



Autorité de régulation des transports (since 10/1/19)

# Data-driven regulation of the transport sector: Recent history, major developments

Anne Yvrande-Billon

## Conference - Club of Regulators

# Data-driven regulation of the transport sector

## Data: a raw material for regulators

- Back to the origins of independent economic regulation : existence of market failures (information asymmetries) and State failures (risk of capture)

## Digitalisation: an opportunity for regulators

- Toward a data-driven regulation : New technologies mean increased capacities for regulators to :
  - collect, process and stock existing data on the upstream and downstream markets
  - open the black box of monopolies, incentivize them and be more efficient
- Necessary conditions :
  - legal power to collect data and sanction non cooperative behaviors (differences among EU regulators)
  - financial and human resources to become a « data cruncher »

# Data-driven regulation of the transport sector

## A brief history

2009

- Creation of ARAF (Rail regulatory body)
- Power to collect data occasionally, for the purpose of investigation
- Unenforceable power to sanction infringements

2014

- Rail Reform Act I → same data collection power
- Creation of an independent sanction committee

2015

- 'New scope of competence : intercity coach + motorways (ARAFER)
- Additional data collection powers : on a regular basis, all statistical information can be collected (subject to a reasoned decision)

2018

- Rail Reform Act II → ARAFER as a 'trusted third-party' to monitor the relevance of IM's assumptions on RUs' profitability (regulation of rail access charges)
- Dispute settlement body for conflicts btwn local authorities and incumbent on data transfer

2019

- New scope of competence → airport charges (ART)
- Data collection powers extended to the sector

2020

- New scope of competence → Parisian rail infrastructure manager + transport data
- Data collection powers extended

# Data-driven regulation in the transport sector in action

## ART's actions so far

- Data collection campaigns : 13 reasoned decisions since Dec. 2015 → collection from rail infrastructure manager, railway undertakings, service facility managers, coach transport service providers, coach station managers, motorways concessionnaires on a quarterly, half-year or annual frequency
- Data on (example of RUs collection campaigns)
  - Volumes and types of traffic (demand and supply) at a disaggregated level (by route)
  - Quality of service (punctuality, reliability, weighted by impacted passengers)
  - Economic and financial results (costs, revenues, subsidies)
- A challenge in terms of relationship with the operators:
  - 2 infringement procedures initiated against regulated operators (SNCF Mobilités, ECR) / now closed
  - 2 appeals before the Council of State from UTP against ARAFER's decisions to collect data from railway undertakings (application for the annulment of the decisions for excess of jurisdiction)
    - Appeal against the 2016 decision rejected in February 2018 (decision N°403508)
    - Appeal against the 2017 decision withdrawn

# Data-driven regulation in the transport sector in action

## ART's actions so far

- Open data (<http://www.arafer.fr/observatoire-des-transports/jeux-de-donnees-en-open-data/>)
- Partnerships with academics
- Users surveys
  - update of regulatory hypotheses (induction rate, occupancy rate, pricing unit of access charges, price elasticity of demand...)
- Reports, benchmarks
  - sunshine regulation / yardstick competition in monopolistic sectors
- Datathon (with CRE in Spring 2019)
  - more direct information to final customers to enable them to make informed choices



## 3 challenges

1. Electric mobility (common CRE/ARAFER)
2. Measurement of service quality in land transport (ARAFER)
3. Smart meters of energy consumption (CRE)

## 57 participants

## Prize winning projects

### **1<sup>st</sup> prize : Projet Balize / electric mobility challenge**

Application for electric vehicles optimizing charging time on given itineraries by proposing touristic activities around charging points corresponding to users' preferences

### **2<sup>nd</sup> prize : Projet Météo rail / quality of transport service challenge**

Application predicting train delays

### **3<sup>rd</sup> prize : Projet Patataz / energy consumption challenge**

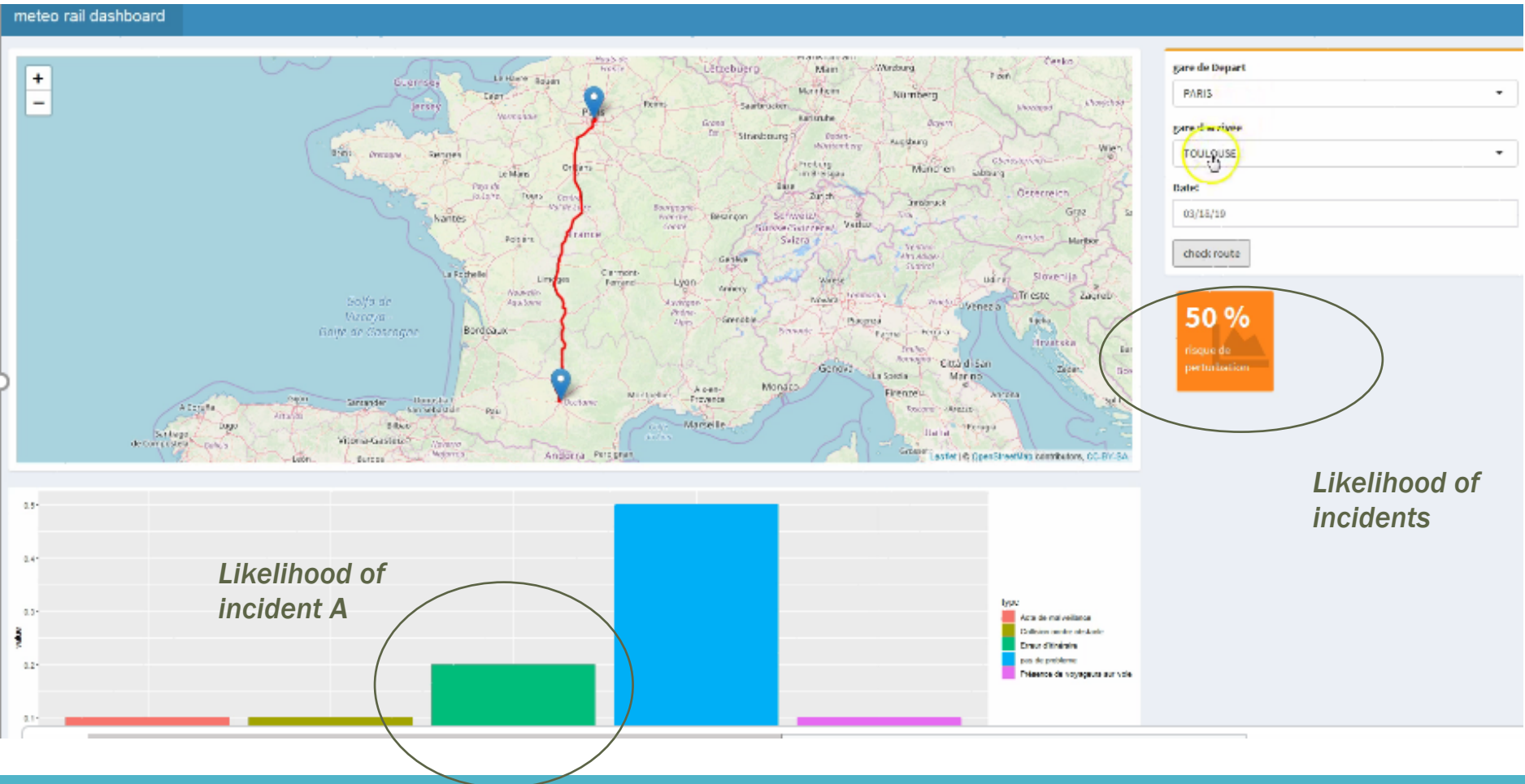
# Zoom on the « Météo rail » project

-> Tool to calculate the likelihood of rail disturbance (delay)



# Zoom on the « Météo rail » project

## User interface





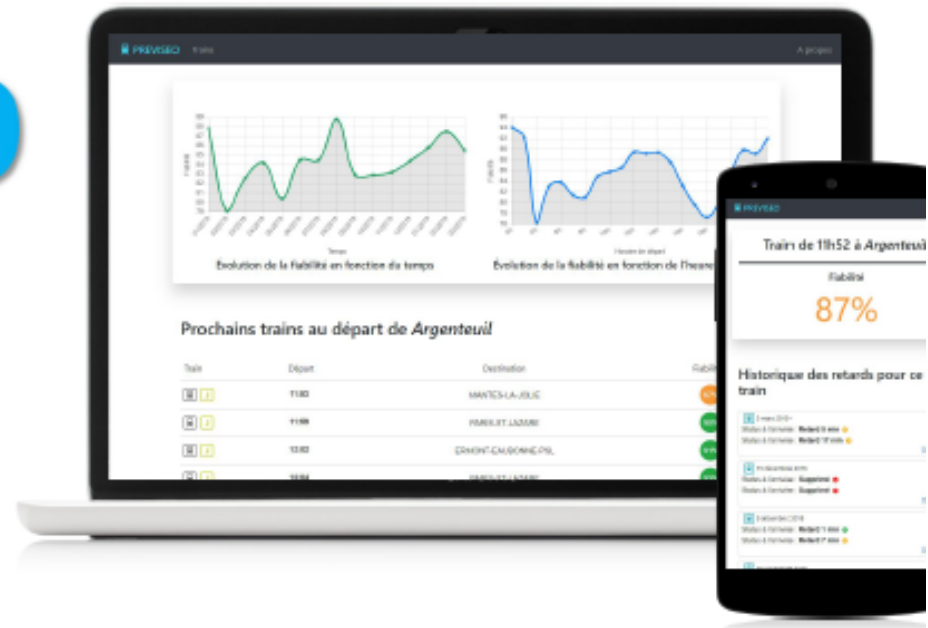
# Zoom on the « Previso » project



# PREVISEO

**Calcul d'indicateurs de  
fiabilités des trains**

LAFFON Paul  
PARIS Cédric



# Data-driven regulation in the transport sector

## Future challenges

- Data-driven regulation puts new demands on the regulator in terms of skillsets, tools and the appropriation of new technologies
  - Creation of a market monitoring and transport data science unit
  - Expanded scope of data thanks to crowd sourcing, simulation-based approach, comparison engines... (e.g. use of mobile phone's digital footprint and GPS history to characterize travel flows)
- More and better data for what?
  - Infrastructure and services monopolies far from final users → transparency on performance as a incentive device
  - Contradictory objectives in highly subsidized sectors → data-driven regulation as a way to reintroduce rationality in debates and decisions
  - Emerging digital operators (≠ transport operators) with new business models → regulation must adapt to track market' evolution



Thank you for your attention