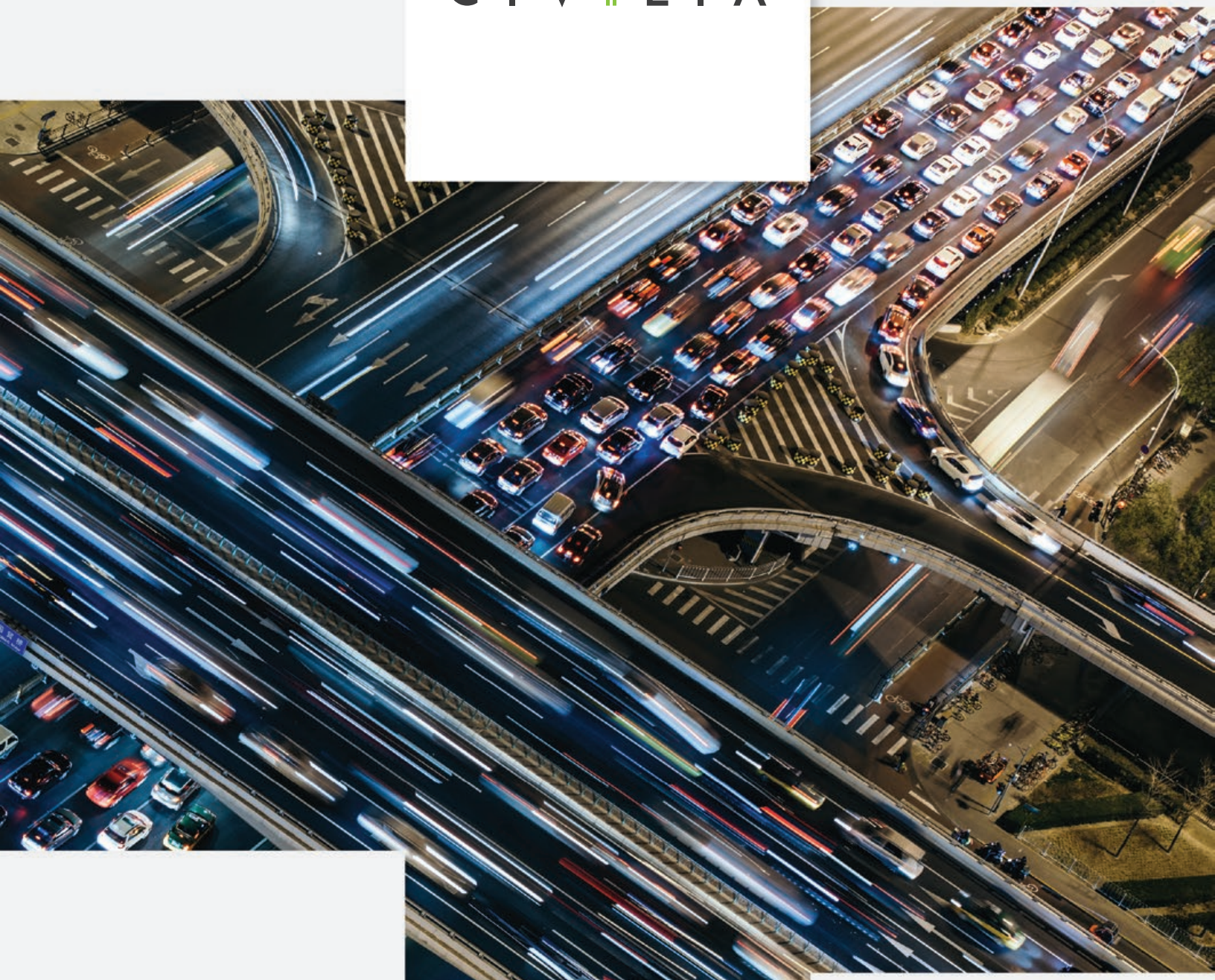
CIVILIA



SOLUTIONS FOR SMART CITIES AND PUBLIC TRANSIT AUTHORITIES

CIVILIA

Mission

To be at the heart of the urban mobility transformation by providing cities and public transit authorities with the tools and knowledge to drive a smooth and efficient flow of traffic.

Vision

To be a leader and change agent in transportation expertise and artificial intelligence, driving integrated, predictable and eco-friendly urban trips.

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Formed in 2016, Groupe Civilia Inc. is a company specializing in transportation and artificial intelligence. Its team of passionate, experienced professionals develop innovative solutions that allow cities and public transit authorities to provide a smooth and efficient flow of traffic.

Around the world, the transportation of people and goods is a major challenge for communities. With technological developments occurring at a rapid pace, vast quantities of useful data are being generated, which can help us understand transportation needs and optimize the use of transportation networks. Civilia has managed to process a massive amount of this ocean of data to improve system management and provide citizens with relevant, real-time information.

Civilia offers a range of solutions that align with new global trends aiming to improve the way citizens experience living in communities, such as smart transportation systems, connected objects and smart cities. The common denominator of these new trends is the ability to establish dynamic relationships with citizens and things via new technologies and the strength of social networks.

Civilia has an extensive partner network that supports it in developing solutions, including Polytechnique Montréal, the University of South Florida, McGill University and the Université de Sherbrooke. These collaborations are confirmation that Civilia's approach is cutting-edge and that the company is at the forefront when it comes to operationalizing artificial intelligence concepts in the field of public transit.

Mobi.data

Active management that's predictable in real time

Mobi.data is Civilia's core product. This module allows for the centralization of data and interpretation of KPIs relevant to the decision-making process. This module provides key dashboards with real-time information and leverages AI to generate quality predictive data. The goal is to improve the quality of services provided to citizens and drive operational efficiency.

What it does

- Centralizes big data from internal and external sources
- Creates algorithms for real-time predictions
- Provides comprehensive dashboards and alerts
- Makes measurable predictions
- Operates on top of your existing systems

Benefits

- Simplified decision-making
- Proactive management with predictions
- Better control over your operations
- Real-time citizen impact
- Supports short- and long-term decisions
- No system change required

Case study

Real-time prediction of bus arrival times

Photo Source: Société de transport de Sherbrooke

Artificial intelligence facilitating travel by public transit

The public transit authorities of Sherbrooke, Trois-Rivières, Lévis and Saguenay use Mobi.data to predict bus arrival times in real time. The solution collects information about the location of buses in service from the different existing systems and generates predictions of bus arrival times at upcoming stops with the help of algorithms. The data produced is added to a GTFS-RT data feed in order to facilitate their distribution via mobile apps, text messages, display panels, etc.

Interesting to know

A dashboard informs you of the status of the data sources, the quantity of data being processed and the quality of the predictions made.

More than 20 million predictions are made daily.

The predictions are available to a population of 650,000 people.

Results

In addition to being an efficient tool for transit system managers, the solution we developed has positive impacts for transit users, who have access to quality, real-time information.

Transit system users can now view the data produced by Mobi. data through a variety of tools (mobile apps, text messages, display panels, websites, etc.).

ROI

The enhanced user experience should result in an increase in both ridership and revenues for the public transit authority.

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Mobi.com

Informed citizen, happy citizens

Mobi.com is the flexible communication solution that allows you to provide relevant, real-time information to citizens and employees via your different smart solutions.

What it does

- Provides real-time information
- Provides personalized information
- Optimizes supply and demand
- Features a client feedback mechanism
- Supports special event management

Benefits

- Improved client travel
- Improved client satisfaction
- Real-time information and predictions
- Adapted to different modes of communication

Case study

Passenger information project in Saguenay

Personalized passenger information now available in Saguenay

The Société de transport du Saguenay uses Mobi.com to provide its riders with personalized real-time information. The solution communicates bus arrival times as well as alerts with the help of the Transit mobile app, text messages, open data, and indoor and outdoor display panels.

Interesting to know

Thanks to Mobi.com, riders can use the Transit app, which is available free of charge for public transit authorities.

Text messages provide real-time information to riders, even if they don't have access to the internet.

Results

Marked increase in the use of the mobile app once real-time information was introduced.

Riders can now get real-time information through a variety of tools.

ROI

The enhanced user experience should result in an increase in both ridership and revenues for the public transit authority.

D PUBLIC TRANSIT AUTHORITIES

Mobi.sim

Better service at a better price

Whether you're planning new public transit services for citizens or infrastructure projects, Mobi.sim allows you to simulate different options to find the ultimate solution. Mobi.sim takes into account your operational constraints and transportation networks to identify the best options for your specific environment.

What it does

- Features adapted travel simulation (car, bus, cycling, walking)
- Provides manual or big data simulation
- Details each step of the route
- Compares different modes of transport
- Compares different scenarios

Benefits

- Service better adapted to your demand
- Optimization of material and human resources
- Adaptable to your environment

Case study

New bus service in downtown Ottawa

A new transportation experience in the heart of Canada's National Capital Region

As part of the commissioning of Ottawa's light rail transit train, the Société de transport de l'Outaouais (STO) had to change all its bus lines serving Ottawa. The analyses carried out with Mobi.sim allowed the STO to redefine optimal bus service routes in order to improve service to the downtown area and facilitate train transfers while at the same time reducing the number of buses circulating in the downtown core.

Interesting to know

Some 40 STO bus lines provide service to downtown Ottawa. All trips made by current riders were simulated in a disaggregated manner to understand needs and measure the impacts of different scenarios.

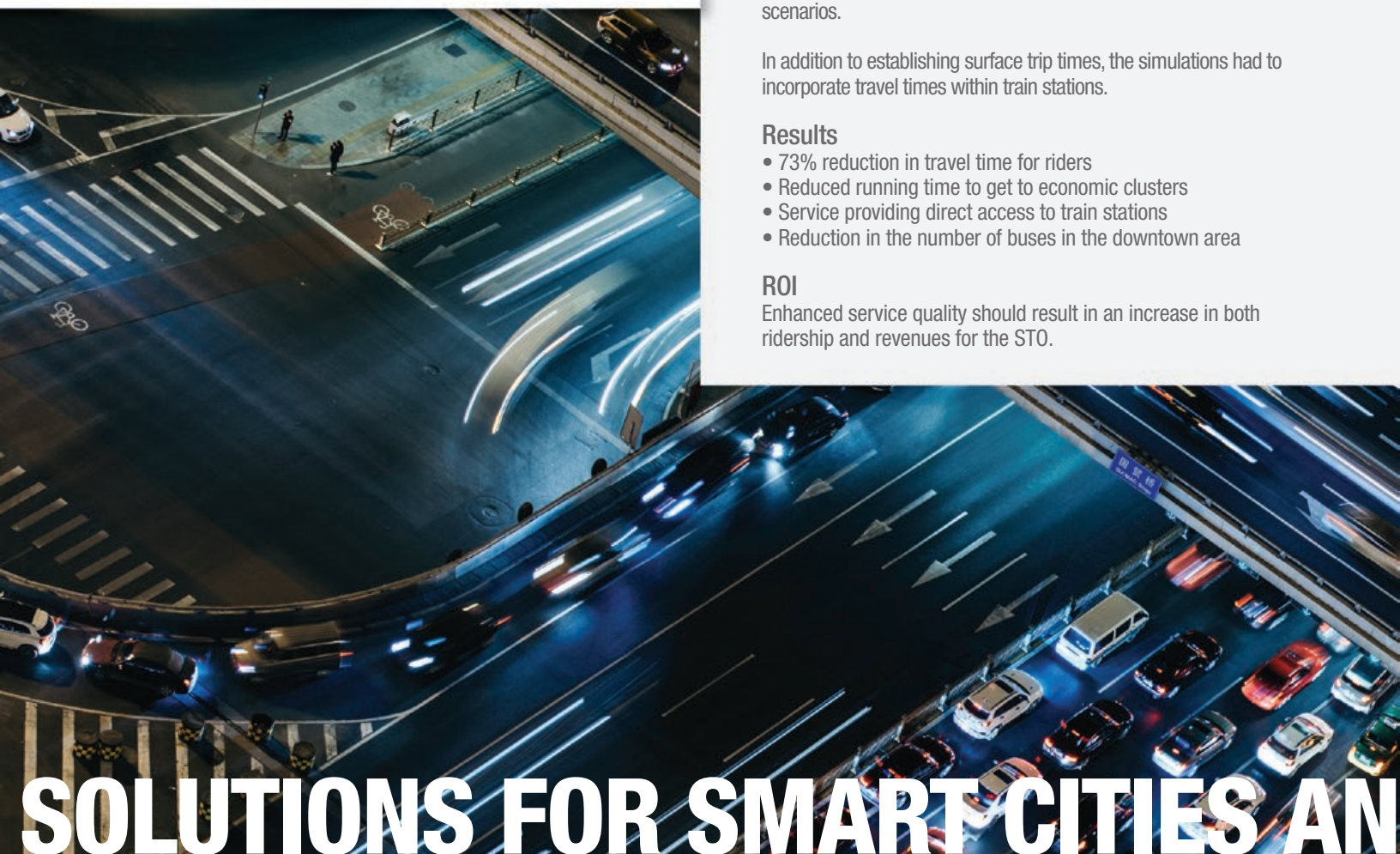
In addition to establishing surface trip times, the simulations had to incorporate travel times within train stations.

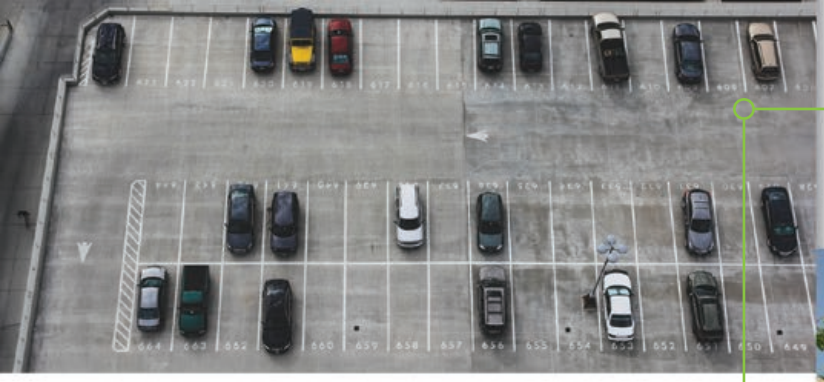
Results

- 73% reduction in travel time for riders
- Reduced running time to get to economic clusters
- Service providing direct access to train stations
- Reduction in the number of buses in the downtown area

ROI

Enhanced service quality should result in an increase in both ridership and revenues for the STO.





Mobi.park

Intelligent parking, happy users

Brings real-time, predictable parking availability information to your citizens, corresponding to their travel needs.

What it does

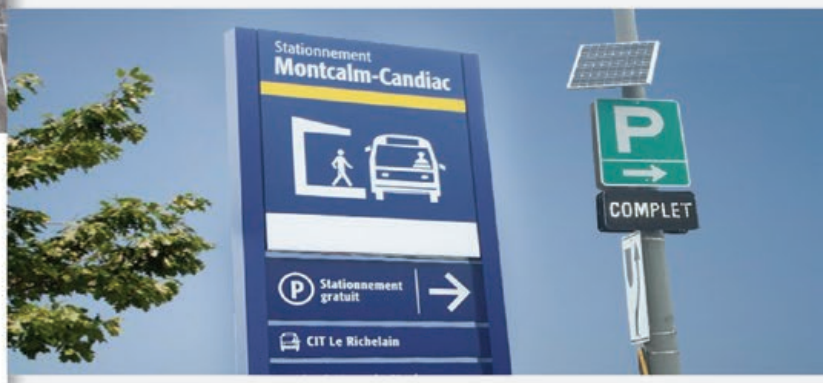
- Provides quality data on parking demand
- Predicts available parking spaces
- Provides real-time communication to drivers
- Provides personalized information to drivers
- Proposes alternatives
- Detects infringing vehicles

Benefits

- Optimization of driver routes
- Less user time loss
- More fluid travel
- Simplified event parking management

Case study

Montcalm park-and-ride lot in Candiac



A smart parking lot for the benefit of the citizens of Candiac

The Montcalm park-and-ride lot is very popular with Candiac residents. Mobi.park conducts real-time monitoring of use of the parking lot, makes predictions on parking spot occupancy and informs citizens ahead of time as to parking space availability. This way, citizens are always aware if the parking will be full within a 15, 30 and 60 minute window.

Interesting to know

A LoRa communication network was used to reduce recurring costs for inter-equipment data transfer.

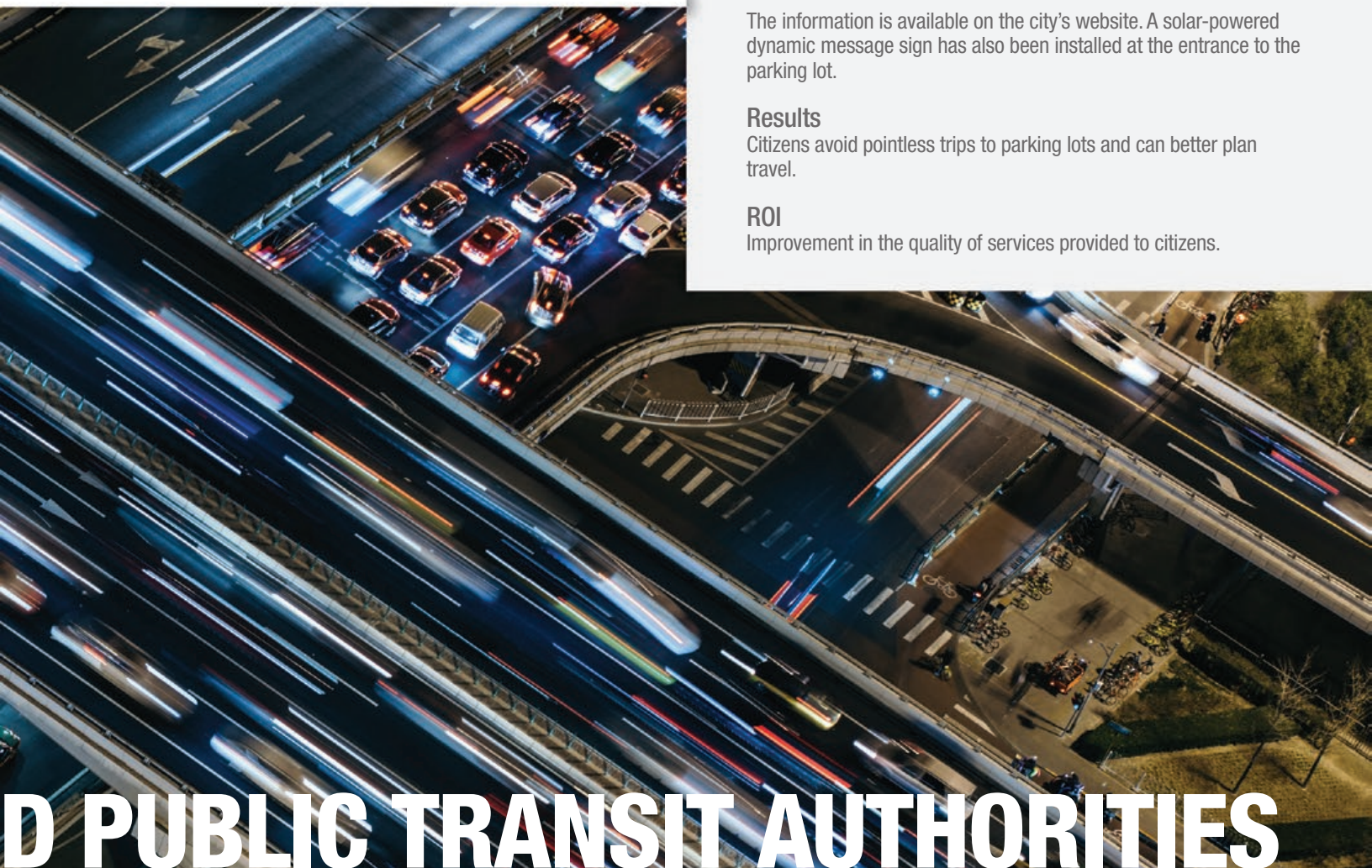
The information is available on the city's website. A solar-powered dynamic message sign has also been installed at the entrance to the parking lot.

Results

Citizens avoid pointless trips to parking lots and can better plan travel.

ROI

Improvement in the quality of services provided to citizens.



D PUBLIC TRANSIT AUTHORITIES

Mobi.rout

Enhanced efficiency for your service vehicles

Mobi.rout is central to your smart services. Used mainly in public works environments, it allows you to optimize service vehicle movements. Mobi.rout takes into account your own operational constraints and your specific road network. It provides real-time situational information and recommends routes so you can intervene in a timely, efficient manner.

What it does

- Provides optimal routing based on specific conditions
- Manages service on demand
- Features an editable road network

Benefits

- Optimization of resources
- Cost reduction and operational efficiency
- Adaptable rules according to your policies

Case study

Optimization of trash collection in Longueuil

Smart trash bins to optimize trash collection in Longueuil

As part of a pilot project for the City of Longueuil, sensors were installed on public trash bins to get real-time information about how full the public trash containers were. With Mobi.rout, the itinerary of the trash collection truck was optimized, while taking into consideration collection needs and operational constraints.

Interesting to know

Mobi.rout takes into consideration operational constraints related to the size of the vehicle, the type of intervention to be provided and the characteristics of the road network.

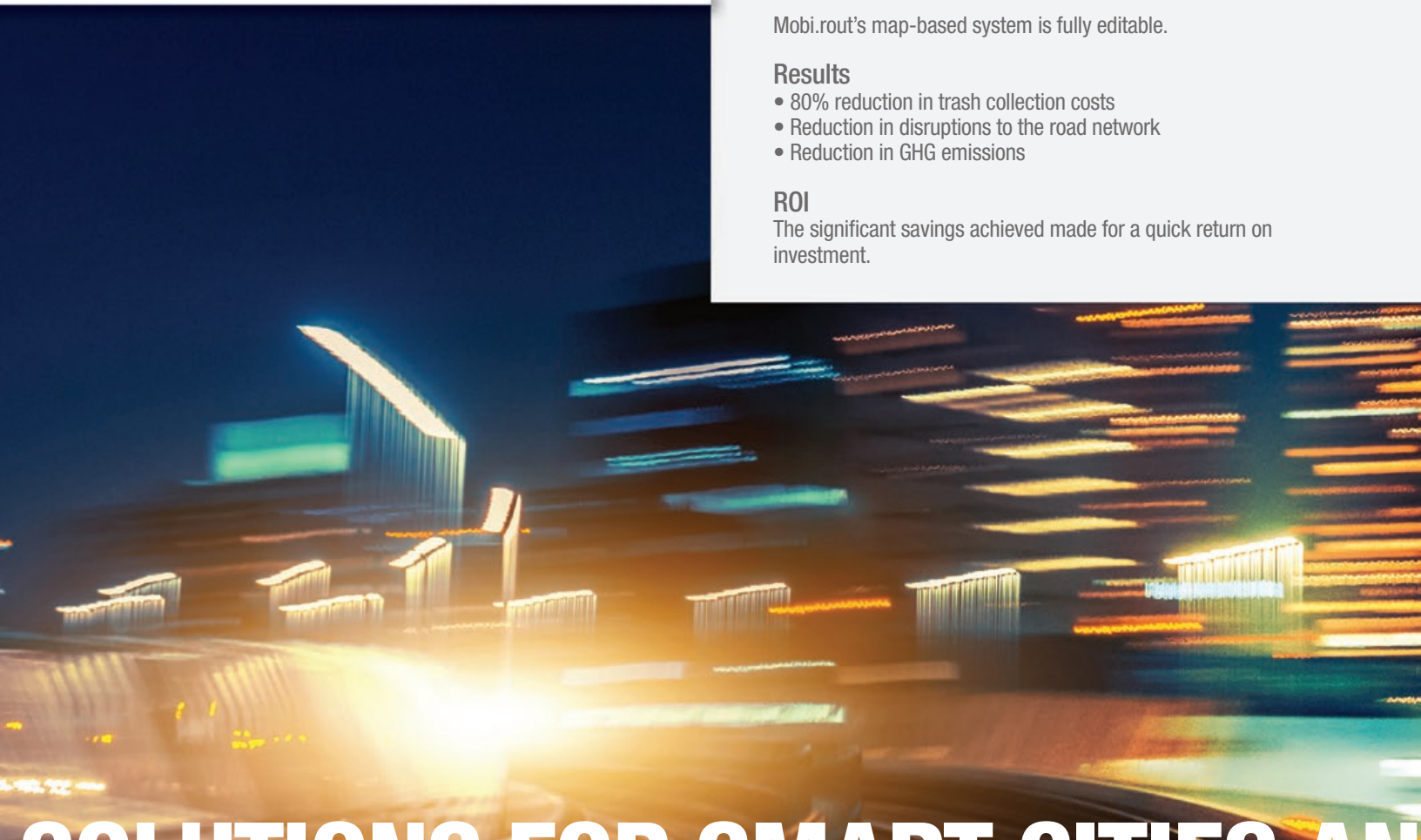
Mobi.rout's map-based system is fully editable.

Results

- 80% reduction in trash collection costs
- Reduction in disruptions to the road network
- Reduction in GHG emissions

ROI

The significant savings achieved made for a quick return on investment.



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Mobi.fid

Eco-friendly local trips, happy local merchants

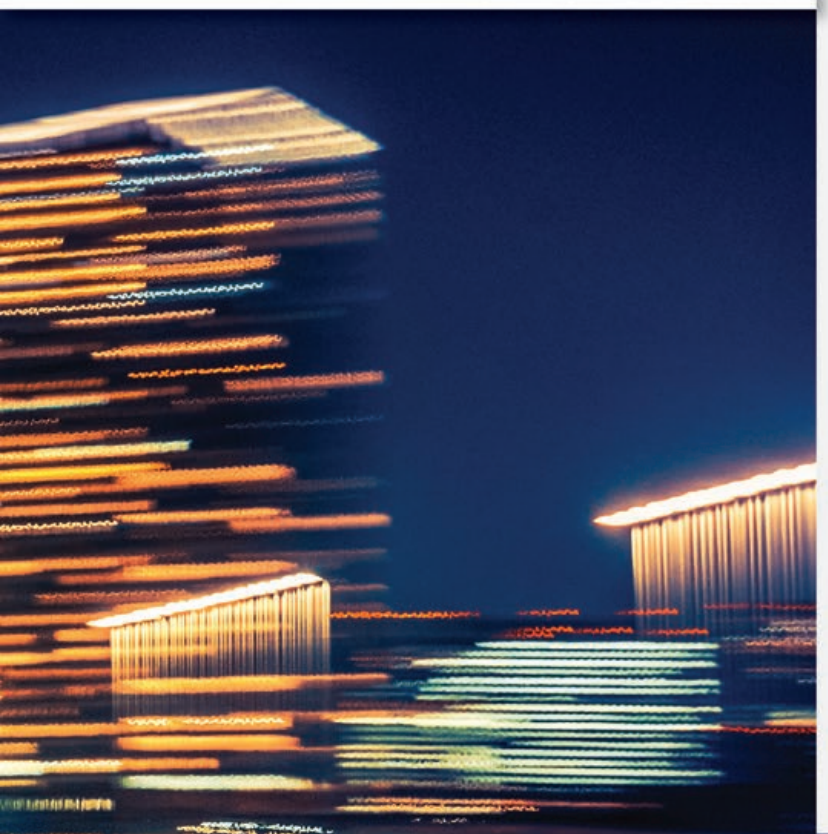
Promotes eco-friendly citizen travel while generating more traffic to your local businesses.

What it does

- Valorizes eco-friendly travel
- Values points with local merchants
- Features an open interface with existing loyalty programs
- Uses a gamification approach
- Can be adjusted to diverse observed conditions

Benefits

- Rewards eco-friendly travel
- Improved user satisfaction
- More fluid travel
- Another reason to keep the car home



Our clients:

Société de transport de Sherbrooke

STO
L'avenir en commun

STS
SOCIÉTÉ DE TRANSPORT DU SAGUENAY

CANDIAC
ma ville sous les arbres

VILLE DE QUÉBEC

Société de transport de Lévis

STTR
Société de Transport de Trois-Rivières

RTL
Agglomération de Longueuil

VICTORIAVILLE
santé urbaine

CDPQ Infra

And many more

D PUBLIC TRANSIT AUTHORITIES

Martin Choinière
CEO, Transit Engineer

Building on his engineering and project management training, Martin has developed unique expertise over the past 25 years in the use of new technologies to optimize transportation systems and improve management and engineering processes.

His attentiveness, creativity and dedication are qualities highly appreciated by his colleagues, partners and clients. His communication skills, combined with his ability to clearly identify a project's main challenges, allow him to efficiently mobilize the actors and resources needed to implement solutions meeting specified goals.

Xavier Prudent
CTO, Data Scientist

With a bachelor's degree in engineering and a PhD in physics, Xavier has more than 13 years of international experience. He specializes in data optimization and artificial intelligence. His curiosity, work ethic and ability to assimilate complex concepts have allowed him to complete many research projects involving big data mining and the development of prediction algorithms.

For 3 years, Xavier has been working on developing solutions to improve traffic flow and facilitate real-time communication with passengers. Based on approaches related to artificial intelligence and the internet of things, these solutions rely on the real-time mining of big data from different sources using algorithms. As a result, managers and passengers, using decision-making tools and different applications, can rely on data and quality predictions in real time.

TEAM AND

Ana Abecia
Transit Economist

Ana is a public transit economist with 12 years of experience in the transit sector, where she focused mainly on the areas of planning, economy, service improvement, pricing and ticketing.

When working for a consulting firm, Ana was involved in transit planning projects in urban, peri-urbain and regional settings. Among the projects she completed were mandates dealing with supply-and-demand modelling, strategic monitoring and the analysis of transit data statistics. Her training and experience also allowed her to conduct different financial and economic assessments. Anna took part in several studies dealing with the development of public transit systems across Quebec.

Through her duties as an executive with the Société de transport de Sherbrooke, she also gained experience in management, the implementation and assessment of targeted marketing activities and partnerships.

Serge Hamel
Strategic Advisor

Serge specializes in infrastructure operations (winter maintenance, signage, marking, emergency measure monitoring and management) and traffic optimization through the contribution of smart transportation systems. He worked for more than 34 years for the Ministère des Transports du Québec, including more than 10 years as a manager.

Since moving to the private sector more than 5 years ago, he has acted as technological innovation specialist for the implementation of smart city and industry 4.0 concepts.

EXPERTISE

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