



# Tomorrow's Mobilities

New trends & Innovations in worldwide  
transportation



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# New mobility projects for employees

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Our societies are expanding rapidly. Indeed, in the space of a few years, digital and new technologies transformed the majority of our life, transportation and mobility habits. Those changes impact on individual habits and territorial planning. Today, megacities are working on improving their road traffics, notably to anticipate the densification of urbanization and to reduce their carbon footprint.

In that respect, many companies and municipalities are offering alternative solutions to the use of petrol and diesel individual vehicles. Companies are now offering alternative solutions to individual petrol-powered cars, as assets of attractiveness towards both their employees and consumers.

This Desk Research highlights the initiatives of other companies and countries to answer these major challenges for tomorrow's mobility.

## 4 Major trends to keep in mind

Autonomous  
vehicles

Car sharing

Electric cars

Communication  
between cars

First Section

# Corporate initiatives

# Private solutions

## New generation private shuttles

In California, new convenient and comfortable corporate shuttles are competing with the traditional cars. The shuttles are intended for highly educated urban people that are currently working for web giants such as Google and Apple.



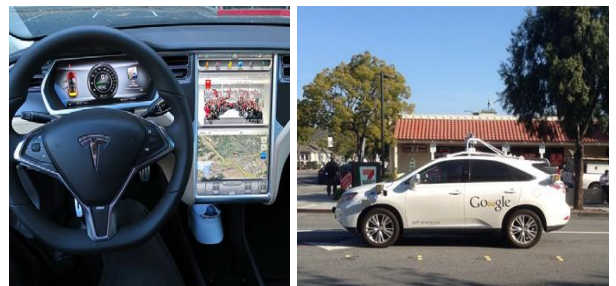
## Autonomous cars that function without drivers

The University of Michigan plans to provide its students in a few years with autonomous electric cars on its campus, which will have a range of 3000 meters. This shuttle with no hand wheel and no foot pedal will have the potential to transport 15 passengers.



## Autonomous vehicles

Many companies are actually working on producing autonomous vehicles. Ford for example wants to enable the use of autonomous vehicles by 2021. Mercedes-Benz is already testing autonomous driving in Nevada. In addition, many companies such as Google, Uber, and Tesla are investing in autonomous vehicles and are testing them alongside their employees.



## Bicycle fleets

Many large companies present in the Silicon Valley propose bicycle fleets to their employees on the worksites ( Google, Apple, Mozilla...)



Source : communiqué de presse de MCity - Université du Michigan <https://mcity.umich.edu/driverless-shuttle-service-coming-u-ms-north-campus/>  
Source : Communiqué de presse d'Uber <https://newsroom.uber.com/san-francisco-your-self-driving-uber-is-arriving-now/>  
Source : communiqué de presse de Google <https://googleblog.blogspot.fr/2011/08/taking-cars-off-road-with-our.html>

# 1. Private solutions

## E-bikes

Many companies are engaged in providing their employees with bicycles. Now, some employees in the Silicon Valley are even driving e-bikes (bicycles with integrated electric engines), allowing them to double the normal speed of a regular bicycle and giving them an incentive to use cleaner vehicles.



## Car-sharing

More and more companies are now using car-sharing for the benefit of their employees. Zipcar Cambridge owns a list of 400 000 subscribers from both private and public companies. Recently, they signed a contract including 10 000 clients within the overall framework of their "Zipcar for Business" program.



ALL KINDS OF WHEELS.

 SEDANS	 VANS	 TRUCKS	 LUXURY	 HYBRIDS
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THESE ARE ALL INCLUDED.

 GAS	 INSURANCE	 180 MILES/DAY	 DISCOUNTED WEEKDAY RATES*	 A STELLAR FIRST IMPRESSION
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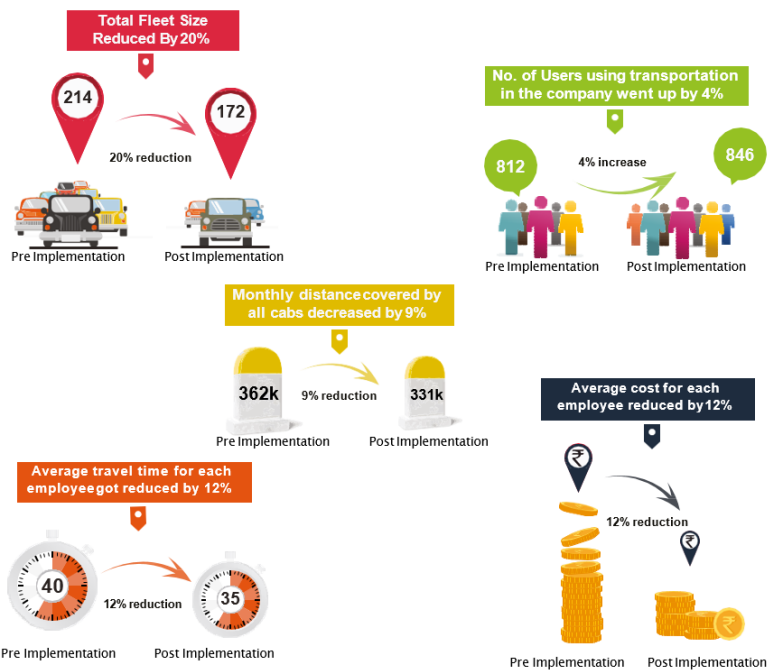
\*These rates do not include certain premium or hourly only vehicles; regular weekend rates apply.

Source : Communiqué de presse de E.ON <https://www.eon.com/en/about-us/media/press-release/2016/eon-committed-to-electric-mobility-based-on-e-bikes.html>  
Source : Communiqué de presse Zipcar <http://www.zipcar.com/press/releases/GSA>

# 2. Implementations

## Applications in India MoveInSync

India is known for having traffic congestion problems. Thus, an important number of private companies are looking for solutions to fluidify the traffic in order to help their employees and clients. Many car sharing applications such as Traf- fline, Indicator, Transpedia and MoveInSync have emerged based on the idea that they needed to cluster the people with the same needs.



## Ford's Model

Ford understands that it is crucial for companies to innovate in order to survive in the market. Consequently, the company works alongside many companies such as Zipcar in order to conceptualize different solutions that aim to improve car-sharing. This initiative gave rise to an application called "Car Swap", which was first used by Ford's employees before it was introduced in India and Germany. Ford also works on an application called "Parking Spotter", which uses car sensors to locate available parking spaces.

# 3. Financial compensation for alternative transportation modes

## Carpooling organized by companies

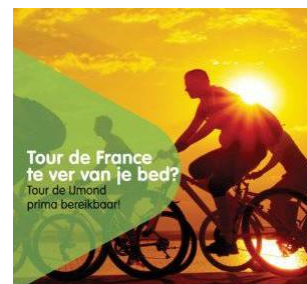
In the Netherlands, car-sharing for employees was first promoted in the 1990's. The purpose was to find solutions to the densification of urban populations in terms of space and waste. Thus, companies started to promote car-sharing by giving parking space priorities to the employees who were choosing car-sharing to go to work. Furthermore, employees have a higher wage in order to balance their kilometre ratio.

In France, some companies have a partnership with WazeUp to encourage employees to use car-sharing services. Vinci, BNP Paribas, Carrefour, Engie and Crédit Agricole were offering their employees car-sharing rides until the 30<sup>th</sup> of august 2017.



## Compensations for alternative transportation modes

The Netherlands is working on innovative projects that aim to reward alternative transportation modes users by offering them a financial compensation for their kilometers ratios. Sixty companies are already participating to the project, including Tata Steel and local hospitals.



Source: communiqué de presse de Google <https://googleblog.blogspot.fr/2011/08/taking-cars-off-road-with-our.html>



### 3. Financial compensation for alternative transportation modes

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#### Free public transportation

Some urban transportation companies in Russia, China and Mexico are trying to encourage their employees to use public transportation rather than their personal vehicles, notably by offering them a ride in exchange for physical training. For example, in Singapore, the companies Rajah and Tann are now partnering with LTA ( the equivalent of the French RATP) in order to motivate their employees to use public transportation.



#### Overtime hours for the purchase of a bike

In the Netherlands, there is a fiscal policy which allows companies and employees to buy bicycles without paying taxes. This way, they can buy bikes by using their overtime and holiday hours, their bonuses and salaries. This policy is also implemented by private organizations such as HEMA, Fujitsu and Heinz.



<https://sg.rajahtannasia.com/news/news/media-release-rajah-tann-wins-work-life-award-for-the-4th-consecutive-time>

## 4. Eliminating households-workplace rides

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### The creation of corporate campuses

Some companies are finding solutions to the excessively long and costly travelling times by providing housing to their employees that are located near the workplace. This way, the travelling time is completely eliminated.

### The removal of parking spaces available for cars

In Oslo, architects have created new offices without parking spaces for private companies in order to compel employees to use alternative transportation modes. The only parking spaces available are destined to electric cars and bikes.

### Teleworking

In order to suppress entirely the travel time between the employees' workplace and their houses, some companies are offering flexible jobs to their employees. This way they can work from home a few days a week or everyday of the week if their responsibilities and tasks allow it.



*Impression du studio OMA New York*



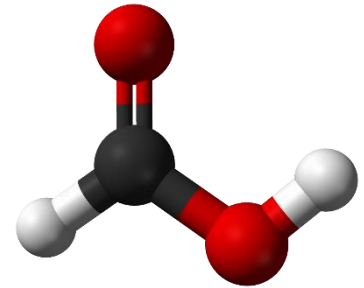
Source : Communiqué de presse de Facebook. <https://newsroom.fb.com/news/2017/07/investing-in-menlo-park-and-our-community/>  
<https://blogs.adobe.com/conversations/2013/03/flexibility-is-alive-and-well-at-adobe.html>

# 5. New transportation modes

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## Alternative fuels : Formic acid

A large number of companies are now developing projects that allow to power vehicles. Indeed, besides electric cars, other sustainable solutions are being developed. For example, the Eindhoven University of technology developed a bus powered by formic acid.



## Hyperloop

Tesla is conceiving a new way to travel called the Hyperloop, which intends to connect the main megacities in record time. Various universities and countries are already investing in the project. The idea is to confine a train in a tube allowing to launch it at great speed (1200 km/h).



## Flying drones

Several companies are trying to develop individual flying vehicles. The last example would be the flying drone called Ezhang which was developed by Chinese engineers. This project was financed by the government of Dubai.



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<https://www.tue.nl/universiteit/nieuws-en-pers/nieuws/07-07-2017-hoe-een-bus-kan-rijden-op-mierenzuur/>  
<https://www.nuon.com/het-bedrijf/sponsoring/nuon-solar-team/>  
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<https://www.dubai.com/blog/dubai-have-flying-drone-taxis/>

Second Section

# Gouvernement initiatives



## 2. Public transportation innovations

### High speed roads for buses

Several cities are working with private or public bus companies in order to create highways only dedicated for buses. Those highways allow to ease the bus traffic without interfering with the road traffic.

### Separate roads for bicycles

In many cities around the world, governments are greatly increasing cyclable roads. Their purpose is to ease the cyclist traffic by creating high speed roads. Berlin bicycle path as well as the Van Gogh path in the Netherlands can be counted amongst the most outstanding creations.

### Buses for the underprivileged

In South Korea, Seoul, night shift employees were confronted to a lack of public transportation, forcing them to pay very expensive taxis. From now on and thanks to Big Data, the city was able to offer a night bus system to meet employees' needs.

### All in one cards

Many governments are now working with private companies in order to allow people to facilitate the access to public transportation. In Helsinki, public transportation users can use mobile applications to reserve and pay for their bus, train, taxi and bike excursions.

### Bicycles parkings

In the Netherlands, several municipalities have created parking only intended for bicycles. In Amsterdam for example, 10 000 places for bikes have been created in order to facilitate the access to train stations and many other strategic locations.



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