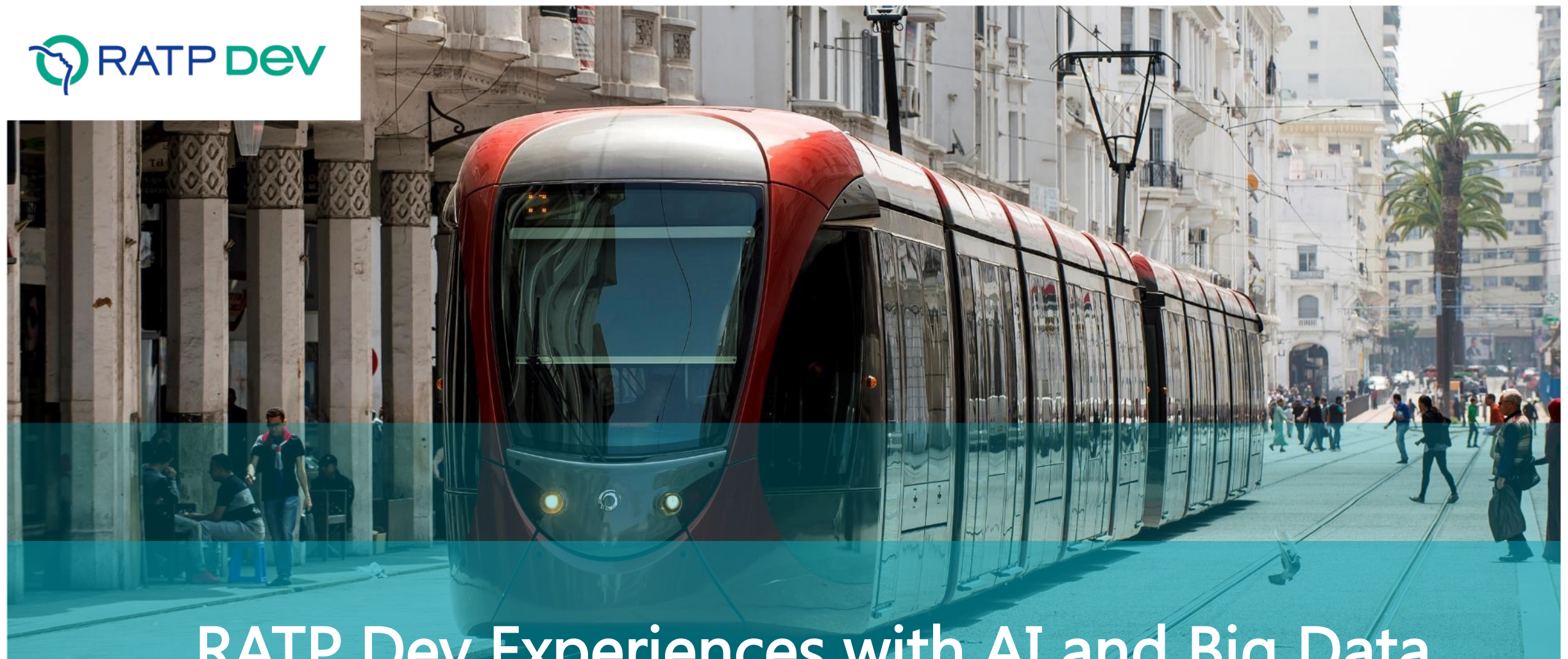


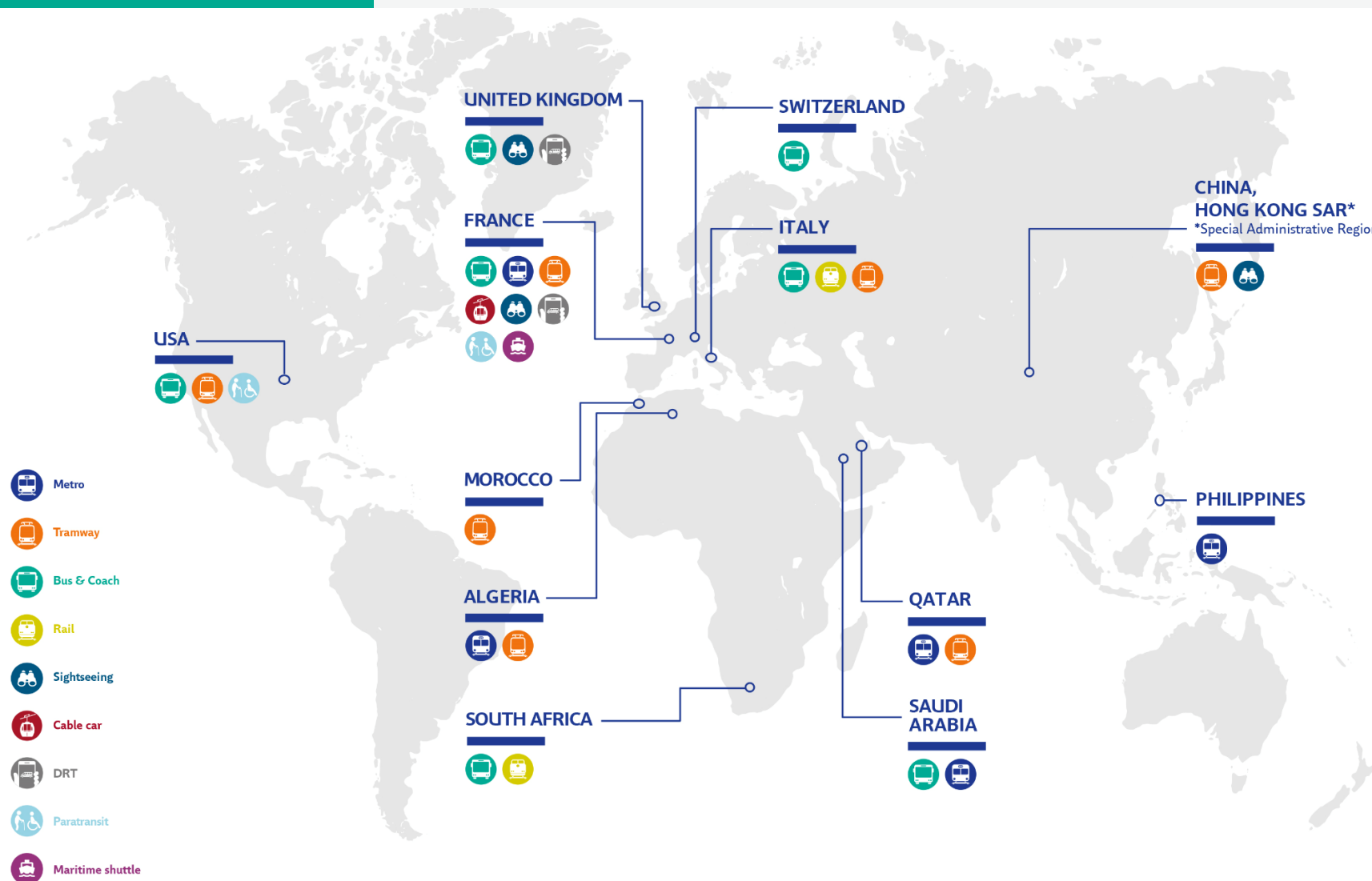


RATP Dev Experiences with AI and Big Data technologies: a major tool to improve performance

Patrick Vautier : Directeur Marketing & Innovation RATP Dev
Octobre 2019

RATP Dev = Urban Mobility Operator

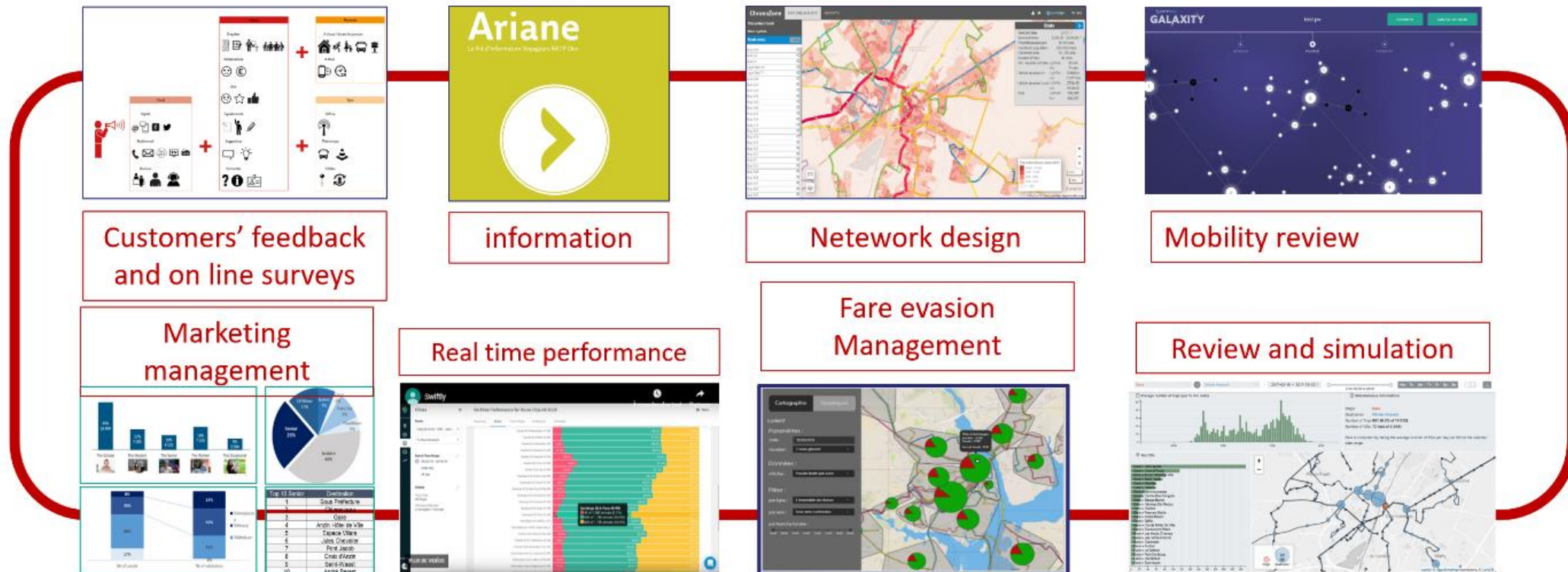
RATP Dev, out of Paris O&M company of RATP Group



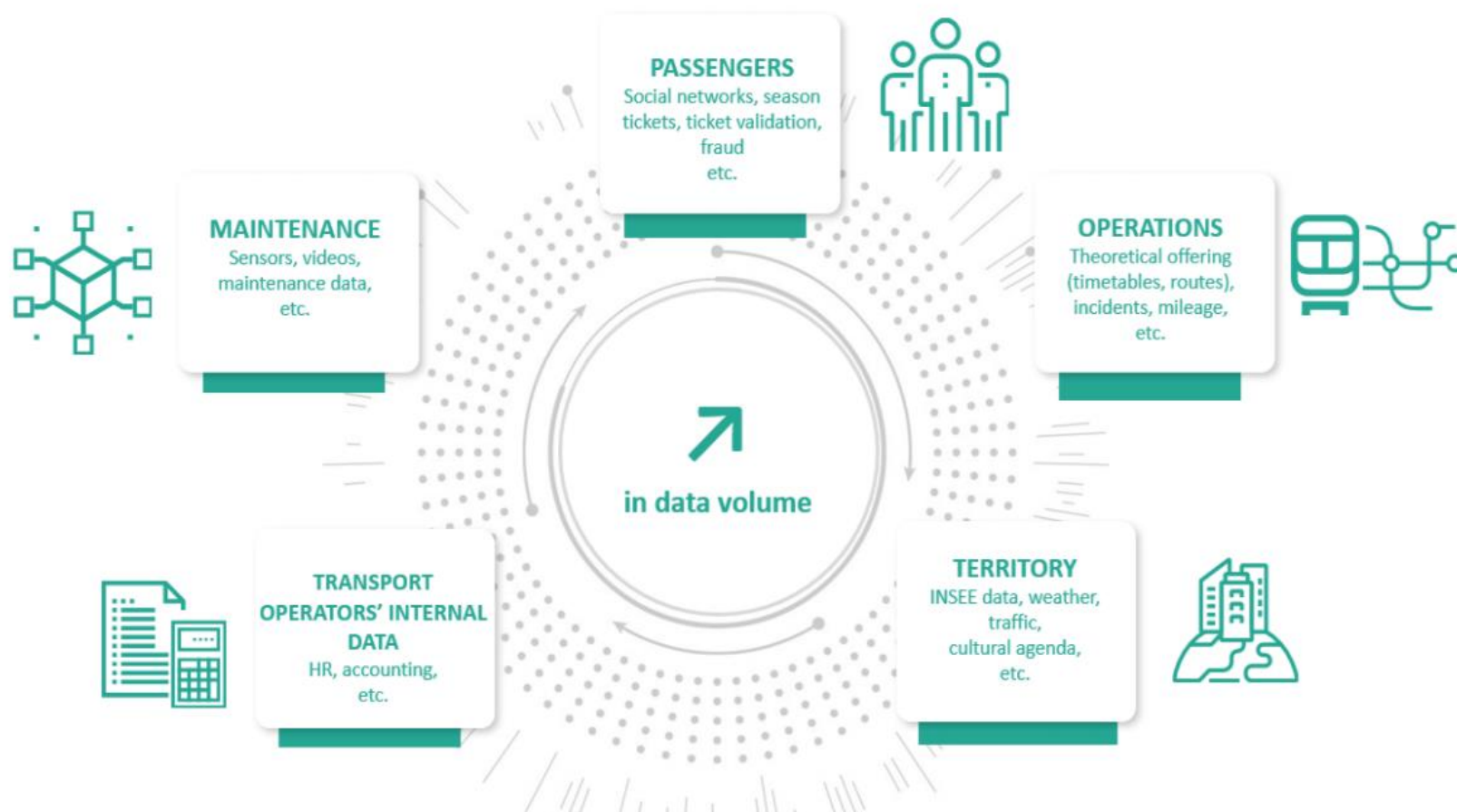
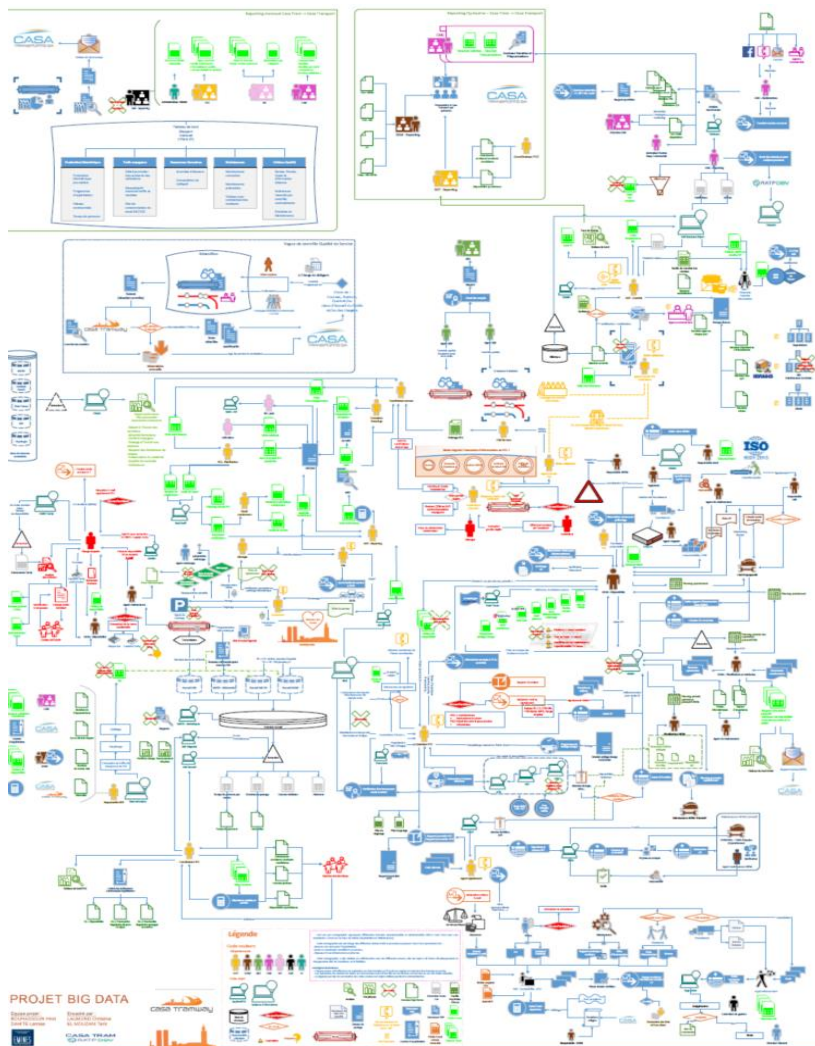
new software solutions based on Big Data

Objectives :

- better perform our daily operations.
- develop new /better services aligned with the needs and expectations of cities and inhabitants



diversity of data used to improve knowledge and performance



A very pragmatic approach based on use cases

OPERATION: Network monitoring

Useful for Analysis of operational contractual KPIs, traffic conditions, dwell time adaptation, bus fleet supervision

Impacts on contractual penalty regimes

TRIPS: commuters needs and behaviours.

Useful for contract KPIs.

OD: Reconstitution of Origin / Destination flows.

Useful for Network and transport offering design.

Dealing with cities Authorities requests.

OCCUPANCY: Compute passenger load.

Useful for Network design. Better network sizing,

Impacts on operation costs.

FRAUD : Identify fraud patterns.

Useful for Deploy ticket Inspection task

Impact on fare collection

REPLAY : Dynamic replay of a day's events.

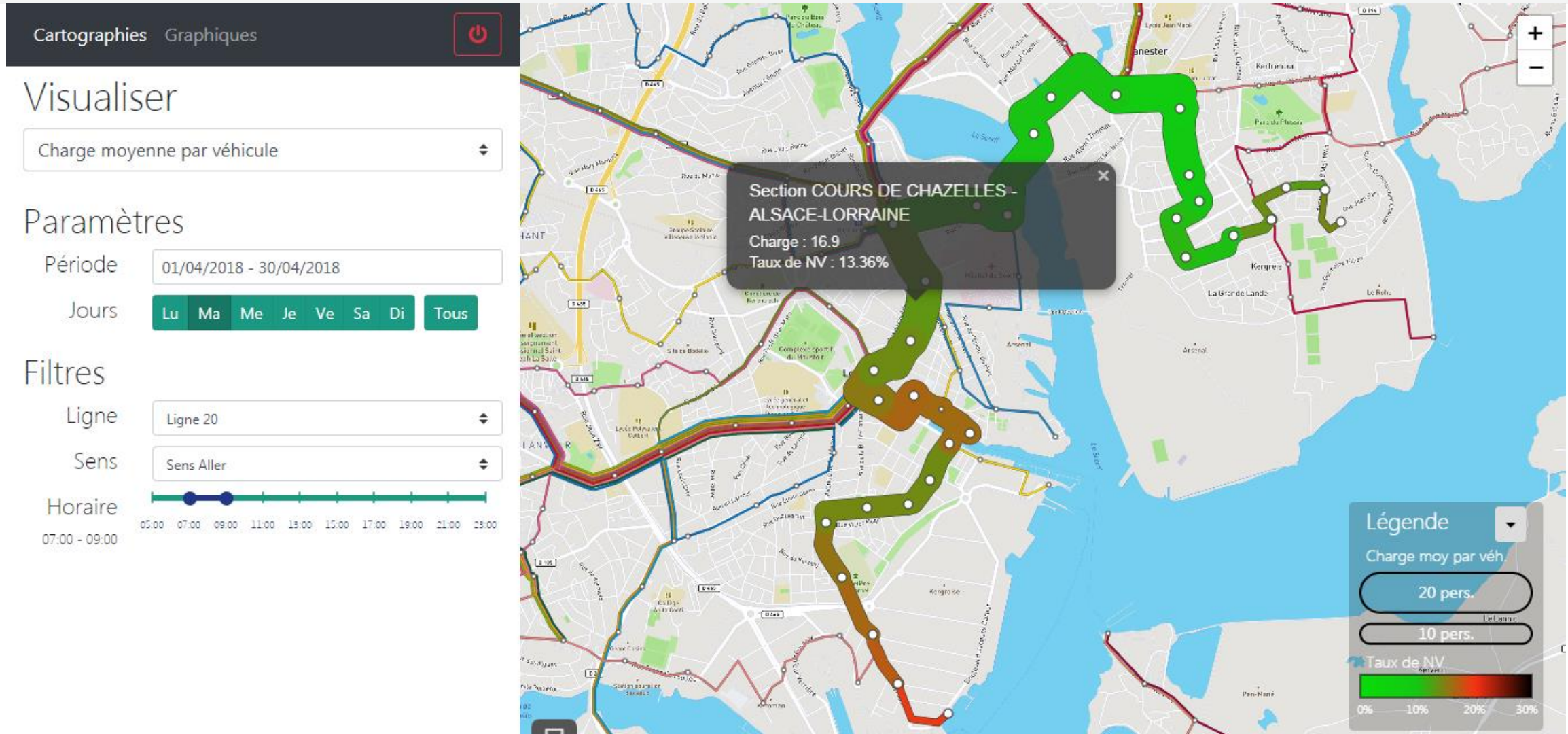
Useful for Understanding past performance and exchange with the Transport authorities .

SIMULATION: Create alternate transport scenarios.

Useful to Deal with Peak Time over crowded usage, adapt number of services with the demand.

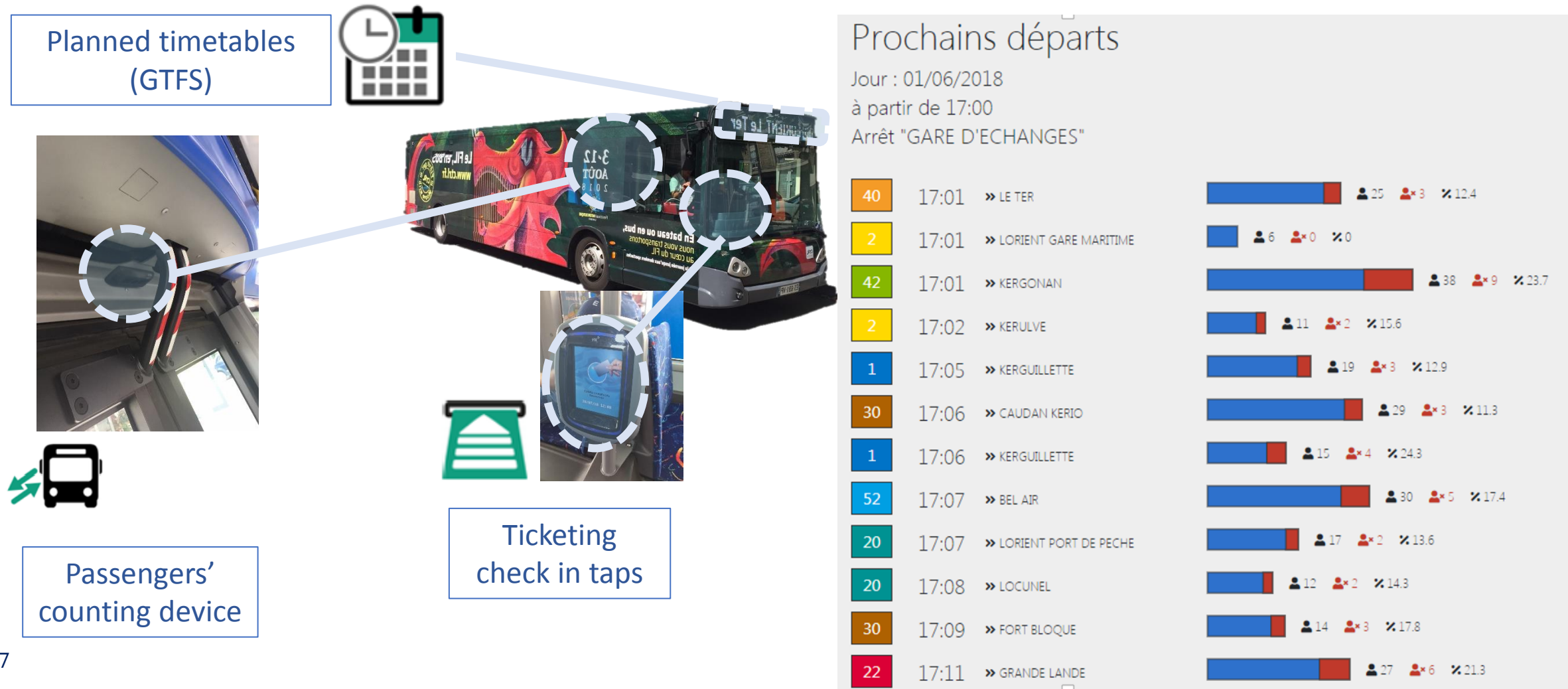
Impact on operation costs

Use case 1 : downsizing fare evasion



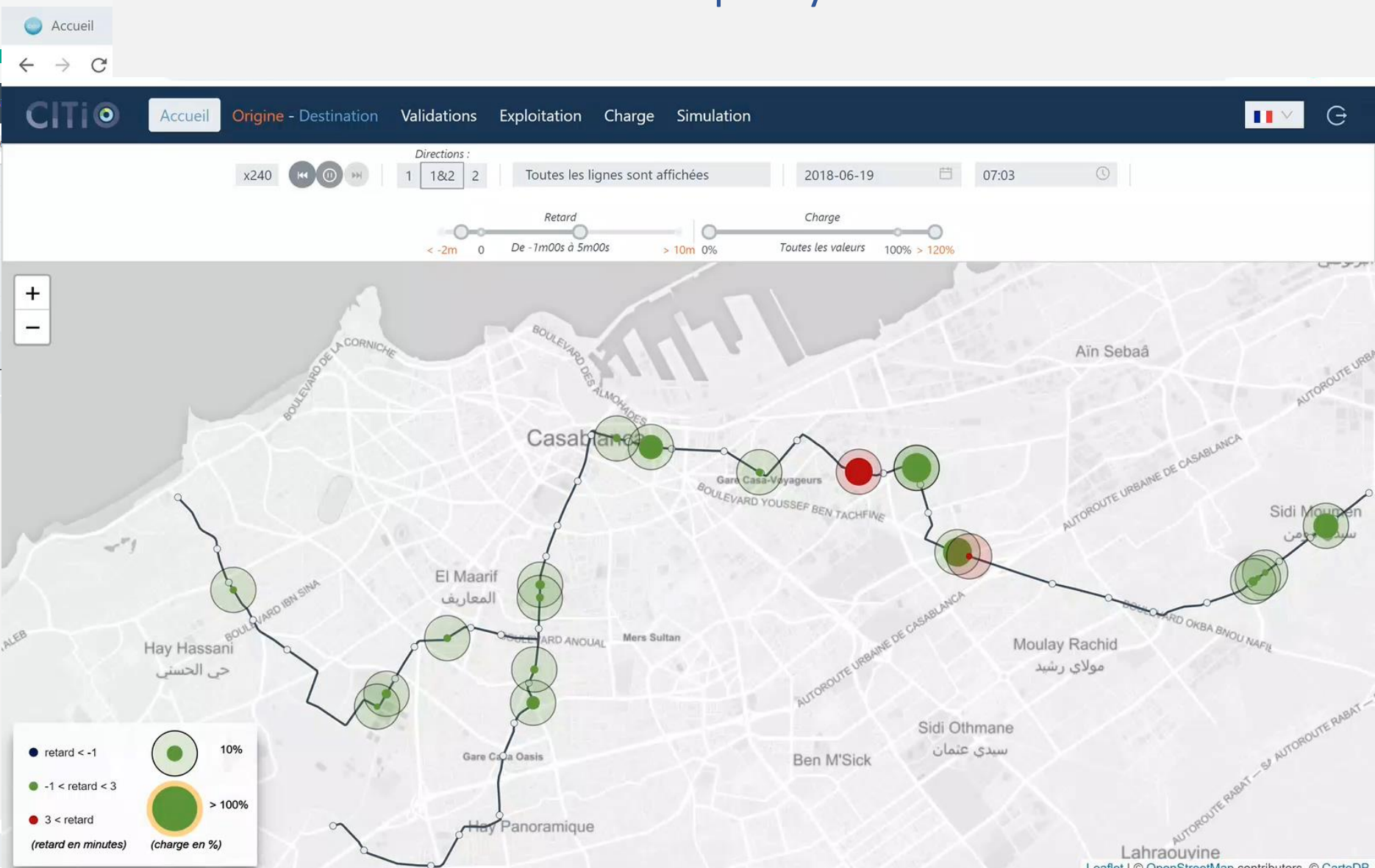
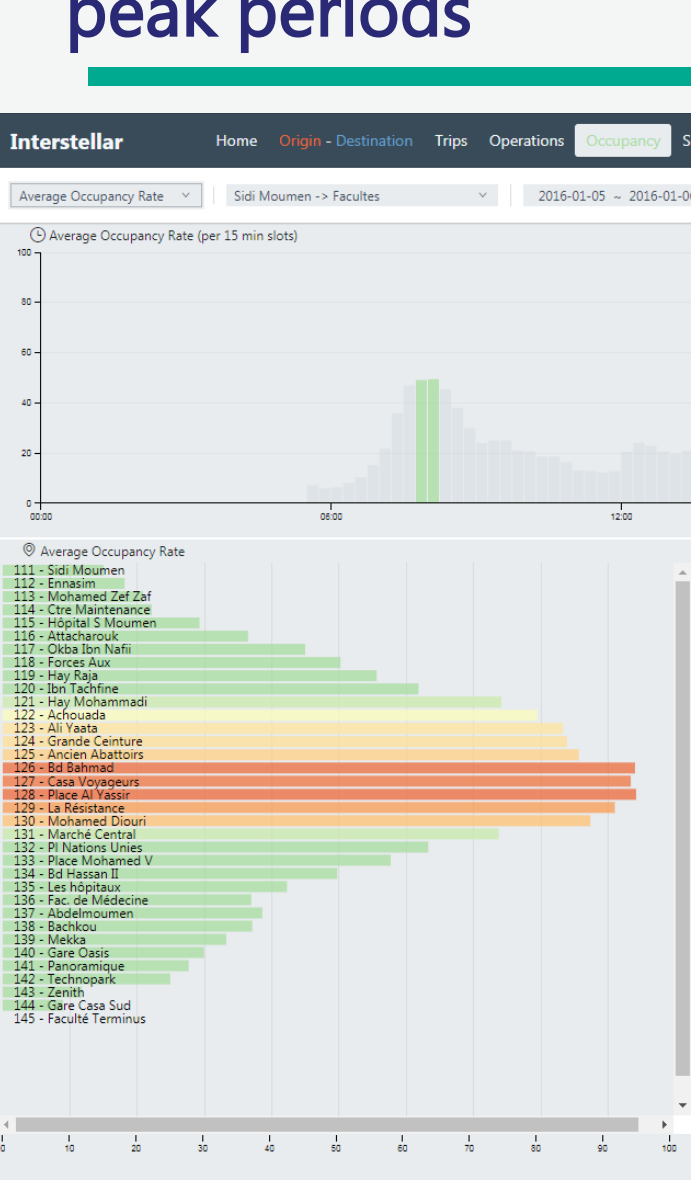
Use case 1 : downsizing fare evasion

Gaps between counted passengers on board and check in able us to estimate the fare evasion level.



Use case 2 : managing occupancy and overcrowded peak periods

Combination of real time goelocalisation of vehicles, passengers checks in and out ables us to estimate occupancy

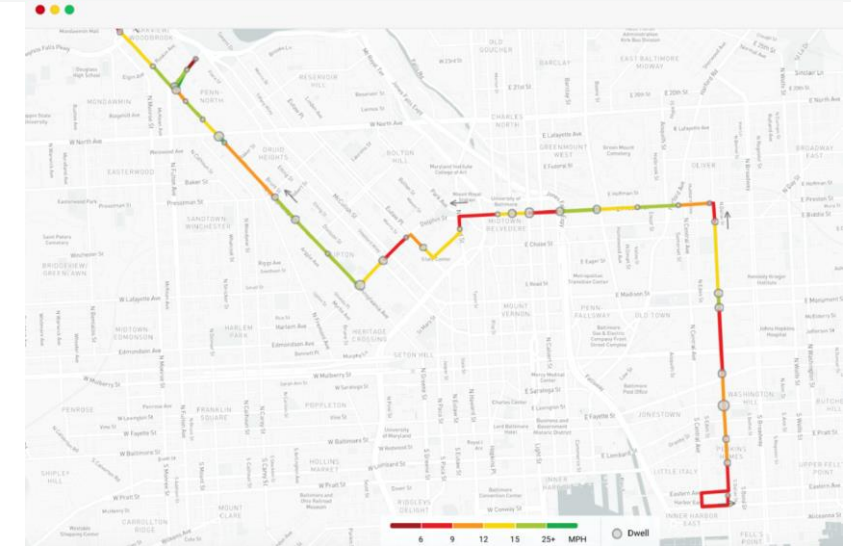
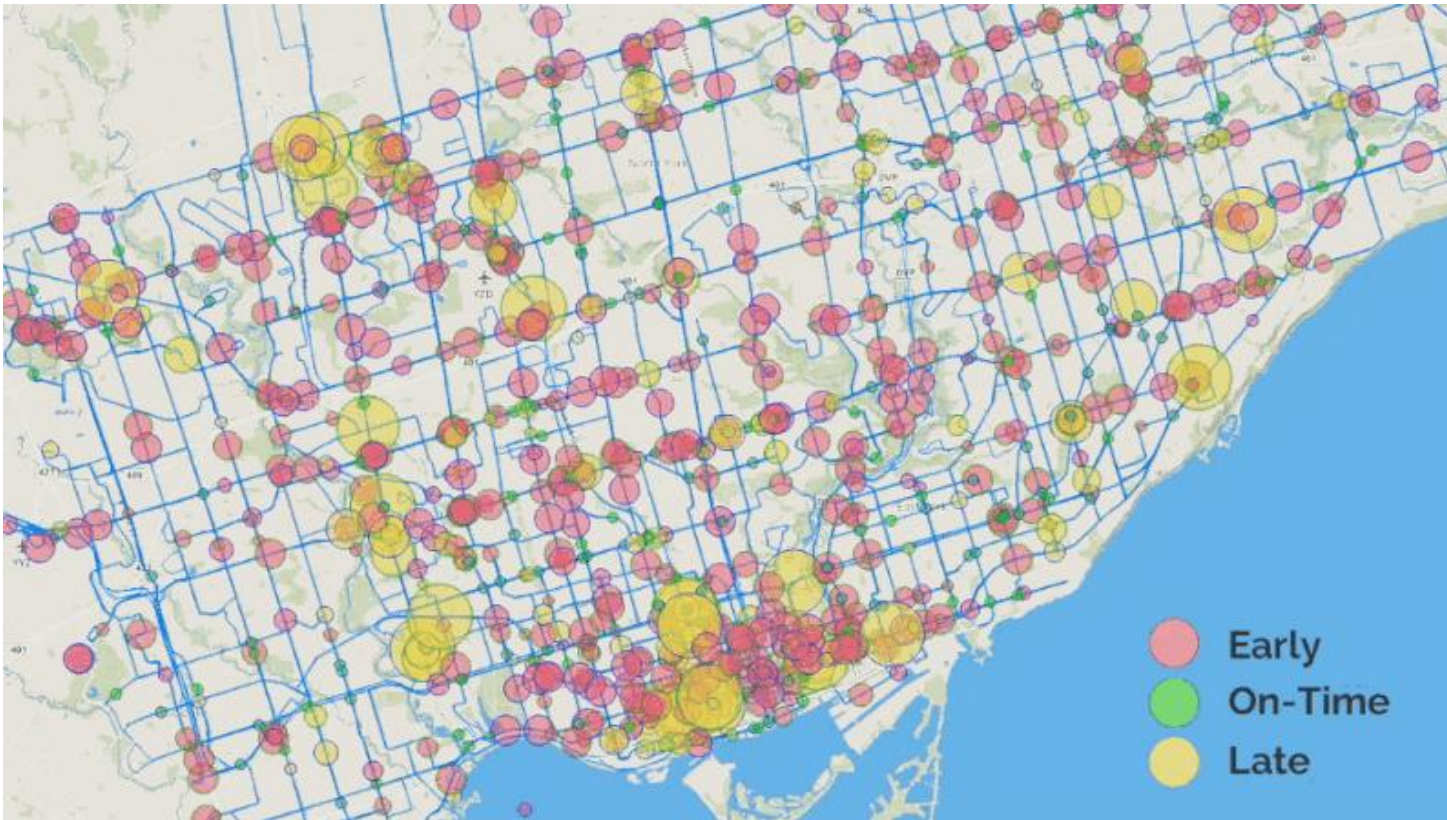


Use case 2 : managing occupancy and overcrowded peak periods

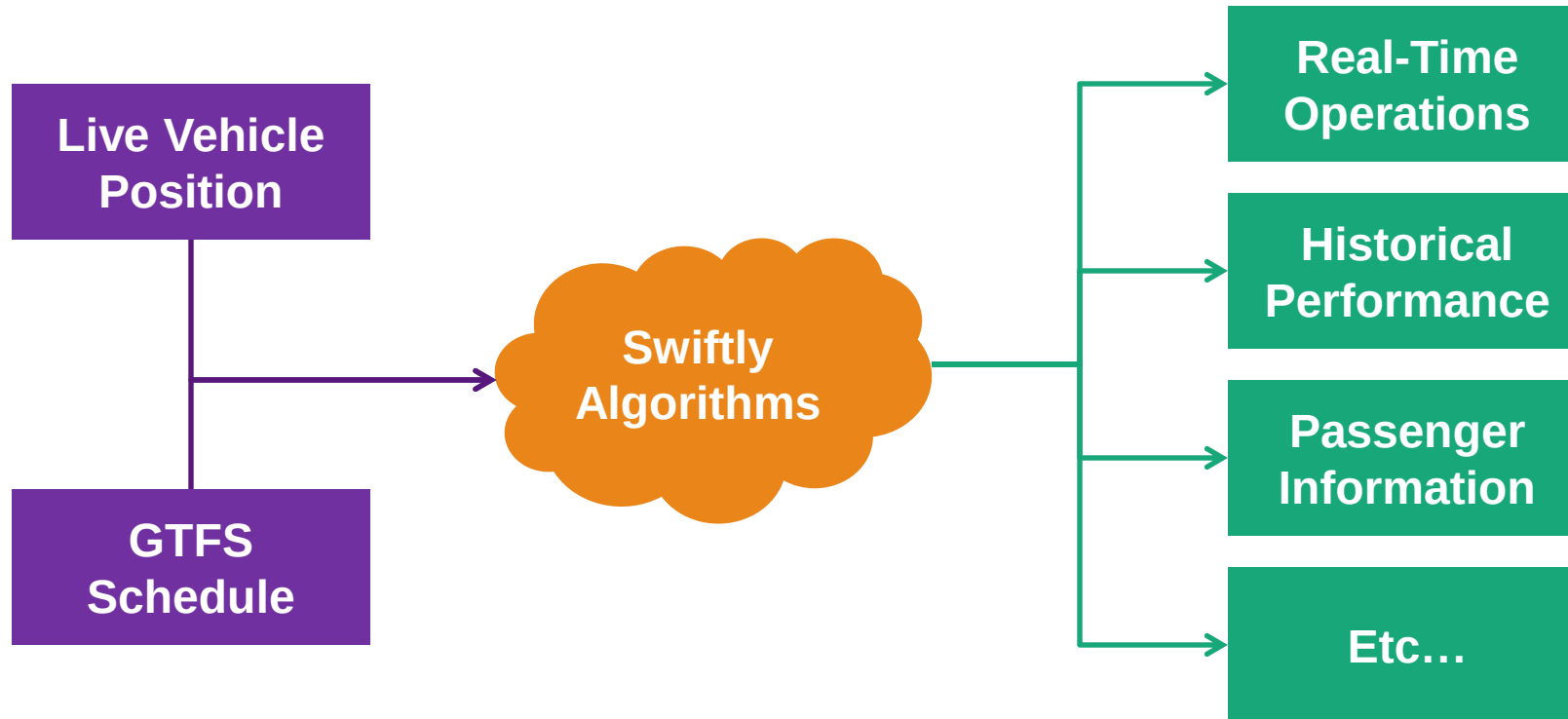
SIMULATION : What are the impacts of changing headways and timetables on occupancy, regularity and passengers' satisfaction



Use case 3 : road and traffic management



Use case 3 : road and traffic management



Lessons learnt

- Make analysis more obvious with longer and more comprehensive series of data
- Accelerate creativity and testing
- Change the way to instruct decision inside the organisation
- Change the dialog between stakeholders
- Visualisation is key

Thank you

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