ZERO EMPTY SEATS

A study into BlaBlaCar's environmental contribution
BlaBlaCar was created with one dream in mind: fill the millions of empty seats on the road to create an efficient, affordable and friendly way to travel.

76% of long-distance travel in Europe is done by car, but with an average occupancy rate of only 1.9 people, most cars have at least three seats left empty. That’s an unacceptable waste.

With the same amount of cars on the road, carpooling could more than double the number of people traveling. In a world of growing populations and travel aspirations, increasing the efficiency of road travel can have a significant positive impact on both mobility and the environment.

So how much CO₂ does carpooling save each year?

To answer this question, we worked with leading research consultancy Le BIPE, which analyzed BlaBlaCar’s real usage data over 12 months, and surveyed 6,884 BlaBlaCar members across eight countries.

The results of the study show that BlaBlaCar is operating a carbon-saving transport network thanks to the relative efficiency of filled cars versus alternative modes of transport. As we increase the number of people traveling, we save 1.6 million tonnes of CO₂ per year.

But looking at today’s data is not enough - we can and will do much more. In this report, you’ll see the impact that BlaBlaCar’s continued growth and expansion into new activity can have on further reducing the carbon footprint of road travel.

From sharing cars to optimizing the efficiency of buses, we have one objective in mind: zero empty seats on the road.

“Bringing Freedom, Fairness and Fraternity to the world of travel.”

— Nicolas Brusson, Co-Founder/CEO
— Frédéric Mazzella, Founder/President
— Francis Nappez, Co-Founder/CTO

Our obsession

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Our key numbers
The world’s largest trusted carpooling community

70 million members
25 million travelers per quarter

More than €1.4 billion saved by members since BlaBlaCar’s creation

22 countries

263 kilometers is the average distance of a BlaBlaCar trip
30 billion kilometers shared by the community since BlaBlaCar’s creation
Methodology

The study was conducted by research consultancy Le BIPE in 2018.

The analysis is based on three sources of information:

• Real usage data over a year (1st January - 31st December 2018) for the 22 countries BlaBlaCar operates in, provided by BlaBlaCar;

• External reference data for each country, including energy mix, energy sources, and levels of CO₂ emissions (sources are given each time, and are listed at the end of the report);

• A survey of 6,884 BlaBlaCar members in 8 countries, namely Brazil, France, Germany, Italy, Poland, Russia, Spain, and Ukraine.

1 Le BIPE is a strategy consulting firm founded in France in 1958 and member of the BDO Group. Le BIPE specialises in forecasting, data science, socio-economic outlooks and future trends analysis.

### Direct CO₂ savings:

CO₂ generated by alternative modes of transport in a world without BlaBlaCar, including first and last mile (in the case of reaching airports, train or bus stations)

- CO₂ generated by BlaBlaCar mobility, including first and last mile to reach carpooling meeting points, additional mobility (drivers and passengers who would not have traveled if carpooling were not an option) and CO₂ savings resulting from safer driving habits while carpooling

### Indirect CO₂ savings:

Gains resulting from informal carpooling inspired by BlaBlaCar but not organized on the BlaBlaCar platform

### Total CO₂ savings generated by BlaBlaCar

<table>
<thead>
<tr>
<th>Country</th>
<th>CO₂ Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>(558)</td>
</tr>
<tr>
<td>France</td>
<td>(1,064)</td>
</tr>
<tr>
<td>Germany</td>
<td>(1,204)</td>
</tr>
<tr>
<td>Italy</td>
<td>(1,624)</td>
</tr>
<tr>
<td>Poland</td>
<td>(679)</td>
</tr>
<tr>
<td>Russia</td>
<td>(674)</td>
</tr>
<tr>
<td>Spain</td>
<td>(829)</td>
</tr>
<tr>
<td>Ukraine</td>
<td>(714)</td>
</tr>
</tbody>
</table>

Brazil (558)

France (1,064)

Germany (1,204)

Italy (1,624)

Poland (679)

Russia (674)

Spain (829)

Ukraine (714)
To calculate BlaBlaCar’s $CO_2$ savings, we looked at the $CO_2$ emissions generated by BlaBlaCar mobility, and compared them with the $CO_2$ emissions that would have been generated without BlaBlaCar. The comparison takes into account first & last miles, detours and behavioral changes.
Filling empty seats...

Doubling the number of people travelling!

By allowing drivers and passengers to share their journeys, BlaBlaCar raises the average car occupancy rate in the 8 countries analyzed by 105%, from 1.9 people to 3.9 people. That means doubling the number of people traveling whilst using the same number of cars, and whilst emitting less CO₂.

1.9 people per car
without BlaBlaCar, counting 1 driver and 0.9 friends & family who share the trip

3.1 people per car
with BlaBlaCar, if we only count 2.1 passengers who booked on BlaBlaCar

3.9 people per car
with BlaBlaCar, if we include 0.8 friends & family who also share the trip

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Average car occupancy rate in the 8 countries covered by the analysis, calculated by Le BIPE, based on data from the International Energy Agency, OECD, and national administrations.

Sources: BlaBlaCar data; BlaBlaCar survey 2018; Le BIPE; ITF/OECD; IEA.
The world with BlaBlaCar

3.9 people per car

In 2018, BlaBlaCar members organized 95.3 million journeys through the platform. With BlaBlaCar, those trips resulted in 2.17 million tonnes of CO₂ emissions. Without BlaBlaCar, the same trips would have generated 3.06 million tonnes of CO₂ emissions. The direct carbon saved from BlaBlaCar carpooling is therefore 894,000 tonnes of CO₂ in a single year. That's the equivalent of 3 months' traffic in a major city like Berlin.

Looking at the average trip efficiency of journeys on BlaBlaCar versus the alternatives that would otherwise have been chosen by members, carpooling on BlaBlaCar is on average 29% more efficient.

Additional CO₂ savings thanks to safer driving habits:

In addition to the relative efficiency of carpooling, the study also reveals that drivers tend to drive more safely when carpooling:

- 35% of drivers check their tire pressure more often
- 22% of drivers reduce their speed when they carpool

Both of these behaviors have a significant impact on the safety and the eco-efficiency of driving. In total, they saved 15,200 tonnes of CO₂ in 2018. This contribution represents 1.7% of the direct CO₂ savings of BlaBlaCar.

The world without BlaBlaCar

1.9 people per car

90.3 million journeys would have been conducted in 2018 on alternative modes of travel if members had not carpooled with BlaBlaCar, which would have generated 3.06 million tonnes of CO₂.

Share of members who would not have traveled if BlaBlaCar were not an option

<table>
<thead>
<tr>
<th>Country</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>2.8%</td>
</tr>
<tr>
<td>Russia</td>
<td>3.1%</td>
</tr>
<tr>
<td>Italy</td>
<td>3.2%</td>
</tr>
<tr>
<td>Brazil</td>
<td>3.9%</td>
</tr>
<tr>
<td>Ukraine</td>
<td>4.0%</td>
</tr>
<tr>
<td>Poland</td>
<td>4.3%</td>
</tr>
<tr>
<td>Spain</td>
<td>6.1%</td>
</tr>
<tr>
<td>France</td>
<td>9.6%</td>
</tr>
<tr>
<td>8 countries</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

5 million journeys would not have happened:

Had BlaBlaCar not existed, 5 million journeys would not have happened (5.2% of 95.3 million journeys).
The world with BlaBlaCar

On base 100, assuming 1 driver and 2.1 BlaBlaCar passengers per car:

100 drivers + 210 BlaBlaCar passengers

2.17 million tonnes of CO$_2$

For 95.3 million journeys in 2018

The world without BlaBlaCar

We asked BlaBlaCar’s drivers and passengers what their alternative mode of transport would have been.

How the 100 drivers would have traveled

How the 210 passengers would have traveled

3.06 million tonnes of CO$_2$

For 90.3 million journeys in 2018
Reducing the first & last mile...

BlaBlaCar cuts passengers’ first & last mile from 24km to 18km. This is explained by the fact that there are carpooling meeting points potentially everywhere there is a road (at every crossroad, supermarket, restaurant...) whereas traditional transportation modes require travelers to reach a central infrastructure like a station or an airport.

In Germany, for example, there are 5,000 train stations but over 75,000 monthly BlaBlaCar meeting points.

...and enabling door-to-door travel

PUBLIC TRANSPORT
For a quarter of trips, public transport is the favored first & last mile option. This underpins the strong complementarity between carpooling and public transport that could be further reinforced by building a fully-integrated intermodal experience.

CAR
For another quarter of trips, the car remains the preferred solution in areas less covered by public transport infrastructure. This share is lower than for alternative journeys because meeting points are less concentrated in big city centers. Overall, this reduces traffic congestion and local pollution in and around cities.

DOOR-TO-DOOR
19% of trips require no first mile solution, and 26% no last mile solution, because drivers pick up and drop off passengers at their departure/arrival points. This is where the power of a highly distributed car network can add unique value.

Distance (km) x mode

First mile* | Alternative journey* | Last mile*
--- | --- | ---
32% | 33% | 16%
34% | 34% | 18%
18% | 48% | 44%

Passenger first mile alternative journey: 13km
Passenger last mile alternative journey: 11km

First mile* | BlaBlaCar journey* | Last mile*
--- | --- | ---
19% | 32% | 26%
20% | 33% | 26%
26% | 26% | 28%

Passenger first mile to reach their BlaBlaCar: 10km
Passenger last mile after their BlaBlaCar: 8km

Public transport / Train | Car | Active mobility (feet, bike)
--- | --- | ---
MORE PEOPLE TRAVEL, WITH LESS IMPACT

With only 1.6% more cars on the road, carpooling enables the transport of 2.1 times more people in cars for 26% less CO₂ emissions.

Direct CO₂ savings

3.06 million tonnes of CO₂ for 90.3 million journeys without BlaBlaCar

- 2.17 million tonnes of CO₂ for 95.3 million journeys with BlaBlaCar

= 894,000 tonnes of CO₂ saved in 2018

This represents

• 3 months’ traffic in a city like Berlin
• The CO₂ absorbed in a year by a forest the size of 420,000 football fields (3,000km²)
In addition to its direct CO$_2$ savings, BlaBlaCar also inspires people to start carpooling informally (i.e. outside the platform) after trying the activity on BlaBlaCar. This is what we call BlaBlaCar’s indirect CO$_2$ savings, illustrating the large-scale behavioral change induced beyond usage on our platform.
Carpooling beyond BlaBlaCar

According to the study, an additional 593,000 tonnes of CO\textsubscript{2} are avoided every year thanks to 115.9 million car journeys made by groups of carpoolers who met on BlaBlaCar and continued to share rides informally.

Another 80,000 tonnes are avoided by carpoolers inspired by BlaBlaCar (but who did not actually meet on the platform).

**Among BlaBlaCar’s members:**

- 3.4% belong to a commuter carpooling group with colleagues (sharing a trip at least once a month)
- 2.8% belong to a short-distance carpooling group (sharing a trip at least once a month)
- 7.8% belong to a long-distance carpooling group (sharing a trip at least 6 times a year)
- 10.8% carpool informally from time to time on short & long distances

**Among BlaBlaCar’s members who carpool informally:**

Influence of BlaBlaCar on the adoption of informal carpooling outside of the platform:

- 57% Formed on BlaBlaCar
- 21% Inspired by BlaBlaCar
- 22% Not related

Changing behaviors

First and foremost, growing carpooling usage requires behaviors to evolve. As we’ve grown the BlaBlaCar community to over 70 million members in 22 markets, we have observed that behavioral change can occur quickly when users are provided with solutions that meet their needs and address their pain points.

Millions of drivers have turned their back on the idea of driving alone and have chosen instead to share rides on BlaBlaCar.

What are some of the other behavioral changes observed in the BlaBlaCar community?

- 14.3% of members use BlaBlaCar both as drivers and passengers, and regularly leave their cars at home.
- 64% of passengers have a driver’s license yet they choose not to drive.
- 28% of passengers who don’t have a driver’s license delay passing it because they no longer need to drive or own a car.

Drivers

- Drivers who have a driver’s license
  - Have a driver’s license: 64%
  - Don’t have a driver’s license: 36%

Passengers

- Passengers who don’t have a driver’s license
  - Delay passing: 72%
  - Soon: 28%
673,000 tonnes of CO$_2$ emissions were avoided in 2018 through BlaBlaCar’s indirect environmental benefit.

This represents:
- The CO$_2$ generated by 14,000 Moscow - Paris flights.
- The CO$_2$ absorbed in a year by a forest the size of 310,000 football fields (2,200km$^2$).
Zero Empty Seats

Indirect carbon savings
673,000 tonnes of CO₂

Direct carbon savings
894,000 tonnes of CO₂

1.6 million tonnes of CO₂ saved by BlaBlaCar’s community in 2018

This represents
The CO₂ absorbed in a year by a forest the size of 730,000 football fields (5,200km²)
When assessing the environmental benefits of carpooling, it’s important to go beyond today’s picture and understand the levers that will help generate significantly greater CO$_2$ savings in the future.
Lever #1: Growth of BlaBlaCar

Current pace of growth
If the increase in the size of the active carpooling community and frequency of rides shared follow historical growth patterns, we will save 2.34 million tonnes of CO₂ in 2023, in other words, 2.5 times today’s direct savings.

Room for growth
Though the BlaBlaCar community counts over 70 million members, carpooling still only represents 0.5% of long-distance travel today. We are only scratching the surface of carpooling’s massive potential.

Continuing to foster behavioral change at scale, so that more travelers share their long-distance journeys, will be key to unlocking the full potential of carpooling.

What it will take:
For carpooling adoption to grow faster and reach a significant share of long distance travel, it will take continued technological innovations to further ease the experience. It will also take communication and support from governments and cities, car manufacturers, highway operators, and other mobility players. Together, we can make shared mobility mainstream. As an emergent activity, carpooling is yet to be defined within the law of some countries. We are actively collaborating with public authorities to advise on how legislation can adapt in line with innovation.

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4 Increase in the size of the active community based on 2012-2018 rates; frequency of trips based on 2014-2017 rates.
5 In countries where BlaBlaCar is active, 25 billion passengers kilometers are shared on BlaBlaCar among a total of 5,200 billion kilometers in 2018. Source: Le BIPE.
Lever #2: Unlocking door-to-door travel

When BlaBlaCar launches its long-distance carpooling service in a new market, members typically carpool between large cities. But as the size of the community grows, so does geographical coverage.

Suburban areas, smaller cities, and rural areas then start to attract more trips. These places, typically poorly covered by public transport infrastructure, have a high level of people driving alone in their cars; the wasted capacity and need for a mobility solution are therefore much higher.

Transforming roads into carpooling lines

In 2018, BlaBlaCar rolled out a new algorithm that connects drivers with passengers at any point on their route, from their departure to their arrival point, unlocking subtrips and millions of possible local meeting points. This innovation has the potential to meet the needs of travelers wherever there is a road, increasing car occupancy rates where they are lowest, and developing a real door-to-door travel solution.

In 2018, our proximity matching algorithm saved 12,300 tonnes of CO₂ emissions in France where it was beta-tested (corresponding to 11% of the total CO₂ saved directly by BlaBlaCar in France).

New proximity matching algorithm

**BEFORE**

A driver publishing a journey from Brussels to Frankfurt would have to find two passengers searching for Brussels-Frankfurt trips.

**NOW**

The driver might still have two passengers from Brussels to Frankfurt, but might also receive a request from a passenger looking to go from Brussels to Linkenbach, a small German village along the route. The driver would simply drop him off at the desired highway exit. By train, this passenger would have had to travel all the way to Frankfurt to be picked up by car by family or friends.

This scenario assumes that the development of this new algorithm will have the following effects:

- The growth rate of trip frequency in less dense areas will be twice the average rate of other trip types, as has been observed in France over the past 4 years.
- The average occupancy rate between less dense areas (serving rural or suburban areas) will reach the levels currently observed between more dense areas.
- There will be fewer first mile and last mile rides for pick-ups and drop-offs in cars that might not otherwise have traveled.

Based on these hypotheses, BlaBlaCar's new search algorithm could help save an additional 375,000 tonnes of CO₂ in 2023, which represents a 25% increase on today’s direct annual savings.

What it will take:

If we want drivers to change behaviors at scale and adopt the reflex of picking up passengers along their way, we’ll need to make it even easier for them to do so. It will take more technological innovations that further improve the intelligence of matching algorithms, but also dedicated infrastructure. For example, designated parking lots at each highway entrance/exit would ease the experience, and thereby foster adoption.
**Lever #3: Growth of BlaBlaLines**

The car occupancy rate on daily commutes is only 1.08 people (versus 1.9 on long distance trips). The room for progress is significant.

In 2018, BlaBlaCar launched a new service to tackle the daily commute. It is currently rolled out in France only.

Why a specific app for that?

Encouraging short-distance, daily carpooling is a different challenge than growing long-distance carpooling. On commuting distances, the financial incentive for the driver is not as strong, since the cost of the journey is lower. The mindset of a driver going to work is also different from that of one leaving on holiday or for the weekend, with less time on his or her hands.

To encourage behavioral change amongst everyday commuters, BlaBlaCar developed a dedicated product to address the specific needs and pain points of short-distance travel.

If in five years BlaBlaCar were to reach the same level 0.5% modal share on short distances across all its markets as it has on long distances, these commuter journeys alone could save 1.2 million tonnes of CO₂, more than the CO₂ savings achieved by long-distance carpooling today.

*Source: A study by the French Ministry of Ecology revealed in June 2014 that the occupancy rate of daily commuter vehicles is between 1.04 people per vehicle in the Paris region and 1.08 between rural and non-rural areas.

*In countries where BlaBlaCar is active, 25 billion passenger kilometers are shared on BlaBlaCar among a total of 5,200 billion kilometers. Source: Le BIPE.

*What it will take:*

Beyond what BlaBlaCar can do, external support will be key. To become a mainstream means of transport, short-distance carpooling will need cities and companies to raise awareness, create practical conditions - such as safe meeting points along the road - and provide financial incentives both to passengers and drivers, to encourage sustainable behavior change amongst commuters.

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**Lever #4: Bus integration**

In 2018, for the first time, BlaBlaCar ventured beyond carpooling to offer long-distance bus journeys in some of its markets.

But how efficient are buses?

The efficiency of buses, just like cars, depends on their occupancy rates and any subsequent journeys needed to reach their passengers’ final destination. Looking at the case of France for example, with a 60% average occupancy rate, a bus emits even less CO₂ per passenger kilometer than carpooling.

<table>
<thead>
<tr>
<th>Vehicle efficiency (gCO₂ per vkm)</th>
<th>Average occupancy</th>
<th>First &amp; last mile km</th>
<th>Efficiency (gCO₂ per pkm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Car" /> 180</td>
<td>1.9 people</td>
<td>-</td>
<td>95g/pkm</td>
</tr>
<tr>
<td><img src="image" alt="BlaBlaCar Carpool" /> 180</td>
<td>3.4 people</td>
<td>15km (passengers) 8km (drivers)</td>
<td>58g/pkm</td>
</tr>
<tr>
<td><img src="image" alt="Bus" /> 800</td>
<td>30 people (60% occupancy rate)</td>
<td>31km (passengers)</td>
<td>36g/pkm</td>
</tr>
</tbody>
</table>

BlaBlaCar will offer a mix of buses and carpooling on popular axes that serve a high volume of travelers, while less-frequented, more granular axes will continue to be best served by carpooling alone.

*By offering two complementary solutions, BlaBlaCar will strive to fill every empty seat in cars and buses alike, and run a fully optimized road travel network.*

![Vehicle-kilometer or vkm measures the traffic flow. gCO₂ per vkm represents the CO₂ emissions for one vehicle and one kilometer.](image)

Passenger-kilometer or pkm is a unit of passenger transportation quantity. gCO₂ per pkm represents the CO₂ emissions for one passenger and one kilometer.
The expected growth in BlaBlaCar usage could increase annual CO₂ savings by 160%.

Given the current prevalence of solo driving, short-distance carpooling promises a positive impact on emissions.

New, intelligent route matching translates into a 3,000% increase in CO₂ savings, mostly from the new carpooling trips now possible in non-central areas.

BlaBlaCar’s members could save more CO₂ by sharing multiple rides outside the platform with colleagues, friends or other members with whom they have kept in touch.

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**Projected CO₂ savings**

**LONG-DISTANCE USAGE GROWTH**

2.37 million tonnes in 2023

The expected growth in BlaBlaCar usage could increase annual CO₂ savings by 160%.

**SHORT-DISTANCE USAGE GROWTH**

1.88 million tonnes in 2023

Given the current prevalence of solo driving, short-distance carpooling promises a positive impact on emissions.

**GROWTH FROM PROXIMITY MATCHING**

375,000 tonnes of CO₂ in 2023

New, intelligent route matching translates into a 3,000% increase in CO₂ savings, mostly from the new carpooling trips now possible in non-central areas.

**INFORMAL CARPOOLING GROWTH**

1.79 million tonnes of CO₂

BlaBlaCar’s members could save more CO₂ by sharing multiple rides outside the platform with colleagues, friends or other members with whom they have kept in touch.

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6.4 million tonnes of CO₂ could be saved in 2023
According to the 2018 IPCC report, stabilizing global warming at 1.5°C requires reducing CO₂ emissions by 45% no later than 2030.

Time is running out.

Humanity has just 11 years to make massive and unprecedented changes across all sectors, including transportation.

Driving alone belongs in the past.

Since 2004, BlaBlaCar has strived to reduce wasted car capacity.

Countries, cities, NGOs and employers: join us in reducing the number of empty seats on the road.

By working together, we have the potential to drastically reduce global CO₂ emissions. Let’s make carpooling the new norm.

#ZeroEmptySeats
SOURCES
Total surface transport mileage:
• International Transport Forum
• IRF (International Road Federation)

CO₂ efficiency of different modes of transport; average car occupancy & CO₂ emission from surface transport:
• IEA (International Energy Agency)
• UIC
• Le BIPE

Carpooling mode share; short-distance mobility patterns:
• JRC European Commission
• ADEME
• Commissariat général au développement durable

OUR PREVIOUS STUDIES
Entering the Trust Age:
https://blog.blablacar.com/trust

Bringing People Closer:
https://blog.blablacar.com/newsroom/news-list/study-social-impacts-carpooling

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