



CAN CAR SHARING CURE CONGESTION?

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Background

Intelligent Transport System

Car Sharing

Mobility Service Challenges

Mobility Service Opportunities

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Background - 2012 Heavily Congested Road Network in Moscow

3.4 million

Vehicles per weekday

27 M²

Per vehicles

4%

Vehicle Utilisation

200k

Annual increase
vehicle registration



- 2008 -2012, steady increase in congestion.
- Tom Tom Traffic Index increased from 46% to 57%.
- 2012 Moscow Intelligent Transport System launch.

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Intelligent Transport System



160 km+
New lines



Up to \$30
Per day



\$150
Violation fines



Harmonised
Traffic management
system



Green
New energy
transportation



2012 Intelligent Transport System Launched.

- Removal of non-regulated parking
- Severe fines for driving violations
- Project highway, optimisation of public transport routes
- Ground metro and subway expansion, dedicated airport lines
- Single payment card for multi-modal trips
- Introduction of cycle routes and increased pedestrian walkways

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Car Sharing



2012, Anytime launches Moscow's first short-term car-sharing services: **car per minute**.



2015, Delimobil established. Enters the market with 100 vehicles.



2016, BelkaCar established. Enters market with 100 vehicles.



2018 Feb., Yandex.Drive introduces Moscow car-sharing.



Moscow authorities expand subsidiaries to 15 car-sharing companies, including Yandex.Drive, BelkaCar, Delimobil, Anytime and YouDrive.

Manufacturer brands supporting car sharing companies include Audi, BMW, Kia-Hyundai, Mercedes-Benz, Nissan, Porsche, and Range Rover.

Niche models from Ferrari and now the BMW i3 are also available, as well as cargo models from Ford, Citroen and VW.

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Car Sharing Expansion



ca. 600k

Users in 2018



30k

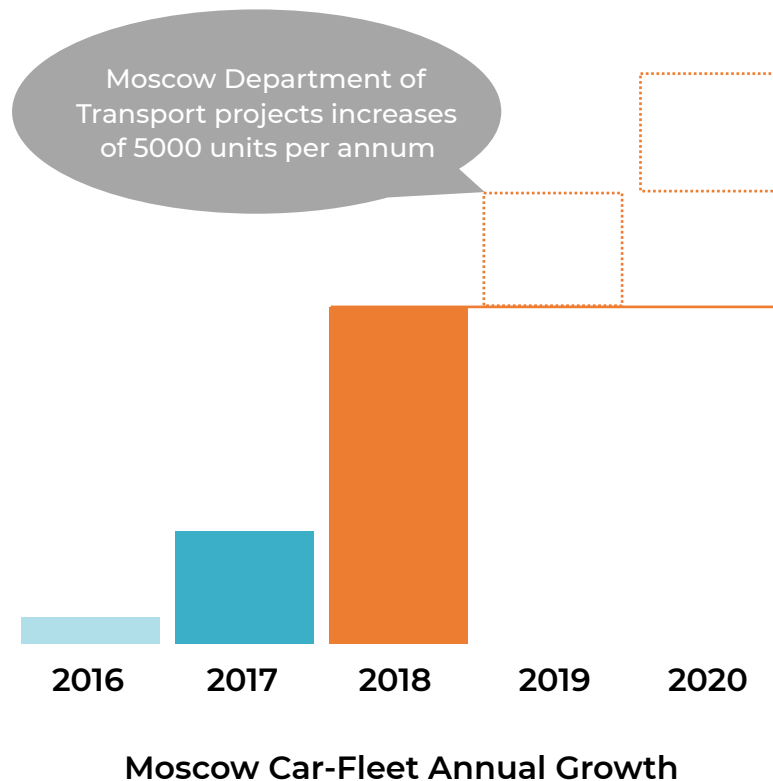
Rides per day



Avg. 37 mins

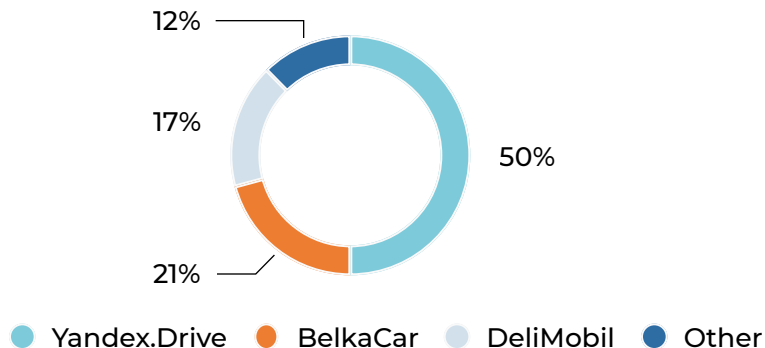
Per ride

- August 2016 - 650 city based vehicles available via car sharing operators.
- 2017 - Car-sharing fleet quadruples in size.
- 2018 - More than 16,5000 vehicles available, with forecasts of future increases of approxi. 5,000 vehicles per annum.



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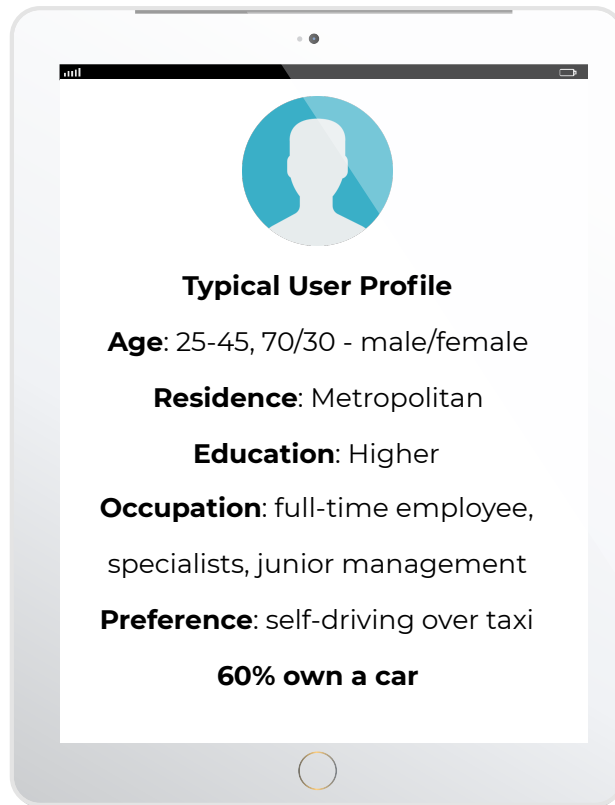
Car Sharing - Operators and User Profile



Published data indicates Moscow's three largest operators enjoy 80% share of the car-sharing market.

Typically operators lease vehicles from dedicated leasing companies. This allows the operator to focus on its core activities, outsourcing the fleet management to the lessor and avoiding significant acquisition, depreciation and disposal costs.






At this time, LeasePlan is the market leading operator with a 43% market share.



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Car Sharing - Service Tariff Examples



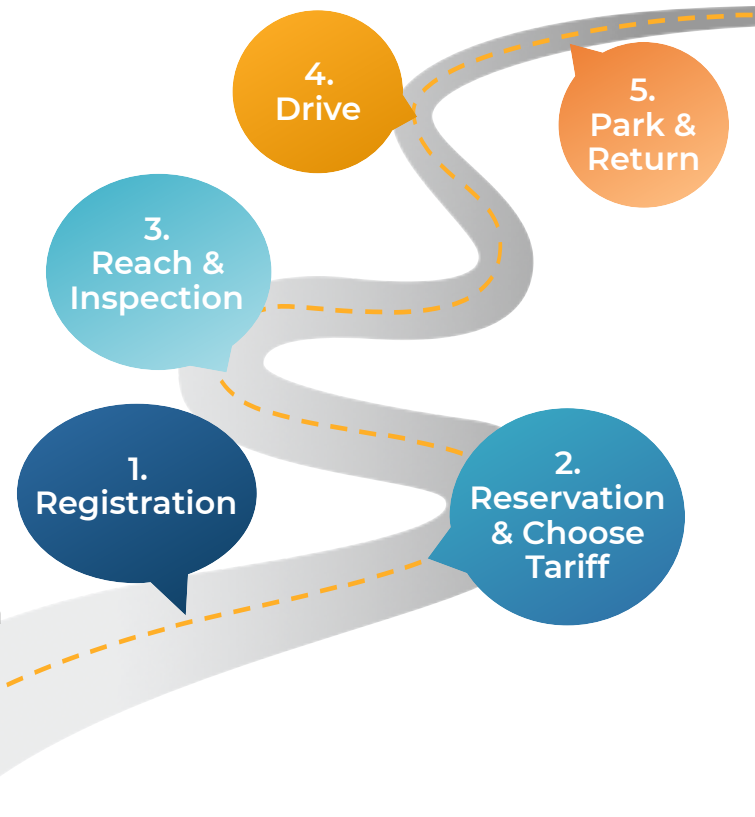
Features	 Anytime	 Delimobil	 YouDrive	 CAR5	 Belka
Advanced contract signing	In-app registration, car delivered to customers	In-app registration	In-app registration	In-app registration	In-app registration
Minimum tariff, ₺/min.	3,	6	8	7	8
Tariff options	Daily, max 365	Per minute, per 24 hours	Per minute	Per minute, per hours, fixed route, weekend	Per minute
Parking	Free	Free Standby mode: 2.50 ₺/min	Free Standby mode: 2.50 ₺/min Free at night time: 8pm -8am	Free Standby mode: 1.50 ₺/min Free at night time: 8pm -8 am	Free Standby mode: 2 ₺/min Free at night time: 12am -6am
Rental zone	Not further then 200 km off MKAD	Not further then 200 km off MKAD	Not further then 250 km off MKAD	Moscow area (excl. weekend tariff)	Within Moscow region

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Case Study: Yandex.Drive



- 1. Registration:** ID, driving license and bank account. Approval takes 0.5 to 24 hours.
- 2. Reservation / Tariff Selection:**
 - Dynamic:** min. 5 rubles based on demand and road conditions, averaged 5-8 rubles/min for basic model, 16 rubles/min for upscale model.
 - Fixed:** 3-6-12-24 h or pre-determined cost for specified destination, return to dynamic mode upon change of destination
- 3. Reach:** 5-20 free mins to reach the car; 1.5-4 rubles/mins for waiting
- Inspection:** 5 free mins for inspection
- 4. Drive:** fuel and insurance covered (CASCO and CTP): two million rubles for drivers and passengers. In case of accident caused by the driver, user's liable up to 15-50k rubles.
- 5. Park and return:** free parking, credit reward to users for re-fuel.



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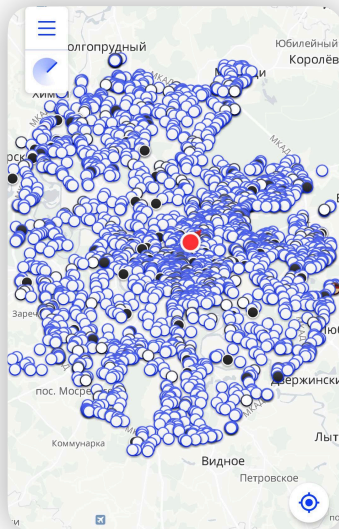
Mobility Service - Challenges



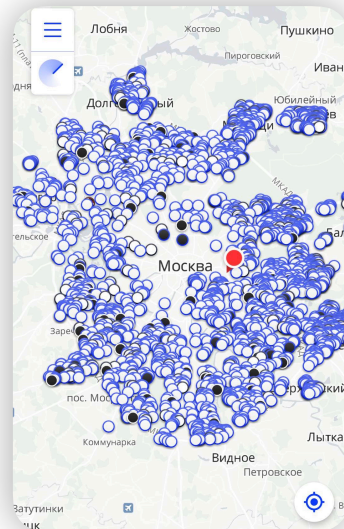
Challenge

- Vehicle damage / abuse
- Significant lack of residential parking in Moscow city center
- No real change of driver habits, i.e. single occupancy, typical commute traffic flow
- Utilization rates for car fleet
- Profit generation for car-sharing services
- Moscow's congestion remains severest among the world's largest capital cities

Yandex.Drive: Vehicle Availability



Weekday
Peak








Weekday
Off-Peak

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Mobility Services - Opportunities



Opportunities

-  Expanded offering including shopping and weekend renting package
-  Consumer behavior shift and service acceptance
-  Favourable cost benefit & convenience in comparison to car ownership
-  Self-driving, blockchain and other connected technology development for a better commuting experience
-  Added revenue streams for car manufacturers



Published data indicates, Car-sharing service revenue is expected to reach \$6.2 billion by 2020, with over 1 million users.



The rent-car-per-minute provides a strong cost incentive to drive less.



Pilot project: Infineon Germany replaces regular pool of vehicles with a corporate Carsharing system. Shared cars are also offered as added-value services to tenants by real estate group.



Smart design and better infrastructure to reduce driving needs in cities

REFERENCE AND DISCLAIMER



Moscow car-sharing mobility services are validated by D2D research team.

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D2D MANAGEMENT CONSULTANCY LIMITED

Contact Us



Member of BritCham China



Andrey Sergienko

Managing Partner

andrey.sergienko@d2d.consulting



Sven Hundhausen

Managing Partner

sven.hundhausen@d2d.consulting



Dr. Xiaohang Zhang

Managing Partner

xiaohang.zhang@d2d.consulting



Jason Milton

Managing Partner

jason.milton@d2d.consulting

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