

Perspectives on transit

Potential benefits of visualizing transit data

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ABSTRACT

Data visualization is a **powerful tool** for communicating with planners, decision makers and the public and can take **advantage of “big data”** in the transit industry.

The main objective of this paper is to **move beyond** the generation of internally focused performance measures to introduce **new visualizations** that demonstrate general aspects of transit.

The new performance measures will help in communicating the **positive attributes** of public transport to the community. They will also help planners to **negotiate and support** service-change projects.

METHODOLOGY

The paper uses transit data from The Société de Transport de Montréal (STM), Montréal, Canada, to generate **performance measures** that are of interest to both transit planners and professionals, using:

- Archived AVL/APC data
- Google Transit Feed Specification (GTFS) data
- Bicycle-share data, Spatial Data, and OD survey data

This research generates performance visualizations at four **hierarchical spatial levels**:

- System level
- Neighborhood level
- Route level
- Stop level

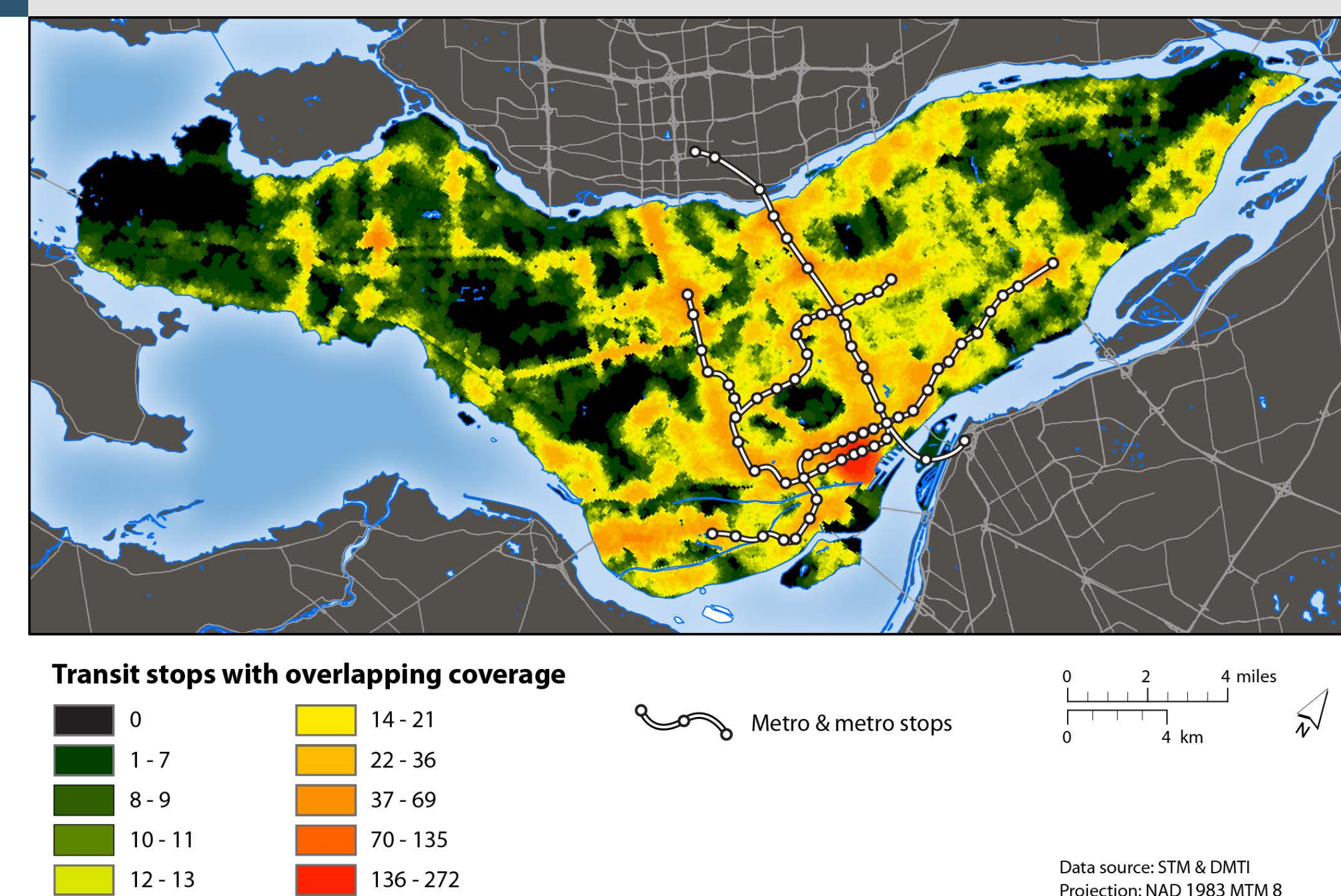
SYSTEM LEVEL



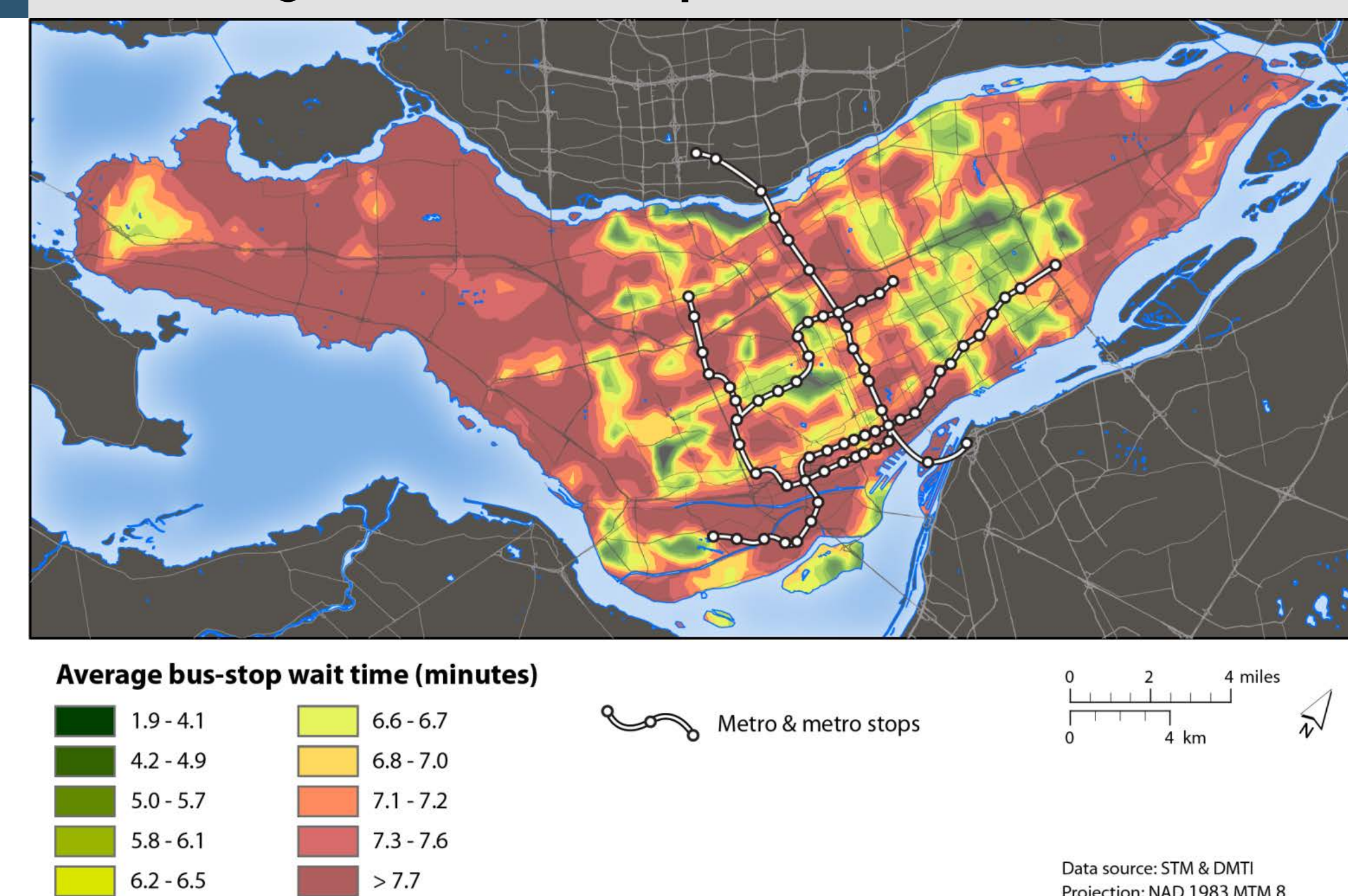
System Span of Service

SYSTEM LEVEL, CONT'D

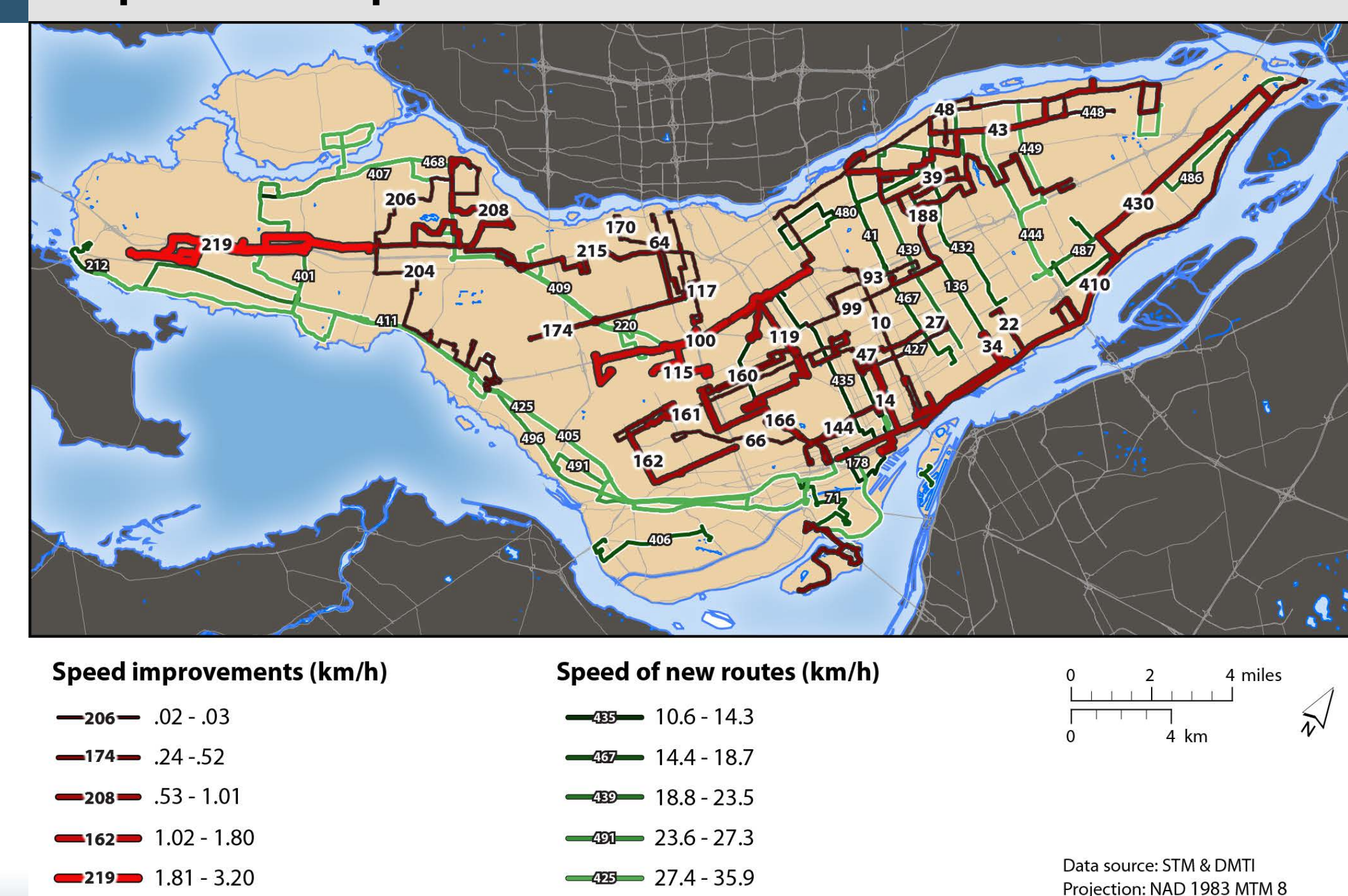
System Coverage



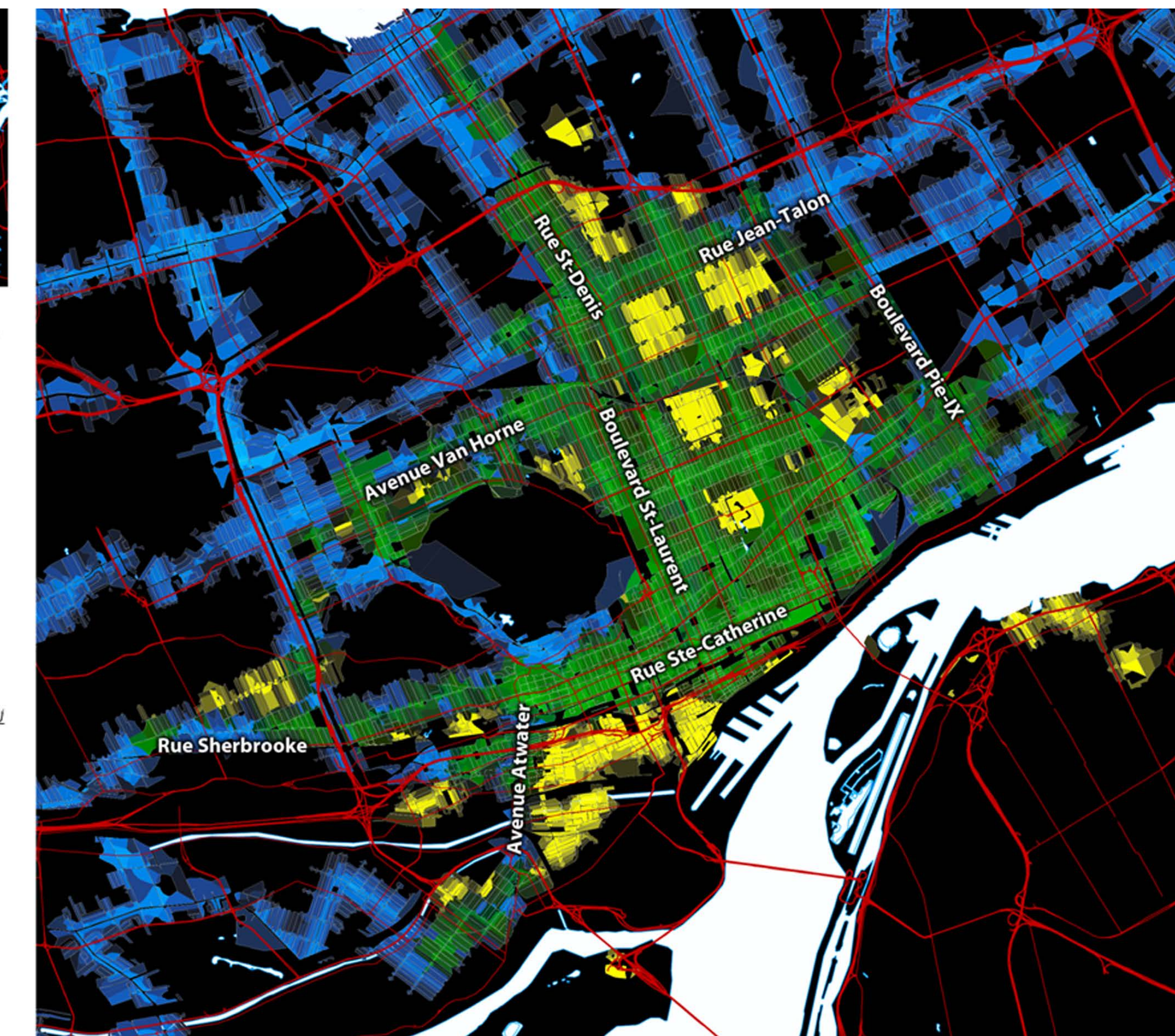
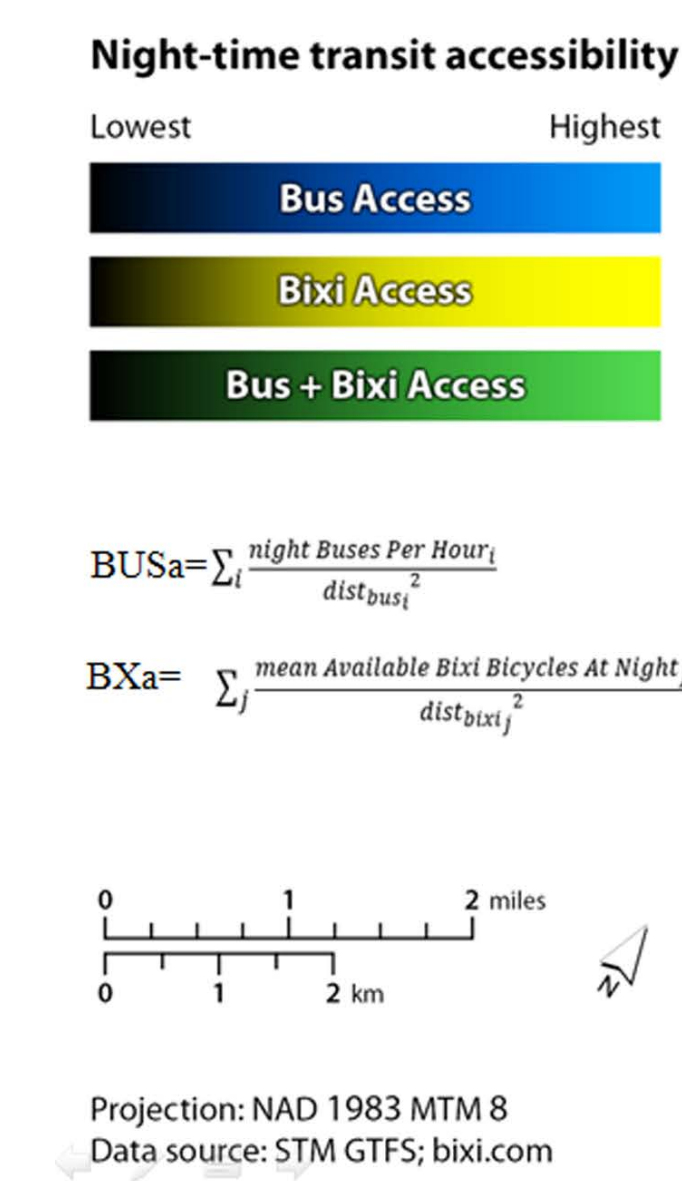
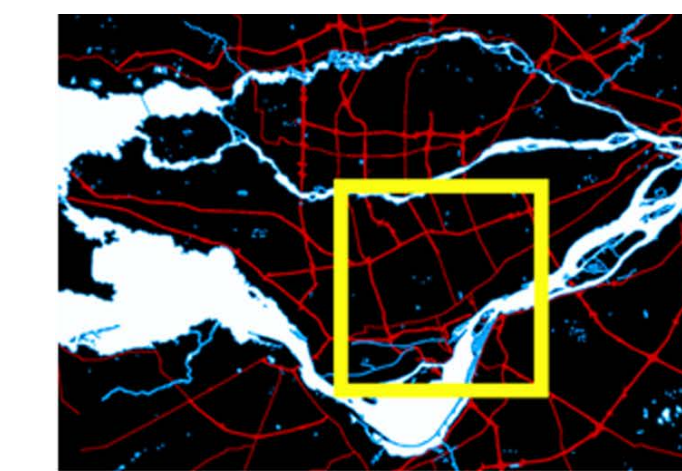
Waiting Time at Stops



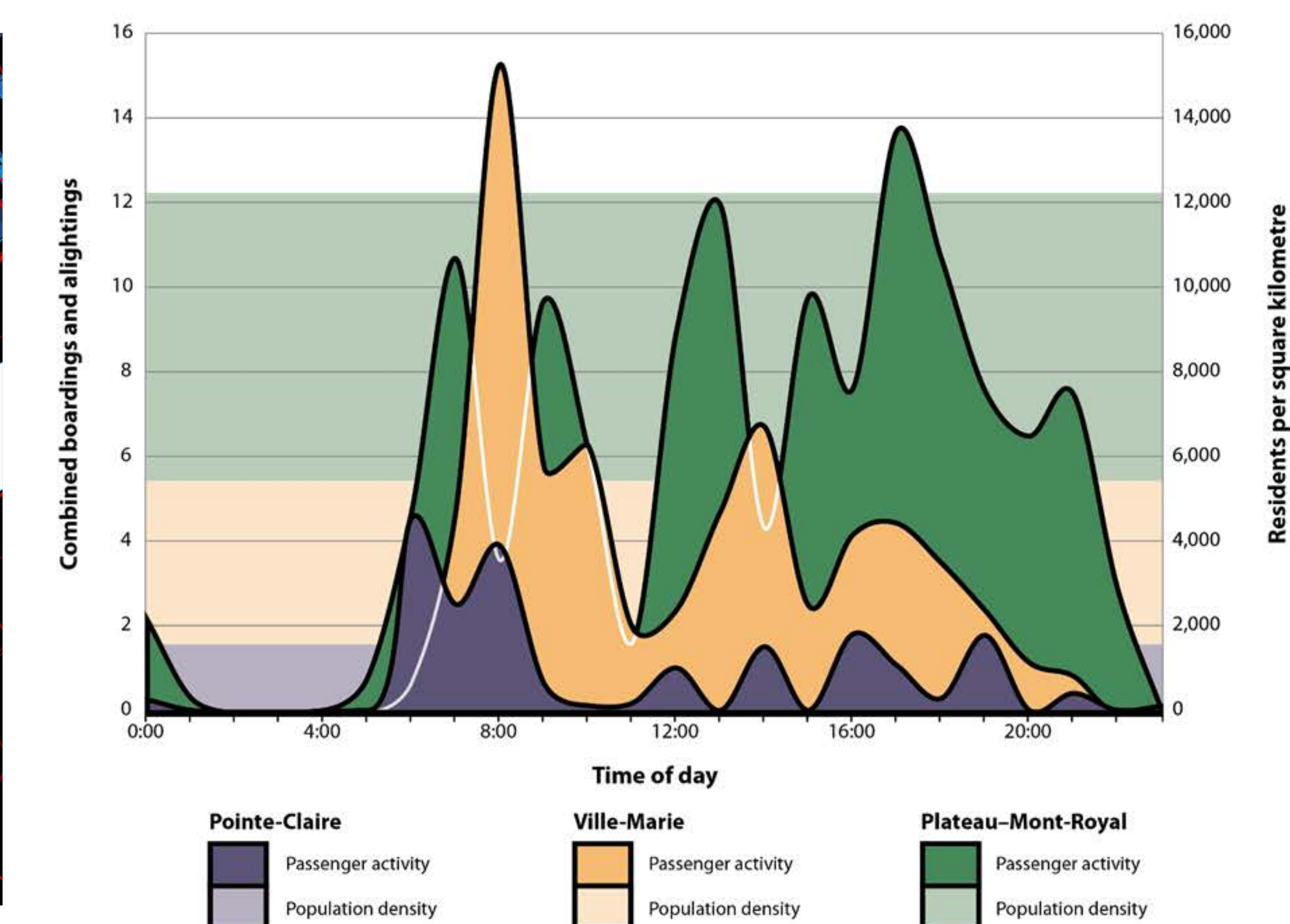
Speed Improvement



NEIGHBORHOOD LEVEL

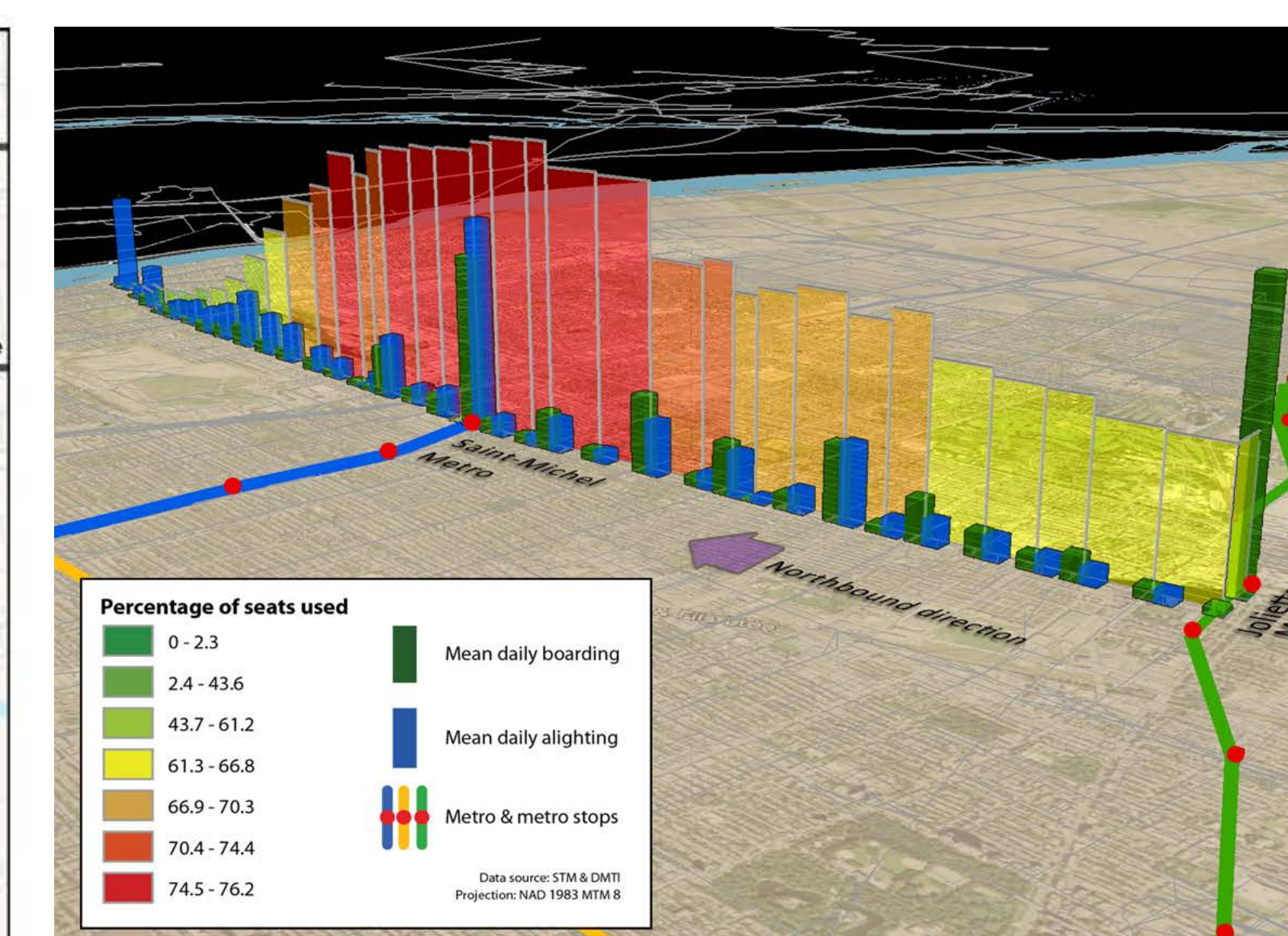
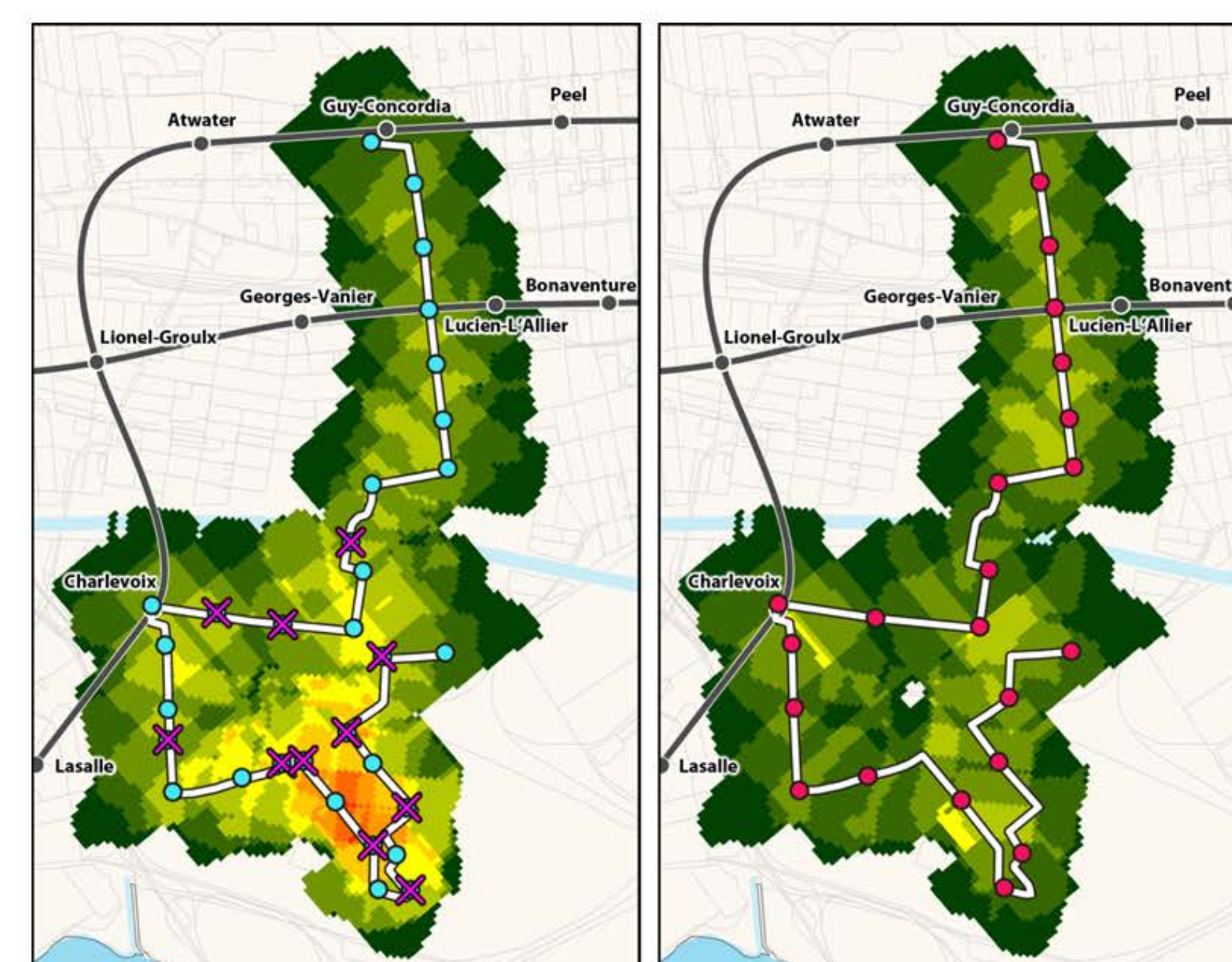


Bus and Bicycle-share Systems Overlap



Passenger Activity in Different Boroughs

ROUTE LEVEL



Route Seating Capacity

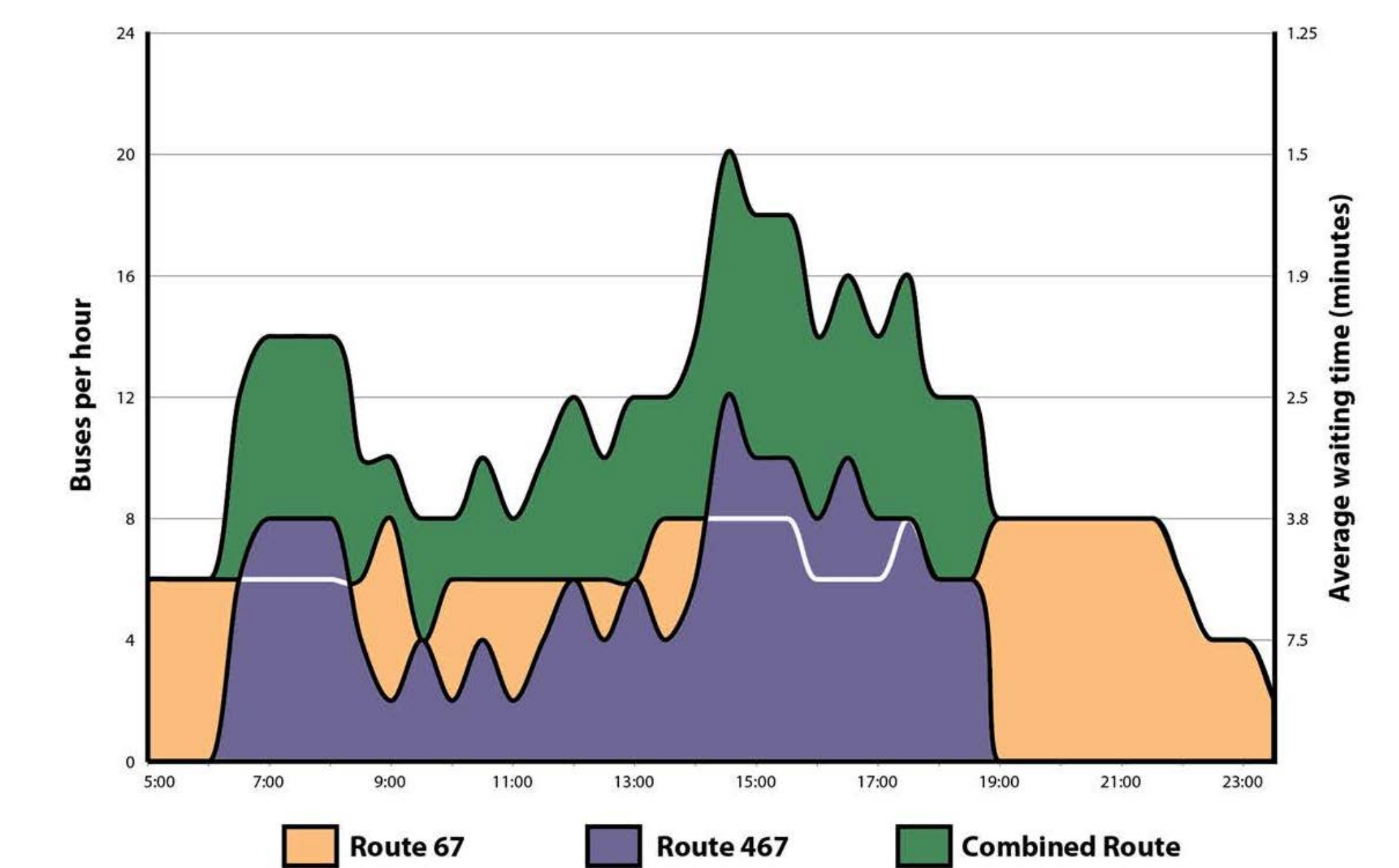
Route Boarding and Alighting

CONCLUSION

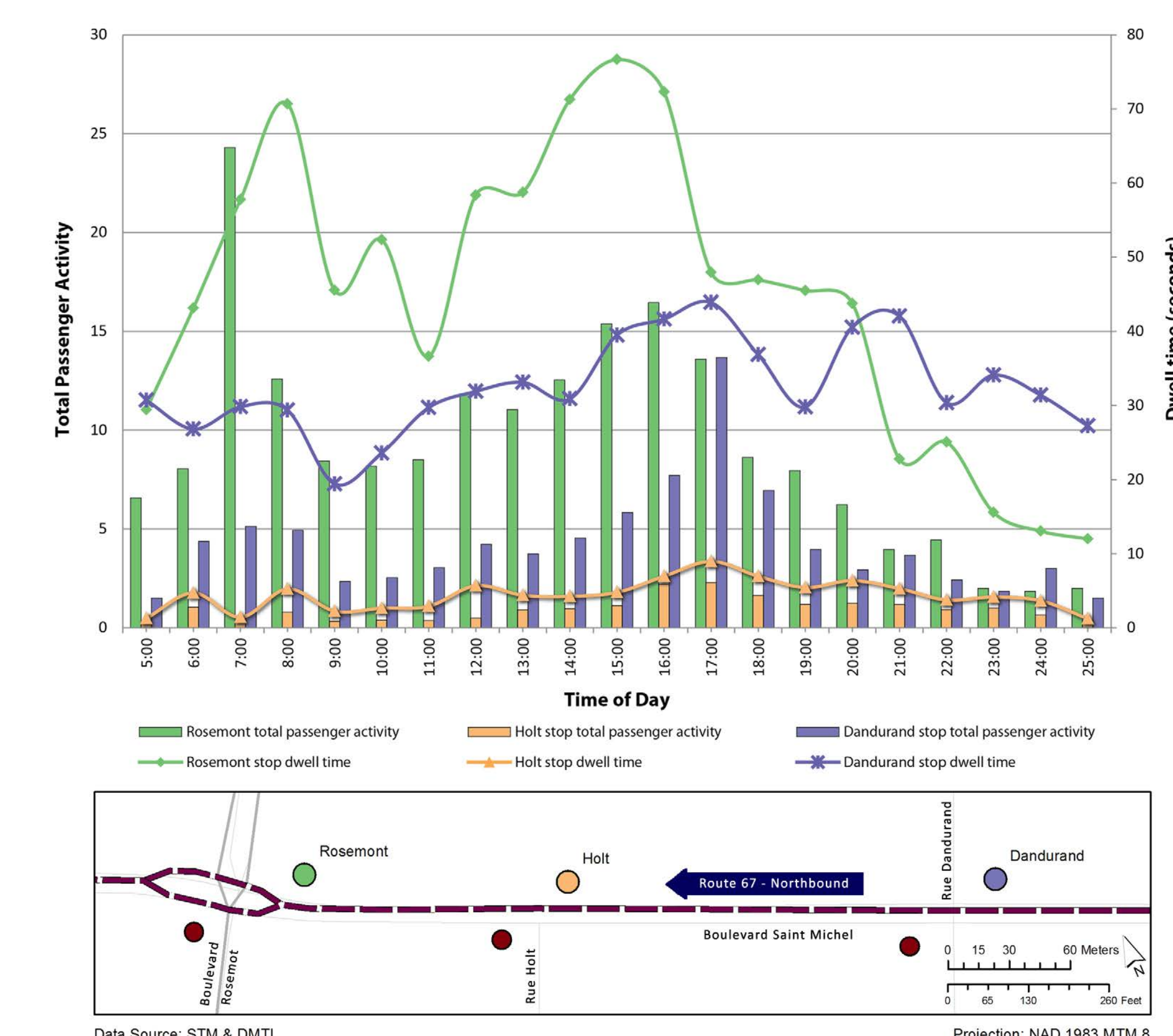
Increasingly, transit agencies are interested in new methods of **visualizing** different data sources (e.g., GTFS, AVL/APC) in order to communicate the results of their **planning efforts**, operational **investments** and **overall performance** to different stakeholders. This paper **demonstrates some of** the untapped potential of these data sources.

STOP LEVEL

Combined Benefits



Demand at Bus Stop



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