

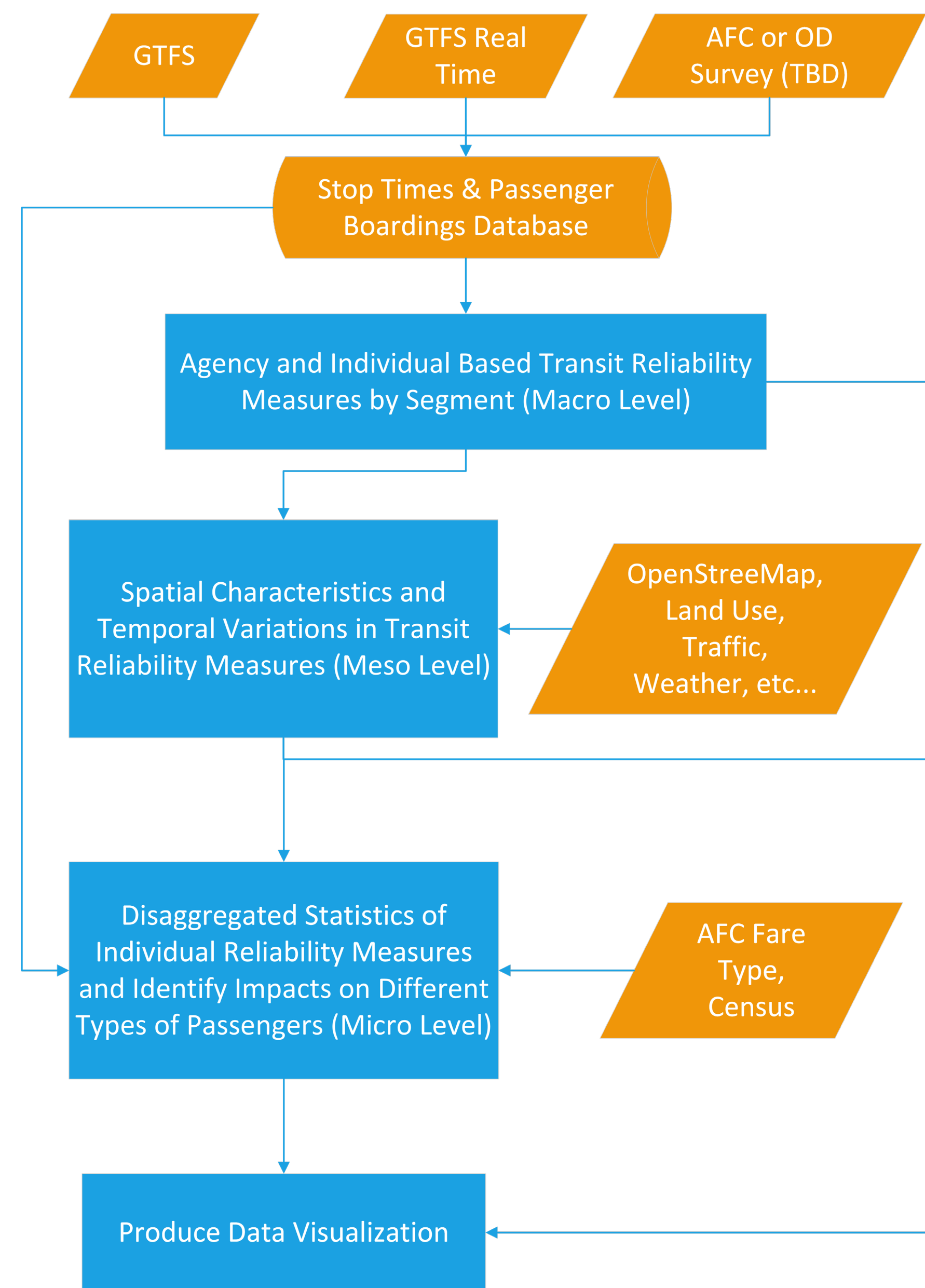
A LONGITUDINAL ANALYSIS OF TRANSIT RELIABILITY

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TL; DR

- Reliability for bus services has a *slightly different trend* between systemwide agency and passenger measures.
- COVID restrictions, holidays, and remote work periods have *more unreliable* bus services.
- Systemwide average *hides* detailed temporal and spatial variations.
- Need *large-scale and longitudinal* study to explore the detailed transit reliability patterns.

FRAMEWORK



Background

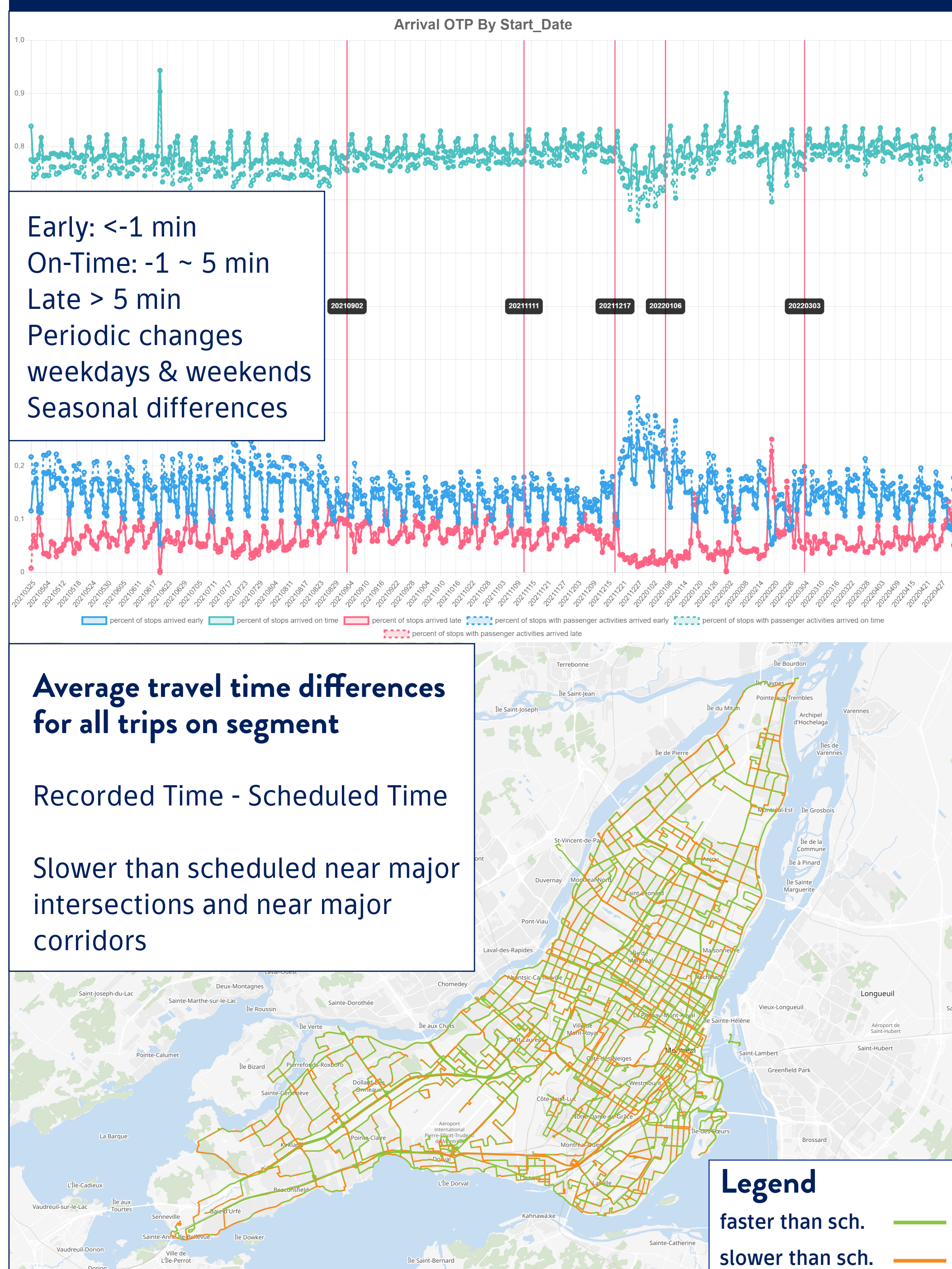
Reliability is essential for transit systems to attract passengers. If the service is unreliable, people will avoid using transit. On the other hand, agencies tend to focus on operational measures that may not reflect passenger experiences. Thus, it is crucial for us to gain more insights to improve transit services for passengers.

Objectives

- Improve transit service quality and increase transit ridership
- Integrates different data sources available to agencies
- Focus on agency and passenger based measures
- Measure systemwide transit reliability
- Model spatial and temporal patterns in transit reliability
- Identify factors affecting transit reliability
- Measure the impact of service reliability on passengers

* simplified for poster, ask me for more details!

PRELIMINARY RESULTS



Major events near the red change vertical lines for further analysis:

- 20210501 - 20210902 (21M, 21J, 21S)
Hybrid study & remote work
 - 20210903 - 20211111 (21S, 21N)
Vaccine passport started
Back to school in person
 - 20211112 - 20211217 (21N)
Transition back to in-person work
Beginning of Omicron
 - 20211218 - 20220106 (21NV, 22J)
Holidays
 - 20220107 - 20220303 (22J)
Winter & snow days
 - 20220304 - 20220501 (22J, 22M)
Most vaccine mandates removed
No more major snow days
- Future research needs:**
- Contributing factors for major changes in systemwide measures
 - Other temporal & spatial patterns
 - Impact on passengers

