the service would be completed in the long-term. Proposed running way improvements include:

- Curb Bulbouts
 - 7th Street / H Street NW (northbound direction, near side of intersection)
 - 7th Street / L Street NW (northbound direction, near side of intersection)
 - Georgia Avenue / Howard Place NW (northbound direction, far side of intersection)
 - Georgia Avenue / Howard Place NW (southbound direction, far side of intersection)
 - Georgia Avenue / Irving Street (both directions, south side of intersection)
 - Georgia Avenue / Kennedy Street (both directions, south side of intersection)
- Bus Zones
- Signal Priority
 - Proposed for all signalized intersections between Rhode Island Avenue and Eastern Avenue (except for Rhode Island Avenue and Kansas Avenue).
 - The Georgia Avenue / 7th Street **Metro EXTRA** Rapid plan calls for the signal priority system to be extended southward to N Street NW.

3.5 Travel Speed and Time

Table 1, on the following page, shows estimated travel speeds and times for the new service:

3.6 Ridership

Ridership projections for the new Metro *EXTRA* were:

- Conservative estimate: 1,024 daily riders
- Aggressive estimate: 4,080 daily riders

The projections also estimated loss of riders on the local service.

3.7 Costs

Operating Costs

Operating and maintenance costs were estimated based on the service plan. Table 2, on page 5, shows operating and maintenance costs based on the proposed daily revenue hours. Annual operating and maintenance costs for peak period only service: \$1,600,000.

Capital Costs

Capital costs include running way improvements (curb bulbouts, signal priority), new bus stops and ITS features, and new buses.

Components that must be included at the project outset include the following:

- Low-floor buses painted, wrapped, or otherwise distinctively marked to separate them from the existing local service buses
- Bus stops with a distinct flag placed in their ultimate locations
- Marketing materials, including maps

Once service has started, other components can be added as they are ready, including:

- New passenger shelters and ITS features at stops
- Relocation of some local bus stops to the new Rapid stops
- Installation of curb bulb-outs and curb no parking zones
- Activation of the existing Georgia Avenue signal priority system
- Addition of new signalized intersections to the signal priority system
- A more aggressive or extensive marketing and branding strategy

Capital cost estimate for full implementation of service between Archives and Silver Spring (both immediate and long-term features): \$7,280,000

Table 1: Estimated Travel Times and Speeds

| Speed and Travel Time | Northbound | Southbound |
|--|-------------------|-------------------|
| <u>Average Speed</u> | | |
| AM Peak | 9.9 mph | 11.5 mph |
| Midday | 7.9 mph | 10.1 mph |
| PM Peak | 8.7 mph | 11.0 mph |
| Evening | 11.2 mph | 13.8 mph |
| <u>1-Way Travel Time – to Eastern Avenue</u> | | |
| AM Peak | 39 minutes | 35 minutes |
| Midday | 49 minutes | 40 minutes |
| PM Peak | 44 minutes | 36 minutes |
| Evening | 35 minutes | 29 minutes |
| <u>1-Way Travel Time – to Silver Spring</u> | | |
| AM Peak | 44 minutes | 38 minutes |
| Midday | 55 minutes | 43 minutes |
| PM Peak | 50 minutes | 39 minutes |
| Evening | 39 minutes | 32 minutes |

Table 2: Estimated Operating and Maintenance Costs

| Statistic | Archives-Silver Spring |
|---------------------------------|-------------------------------|
| <i>Peak Period Only Service</i> | |
| Daily Revenue Miles | 695 |
| Annual Revenue Miles | 177,000 |
| Daily Revenue Hours | 68 |
| Annual Revenue Hours | 17,400 |
| Cost / Revenue Hour | \$90.86 |
| Annual O&M Cost | \$1,600,000 |
| <i>All-Day Service</i> | |
| Daily Revenue Miles | 1,300 |
| Annual Revenue Miles | 343,000 |
| Daily Revenue Hours | 136 |
| Annual Revenue Hours | 35,000 |
| Cost / Revenue Hour | \$90.86 |
| Annual O&M Cost | \$3,200,000 |