

After Study of the Bus Rapid Transit “A Line” Impacts

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A Line Overview

A Line Arterial BRT (ABRT)

- Wider Doors and Low Floors
- 10 Minute Headway
- Off Board Fare Collection
- Less Frequent Stops
- *On-Line Stops (no pullout bay)*



Project Overview

Questions:

1. How does bus operation impact traffic?
2. How do users perceive A Line service?



Part 1 - Traffic Impact Analysis

Traffic Data Overview

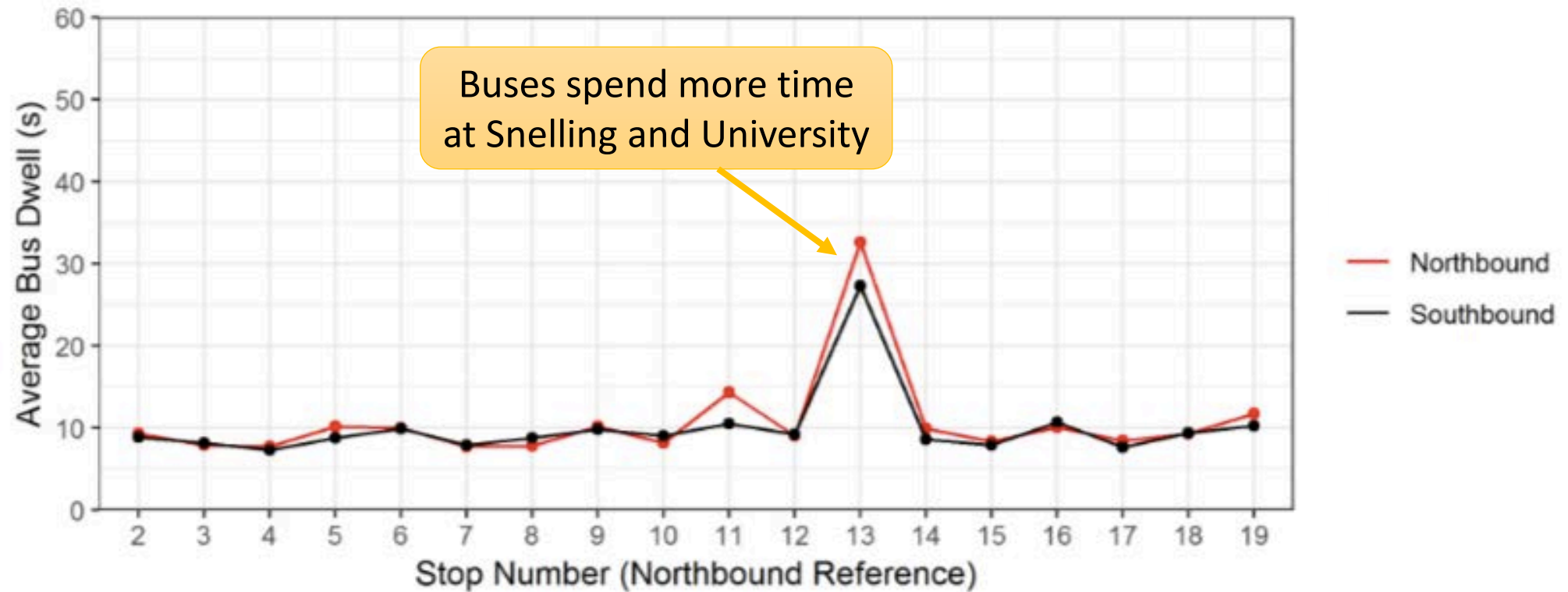
- Cameras were set up to collect video data from traffic
- Both State Fair and Non-State Fair periods
- Video data were processed in the lab to calculate performance measures



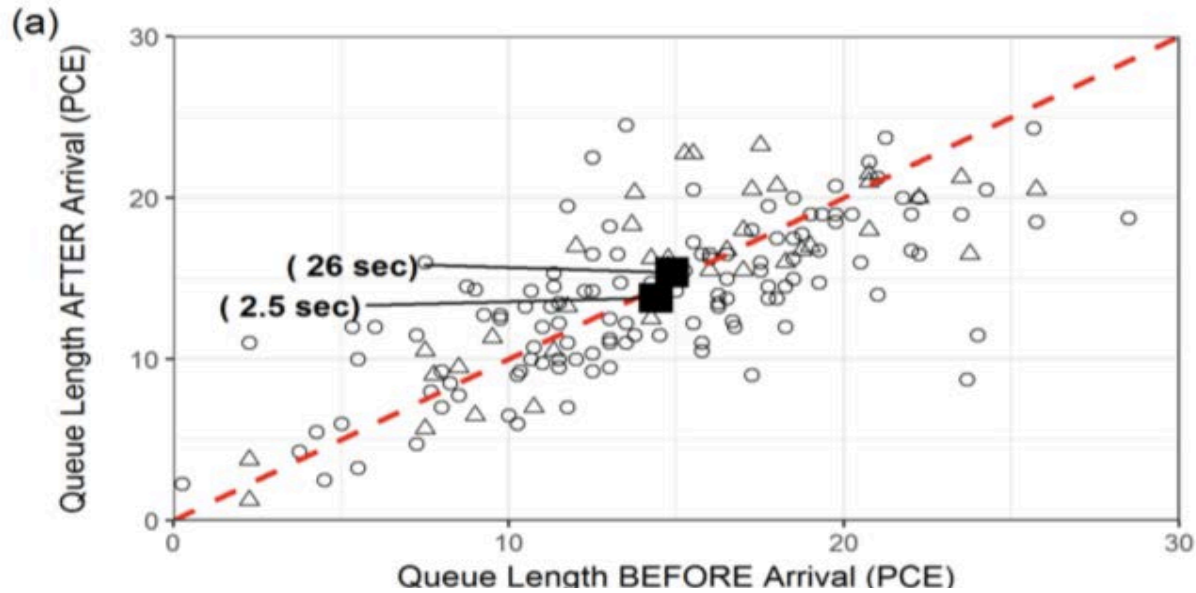
Definitions: Dwell Time, Traffic Flow, Queue Length

Dwell Time

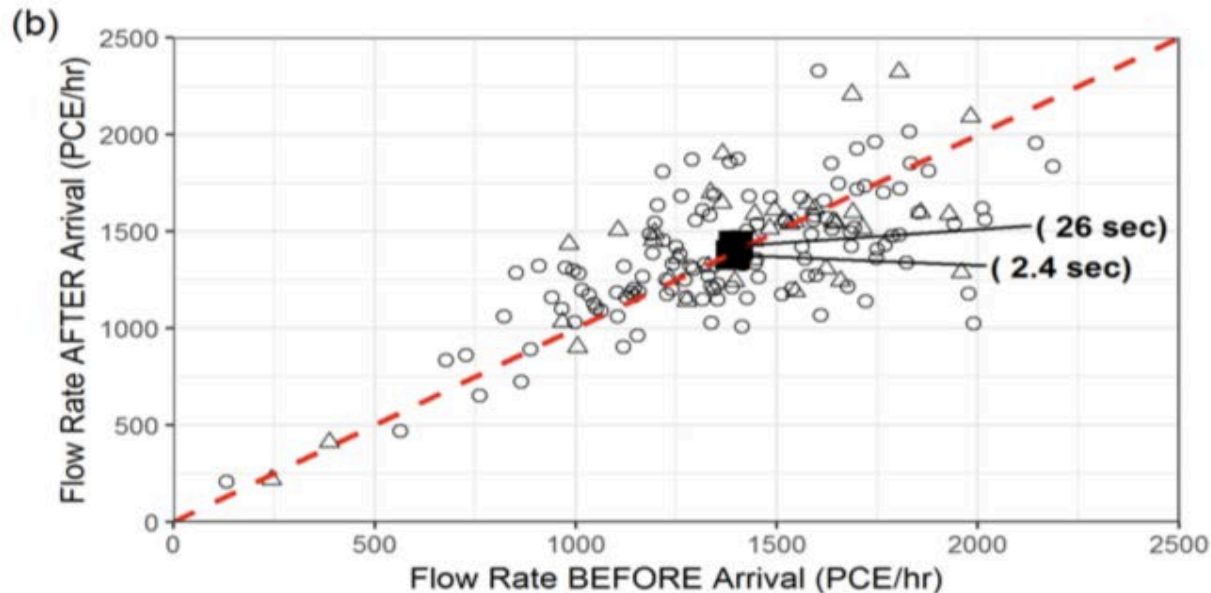
- Time a bus spends at a station for passenger boarding and alighting
- One traffic lane is blocked during this time



Snelling & University



Bus arrival does not increase queue length at intersection

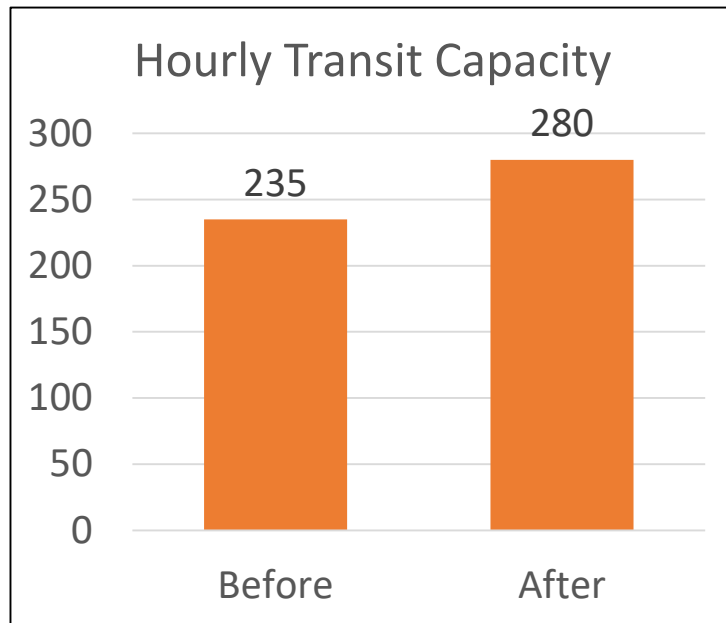


Bus arrival does not decrease traffic flow* rate at intersection

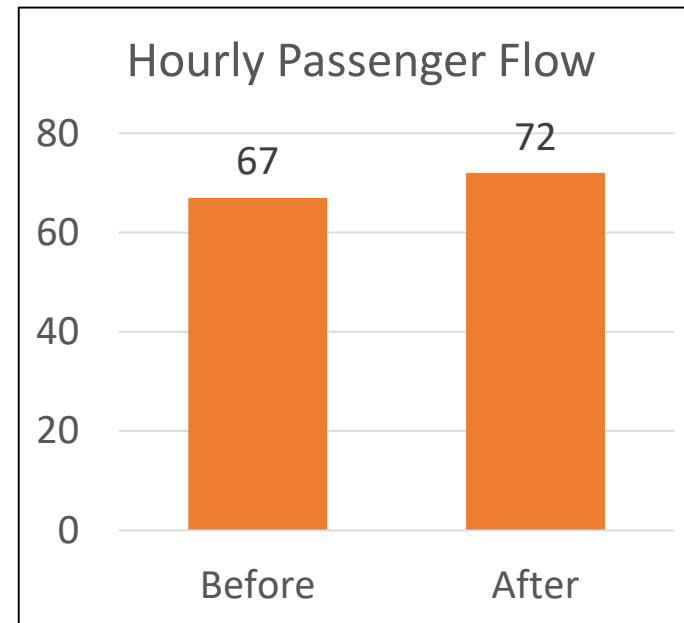
* Number of vehicles passing through intersection in an hour

Transit Capacity in the Corridor

	Before A Line (2015)	After A Line (2017)
Route 84	6 buses/hr	2 buses/hr
A Line	-	6 buses/hr
Total	6 buses/hr	8 buses/hr



After A Line, transit capacity has increased in the corridor



After A Line, more passengers use transit in the corridor

Key Findings

A Line operation does not have a significant impact on traffic in the corridor.

Implementation of A Line has increased transit capacity and passenger throughput in the Snelling corridor.

Part 2 - A Line Service Perception

Rider Satisfaction with A-Line

- 2016 Rider Survey administered by Metro Transit
 - Overall performance (4.32)
 - Performance of individual service attributes
- A Line
 - Perceived better than local bus routes
 - Perceived equal to LRT and commuter rail

Importance of service attributes

Attribute	Mean Performance	Relative Importance
Paying my fare is easy	4.520	21.810
Hours of operation	4.154	9.069
Handling of concerns/complaints	4.048	8.724
Personal safety while riding	4.167	5.771
Courteous driver/conductors	4.324	5.246
Vehicles are comfortable	4.341	4.885
Total travel time is reasonable	4.208	4.337
Reliability	4.040	3.858
Accessible for people with disabilities	4.418	2.171
Transferring is easy	4.291	2.165
Behavior of other passengers and atmosphere on board	3.788	2.082
Shelter/station conditions/cleanliness	3.940	2.042

A Line improvement priority

Attribute	Mean Performance	Relative Importance
Paying my fare is easy	4.520	21.810
<i>Hours of operation</i>	4.154	9.069
<i>Handling of concerns/complaints</i>	4.048	8.724
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Transferring is easy	4.291	2.165
Behavior of other passengers and atmosphere on board	3.788	2.082
Shelter/station conditions/cleanliness	3.940	2.042

Key Findings

A Line is perceived better than local bus and almost equally as LRT

Most important attributes:

- Paying fare is easy
- Hours of operation
- Handling of concerns/complaints

Improvement priorities:

- Hours of operation
- Handling of concerns/complaints
- Personal safety while riding

Summary

- A Line operations does not impact traffic
- A Line has increased transit capacity and throughput
- A Line is perceived better than local bus
- The most important attributes
 - Ease of fair payment, hours of operation, handling of concerns/complaints
- Improvement priority
 - Hours of operation, handling of concerns/complaints, personal safety while riding

Questions?

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