

> IAURIF

French regional planning agency gains unexpected insights from transportation data

Situation

IAURIF (Institut d'Aménagement et d'Urbanisme de la Région d'Île-de-France) is an organization responsible for a variety of planning and development projects for the Île-de-France region, which is dominated by the city of Paris and its suburbs.

Challenge

In one project, IAURIF needed to predict what mode of transportation Parisians would use—and why they would use it—using a large dataset not originally collected for data mining.

Solution

Using Clementine's rule-induction algorithms, IAURIF uncovered unexpected insights and proved that the group's first assumption, which was based solely on experience, was false. Instead, Clementine's rapid modeling environment revealed the most important travel factors, and derived accurate results based on fact.

Results

- More accurate traffic forecasting
- Improved transportation planning

At a glance

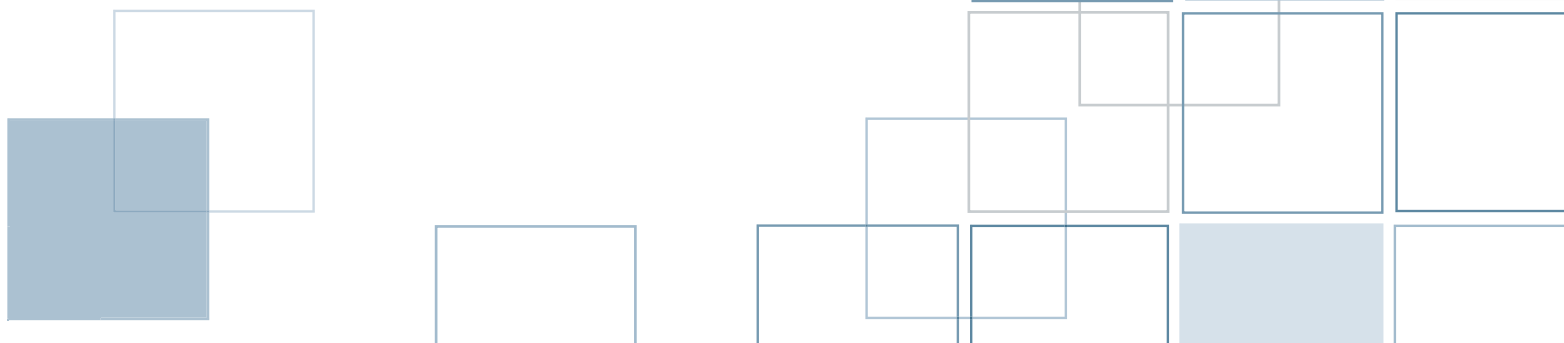
Country: France
Industry: Government
Date founded: 1960
Company type: Public agency
Revenues: N/A

Application

Traffic flow prediction

Solutions used

Clementine®



■ Traffic flow prediction

Analyzing and predicting traffic flows and growth is a complex process. For IAURIF, this process started with an existing database of 400,000 records. This data, obtained from a detailed Parisian transport survey, was not originally intended for data mining. That meant a more complex task right from the start, since IAURIF had to complete extensive pre-processing before it could begin data mining.

Armed with Clementine's data manipulation capabilities, IAURIF began by grouping the 200 original fields under general headings, such as place of residence and socio-economic class. Then analysts selected a representative variable for each group of fields, and ensured that the groups were independent of their effect on transport mode. This important pre-processing enabled IAURIF to pinpoint 26 fields, a core set of relevant variables that would simplify and significantly help the group's data mining efforts. IAURIF analysts then used Clementine's rule induction algorithms, which predicted a three-way variable—whether someone would walk, drive, or take public transportation for a specific journey. With Clementine's powerful modeling

techniques, analysts identified the factors behind each choice. Based on experience, IAURIF had first thought sociological factors, such as income and class, would combine with the journey's purpose to be the most important causal factors.

However, Clementine uncovered a very significant, and surprising, finding. The most important factors proved to be journey distance and trip time—not factors the group had predicted on experience alone. IAURIF demonstrated Clementine's accuracy by testing results with a validation data set. In the end, Clementine and this new modeling process increased IAURIF's ability to plan future transportation, as well as increased its credibility.

□ “Using Clementine, IAURIF can more precisely predict future transportation needs, which helps better serve Parisians' transportation needs, as well as increases the organization's credibility.”

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