


PARKUNLOAD


smart regulation and control of loading and unloading parking areas

Challenges in urban freight distribution parking areas (last mile)



Parking indiscipline issues

- Lower parking rotation and availability
- Ineffective control means (parking disk)




Lack of real data

- Static restricted parking conditions
- Public space parking unoptimized



Higher parking demand for deliveries (e-commerce)

- No vehicle segments: emissions, use...



Environmental challenges

- Pollution episode restrictions*
- Air pollutant & noise reduction



As a result, cities have a real lack of real data and face difficulties to feasibly restrict urban freight traffic during pollution episodes, while other cities fight against parking indiscipline and/or a suffer higher parking pressure due to e-commerce effect (Amazon...).

Now, the city can define and enforce advanced and fully digitalized **flexible urban mobility policies** for restricted parking areas, due to an innovative and scalable IoT platform, based on smart parking road signs and mobile applications.

* Urban freight ranks as 10%-15% of city traffic and it is responsible for 25% of urban transport-related CO2 emissions and 30 to 50% of other transport-related pollutants (*ERTRAC Urban Mobility 2014*).

A blue-tinted photograph of a desk setup. In the foreground, a pair of black-rimmed glasses rests on a silver laptop. To the right, a white computer mouse is visible. In the background, another laptop is open, its screen glowing. The entire scene is bathed in a soft, monochromatic blue light.

PARKUNLOAD[®] **Platform**

Smart parking road sign for a loading parking area



Urban freight parking zone

Customized traffic sign per zone



The sign is a vertical rectangular panel with an orange top and bottom section and a white middle section. At the top left is the City of London logo, and at the top right is the PARKUNLOAD logo. The main text reads "Urban Freight Distribution Zone". Below this is a red circle with a blue background and a red diagonal line, with the text "Except vans, trucks and light commercial vehicles". Underneath is a white box with the text "Working days Monday to Saturday from 8:00h to 20:00h". Below that is a blue box with the text "Mandatory regulation based on Mobile phone Variable maximum parking time". At the bottom of the white section is a white box with the text "Zone code: LON-001". The bottom orange section contains the text "Parking time regulated with PARKUNLOAD mobile app", followed by "Download on the App Store" and "GET IT ON Google Play" logos, and a QR code with the text "Download PARKUNLOAD mobile app. Alternatively, navigate to www.parkunload.com/start to notify parking start time."

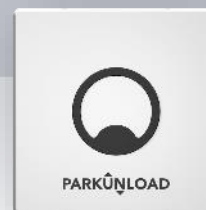
Flexible permit and parking time

- Precise location (area)
- Vehicle use (professional, private, PRM, resident)
- Schedule (peak hour)
- Vehicle type (heavy, medium, light)
- Vehicle emissions (EuroN)
- Pollution episodes restrictions



Mandatory use of app or web

Based on traffic ordinance of the city



Principle of operation

01

Parking the vehicle

Park the vehicle and get close to the traffic sign

02

Get parking permit and conditions

The app detects the smart sign and displays parking conditions

03

Start parking time

The user agrees and the app starts decrementing time



IoT platform

PARKUNLOAD® is an innovative, scalable and disruptive **IoT platform** to control and flexibly regulate **restricted parking zones to perform loading and unloading operations in urban areas** of multiple cities **using smart traffic signs and mobile applications** for both drivers and parking enforcement agents.



Smart parking road signs

Extremely quick, energy-saver and precise method to identify and locate urban freight parking zones.



Mobile app for drivers

To easily register their parking operations and gather occupancy information (free parking slots).



Mobile app for parking agents

To efficiently control the status of the vehicles in the urban freight parking zones of the city.



Web-based BackOffice

To set-up the platform, define particular parking permit and time-limit per zone and consult statistics.

An aerial, blue-tinted photograph of the Shanghai skyline. The Oriental Pearl Tower is the central focus, with its three spheres and spire clearly visible. Surrounding it are numerous other skyscrapers and buildings. A river, likely the Huangpu River, flows through the city, with several boats visible on its surface. The overall atmosphere is hazy and monochromatic.

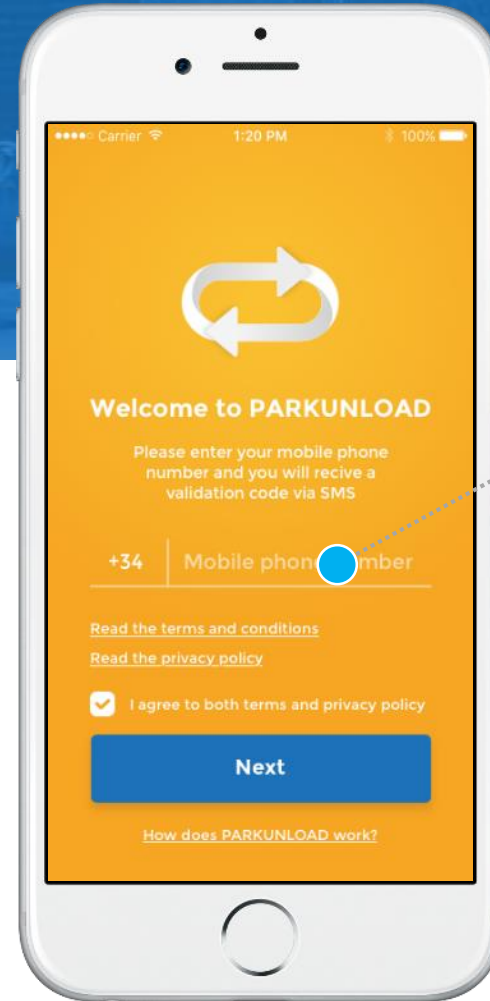
PARKUNLOAD®
App for drivers

Splash and register



Splash screen

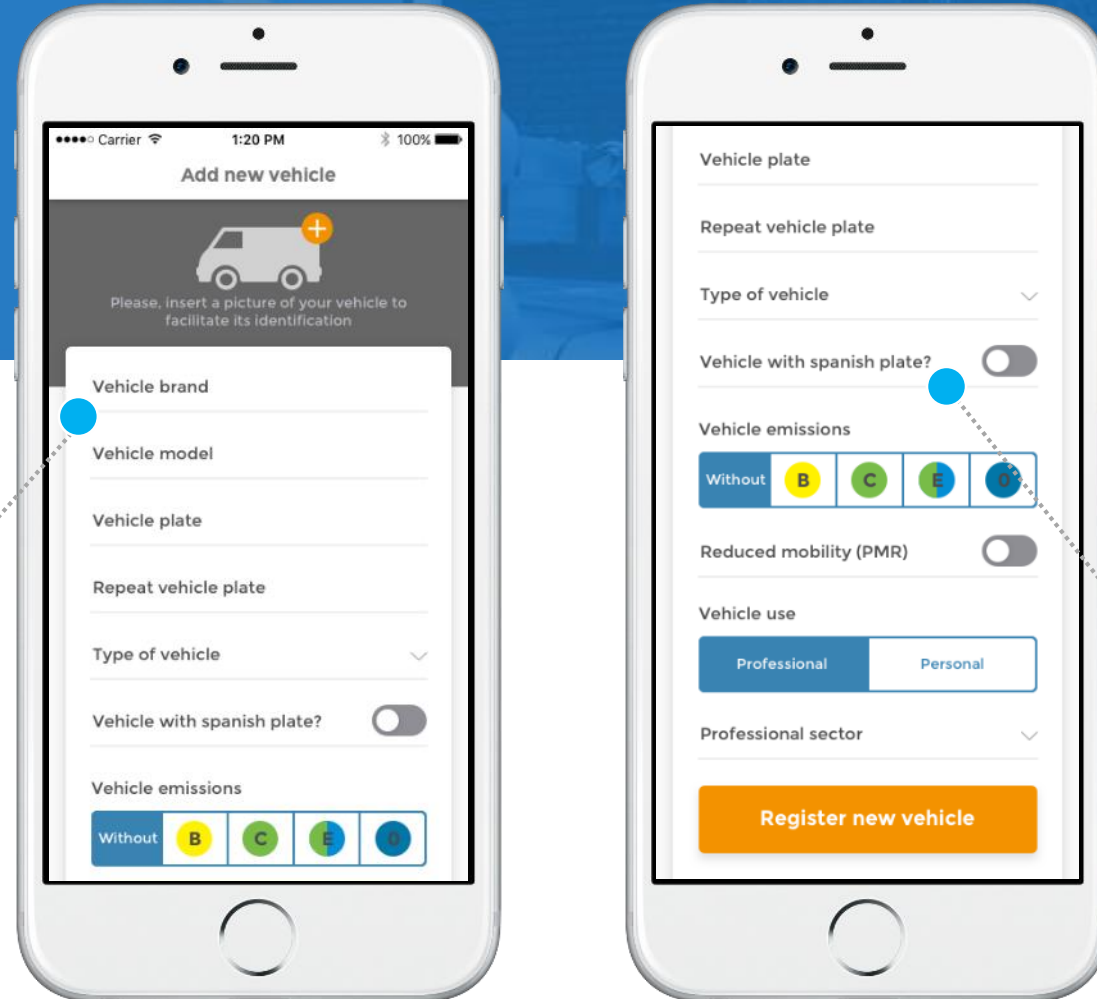
Application launching process



Mobile phone register

The user simply indicates the mobile phone number and receives an SMS validation code to get registered.

Registration of the vehicle



Vehicle's data

The driver indicates the main vehicle's properties: plate, brand, model and a real picture.

Vehicle's regulatory data

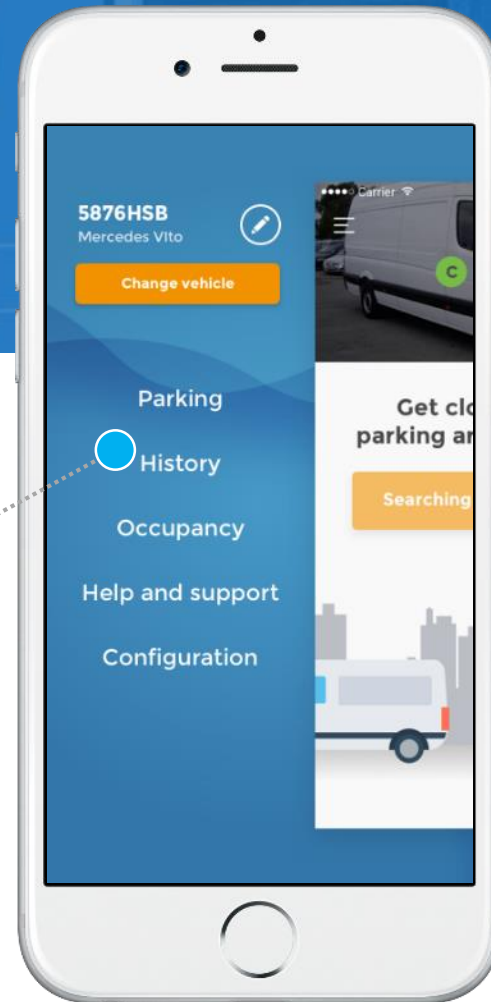
Additionally, PARKUNLOAD requires regulatory data such as vehicle type, (heavy, light), vehicle emissions, vehicle use (professional, private, PRM), etc.

The cities may use vehicle's data to define flexible parking permits and the maximum parking time allowed.

Navigation menu

Sliding panel sidebar

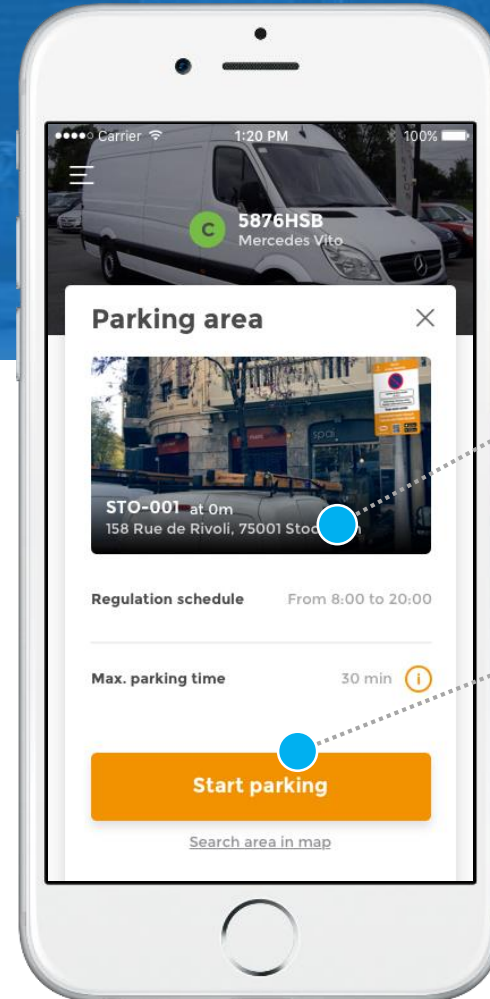
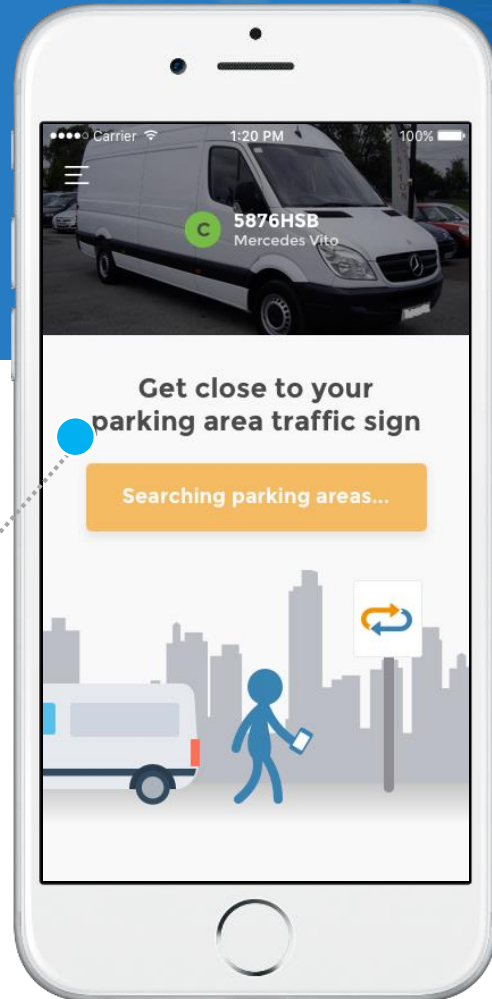
The driver navigates through the main application features by using a side navigation menu.



Parking permit and max. time

Traffic sign detection

The app automatically and precisely detects the current parking zone of the user.



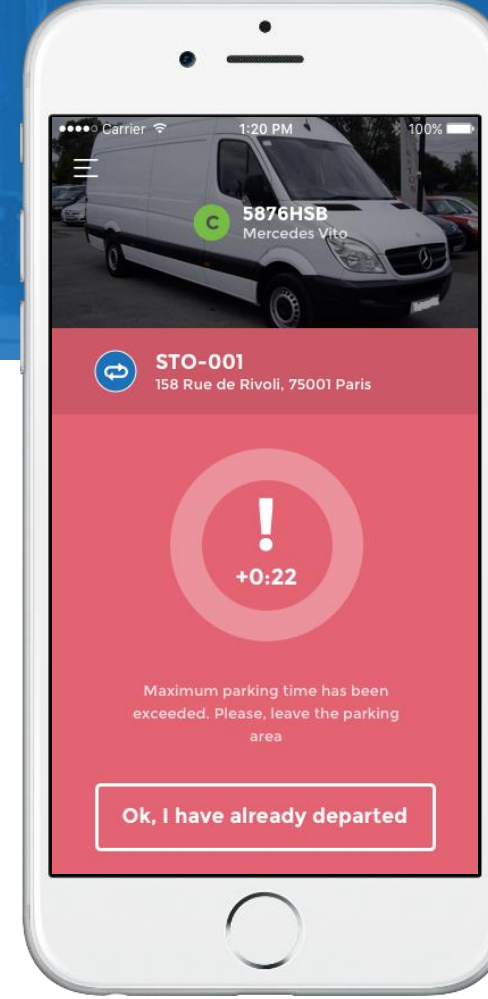
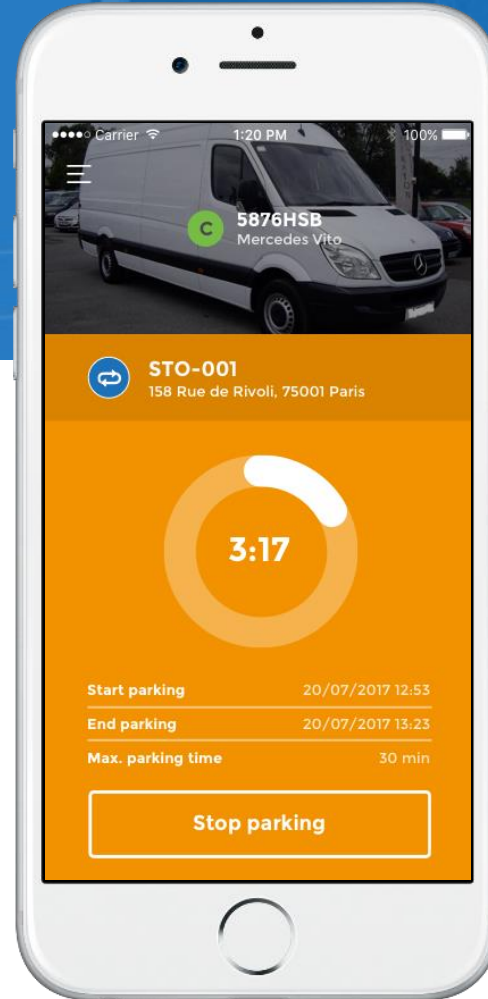
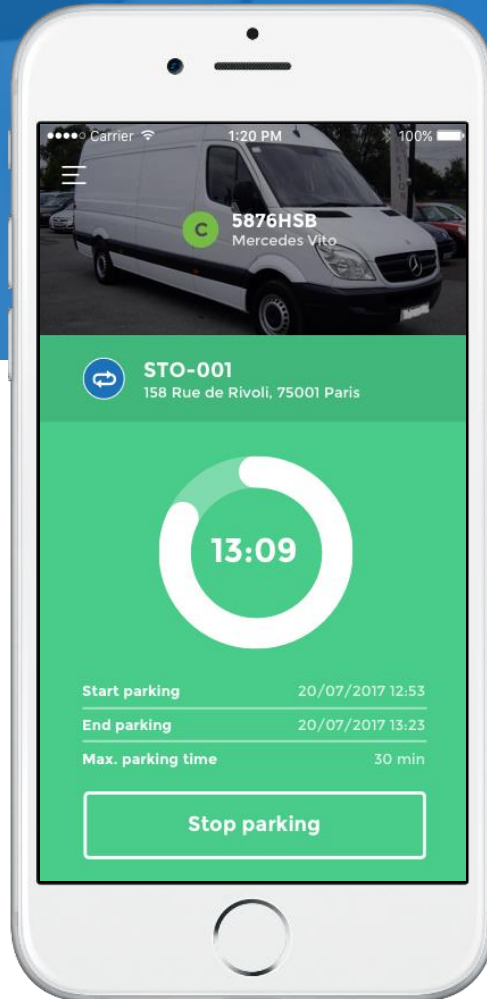
Parking regulatory conditions

The app displays the specific parking conditions of the vehicle in the current zone based on its location, schedule, vehicle's features and vehicle's use.

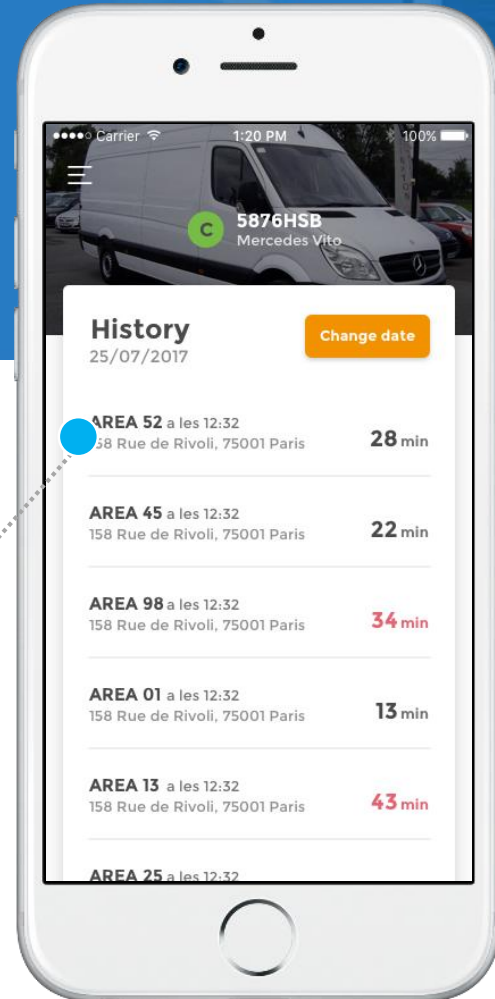
Start parking time

If the vehicle has the parking permit, the driver may start the parking time, for as long as the maximum time communicated.

Parking time events

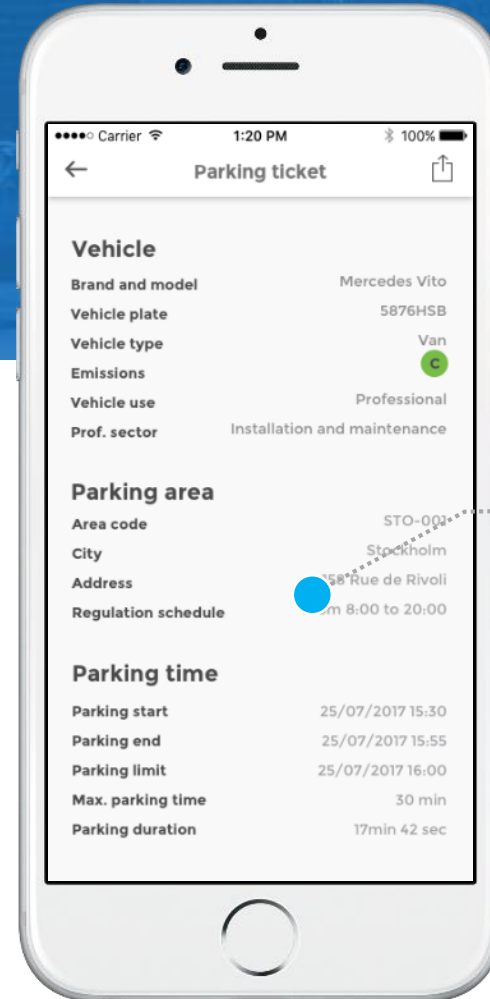


Parking tickets



Parking operations

The app displays all the user's parking tickets grouped by date.



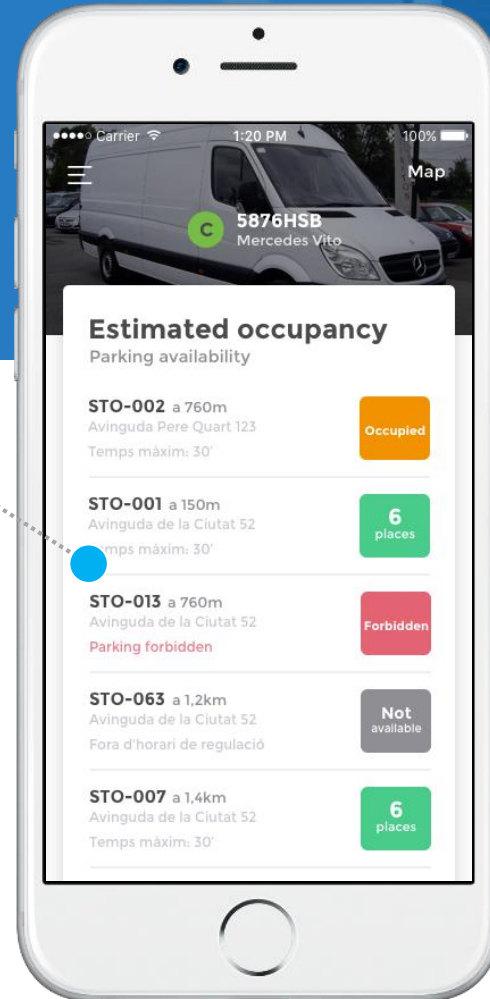
Parking ticket

The user can visualize, export and share with other apps (e-mail, etc.) PDF format parking tickets.

Estimated parking occupancy

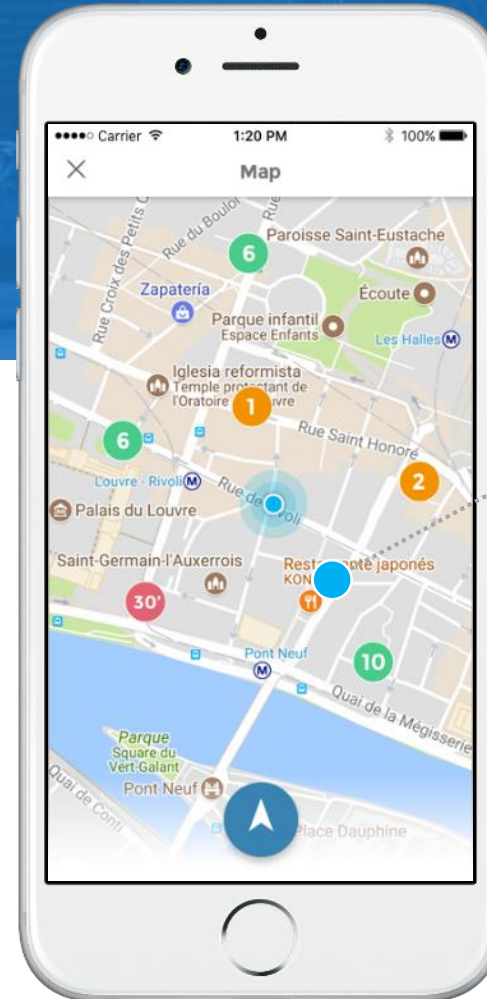
Parking occupancy list

The driver can gather detailed parking occupancy information of the closer parking zones, indicating the number of free slots or the best time to be released the next parking slot.

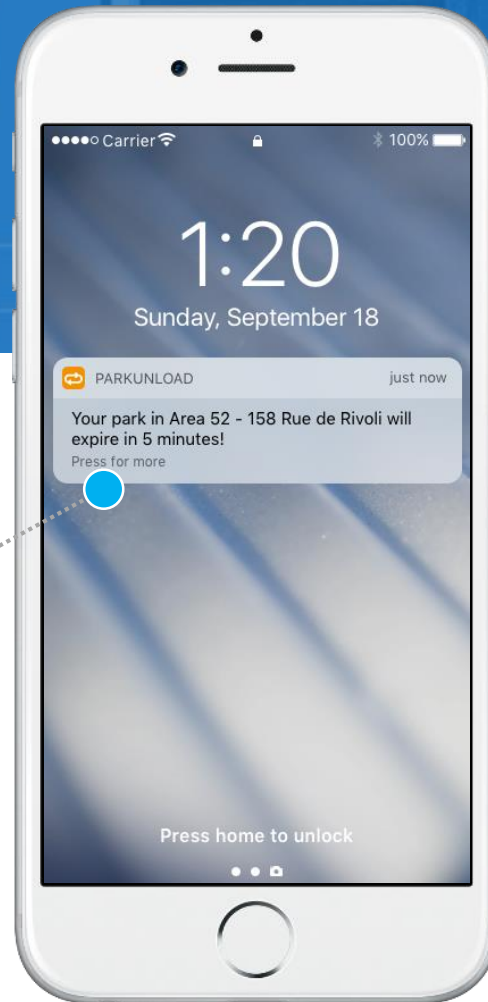


Parking occupancy map

The app also displays urban freight parking occupancy information on a map, based on the geolocation of the driver,




Notifications



Parking event notifications

The app raises notifications based on parking events: 5' to finish, already finished, time exceeded, etc.



PARKUNLOAD®
Benefits of the IoT platform

Benefits for drivers

01



Increase parking rotation and availability (+20%)

02



Reduction of cruising parking time (-15%)

03

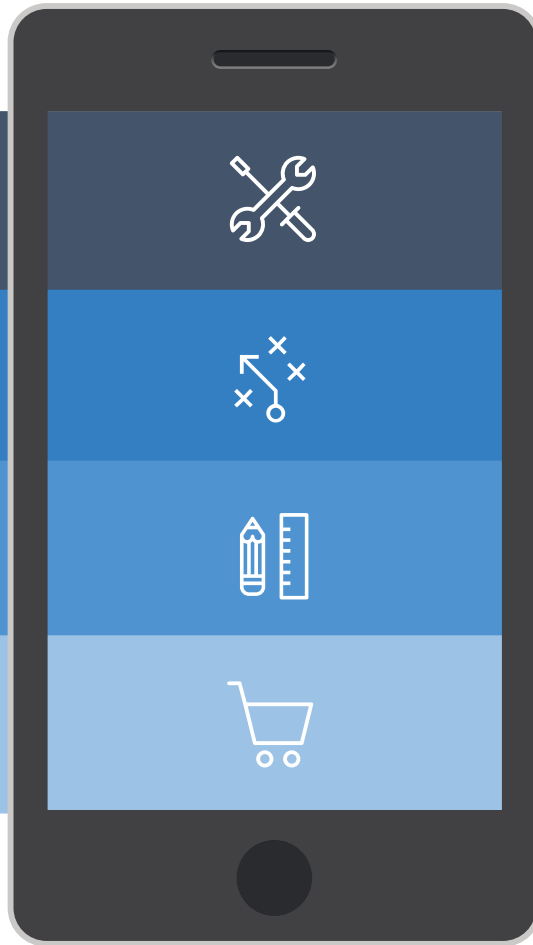


Parking time adapted to user's professional role

04



Reduction of parking indiscipline and fraud (-30%)



Benefits for parking enforcement agents

01



Easier parking control by ticketless

02



Increase agent productivity and costs reduction (x2)

03



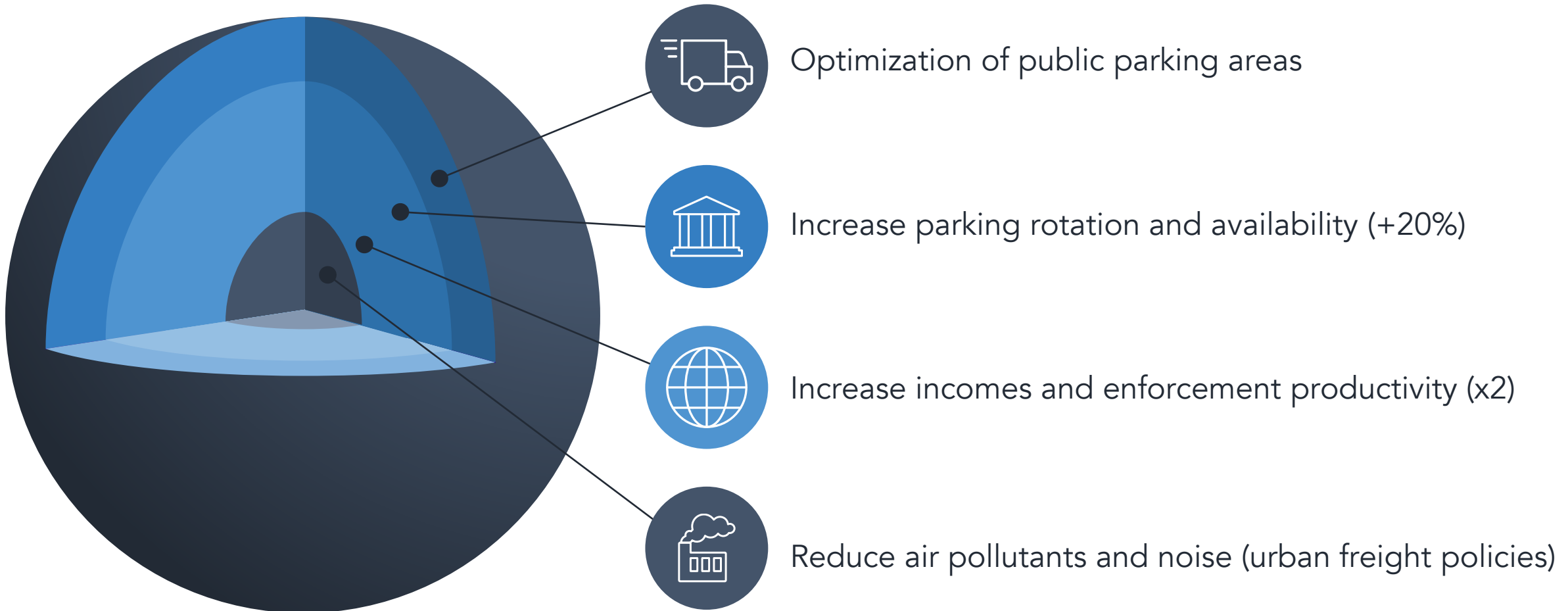
Preventive parking information (remaining time)

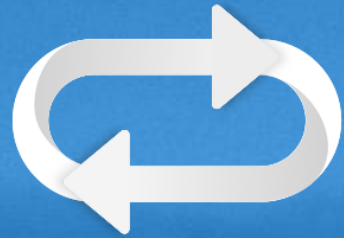
04



Reduction of parking indiscipline and fraud (-30%)

City Benefits





PARKUNLOAD

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