

Developing a High-Frequency Bus Map

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Motivation

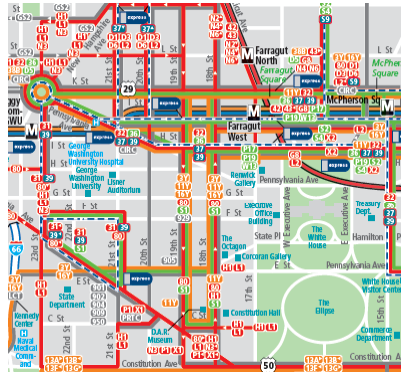
- Bus network large and complicated
 - 100+ lines, 300+ routes
 - Service patterns vary by time of day and direction
- Different markets have different needs
 - Adding off-peak riders is virtually free, but large headways discourage use
 - Passengers must review schedules to learn frequency and span of service

Current Metrobus Map

- Illustrates all routes with little recognition of frequency, type or span of service



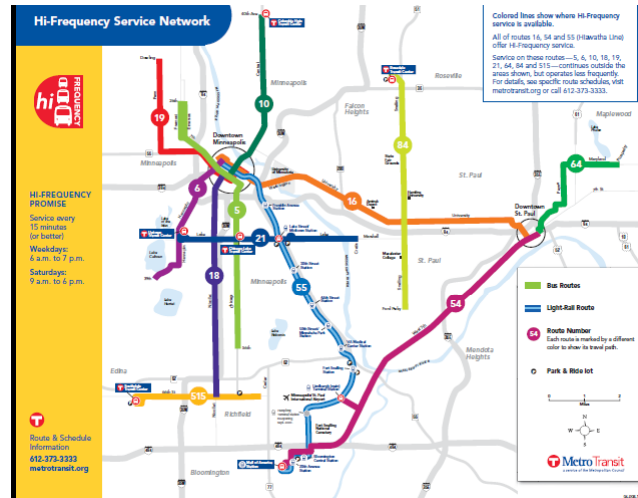
Zoom-in of NW DC



Zoom-in of DC core from map inset

Examples From Other Systems

- Minneapolis: Hi-Frequency Service Map



Examples From Other Systems

- Minneapolis: Regional system map with highlighted high-frequency corridors



Examples From Other Systems

- Los Angeles: Hi-Frequency Service Map Downtown Inset



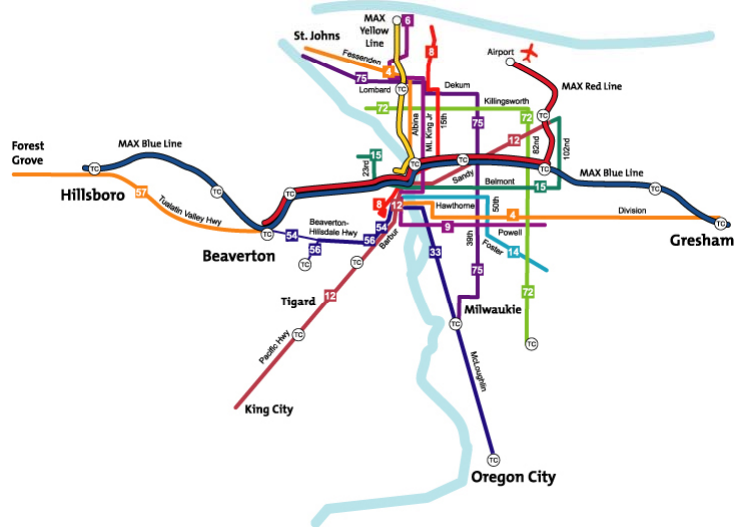
Examples From Other Systems

- Los Angeles: Regional system map with only high-frequency corridors



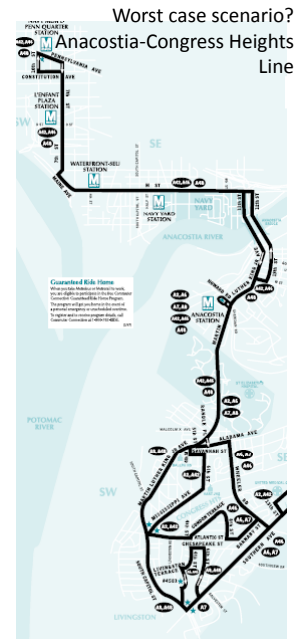
Examples From Other Cities

- Portland: TriMet frequent service map

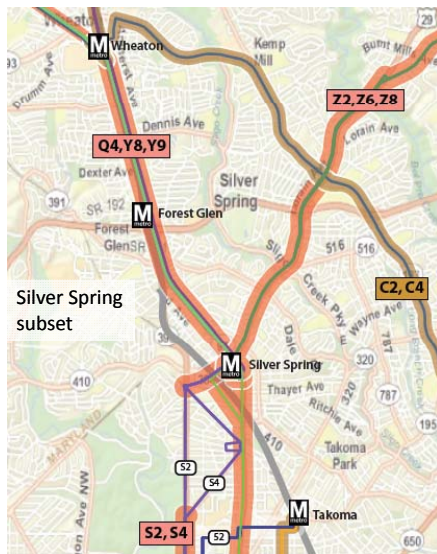


Customizing for WMATA

- Match frequency criteria to off-peak rail service
 - Use 15 minutes instead of 12 or 10
- Even at 15 minutes, very few routes meet the threshold
 - Routes must be “rolled up” into lines and corridors to appear on the map
 - Need to show both trunks and branches



First Draft of Metro's 15 Minute Map



PlanItMetro Washington Metropolitan Area Transit Authority
Web log of Metro's Office of Long Range Planning

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Metrobus High Frequency Corridors Map DRAFT
November 19th, 2010 Michael [Go to comments](#) [Leave a comment](#)

The Metrobus system is a robust network of surface transit lines that provides service to a variety of markets. Each different market is best served by a different type of bus service. Some bus routes only operate during the peak periods, while others operate from early morning to midnight. Some routes provide limited-stop commuter service, while others stop frequently every other block. Some routes provide only a few bus trips per hour, while others run every 10 minutes on a fixed frequency.

Metrobus lines provide a variety of services, and the current Metrobus map is designed to show all routes without regard to the service types and the markets they serve. Metro is aware that different travel markets could benefit from maps illustrating the bus service best suited to them.

Perhaps the market most in need of specialized maps and traveler information is the casual/off-peak rider. While commuters place the heaviest load on the bus system and tend to have very rigid schedules, the casual rider has no fixed schedule and travels during the off-peak times when service exceeds demand. This makes the casual rider the most expensive to serve, yet most difficult. The casual rider wants convenient, point-to-point travel options any time of the day without having to consult a timetable. A "12-minute" map can provide the casual rider with the information she needs to make her trip.

The concept of a "12-minute" map is very simple. It lists only the bus lines that operate with an average headway of 12 minutes for the majority of the day. A rider arriving at a stop of a bus with a 12-minute headway has an average wait time of 6 minutes, which is generally accepted as the longest amount of time someone will comfortably wait for a bus without consulting a schedule. The Los Angeles Metro has implemented its own 12-minute map for bus service, telling their passengers "No timetable necessary."

Metro is currently developing a

High Frequency Corridors
 - 12 or more buses per hour
 - 6 buses per hour
 - 4 buses per hour
Other Features
 - Corridor member Route
 - MetroRail Stations Served
 - Metro's New Secure Bike Garage
 - Metro's New Secure Bike Garage

Recent Comments
 - Jim Wilcox on How to Access Secure "Bike Garage" at College Park?
 - Bill Miller on Can the Regional Transit System Plan Move the "Region Forward"
 - Bill Miller on Can the Regional Transit System Plan Move the "Region Forward"
 - John on Can the Regional Transit System Plan Move the "Region

Feedback

- No need to differentiate between bus frequencies
 - Not much difference between a 5 minute wait and a 7.5 minute wait
- Too busy/cluttered
 - Remove geographical detail, or make a stylized/diagrammatic version
- Headway does not equal frequency
 - Only list corridors that have evenly spaced headways
- Add Circulator, RideOn, etc.
- Simplify the routes!

Potential Benefits

- To the Agency
 - Increased ridership
 - Improves Metro's image
- To the Customer
 - Allows easier understanding of the most frequent subset of routes
 - Increased customer satisfaction

Future Work

- Refine graphic design of map, exploring cartographic and diagrammatic options
- Continue to build support/momentum for creating additional marketing materials tailored to submarkets
- Explore weekend and owl service maps
- Identify where this map might appear
- Identify opportunities for simplifying existing bus routes, lines and corridors