

Implementing the A Line - The Minneapolis-St. Paul region's first rapid bus line

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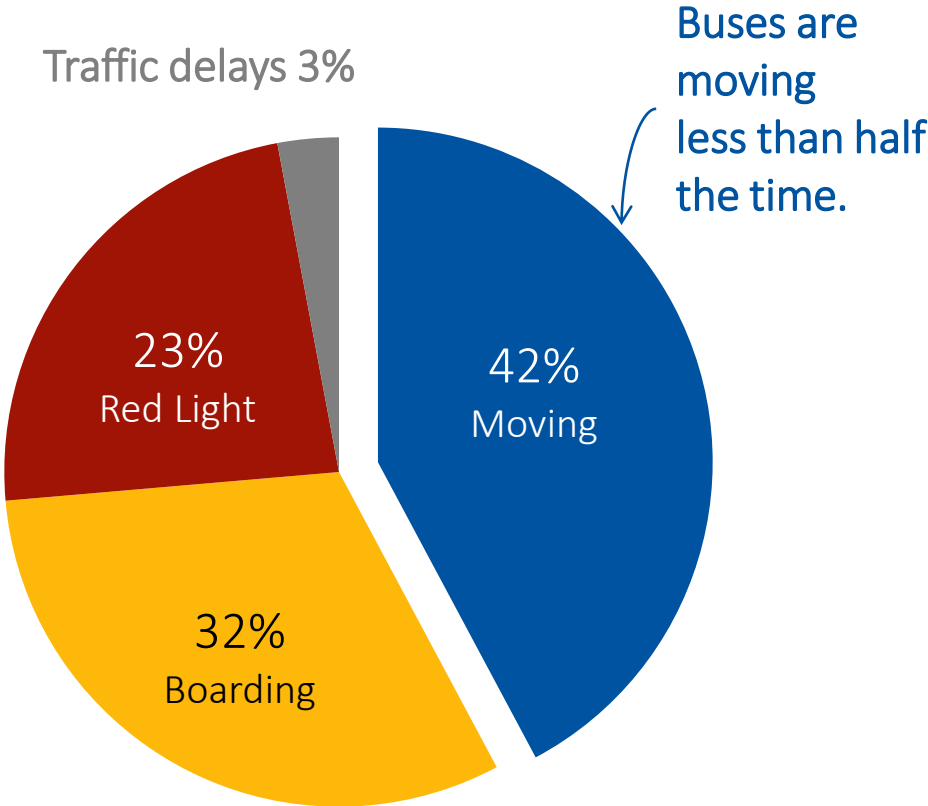
How can we make the most-used buses *faster*?

1

Reduce the time it takes to get on and off the bus.

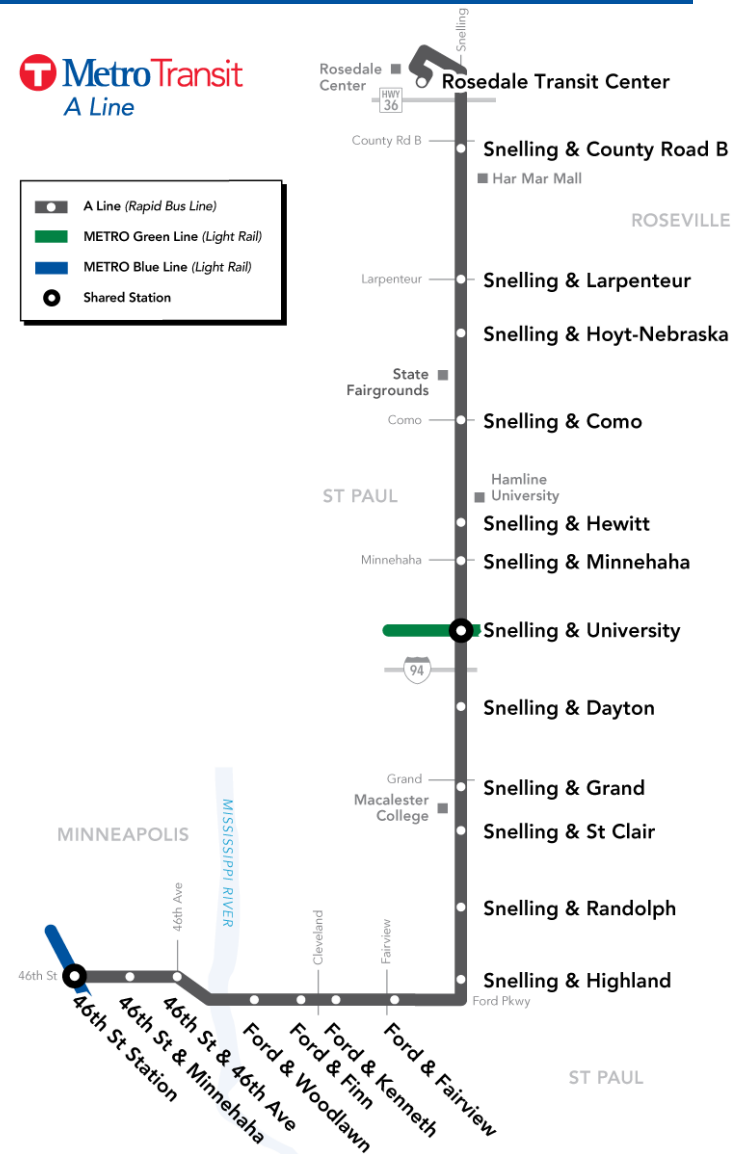
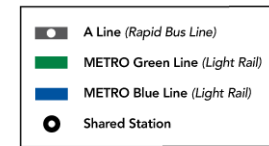
2

Reduce the time buses are stopped at red lights.



A Line: Project scope

- First in planned program of 11 lines
- 10 miles
- 20 stations
- 4 cities
- 2 light rail connections
- 13-bus fleet
- \$27 million project cost
- Proven frequent service corridor with 4,000 rides before improvement
- Forecast: 8,700 rides by 2030



Rapid bus characteristics



Specialized vehicles with wider doors, open layout & other amenities



Fully off-board fare payment & random fare checks



Enhanced stations at half-mile spacing with all the features of light rail



Curb extensions for in-lane stops, year-round maintenance & all-door boarding

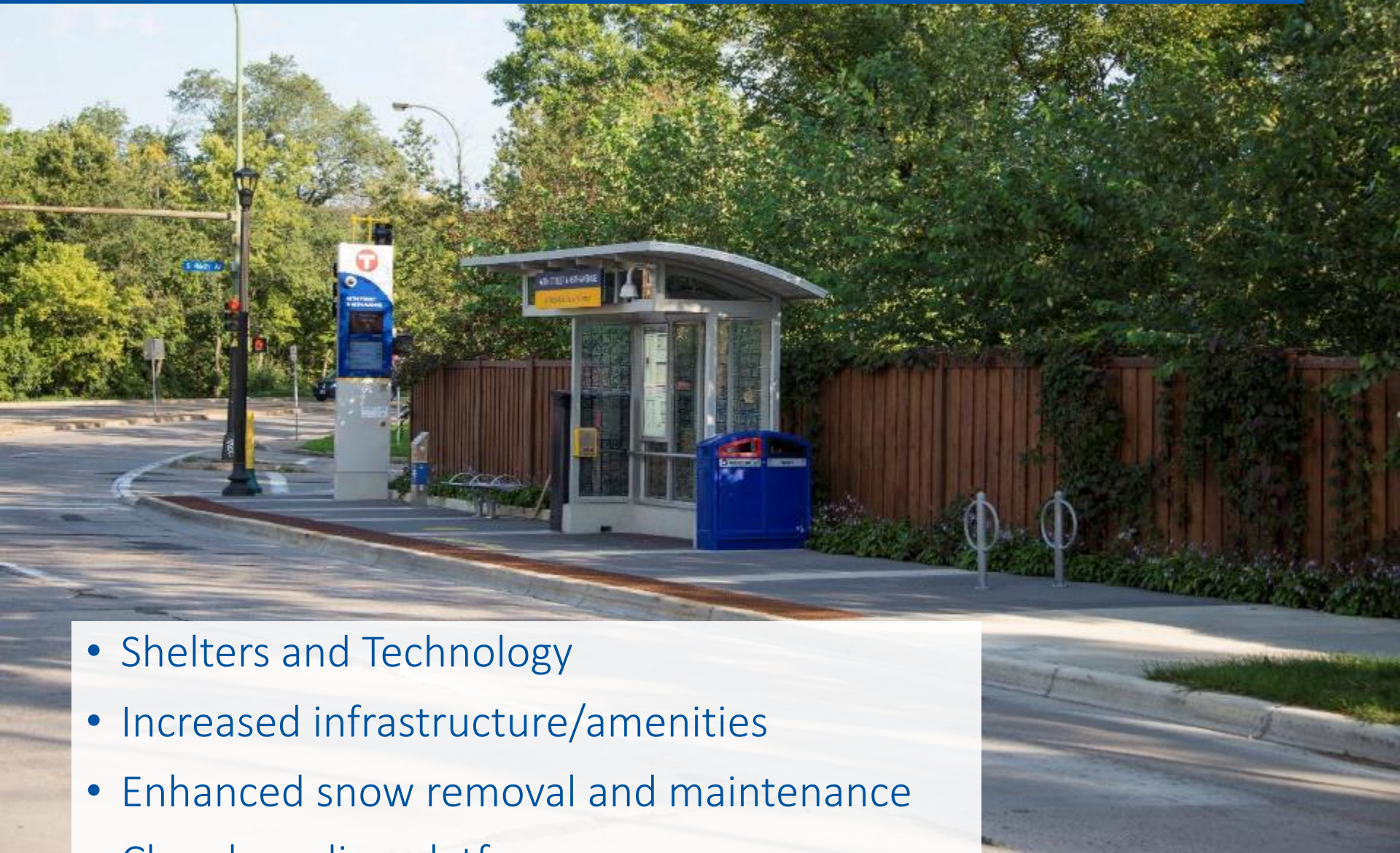


Transit signal priority



Fast, frequent & all-day service

A Line Stations



- Shelters and Technology
- Increased infrastructure/amenities
- Enhanced snow removal and maintenance
- Clear boarding platform

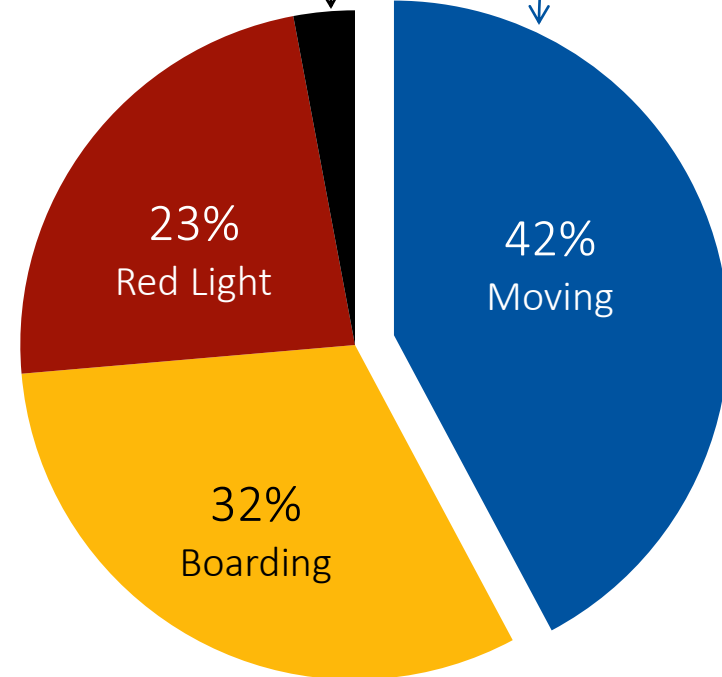
Fully off-board, proof-of-payment fare collection



Why not a dedicated lane?



Traffic delays
make up just 3%
of travel time.



Buses are
moving
less than half
the time.

Platform dimensions & consistent layout



Bus stops in travel lane

2 + 4 = 6' clear snow plow zone

2'
Tactile
Edge

4' Clear
Boarding
Area

~6' typical
Furnishing
Zone

Unobstructed
sidewalk

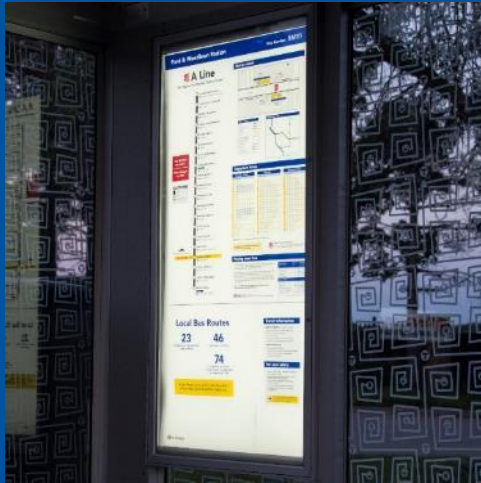
Transit signal priority & farside stops



A great BRT product is more than stations & buses



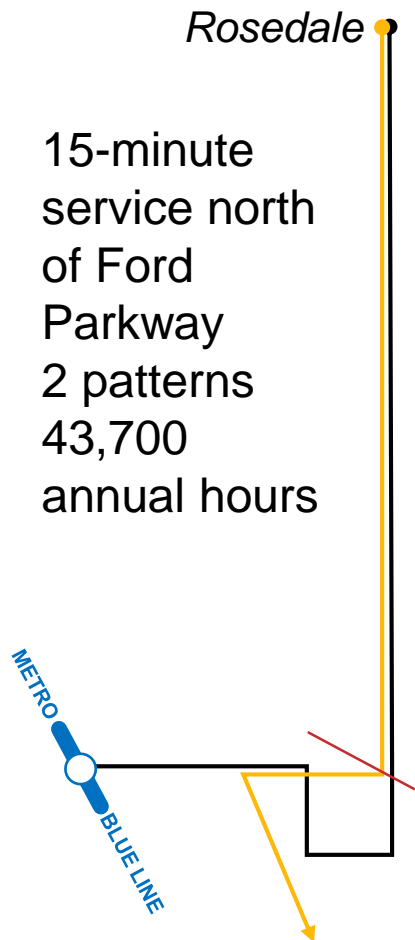
- Cross-functional Implementation Working Group met for 2 years prior to launch
- “Harbor pilot” Operations Lead
 - Developed all-new standard operating procedures
 - Trained & certified operators on providing A Line service
 - Conducted 4 weeks of schedule testing / training
- Prepared extensive FAQ and training for all customer service representatives



Service Design

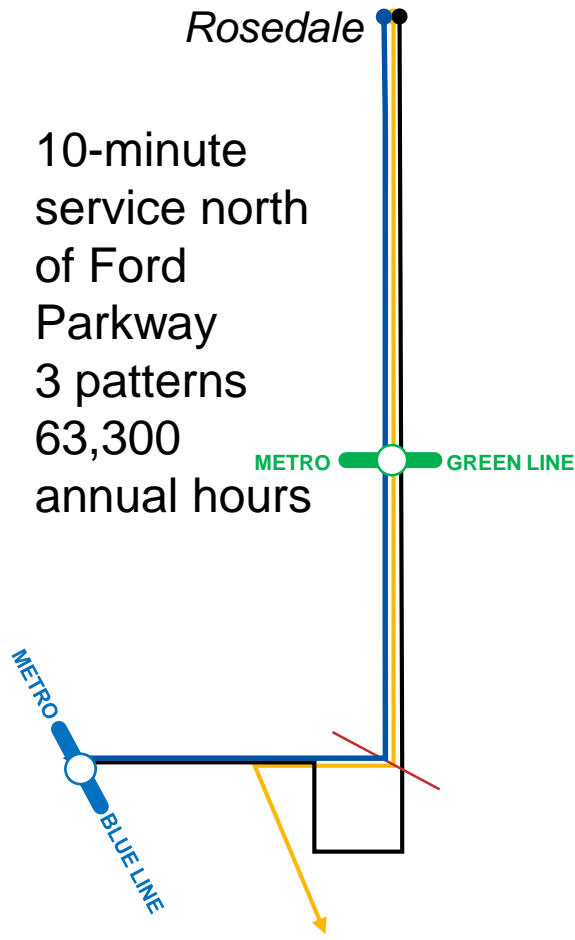
2013: Route 84

- 15-minute service north of Ford Parkway
- 2 patterns
- 43,700 annual hours



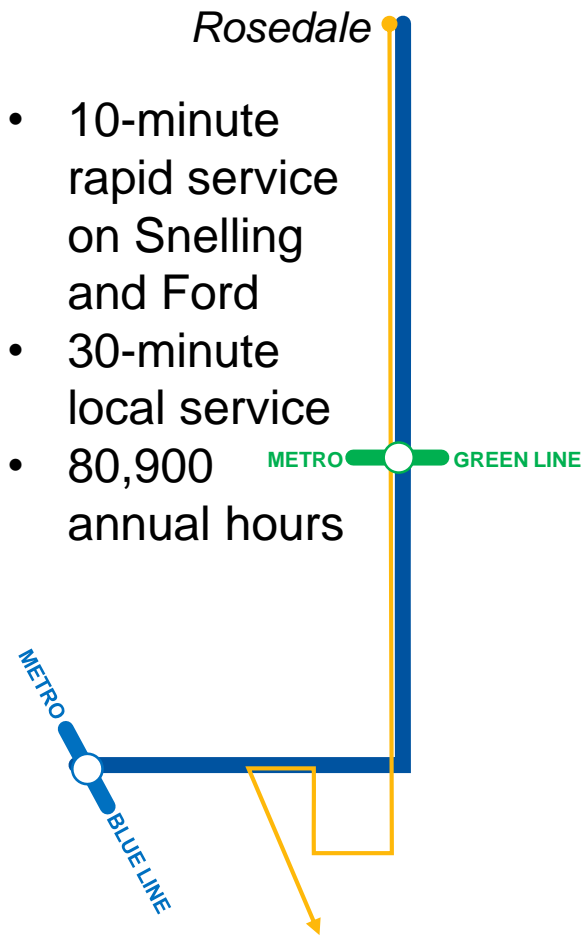
2014: Green Line Opens

- 10-minute service north of Ford Parkway
- 3 patterns
- 63,300 annual hours



2016: A Line Opens

- 10-minute rapid service on Snelling and Ford
- 30-minute local service
- 80,900 annual hours



Schedule Design

Objectives:

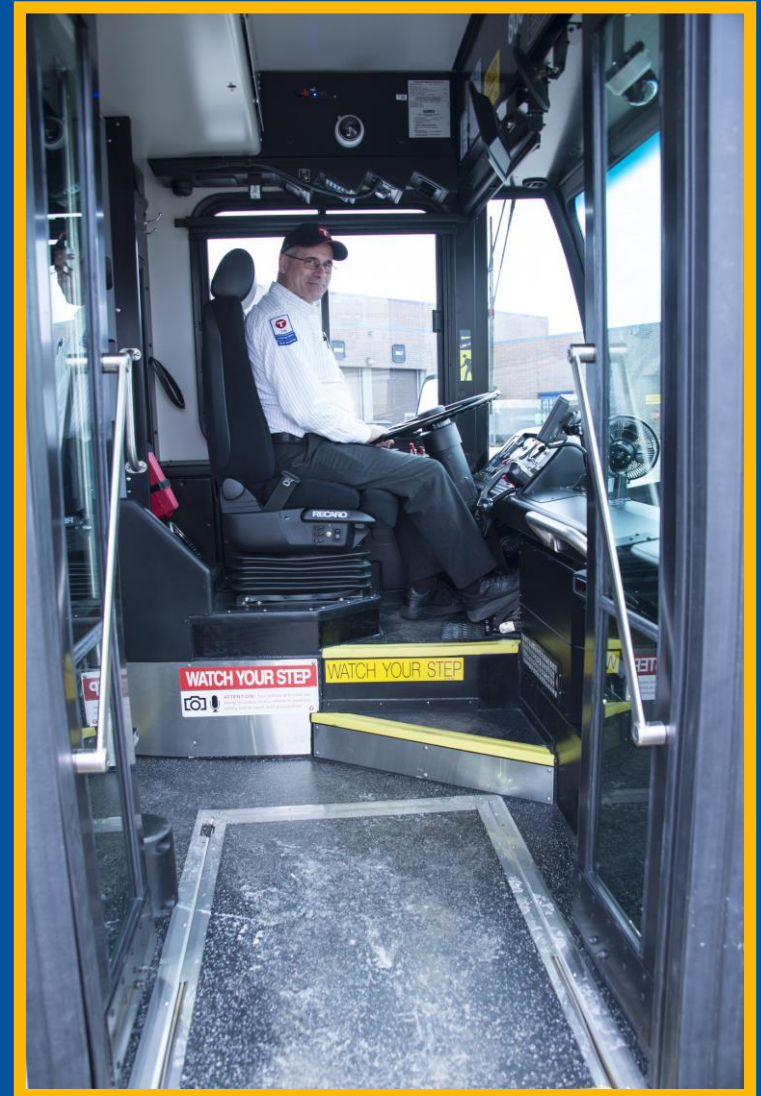
- Take full advantage of travel time improvements
- Limit dwell time
- Operate successfully with a small sub-fleet
- Establish practices for rapid network buildout

Strategies:

- Testing, testing, testing
- Updated running time philosophy
- Bus reliefs

Schedule Development

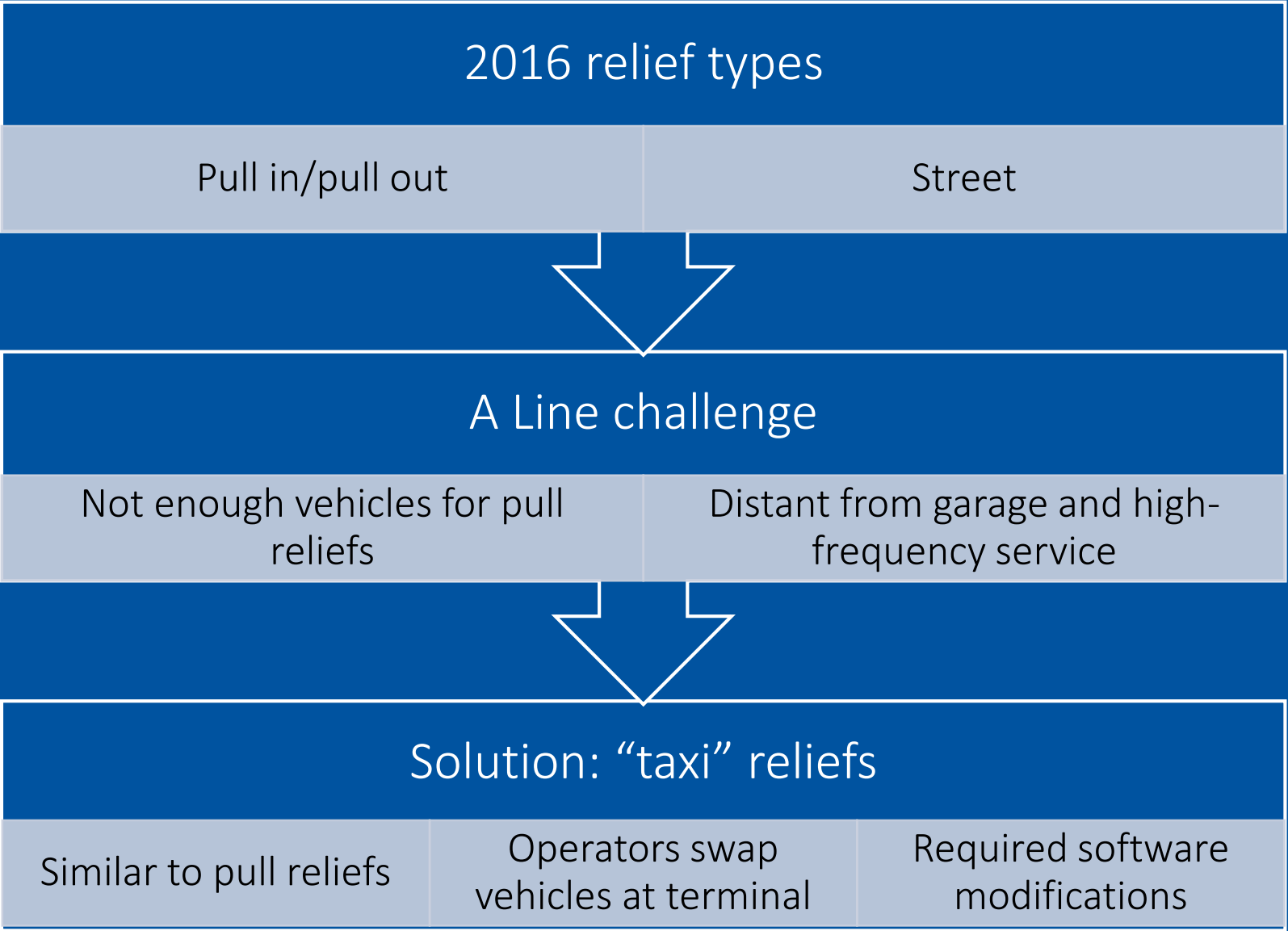
- Preliminary run time testing prior to construction
- “Fast” and “slow” schedule scenarios developed
- Extensive post-construction test runs
 - 10 weekdays, 8 weekend days, multiple runs/day
 - Multipurpose:
 - TSP testing
 - Bus break-in
 - SOP & training development
 - Schedule refinement



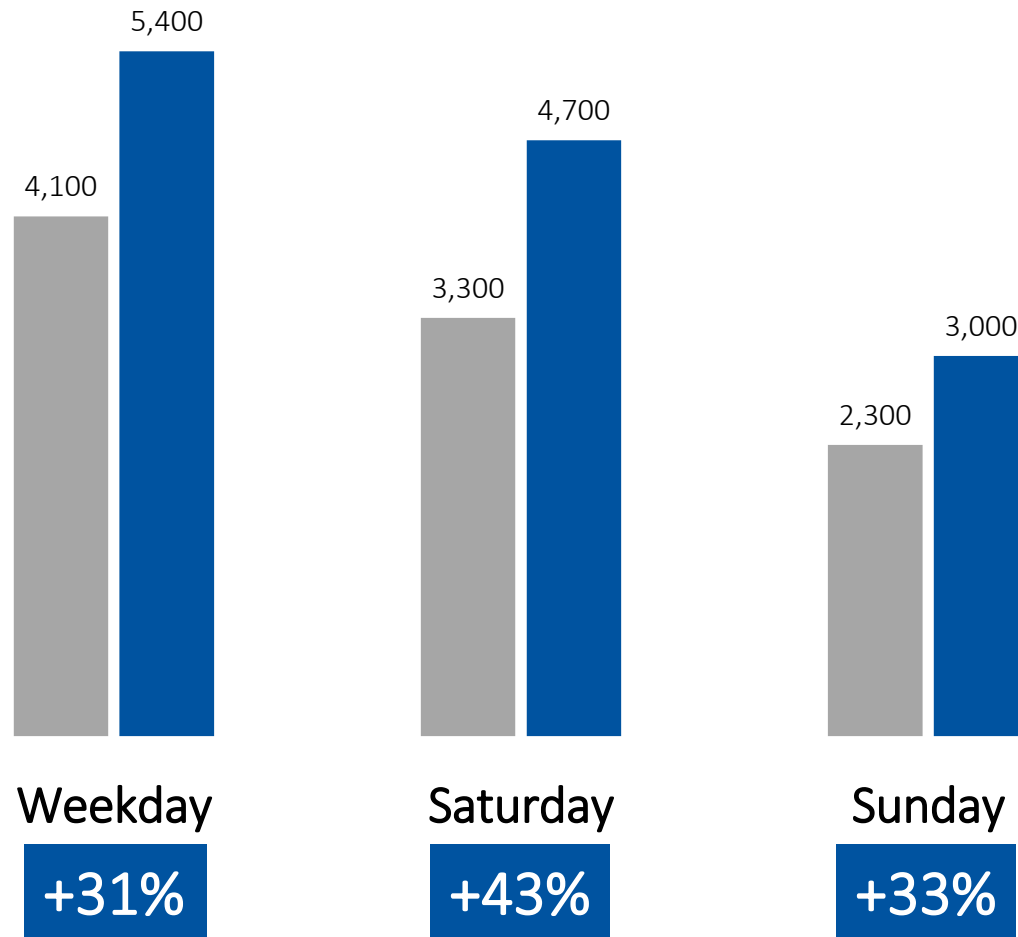
Ultimate Schedule Design

- Few timepoints
- Relatively tight run time
 - Based on testing & operator feedback
 - 8-9 minutes faster than previous service
 - Minimizes dwell time
- Generous recovery time
- Connections with Green Line are optimized

Bus Reliefs

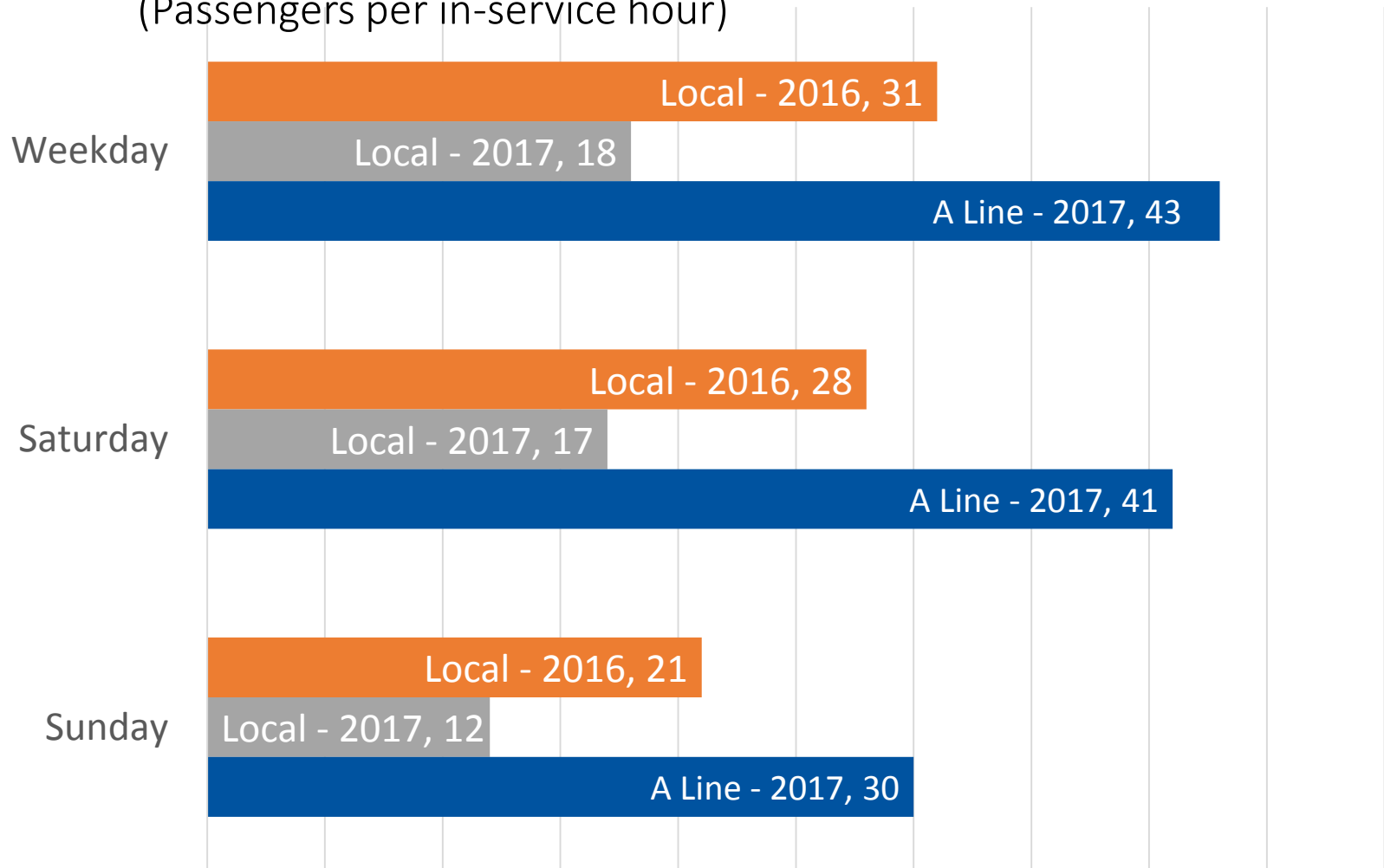


April 2016 vs. April 2017 Corridor Ridership



April 2016 vs. April 2017 Productivity

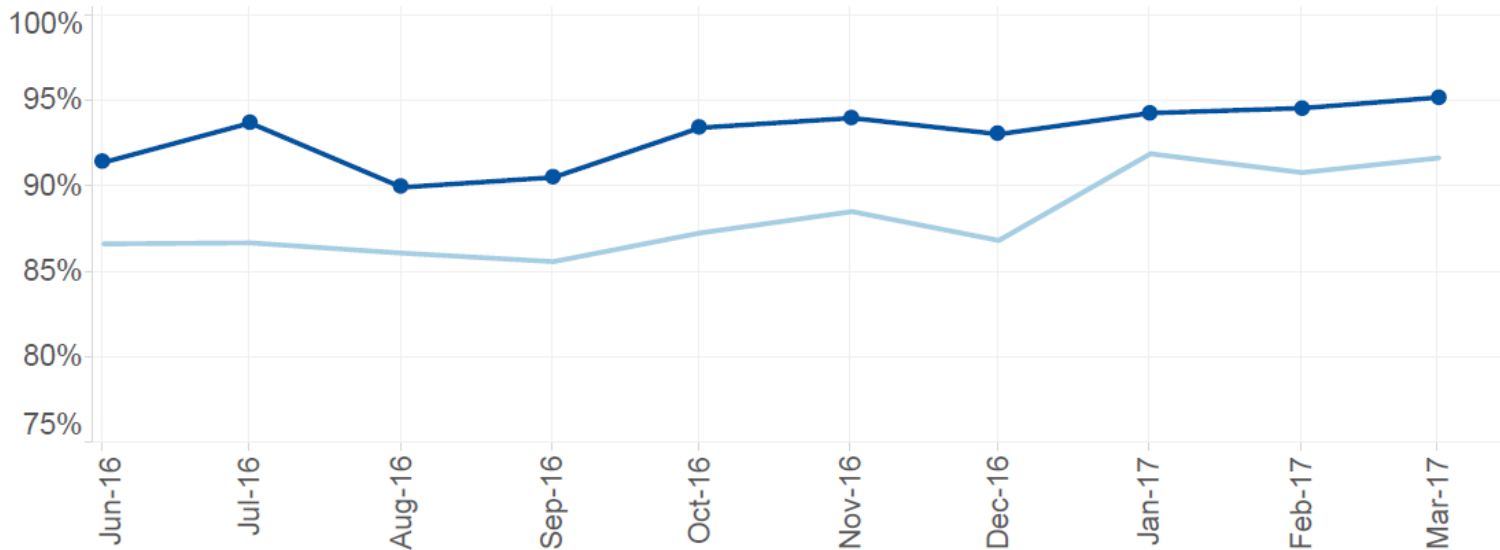
(Passengers per in-service hour)



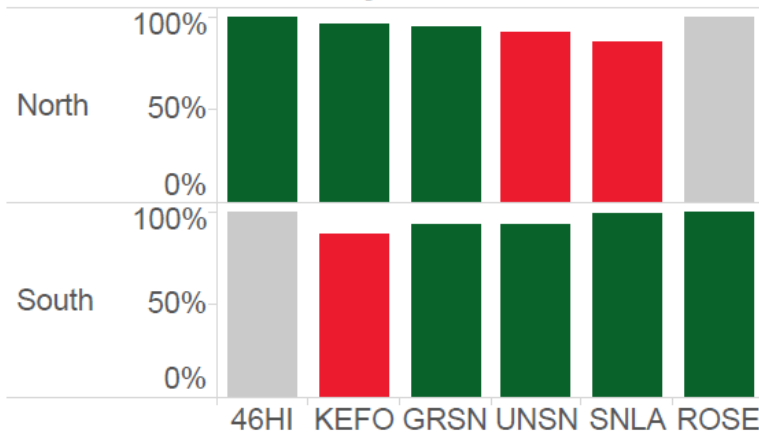
On-Time Performance — A Line

Bus operating between 1 minute early and 5 minutes late

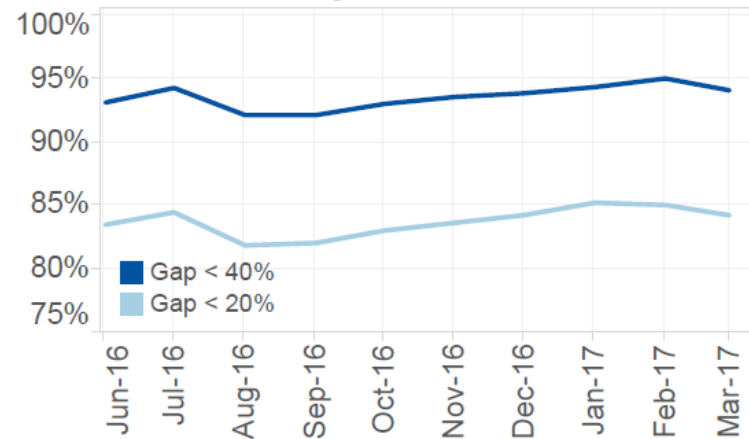
Goal: 91.7% | Mar: 95.3% (+ 3.5%) | Annual Goal: 90% | YTD: 94.7% | Headway Performance: 94.1%



OTP by Station



Headway Performance



Lessons Learned

SOUTHBOUND | NORTHBOUND

from Roseville to Minneapolis via Snelling Ave

Weekday Saturday Sunday

> Print this Schedule
 > View / Print Detailed Route Map

route number & letter
 Rosedale Transit Center
 Snelling & Larpenteur Station
 Snelling & University Station
 Snelling & Grand Station
 Ford & Kenneth Station
 46th St Station

	6	5	4	3	2	1
AM						
A Line	4:06	4:09	4:15	4:18	4:23	4:28
A Line	4:36	4:39	4:45	4:48	4:53	4:59
A Line	5:05	5:09	5:15	5:18	5:23	5:29
A Line	5:25	5:29	5:35	5:38	5:43	5:49
A Line	5:45	5:49	5:55	5:58	6:03	6:09
A Line	5:55	5:59	6:05	6:08	6:14	6:20
A Line	6:05	6:09	6:15	6:18	6:24	6:30
A Line	6:15	6:19	6:25	6:28	6:34	6:40
A Line	6:25	6:29	6:35	6:38	6:45	6:51
A Line	6:35	6:39	6:45	6:48	6:55	7:01
A Line	6:44	6:48	6:55	6:58	7:05	7:12
A Line	6:54	6:58	7:05	7:08	7:15	7:22
A Line	7:04	7:08	7:15	7:18	7:25	7:32
A Line	7:14	7:18	7:25	7:28	7:35	7:42
A Line	7:24	7:28	7:35	7:38	7:45	7:52
A Line	7:34	7:38	7:45	7:48	7:55	8:02

Shaded times denote rush-hour service.

- Local underlay
 - Easier sell to public
 - Increases operating costs
- Impacts of fewer timepoints
 - Customer information
 - On-time performance
- Schedule testing builds confidence
- Reliefs
 - Determine strategy well in advance
- Headway management

Questions?



metrotransit.org/a-line
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