



EUROPEAN SHARED MOBILITY INDEX



THANKS TO OUR PARTNERS



ARVAL
BNP PARIBAS GROUP

Fully owned by BNP Paribas, Arval is a specialist in full-service vehicle leasing and new mobility solutions. Through our connected solutions and tailored services, companies are able to optimise their employees' mobility and outsource the risks associated with fleet management. We also actively support and advise our customers in accelerating the energy transition, empowering them to be more sustainable.

arval.com



BAFANG

Bafang is one of the leading manufacturers of e-mobility components and complete e-drive systems, developing customized solutions for a wide range of electric vehicles since 2003. The company operates worldwide and focuses on all global e-mobility trends of the future: whether for individual concepts for e-bikes, e-scooters or public bike-sharing systems. Bafang's comprehensive product portfolio includes motors, sensors, batteries, HMLs, controllers, connectors, and innovative IOT results.

bafang-e.com



drover

Drover AI specializes in AI-based IoT solutions for last-mile transportation, elevating the performance of fleets while exceeding the regulatory requirements of cities. Drover's PathPilot delivers features like sidewalk detection and parking compliance even in the absence of GPS or cellular connectivity, allowing for unmatched control of fleet and user behavior in real time. Drover pairs its edge-based tech with its management platform, Corral, to deliver a variety of unique and valuable insights to operators and cities alike.

drover.ai



INVERS

INVERS, inventor of automated vehicle sharing, enables mobility service providers to launch, operate and scale their offerings with integrated telematics and software solutions, specifically designed for developers of shared mobility services. The company acts as an independent and reliable partner for operators such as SHARE NOW, Clevershuttle, Miles, Getaround, Flinkster, TIER, and Emmy. The development takes place entirely in Germany.

invers.com



SHARENOW ✓

SHARE NOW is the market leader and pioneer of free-floating carsharing. The company is operating 11,000 vehicles in 16 European cities. More than three million customers are already using the on-demand service that offers rentals from 3 minutes to 30 days and a variety of car models from brands such as BMW, Mercedes-Benz, MINI, smart and Fiat.

share-now.com



Wunder Mobility

Wunder Mobility is the leading software and hardware provider for vehicle sharing.

Our highly customizable and deeply integrated software solution is complemented by a sharing-ready vehicle program built in partnership with leading manufacturers. Operators of bike-, scooter-, and car-sharing systems in >200 cities on five continents are relying on Wunder technology to complete millions of trips per month.

Wunder Mobility was founded in 2014 by Gunnar Froh and is headquartered in Hamburg, Germany.

wundermobility.com



POLIS
CITIES AND REGIONS FOR TRANSPORT INNOVATION

POLIS is the leading network of European local, regional and transport authorities committed to transport innovation. Our focus is on innovations that make urban mobility more sustainable, safe, affordable and equitable. We actively support constructive dialogue with shared mobility operators to shape together solutions that serve the public good and drive the shift that we all need to achieve this decade.

polis-network.eu



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PART I

THE EUROPEAN MARKET



2022: A YEAR OF CONTRASTS

Since 2018, nearly 600,000 dockless scooters, bikes and mopeds have been deployed, taking the total to **850,000 shared vehicles by the end of 2022**. Over the course of last year, nearly 200 new shared mobility services were launched, contributing to a record **550 million trips** being made across the continent, creating some €3.1 billion in revenue from end-users.

Despite the evident appetite for these new mobility services, the future of the industry remains uncertain. The huge influx of capital between 2018 and 2021 allowed operators to expand rapidly to new markets and to set aside concerns of financial sustainability.

2022 saw the invasion of Ukraine and economic downturn, making it much harder to secure new funds. As operators have had to streamline operations and focus on profitability, **93 services were paused or stopped**. Several operators were recapitalized in a hurry, others were acquired or went through mergers.

At the same time, cities are voicing their concerns over safety and the occupation of public space. In April 2023, the people of Paris will vote on whether or not to continue with shared scooter services, a decision that may have implications beyond the French capital.

Challenges lie ahead in 2023, but there is good reason to remain optimistic. The EU recently announced a 17-point plan to double the number of kilometres cycled by 2030, making cycling and riding safer, and giving shared mobility services room to grow.

Cities now have the power to give operators optimal conditions to run economically-viable services for many years to come. Despite vehicle fleet caps, the optimization of unit economics should allow operators to get close to the ultimate goal: **making services financially & environmentally sustainable**.



Fluctuo found that €3.1 billion in revenue was generated by shared rides in 2022. 550 million trips were made, equating to an average of 1.5 million trips per day. With 850,000 vehicles on European streets, shared mobility has become increasingly popular. During the COVID-19 pandemic, riders valued hygienic, sustainable, and flexible travel. It has since become a staple for commuters across Europe. Although some cities question their merit, scooters are the frontrunner in shared mobility, accounting for more than half of all vehicles (480,000) and half of all shared trips made in Europe. Station-based (or docked) bikes are the most effective form of shared mobility (most trips per vehicle per day). They account for 18% of vehicles but 30% of all trips. Remarkable.

On the next page, we observed that vehicle availability fluctuates significantly throughout the year depending on weather, tourism and local events. Free-floating bike and scooter fleet sizes are constantly changing, much more than for the other modes. Fleet sizes usually shrink during winter months due to lower temperatures and fewer daylight hours. As these services are more sensitive to changes in demand, they require more careful management and maintenance to ensure their ongoing success.

With vehicles available and trips increasing, the shared mobility market in Europe is strong and has the potential for continued growth in the coming years. User behaviour should continue to value shared mobility as an alternative and complementary form of commuting. Improving technology will also likely further sweeten the user experience—for instance, by facilitating travel across greater distances. However, it is worth highlighting that more exposure means greater political intervention and regulation. With all that in mind, how large will the market be in 2023?

EUROPEAN MARKET 2022

EU27 + UK, Norway & Switzerland

850,000
VEHICLES ⁽¹⁾

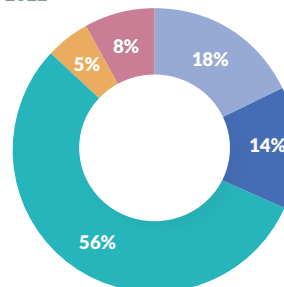
550 million
TRIPS

€3.1 billion
GENERATED BY RIDES ⁽²⁾

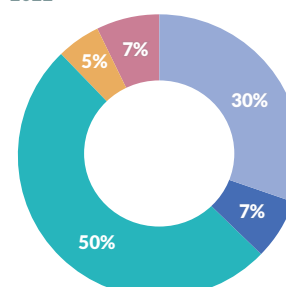
(1) Average (+/-10% variation due to seasonality)

(2) VAT included

VEHICLES MODAL BREAKDOWN 2022



RIDERSHIP MODAL BREAKDOWN 2022



Total trips per day
1.5 million

Station based
bikes



Free-floating
bikes



Scooters



Mopeds

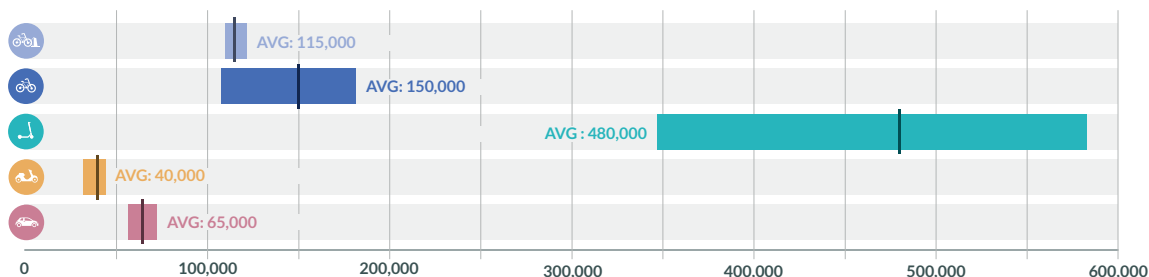


Cars



FLEET SIZE & SEASONALITY FLUCTUATIONS

2022



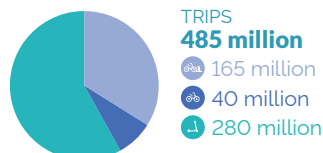
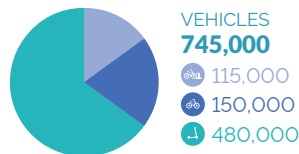
Europe leads the shared mobility race

NABSA (North American Bike and scooter Share Association) found there to be 212,000 shared scooters and bikes in North America in 2021, accumulating at least 128 million trips over the course of the year. In 2022 in Europe, Fluctuo estimates 745,000 scooters and bikes, clocking up 485 million trips (279% more than in North America), making it the largest and most competitive shared mobility market in the world. All shared modes—bikes, scooters, mopeds and cars—seem unstoppable in Europe.

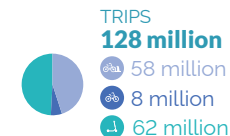
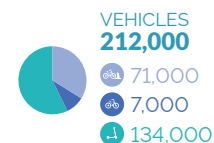
BIKES & SCOOTERS - EUROPE VS NORTH AMERICA

Source for North America: NABSA

EUROPE
 in 2022



NORTH AMERICA
 in 2021 (latest data available)



Accelerate your shared mobility business

Wunder Mobility, is the leading one-stop-shop solution for shared multi-modal operators that offer a developer friendly API-first SaaS platform, best-in class hardware, and customizable white label app.

HumanForest



- Operated in London
- 1.5 million trips in 2022 alone
- Received a B corp accreditation
- 250 tons of CO₂ saved

GreenMobility



- Operated in 11 cities - in 6 countries
- Fleet expansion in 2022 with a total of 1,600EV's
- +2,000 tons of CO₂ saved

As a proud shared mobility provider, we serve all kinds of vehicle operators whether they offer e-scooters, mopeds, bikes or cars. In 2022, two of the most mature operators Green Mobility and Human Forest leveraged our services to propel their businesses into new markets, expand their fleets and contributed to building a more sustainable future for us all.

Get in touch with us to find out how we can work together to take your business to new heights.



PART II

COUNTRY SPOTLIGHTS



ANALYSIS OF 100 CITIES AT A GLANCE

To size the European market, we collected and analysed data from 100 cities in 25 countries.

How were the 100 cities chosen?

The primary factors we focused on were population and the number of shared mobility services (and vehicles). Where possible, we tried to overlap as many of our city selections with the EU '100 Climate-Neutral and Smart Cities by 2030'.

What kind of data has been collected?

We collected and processed data on the number of vehicles, the number of trips, and the average end-user pricing in the 100 cities. When we could not source data directly from operators, we used industry averages and data extrapolation.

How are the fleet sizes calculated?

The fleet sizes in this section of the report are accurate as of December 2022. However, in cities that observe 'wintering', (when the city is unsuitable for shared mobility trips on bikes and scooters due to extreme temperatures - e.g. Helsinki) the fleet sizes are accurate as of October 2022.



100
CITIES
MONITORED

751
SERVICES

82
VEHICLES
PER 10K INH.

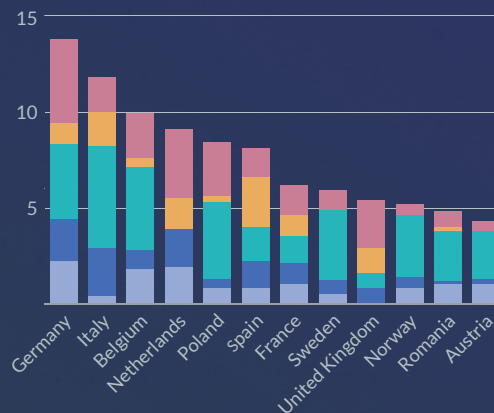
CITIES WITH AT LEAST ONE SERVICE

2022 | Out of 100 cities



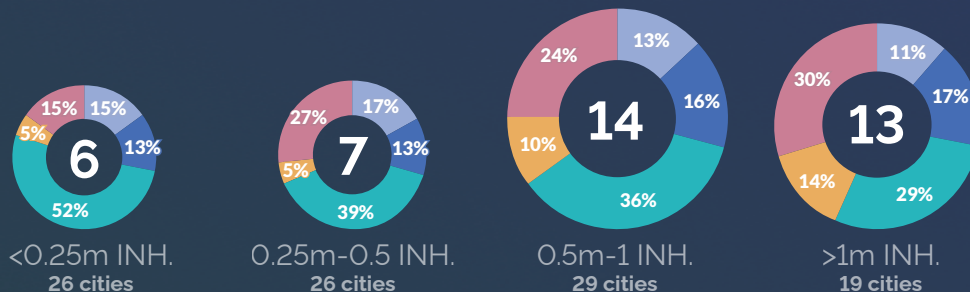
AVG NUMBER OF SERVICES PER CITY IN EUROPEAN MARKETS

2022 | Countries with more than 3 cities analyzed



AVG NUMBER OF SERVICES PER CITY BY POPULATION SIZE

2022 | Average number of services displayed in the middle of each pie chart





8

CITIES MONITORED

42

SERVICES

PARIS | December

Velib fleet to increase by 20% for the 2024 Olympics

MARSEILLE | December

City impounds badly-parked shared scooters and bikes

PARIS | September

Dissatisfied with shared scooter schemes, city officials summon TIER, Lime and Dott for discussions

FRANCE | September

Cityscoot carries out a capital increase at a lower valuation

LYON | September

Lyon bans shared scooters for under-18s

BORDEAUX | September

The Métropole chooses six shared bike, scooter and moped operators

MARSEILLE | June

The city bikes to be 100% electric and have a new operator

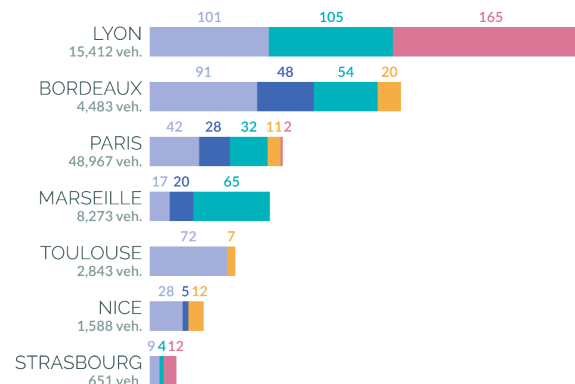
TOULOUSE | February

City chooses Yego and Felyx to operate shared mopeds

TOP NEWS

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON Cityscoot

3.6M
TRIPS

In 2022, Cityscoot recorded 3.6 million trips across Paris, Nice and Bordeaux, boasting a Net Promoter Score of 28.

3
ACTIVE
CITIES



Scooter operators have work to do to get into the good books of French cities.

In late January 2023, The Mayor of Paris, Anne Hidalgo, announced a referendum on April 2nd to decide the future of shared scooters in the capital. At the same time, the City of Marseille gave the three scooter operators an ultimatum to solve the problem of chaotic parking or face prohibition.

However, not all hope is lost. Quite the opposite, especially since significant improvements have been made recently: in September 2022, the City of Lyon banned shared scooters for minors. This measure was also quickly adopted by the three Parisian operators Lime, TIER and Dott.

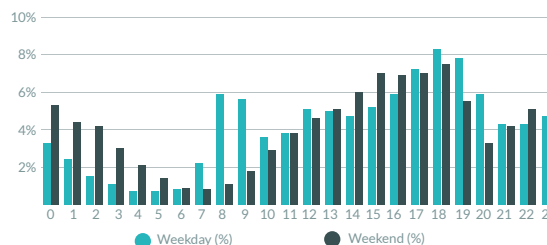
But then who uses scooters, how and when?

Our analysis suggests that during the summertime, the number of trips decreases. In summer, the distribution of scooters is concentrated around main tourist locations. Throughout the rest of the year, the distribution is more spread out and further away from the centre of Paris, towards residential and business areas. This is one strong indication that shared scooters are primarily being used by citizens to get to their work and home.

Moreover, peaks of use are observed at the beginning and end of traditional working hours meaning that scooters are a valuable means of transport and intermodality for active commuters. In addition, the parking areas for scooters are highly saturated on the outskirts of Paris, suggesting that scooters are used extensively by residents of the inner suburbs, as scooters cannot be used beyond the city limits. Therefore, shared scooters boost the use of intermodal transport.

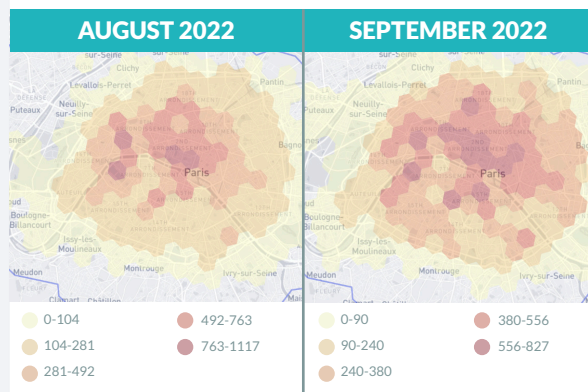
SCOOTERS - TRIP DISTRIBUTION PER HOUR IN PARIS

September 2022



SCOOTERS - FLEET DISTRIBUTION IN PARIS

Available vehicles





GERMANY

8

CITIES MONITORED

115

SERVICES

MUNICH | December

City to reserve 600 car parking spaces for shared cars by 2026

STUTTGART | December

Zeus launches 80 scooters in outskirts

BERLIN | November

City to allow scooters and bikes to park for free in car spaces

BERLIN | October

TIER removes mopeds from streets

HAMBURG | October

Operators agree with city to reach 80% electric shared cars in 15 months & TIER launch bikes

FRANKFURT | August

Bolt launches bikes

MUNICH | June

Avocargo launch cargo bikes

COLOGNE & DUSSELDORF | April

Bolt launches bikes in Cologne and Dusseldorf

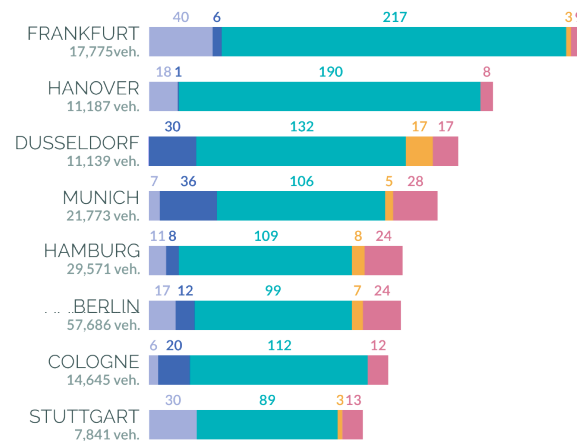
BERLIN | February

TIER launches 2,000 electric bikes

TOP NEWS

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON MILES

11,000
VEHICLES

8
CITIES

MILES Mobility had a **big year in 2022**. After a round of funding in January, they added Tesla Model 3s to their fleet and expanded to the Rhineland cities of Cologne, Düsseldorf, Duisburg and Bonn. With the acquisition of all-electric WeShare in October 2022, MILES Mobility became one of the largest car sharing companies in Europe, with the established SHARE NOW.



Car-sharing grows from strength to strength

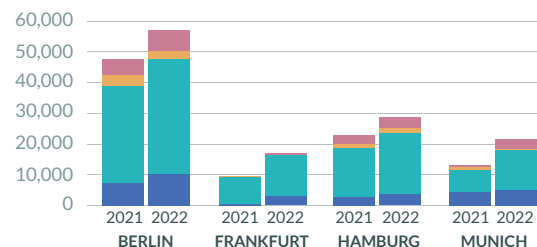
Germany is one of the most—if not the most—advanced markets for shared cars. In recent months, authorities have made car-sharing more attractive through favourable parking laws. In Munich, by 2035, 1,600 parking spaces will be reserved for shared cars; city planners in Berlin are prepared halve the parking fees for free-floating cars companies, so long as they are electric; Hamburg are set to introduce 120 charging points at Frankfurt Airport for shared cars, as well as an additional 600 charging points in the city; and Munich plan to introduce 600 charging points by 2026.

Scooter parking has been a challenge nationwide. Across the 100 cities analysed in this report, 30% of them can be found in the 8 German cities featured. Whilst demand is proportional to the supply, the issue has been where these vehicles would be parked. The same is true for bikes, to a lesser extent. The solution to clamp down on scooter parking, at least in Berlin, is to allow free-floating vehicles to be parked in empty car parking spaces, and not on the pavement. Only time will tell whether or not this is a viable solution, as it may create new tensions with motorists.

So, what's next? We expect trip growth to increase across bikes, scooters and cars—but for fleet sizes to increase just for bikes and for cars. We believe scooter fleets may be plateauing. As for mopeds, the story is unclear. Recently, Emmy acquired felyx's fleet in Germany, after TIER announced that they would be stopping their moped operations.

SHARED MOBILITY IN GERMANY

2022 VS 2021





8
CITIES MONITORED

90
SERVICES

TURIN | January 2023

Turin awards 3-year permits to Bird, Dott, Helbiz and Superpedestrian

NAPLES | December 2022

Issues continue with Napoli's bike sharing system

ROME | December 2022

Rome postpones scooter tender results for 3 months

FLORENCE | December 2022

RideMovi launches scooters in Florence

TURIN, MILAN & ROME | November 2022

Zig Zag lands in Turin with 1,000 electric bikes and 400 scooters, and Voi launches pilots in Rome and Milan with Drover AI computer vision technology

ROME | June 2022

New rules for scooters in Rome and tender announced

PALERMO | May 2022

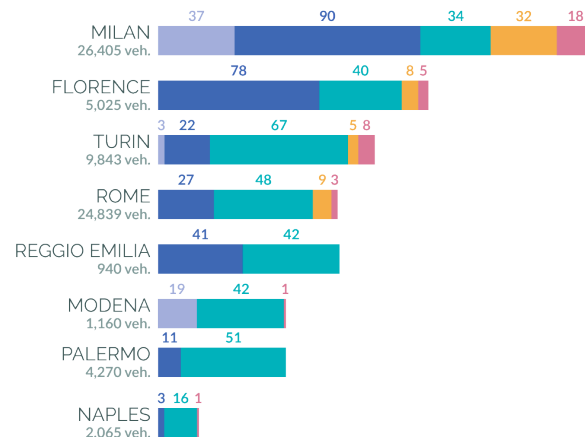
Voi launches 500 scooters in Palermo

ROME | March 2022

TIER launches 800 electric bikes in Rome

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON **ridemovi**

5.8M
TRIPS

16
ACTIVE
CITIES

Ridemovi's fleet in Italy grew 60% in 2022, spanning 16 cities. Users racked up a total of 5.8 million trips nationwide, with 80-90% of all users rating the service as very good (a score of 4 or 5 out of 5).

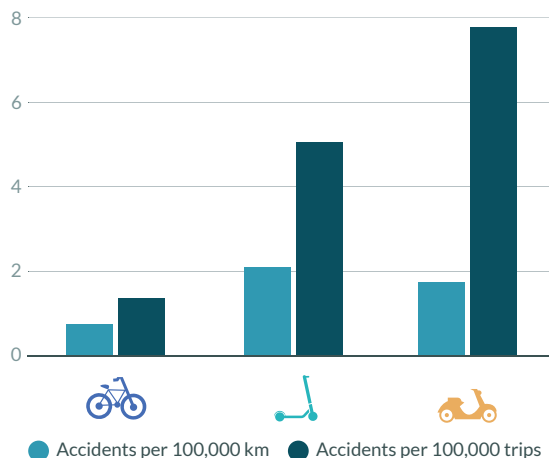


For the first time, a survey on shared micromobility accidents in Italy was carried out.

Data collected from 2021 by the Italian Shared Mobility Platform shows that shared scooters had an accident rate (2.07 accidents every 100,000 km) slightly higher than shared mopeds (1.72), and much higher than bikes (0.74). When we compare the number of accidents to the number of trips, however, the story is not the same: mopeds recorded 7.77 accidents every 100,000 trips, scooters 5.01, and bikes 1.35.

ACCIDENTS ACROSS MODES

2021

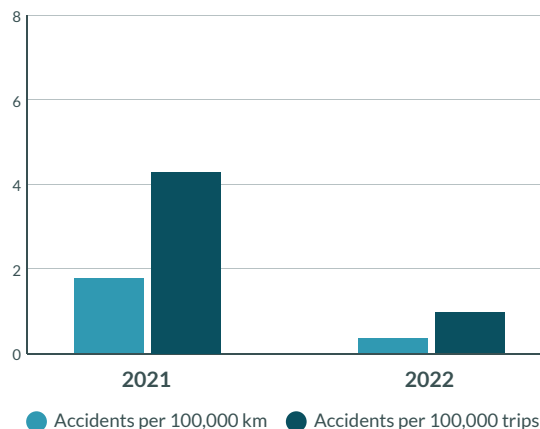


Scooters are getting much safer

In 2022, an analysis was carried out with a group of 5 operators (representing 74% of the Italian market). Both accident rate per kilometre and per trip has significantly fallen. In fact, the number of accidents for every 100,000 km travelled has fallen 80% between 2021 and 2022.

SCOOTER ACCIDENTS

2021 vs 2022 | Analysis carried out on group of 5 operators
 (74% market coverage)





NETHERLANDS

7
CITIES MONITORED

61
SERVICES

EINDHOVEN | November 2022

Cargoroo launches in city

AMSTERDAM | October 2022

Inside the Bicycle's Conquest of Amsterdam

UTRECHT | October 2022

NS begins trial of 30 public transport e-bikes at Driebergen-Zeist station

GRONINGEN | September 2022

GO Sharing launches bikes in Groningen and Tilburg

AMSTERDAM, ROTTERDAM & THE HAGUE | June 2022

NS travellers can now extend their journeys with shared scooters.

UTRECHT | February 2022

Hyundai's Mocean mobility arrives in the Netherlands with residential car-sharing

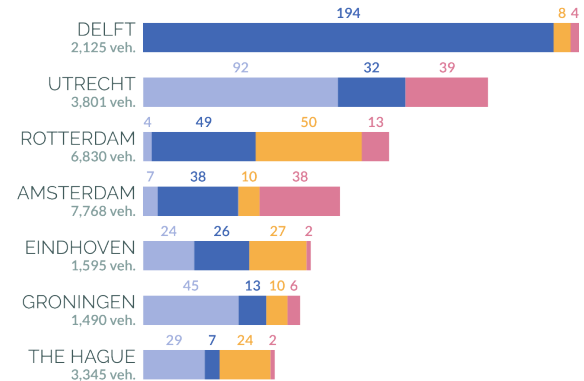
GRONINGEN | February 2022

Bird bike growth in Netherlands continues with exclusive Groningen pilot

TOP NEWS

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON felyx

1m
REGISTERED
USERS

12
ACTIVE CITIES

Felyx successfully expanded into 5 new cities in 2022, which means they are now present in 12 cities nationwide. They reached two major milestones last year; 1 million registered users and 50 million kilometers driven.



NETHERLANDS

The Netherlands is known for having the highest number of bicycles per inhabitant in the world, 1.3 bikes per capita on average, but the country also has a high number of shared bicycles. Despite the popularity of cycling, the usage of personal bikes has neither cannibalized nor impacted the growth of bike sharing services (24 bike sharing schemes in the 5 largest Dutch cities).

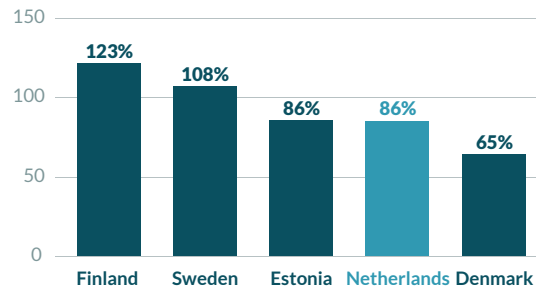
The Dutch have long been avid cyclists and have developed one of the best cycling networks in Europe with more than 86% of main roads being equipped cycling infrastructure (more than double the average of the countries featured in this Index). These dedicated bike lanes and paths have made it safer and easier to cycle in cities. Bike sharing services have leveraged this infrastructure - and the Dutch cycling culture - to offer a convenient and sustainable alternative mode of transport.

Furthermore, bike sharing services often cater to different users and use cases than personal bikes. Station-based and free-floating bikes can be a more convenient option for occasional riders, one-way trips, spontaneous trips, or tourists. Bike sharing services also have different pricing models which can be more cost-effective for shorter trips. Attracting riders is easier since shared scooters are not legal in the Netherlands.

The popularity of personal cycles in the Netherlands does not hinder the usage of bike sharing. Instead of competing, this additional mode of transportation is beneficial for the overall safety of active mobility: according to "safety in numbers" studies, the more walkers and cyclists there are in a population, the lower the risk.

RATIO OF CYCLING INFRASTRUCTURE OVER THE MAIN ROAD NETWORK

2022 | Top 5 countries Europe



42% AVG Ratio of cycling infrastructure over the main road network in the 25 studied countries



23.4M

Bicycles in the Netherlands
i.e. 1.3 bicycles per inhabitant



5
CITIES MONITORED

26
SERVICES

OSLO | November

Bolt scooters integrated with Oslo's Ruter public transport system

NORWAY | June

Government establishes that anyone old enough to have a driving licence would face the same drink-driving laws when using an scooter as they would if they were driving a car

BERGEN | May

Voi, Ryde and Bolt have won shared scooter tender

NORWAY | April

New rules for shared scooter riders, such as minimum 12 years of age, and scooter must be insured

OSLO | April

Bolt, Voi, and TIER have been awarded the licence to operate scooters

OSLO | March

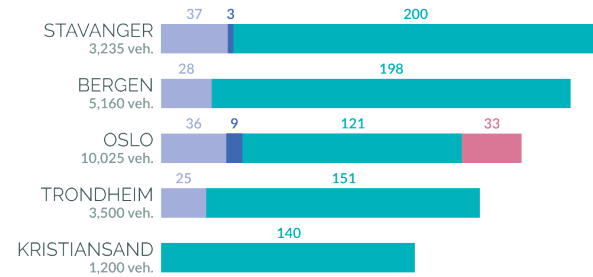
Bolt starts computer vision trial in Oslo

TRONDHEIM | March

Voi wins Trondheim tender

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON *ryde*

6.6m
TRIPS
NATIONWIDE

14%
UNADJUSTED
EBIT (2021)

Ryde is a leading Norwegian micromobility operator and has been profitable (audited unadjusted EBIT) since its inception 2019. Ryde is currently present in 14 markets, 5 of which are in Norway, where customers took 6.6 million trips across the year. These numbers will surely rise, as the company won the tender to operate in Oslo in 2023.



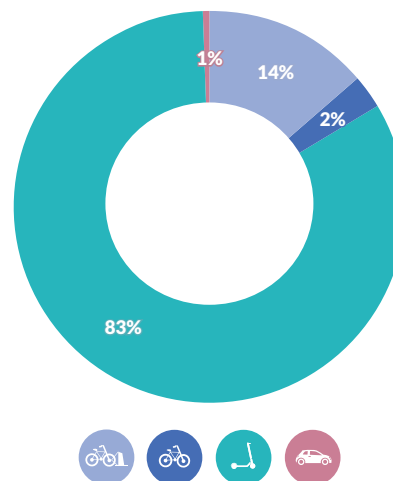
Norway is one of Europe's most mature shared scooter markets. Scooters are incredibly popular and make up 76% of all shared mobility vehicles (across 5 monitored cities).

There were speed bumps this year, the biggest one being new legislation regarding insurance. In August, almost overnight, shared scooter operators had to invest in liability insurance, for fear of their fleets being removed from streets. To resolve the issue, at the time, there was only one company that offered this kind of insurance, meaning that the insurer held all the cards. For many operations companies, margins are everything—and operators couldn't continue to operate in a financially stable way without passing this cost onto users. Prices therefore rose by around 20% when this law came into effect.

When it comes to cycling, it seems like free-floating bikes don't attract the same demand as in other European countries. In the 5 cities monitored for this report, shared scooters outnumber free-floating bikes 34 to 1. Despite having some of the best cycling infrastructure in Europe, and some of the most popular public bike-sharing schemes, free-floating bikes are yet to take off in Norway. Perhaps this is down to cost: for instance, a user can get a season pass to the station-based Oslo Bysykkel for just €50.

MODAL BREAKDOWN IN NORWAY

2022 | Data from 5 cities





6
CITIES MONITORED

48
SERVICES

WROCLAW | December 2022

Public bike-sharing scheme announces its best season in its 11-year history

KRAKOW | November 2022

City Council adopts new scooter parking regulations

WARSAW | October 2022

City introduces "Green Vision" plan to foster the development of shared mobility (micromobility, car-sharing, mobility hubs & MaaS)

POZNAN | July 2022

Public bike-sharing scheme temporarily suspended in 2023 due to budget constraints

WARSAW, KRAKOW, BYDGOSZCZ & OLSZTYN | June 2022

Bolt launches 800 electric bikes across 4 cities

POLAND | June 2022

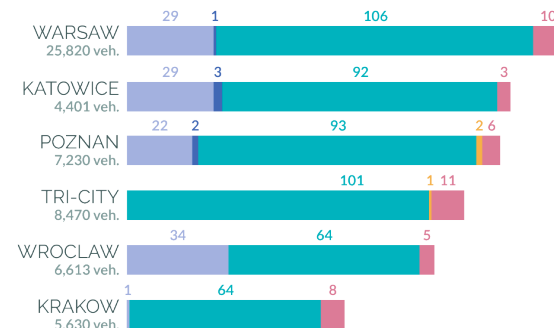
Council of Ministers adopts the draft of the National Urban Policy 2030, which indicates the need to legally define shared mobility

POLAND | April 2022

GZM Metropolis opens tender for bike sharing scheme, which will be one of the largest systems in Europe (8,000 bikes, 900 stations)

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON **dott**

95%
INCREASE
IN RIDERSHIP
VS 2021

12
ACTIVE
CITIES

Dott's fleet in Poland reached 11,500 in the peak of 2022. They are the first operator nationwide to use electric cargo bikes to perform battery swaps in daily operations. Their crowning achievement was in Poznań (launched in Sept. 2021), which saw 2.3 times more trips in Q4 of 2022 compared to Q4 2021.



IN PARTNERSHIP WITH

Adam Jędrzejewski
CEO at Mobilne Miasto



When comparing the peaks of 2021 and 2022, the Polish shared mobility market grew by almost 69% in terms of nationwide available vehicles.

Bike sharing grew by almost 10% year-on-year with 15,900 bikes available on average in some 94 cities, which constituted over 19% of the domestic shared mobility market. This can be perceived as quite a rebound, as municipal bike sharing schemes were significantly affected by the pandemic. The challenge today is the business model. Schemes are almost completely financed by municipalities; services have become more expensive to run, causing pauses and closures (e.g. Poznan, who have decided to temporarily suspend the service in 2023).

The shared scooters account for 74% of the national shared mobility landscape, with 62,300 scooters available on average in 160 cities. With the growth in trips, Polish cities also increasingly decided to regulate the cooperation with operators locally, most often with vehicle parking and public safety.





Shared moped fleets actually decreased in size in Poland in 2022. Available vehicles fell by 47%, leaving just 435 mopeds in 11 cities. However, mopeds are gaining popularity for use in the booming last-mile food and grocery delivery markets.

Shared car fleets grew by over 22% to a total of 5,500 vehicles, accounting for close to 7% of the entire shared mobility market. The three most important observations were further consolidation of the market (95% is shared between the two largest operators), emphasis on the largest cities, and the development of new pricing structures and new use cases, e.g. intercity traveling.

Looking into 2023, there are at least two key initiatives worth mentioning with regards to the regulatory side of the shared mobility market in Poland. The National Urban Policy 2030 states that “shared mobility and the concept of MaaS should be considered in a multimodal transport system as support for sustainable mobility”. The second is the industry’s New Mobility Development Strategy, which is proposing a set of 17 recommendations for fostering new mobility in Poland.

SHARED MOBILITY IN POLAND

2022 | All cities in Poland

	CITIES	VEHICLES
	94	15,900
	160	62,300
	11	435
	20	5,500



SPAIN

8

CITIES MONITORED

90

SERVICES

MALAGA | December

City gives temporary authorization to six companies: Lime, Bird, Link, Dott, Bolt and TIER

BARCELONA | October

Tender for 2,300 bikes in the Barcelona region won by nextbike by TIER

MADRID | October

City reduces authorised scooter fleets by 40%

ZARAGOZA | September

Shared mobility in Zaragoza free on September 21st during European Mobility Week

MADRID | September

Superpedestrian integrates with Google Maps

MADRID | September

City becomes home to Spain's most powerful urban charging station

BARCELONA | September

Mouvait partners with RCD Espanyol football club

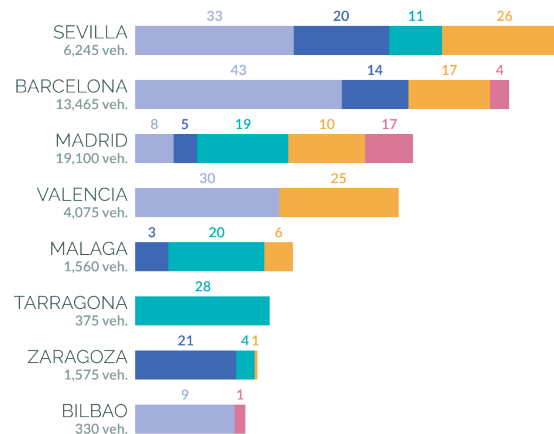
VALENCIA | March

Universitat Politècnica de València (UPV) develops road sensor for micromobility vehicles

TOP NEWS

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON cooltra

17%
YoY FLEET
GROWTH
3.2m
TRIPS

Cooltra are our pick for Spain. Cooltra are available in 3 markets in Spain with an additional 4 overseas. Users clocked up 3.2 million trips on Cooltra mopeds in Spain alone, maintaining an app rating of 4.6/5. In 2022, the Spanish operator grew it's fleet by 17% and raised €25m.



Spain upgrade bike systems nationwide

Madrid is home to the first, large-scale 100% electric public bike scheme. Launched in 2014, BiciMAD regularly reached 400,000 trips per month in 2022 with around 2,500 bikes. Nearly ten years after its launch, it was time for an upgrade. Madrid selected Serveo & PBSC for the renewal of the BiciMAD system in July 2022, with 7,500 electric bikes across 611 stations (from March 2023). To complement this new system, 6 companies have been selected to operate 2,600 free-floating bikes, and the mobility landscape revamp will soon be complete, following the shared scooter tender, won by Dott, Lime, and TIER.

The absence of shared scooters in Catalonia has allowed bikes to flourish. Barcelona's Bicing system recorded more trips per vehicle over the course of 2022 than Velib' in Paris, which is no mean feat. Authorities in Barcelona believe that bikes can play a much bigger part in the region, and a tender to operate a complementary bike service was won by nextbike by TIER in November 2022. 2,600 electric bikes are set to be launched by April 2023 in the Barcelona Metropolitan Area. With Reby-affiliated services disappearing from the city, there is also an opportunity for other active operators to fill the market share, but will likely mean a decline in vehicles from 2022 levels.

Elsewhere, Gijón will launch a bike service (in partnership with Inurba and Fifteen) four times larger than the one currently in place. TIER won the tender in Bilbao to operate the 'Bizkaibizi' scheme with 650 electric bikes. Malaga is struggling to select a single operator of bikes and scooters for their tender and has temporarily extended 6 scooter permits. Zaragoza, on the other hand, are planning to take shared mobility services into their own hands: after the exit of Reby, there are calls to create a municipal company that will take on the management of shared mobility vehicles across all modes (bikes, scooters, mopeds & cars).

VEHICLES & SERVICES IN SPAIN

2022 & 2023





6

CITIES MONITORED

31

SERVICES

HELSINGBORG | Month
Ridemovi launch electric bikes in Helsingborg & Lund

GOTHENBURG | October
Voi teams up with Autoliv to better understand why accidents occur

STOCKHOLM | October
City trials SparkPark parking solution for Stockholm eBikes

GOTHENBURG | September
Gothenburg chooses to waive the scooter parking restrictions until 1st April 2023

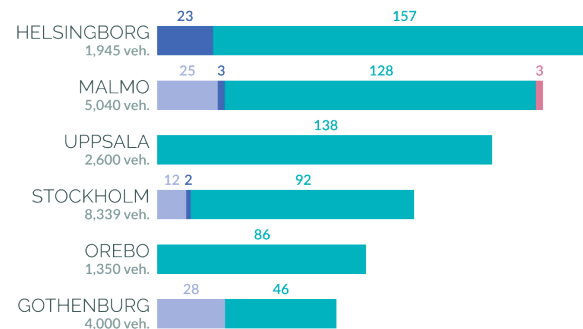
STOCKHOLM | August
Electric scooter revolution faces a reckoning

STOCKHOLM | March
Dott launches scooters

TOP NEWS

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON QICK

4
NEW CITIES

1.5m
TRIPS

Qick grew from 5 cities in 2021 to 9 in 2022, without venture capital. Users clocked up an impressive 1.5m rides across all cities - in a country where extreme weather makes the 'on' season shorter than in other countries. Qick were proud to share that they run 100% fossil fuel-free operations in all but one of their cities.



Riding throughout the year is a mindset

While winters are tough in Sweden, shared schemes (bikes and scooters) continue to attract riders (more than 230,000 trips per month during winter in Stockholm, +150,000 in Malmo and +100,000 in Gothenburg).

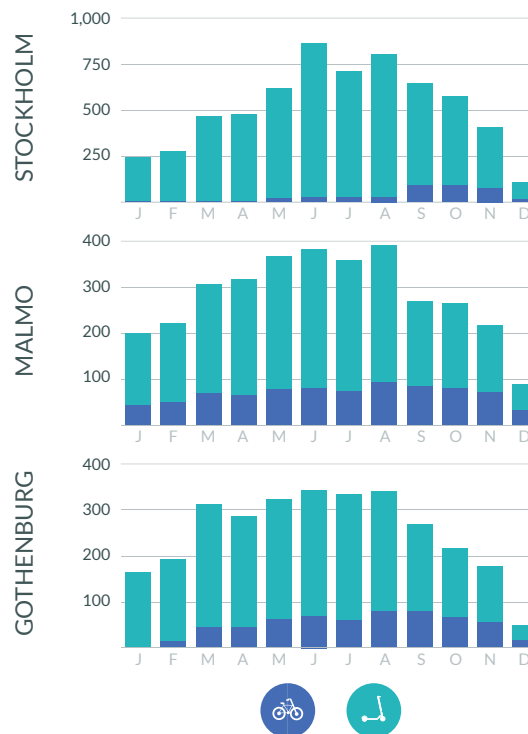
While cycling in temperatures that can plummet well below 0°C might seem extreme, Nordic countries' climate might be considered as better than slush, mud, and rain. Contrary to what one might think, compressed snow is not slippery, hence why studded tyres are not always necessary. In general, no special gear is needed when cycling through the wintry Nordic landscape.

Nonetheless, in winter times, cities in Sweden need to ensure that the dedicated bike lanes are cleared of snow and ice, to make it easier and safer for cyclists to ride. Many sharing schemes in Sweden have also developed partnerships with municipalities to ensure that bikes are cleared of snow and properly maintained during the winter months.

The success of sharing schemes in Sweden during winter demonstrates that with the right infrastructure, equipment, and cultural support, using a bike or a scooter can be a viable mode of transportation even in cold and snowy conditions.

SCOOTERS & BIKES - MONTHLY TRIPS

2022 | In thousands





6

CITIES MONITORED

27

SERVICES

LONDON | December

Serco sign contract extension with TfL to operate Santander Cycles in London (UK) for 3 more years.

BRISTOL | December

Voi zone expansion

LIVERPOOL | November

New electric bike scheme by Voi launched

MANCHESTER | October

Passenger MaaS app extends micromobility integration to Bee Network bikes

LONDON | October

Transport for London announces extension of scooter trials until May 2024 and a new scooter tender based on stricter criteria.

SOUTHAMPTON | October

Beryl launches 200 bikes & 235 electric bikes annual losses

LIVERPOOL | July

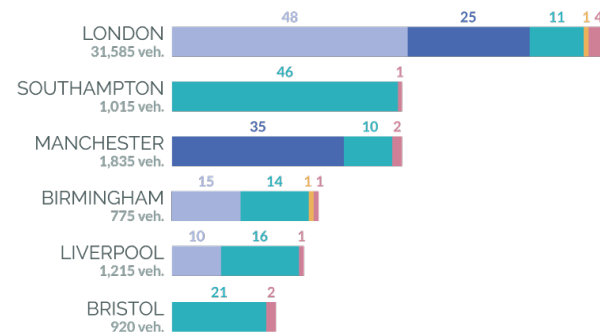
Liverpool City Bike scheme to be replaced by Voi amid £300k annual losses

LONDON | July

TIER launches 500 electric bikes in Ealing

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities

**FOCUS ON** **voi.**

1,400
JOB
SUPPORTED

14
ACTIVE
CITIES

In the UK, 2 out of every 3 scooter trips take place on an orange scooter. Their schemes contributed £53 million to the economy in 2022, helping to support 1,400 jobs.



When will the UK legislate scooters?

On the 8th of February 2023, Voi called for scooter legislation from the UK government. Voi users registered 21.5 million rides over two-and-a-half years. So the question remains: why is the future of shared scooters in the UK uncertain?

Since the trial launched in Bristol in October 2020, the top city for Voi users, nearly 7 million trips have been made, travelling over 11 million miles and replacing an estimated 3 million independent car journeys. Record ridership figures were seen during the 2022 Commonwealth Games in Birmingham, with riders making more than 66,000 journeys on its scooters between 28 July and 8 August 2022—replacing an estimated 26,000 car rides. 2022 in London saw more than 1.5 million rides from operators TIER, Lime, and Dott, with an average trip distance of 2.5 km; that's 3.75 million km of trips made in one city alone.

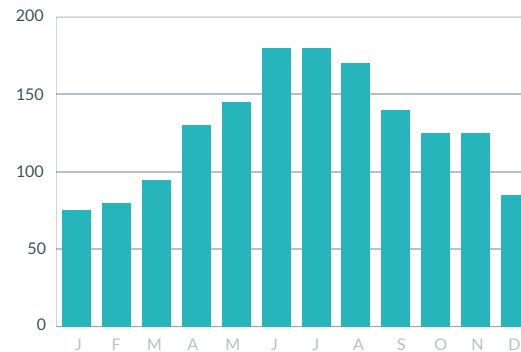
The Department for Transport welcomes the conclusion that shared scooters 'can serve as a valuable mode of transport'. The UK gives no indication of forming plans for scooter incorporation after the trials end in May 2024, at which point the trials will have been ongoing for nearly 4 years.

It's not just the operators that are calling for action. Milton Keynes and Liverpool are also demanding a clear date for legislation, arguing that there isn't much left to learn from the trials, and that their safety has been proven. This remains the primary concern.

The UK and Ireland remain one of the few countries that are yet to legislate shared scooters, and the mobility world awaits their terms.

SCOOTERS - TRIPS PER MONTH IN LONDON

2022



PART III

RIDERSHIP & MODAL BREAKDOWN





FOCUS ON BIKES

The growth of shared bike services persisted in 2022. Operators and device manufacturers keep pushing to bring bikes with improved comfort, safety attributes and enhanced sustainability elements.

Station-based bikes continued to outperform all shared micromobility services in ridership. Their performances were particularly noticeable in major cities such as Paris with Vélib, Barcelona with Bicing and London with Santander Cycles. Whilst the number of station-based bikes kept more or less steady, free-floating bikes continued growing. In a year, fleets grew by over 118% on the streets of European cities.

Bike operators have tried to take advantage of some cities' preferences for shared bikes over scooters. They viewed this situation as an opportunity to develop their business and enhance their relationships with municipalities.

Simultaneously, the latter have been thinking of ways to alleviate the inflation pressure on citizens caused by energy shortages. For instance, the City Council of Lisbon has decided to make the municipal bicycle-sharing network, GIRA, free of charge for residents. Similar initiatives could be seen in European cities in the coming months.

TOP 5 TRIPS PER CAPITA 2022

1 st	 PARIS
2 nd	 BARCELONA
3 rd	 ANTWERP
4 th	 MILAN
5 th	 LONDON

TOP 5 TRIPS PER VEHICLE 2022

1 st	 BARCELONA
2 nd	 PARIS
3 rd	 BUDAPEST
4 th	 LISBON
5 th	 DUBLIN

YEAR-ON-YEAR RIDERSHIP

Base 100 | 2021 Average





FOCUS ON SCOOTERS

Shared scooters had an amazing year. They had a strong momentum during summer when the warm and sunny conditions are the best for riders. Fleets nearly reached 600,000 vehicles, making them by far the most available shared mode. Except for the few markets in which they are banned, they encountered success everywhere in Europe. Regardless of culture or geography, shared scooters are almost equally as successful in Northern as in Southern Europe.

Their continuous growth in trips is also due to technological advancement. In trying to build safer, more convenient, and sustainable scooters, shared mobility providers are gearing up with bigger front wheels, displays to give feedback about city zone restrictions, and more precise advanced driver-assistance systems.

Yet, in this flourishing market, major players such as Bird had to pull out of significant markets. In October, the American company announced it would exit Germany, Sweden, and Norway. Therefore, the competition continues between international companies such as Lime, TIER and Bolt and regional players Qick, Pony, and Poppy. In 2023, will the market continue to consolidate, and how will the front-runner manage to cement their leadership positions?

TOP 5 TRIPS PER CAPITA 2022

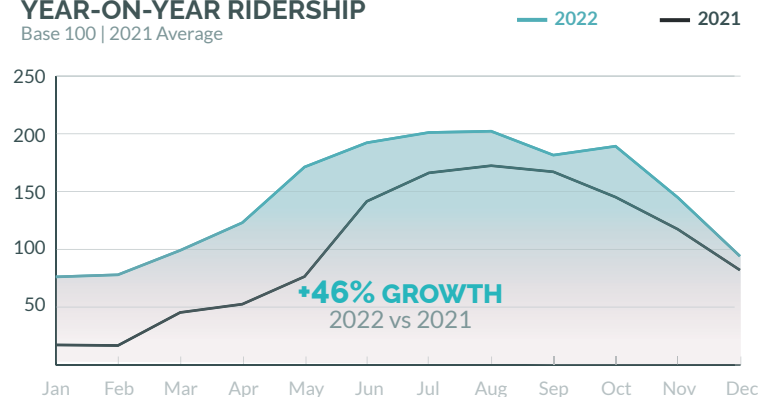
1 st	 LISBON
2 nd	 OSLO
3 rd	 BRUSSELS
4 th	 FRANKFURT
5 th	 STOCKHOLM

TOP 5 TRIPS PER VEHICLE 2022

1 st	 OSLO
2 nd	 ANTWERP
3 rd	 BORDEAUX
4 th	 PARIS
5 th	 STOCKHOLM

YEAR-ON-YEAR RIDERSHIP

Base 100 | 2021 Average





FOCUS ON MOPEDS

The usual suspects are back... Amsterdam, Barcelona, and Rotterdam once again get on the podiums. Spain and the Netherlands maintain prominent positions in the European market. This is because mopeds continue to operate in a scooter-free environment due to regulations banning them from circulating the streets.

In 2022, the Netherlands saw the largest increase in shared moped fleet size. Up until the end of the year, users could benefit from advantageous regulations allowing them to ride in cycling lanes. We are curious to see how the usage will evolve since the new law was put in place in January 2023, prohibiting mopeds from using bike lanes.

Meanwhile, in Paris, stakeholders are awaiting the final decision of the local moped sharing tender results with great anticipation. Simultaneously, Barcelona started to lay the foundation for an updated moped-sharing governance framework.

TOP 5 TRIPS PER CAPITA 2022

1st  BARCELONA

2nd  ROTTERDAM

3rd  SEVILLE

4th  MILAN

5th  AMSTERDAM

TOP 5 TRIPS PER VEHICLE 2022

1st  AMSTERDAM

2nd  BORDEAUX

3rd  ROTTERDAM

4th  BARCELONA

5th  SEVILLE

YEAR-ON-YEAR RIDERSHIP

Base 100 | 2021 Average





FOCUS ON CARS

Having analysed the top cities for trips per capita, it's clear that German citizens' love for car-sharing is going strong. With solid links to the German automotive industry, car-sharing operators continue to be pioneers in electric mobility. About a quarter of car-sharing vehicles are electrically powered; by contrast, this is much more than privately owned cars.

Car-sharing can promote the use of electric vehicles and increase familiarity with the technology, leading to a greater demand for EVs in the future. As more car-sharing providers adopt electric vehicles, the overall carbon footprint of the transportation sector can be reduced, contributing to efforts to combat climate change.

The best-performing cities in terms of ridership are relatively spread out in Europe. This should not come so much as a surprise, since every local context is unique and car sharing schemes' successes seem to be very dependent on the mobility patterns of the cities and their socioeconomic conditions.

TOP 5 TRIPS PER CAPITA 2022

1st  **COPENHAGEN**

2nd  **BERLIN**

3rd  **MILAN**

4th  **HAMBURG**

5th  **MUNICH**

TOP 5 TRIPS PER VEHICLE 2022

1st  **VIENNA**

2nd  **TURIN**

3rd  **RIGA**

4th  **BUDAPEST**

5th  **HAMBURG**

YEAR-ON-YEAR RIDERSHIP

Base 100 | 2021 Average

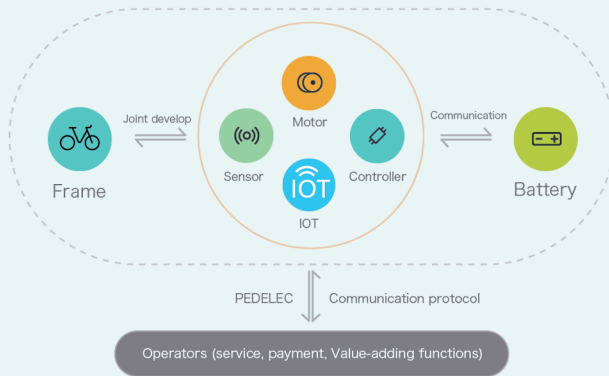


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Bafang Sharing eBikes Drive Solution

e-Bike drive solutions for sharing vehicles - Bafang is the right choice here! Bafang has been dedicated to the eBike market for over 20 years and has mature, ready-to-use, powerful and practical eBike sharing solutions. Bafang is already involved in over 20 sharing projects in Europe with its know-how.



- ✓ Cost-effective
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- ✓ Reliable quality
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- ✓ Secure delivery time



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- ⦿ BT C01.498.UC
- ⦿ DP C10.CAN

- ⦿ H405
- ⦿ SR PA162.32.S
- ⦿ BT F020.B504.C
- ⦿ DP C220.CAN

About the company

Bafang, is one of the leading manufacturers of e-mobility components and complete e-drive systems, developing customized solutions for a wide range of electric vehicles since 2003. The company operates worldwide and focuses on all global e-mobility trends of the future: whether for individual concepts for e-bikes, e-scooters or public bike-sharing systems. Bafang's comprehensive product portfolio includes motors, sensors, batteries, HMIs, controllers, connectors, and innovative IOT results.

METHODOLOGY

This European Shared Mobility Index - Annual Review gives an overview of the entire European market, as well as an analysis on 100 European cities selected to highlight diversity in size, geography and market characteristics.

The Index encompasses shared bikes, scooters, mopeds and cars. Ride-hailing services (e.g. Uber, FreeNow), car-pooling (e.g. Klaxit, BlaBlaCar) and long-term rental services (e.g. Swapfiets) are not included. As regards to car sharing, only rentals by the minute, hour or day are included. Multi-day rentals are not included.

Vehicle and trip data was sourced directly from operators, open data sources, mobile applications and public announcements. Industry averages and some data extrapolation were used to fill remaining data gaps. Companies who contributed financially to this report have not received any favourable treatment.

Please contact harry.maxwell@fluctuo.com for more.



ABOUT FLUCTUO

Shared mobility is essential for building cleaner, more livable cities.

Fluctuo is the leader in mobility enablement. We provide key stakeholders with the most exhaustive, accurate data on the market to accelerate the growth of shared mobility.

Dive into shared mobility

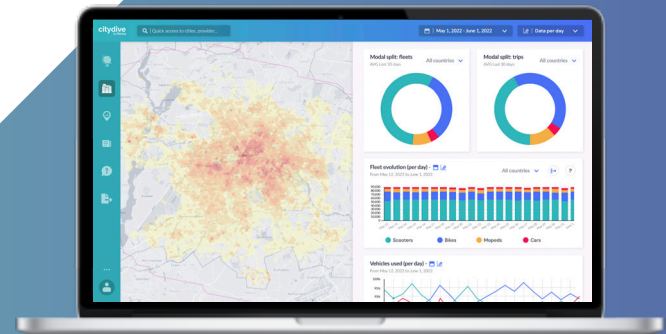
Everyone always talks about how important data-driven decisions are. Well, trying to make data-driven decisions without all the facts is like trying to do a jigsaw puzzle with all the edge pieces missing.

City Dive allows users to make decisions based on the big picture. Our team of mobility experts combine innovative data-collection methods with sophisticated algorithms to produce the most exhaustive and precise data on the market.

Every day, we analyse **250+ services** in **180+ cities**, giving operators the means to improve the performance of their operations, and cities the opportunity to benchmark their mobility ecosystems against others.

¿Qué MaaS?

Fluctuo's API displays real-time vehicle information on **250+ services** in **700+ cities**, and allows users to book them through 3rd party apps. Attract users for your MaaS app. Get more rides for your service. Attract shopping centre visitors what scooters are available in the area. Power the micromobility revolution.



Dive in

THANKS TO

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