

A STUDY CONDUCTED BY 6T-RESEARCH OFFICE USING OWN FUNDS WITH THE SUPPORT OF THE ADEME

ADEME



Agence de l'Environnement et de la Maîtrise de l'Energie



Context

Back in fashion since the 1990s, scooters have undergone numerous technological evolutions, as exemplified by the development of electric vehicles.

Meanwhile, as new shared-mobility services have emerged, people's travel patterns have diversified. Today, electric scooters are used extensively in their shared form.

First introduced in the United States, these self-service, free-floating rental services have been proliferating in France since the arrival of the first providers in Paris in the summer of 2018. As of early June 2019, the French capital was hosting 12 free-floating scooter services. Providers also rolled out scooters in other cities.

Issues at stake

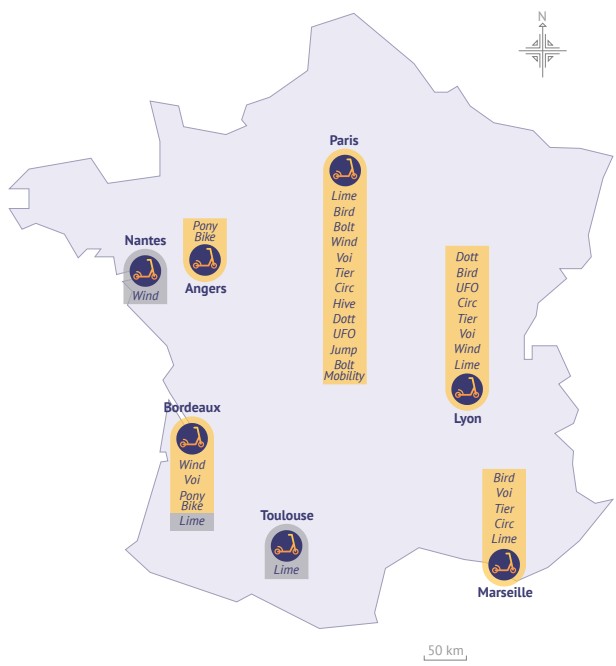
The rapid and massive spread of free-floating electric scooter services raises a wide range of issues, including the sharing of streets and occupation of public space, as well as the need to take this new mode of transportation into account and to regulate its deployment and use.

This study, conducted by the research office 6t in April 2019, is based on a survey of free-floating electric scooter users, and aims at :

- Identifying the profile of free-floating electric scooter users;
- Describing the uses of e-scooters;
- Understanding the determinants and obstacles to the use of this new mode of transportation;
- Analyzing the impacts of shared e-scooters on mobility practices.

Free-floating electric scooter services in France

Inventory of services (June 2019)



Free-floating electric scooter services

- Active
- Suspended

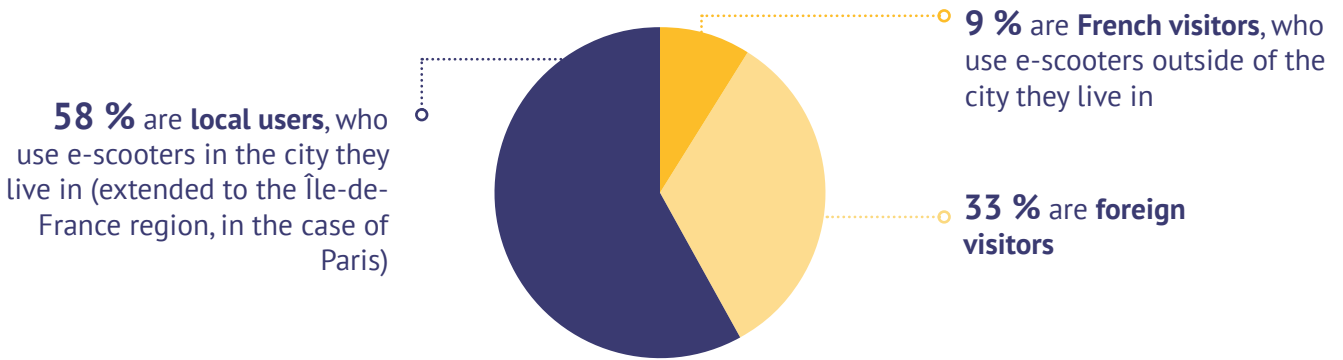
Full report (in French) available on 6t's blog:
<https://6-t.co/en/free-floating-escooters-france/>

Recommended citation format : 6t-bureau de recherche, (2019), Uses and Users of Free-floating Electric Scooters in France, 158 p.

Synthèse - Usages et usagers des trottinettes électriques en free-floating en France - Juin 2019



A majority local users: wealthy executives and students



WHO ARE THE LOCAL USERS OF FREE-FLOATING E-SCOOTERS?

+ MEN
66 % of local users are **men**.



+YOUNG

More than half of local free-floating e-scooter users are younger than 35, and the mean age among them is 36. The most common age group among local users is 25-34 (28%), overrepresented in comparison with the total French population (14%).

+ WEALTHY

Users of shared e-scooters are significantly more well-off than the general French population. This difference is more apparent in Paris (where the “standard of living” indicator is €2,500 compared to €2,202 for the total Parisian population*) than in Lyon and Marseille (€1,750 compared to €1,875* and €1,666 compared to €1,511*, respectively).

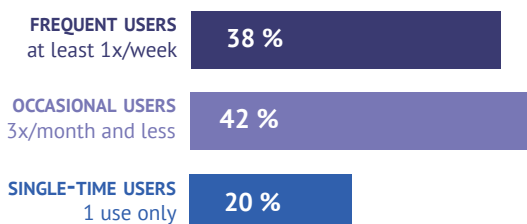
+ STUDENTS AND EXECUTIVES

Students constitute **19% of local users** when students only make up 13%* of the total population in Paris, 17%* in Lyon and 13%* in Marseille.

Among the users belonging to the working population, **53% are executives**, i.e., significantly more than within the overall population of Paris (44%*), Lyon (19%*) and Marseille (9%*)

More than a third of local clients use free-floating e-scooter services every week

Distribution of local users by frequency of use



FOCUS ON INTENSIVE USERS

● **7% of users rent out a free-floating e-scooter every day or almost every day.** Intensive users – mostly men, even more often than other users – tend to have subscribed to the service particularly early: 30% amongst them downloaded the app during the summer of 2018 (v. 16% of other local users).

● Free-floating e-scooter services are fully integrated into these individuals' daily mobility practices and strategies. They often use them for commuting or for work-related trips.

“It’s very convenient. I used to walk 20 to 25 minutes to get to work, and now, it takes me less than 10 minutes.”

Stéphanie, 35 y/o, intensive user in Paris.

Motivations for and obstacles to free-floating e-scooter use

While the fun side of e-scooters first kindles users' interest in trying them out, the services' perceived efficiency and convenience are what ultimately convinces users and secures their loyalty.

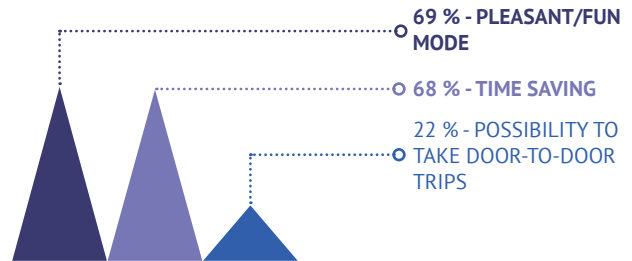
This practical aspect relates to the services' free-floating functioning - allowing users **not to carry their own vehicle around**, to choose this mode spontaneously (**flexibility**), and to take more direct trips (**door-to-door**) compared to station-based shared modes.

Local users favor functional aspects such as speed, while the recreational side of e-scooters is more valued by visitors.

«At first, it seems scary, especially to ride right in the middle of traffic»

Yes, 42 y/o, user in Lyon

MAIN MOTIVATIONS



«First, I thought it was a fun mode of transportation, but, then, it's also become very, very useful.»

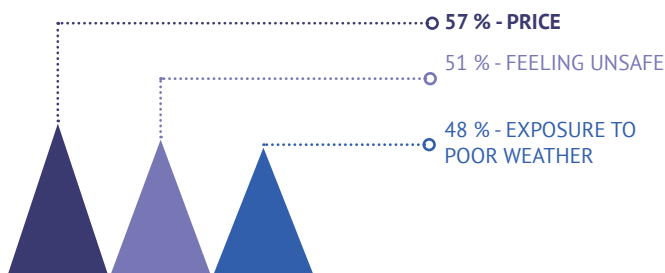
Thomas, 27 y/o, intensive user in Marseille

THE QUESTION OF AVAILABILITY

The main deterrent to the use of free-floating e-scooters is the **lack of available vehicles nearby**, a situation that **59%** of users have already experienced.

- 24 % of users state that they have “often” given up on renting out an e-scooter because none was available nearby.
- 27 % of users subscribe to several free-floating e-scooter services, allowing them to increase their chances of finding an available scooter within short walking distance.

MAIN DRAWBACKS*

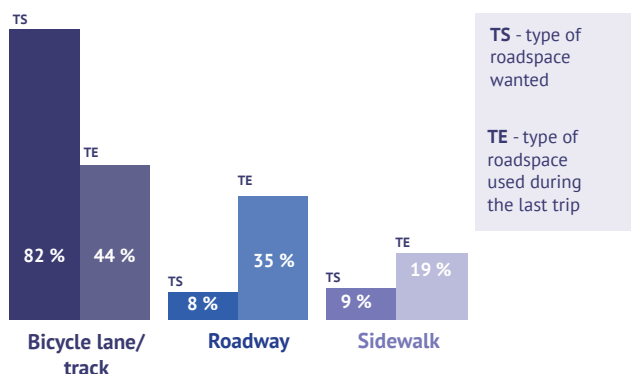


* Most cited motivations and drawbacks (multiple choice question - 3 maximum possible)

Roadspace use and regulation issues

Where do users ride free-floating e-scooters?

Users massively favor **bicycle lanes and bicycle tracks**. Otherwise, they ride on the roadway more than on the sidewalk, the latter being perceived as dangerous and prone to collisions and other incidents with pedestrians.



Perspectives for regulation

What regulatory measures would drive a decrease in shared e-scooter use?



Requirement to wear a helmet (71% of users anticipate a decrease in frequency of use)



Requirement to leave the scooter on a dedicated parking space (63% of users anticipate a decrease in frequency of use)



15km/h (9.3 mph) speed limit (58% of users anticipate a decrease in frequency of use)

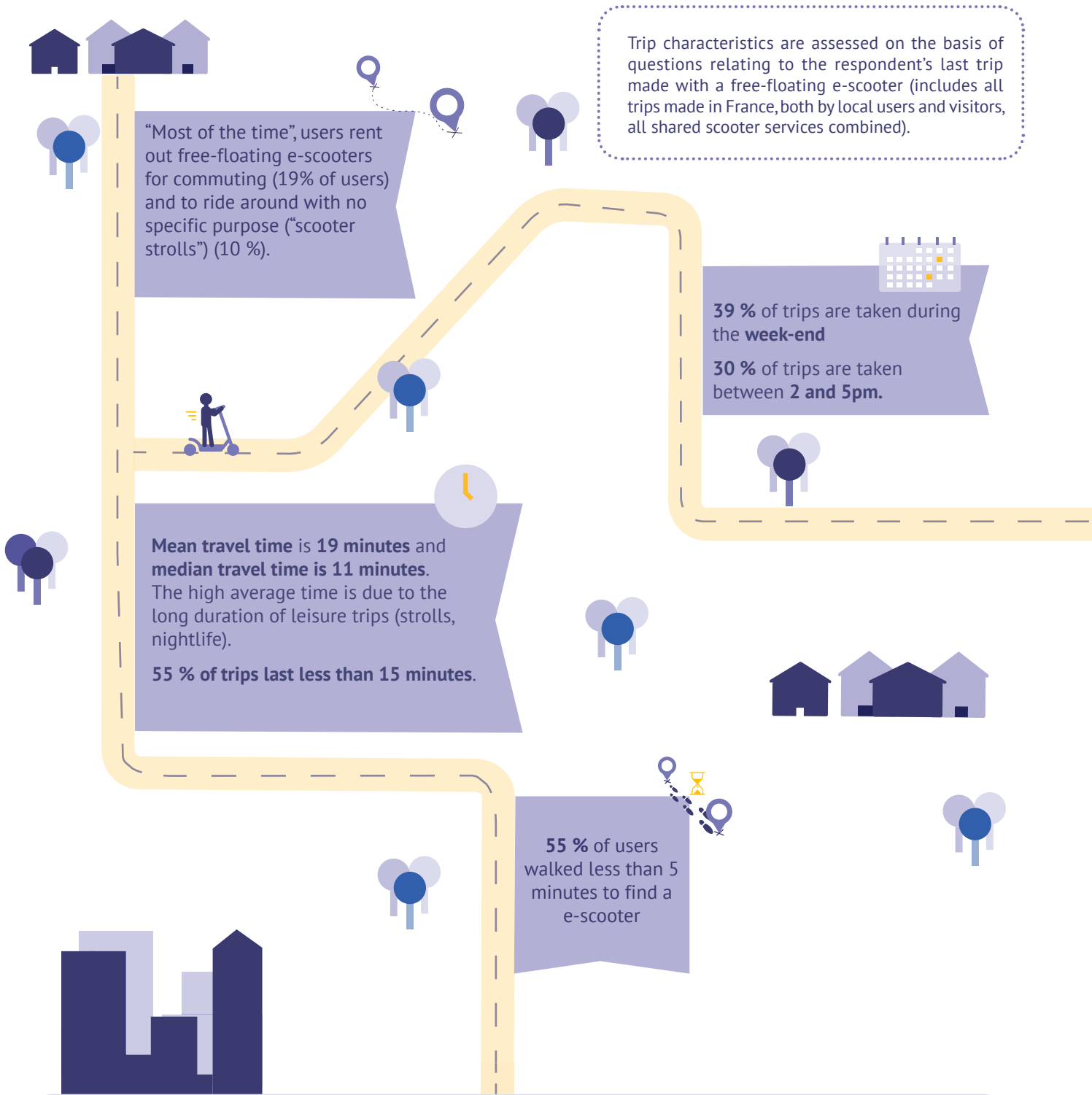


Scooter-use ban on sidewalks (41% of users anticipate a decrease in frequency of use)



Requirement to wear a fluorescent armband at night (37% of users anticipate a decrease in frequency of use)

11-minute median trips made most often on a weekend day



Trip characteristics are assessed on the basis of questions relating to the respondent’s last trip made with a free-floating e-scooter (includes all trips made in France, both by local users and visitors, all shared scooter services combined).

Summary - Uses and Users of Free-Floating Electric Scooters in France - June 2019

SPECIFICITIES OF “E-SCOOTER STROLLS”



These trips are mainly taken by visitors, particularly foreign ones.



Trips happen more often during the week-end and in the afternoon.



Trips last longer (33 min average time and 21 min median time)



Collective use (more than one person, most frequently each one on a different e-scooter)

An individual mode for collective mobility?

36% of shared e-scooter trips are taken collectively.



26 % are taken by more than one person, **each one using a different e-scooter.**



10 % are taken by more than one person, **using a single e-scooter.**

Collective trips are more often taken for **leisure-related** trips, and tend to happen during the week-end.

"I do that from time to time, but only if each one rides on their own scooter, otherwise it's too dangerous"

Diane, 21 y/o, intensive user in Paris

"We've done it a couple of times [-riding together on the same scooter-] because one of us didn't have an account or there weren't two available scooters close enough to one another."

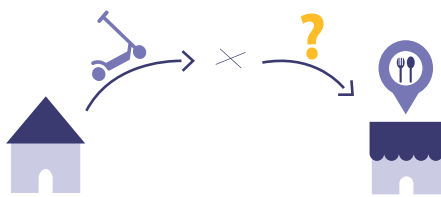
Pierre, 49 y/o, user in Paris

A solution for people with limited mobility

Some users report that they wouldn't have walked (8%) or biked (7%) the last e-scooter trip they made, specifically because of their physical condition.

This transportation mode may thus be **a solution for people experiencing physical mobility challenges.**

Free-floating e-scooters are suited to intermodal practices



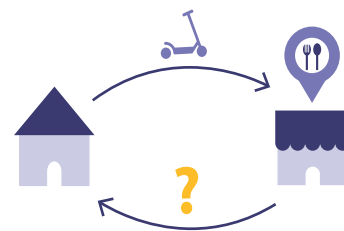
23 % of free-floating e-scooter trips are **intermodal**, meaning they combine the use of a scooter with that of another transportation mode:



- public transportation for 66% of them
- ... and walking for 19% of them.

« I sometimes take an e-scooter and the RER [regional train] for trips in Paris, instead of taking the subway."

Nicolas, 45 y/o, user in Paris



44 % of users rented out an e-scooter only to take a one-way trip, returning with another mode (or vice versa). In 57% of those cases, public transportation is the other mode used, and walking in 37% of the cases.

This confirms the compatibility between the e-scooter and these two other modes.

These results strongly suggest that free-floating e-scooters have become an additional option, thereby adding to the range of mobility services and allowing users to develop ever more multimodal practices.



Limited modal shift from biking, but high substitution rates with walking and PT

Weak modal shift from personal bike use and bike sharing

As far as local users are concerned, e-scooter use is not a direct competitor to biking. Only **9%** of local respondents would have used a shared bike and **3%** would have ridden their own bike to take their last trip instead of a free-floating e-scooter, had the latter mode not existed.



Are scooter users augmented pedestrians?

44% of local users would have walked to take their last trip instead of using a free-floating e-scooter, had the latter mode not existed. E-scooters are chosen over walking mainly because the mode is considered **fast** and **fun**.



However, **only 6% of users walked less overall since they started using e-scooters.**

E-scooters as a way to avoid the perceived flaws of public transportation

30% of local users would have used public transportation for their most recent trip rather than an e-scooter, had the latter mode not existed. Users choose scooters over public transportation mainly because the e-scooter ride is considered as **more pleasant** than a transit ride. Other comparative advantages mentioned by a significant proportion of users include scooters' **rapidity** and the possibility to travel **door-to-door**.



However, overall, **only 6% of users took transit options less often since they started using e-scooters.** Moreover, nearly half of these users still subscribe to public transportation's plan.

*« I find it pleasant. I often ride a scooter instead of the metro, even if it takes longer, it's pleasant. »
Julia, 35 y/o, frequent user in Paris*

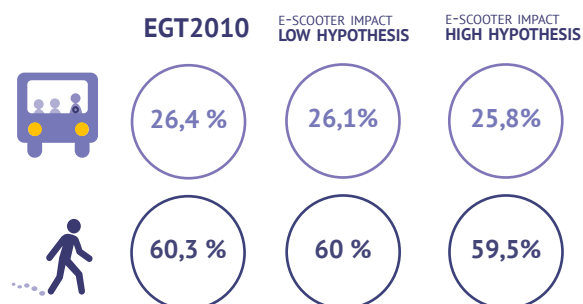
At the individual scale, only a small minority of individuals state they walk and take public transportation less often than before they started using scooters.



By extrapolating survey results to the population of Parisian users, we show that, at the collective scale, the **impact of free-floating scooters on the modal shares of walking and public transportation is extremely marginal.**

Estimates obtained through extrapolation of survey results to the total number of users in Paris. Comparison data: EGT, 2010.

WALKING AND PUBLIC TRANSPORTATION MODAL SHARES IN PARIS



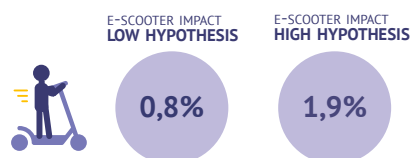
A sizable modal share in Paris

Applying the same methodology to the case of Paris and using results from the EGT (2010), we find that free-floating scooter trips represent between **0,8 and 1,9% of total trips taken inside of the city.** The modal share of e-scooters in Paris **may hence be absolutely significant since, in comparison, the modal share of bicycles amounts to 3% (2010).**

In 2010, the modal share of Vélib', Paris' bike sharing system was 0,8%*, corresponding to our low hypothesis. According to our estimates, in less than one year, scooter services hence reached a modal share in Paris at least equivalent to that of Vélib', 2 years after its launch.

The modal share of free-floating e-scooters may thus not be considered as insignificant. In fact, this new mode of transportation responds to an effective demand and has rapidly become an integral part of the mobility offer, as far as Paris is concerned.

MODAL SHARE IN PARIS



WHAT'S A MODAL SHARE?

The modal share refers to the "market share" of a transportation mode, and is defined as the proportion of trips taken with a given mode, out of the total number of trips taken within a defined area.



A limited impact on personal mobility equipment

Using free-floating e-scooters has no impact on car equipment reduction. This seems logical as scooters and cars or mopeds do not respond to the same uses and mobility needs.

Purchasing one's own e-scooter

The vast majority of users do not think they'll acquire their own e-scooter. Despite the potential savings that could ensue from such purchase on the long-run, respondents value the advantages of the free-floating system: flexibility, the possibility to go one-way and use another mode for the way back, not having to carry one's own scooter around, and not being exposed to the risk of vehicle theft.

4 % of local users **bought their own e-scooter since using free-floating ones.** These individuals tend to be particularly intensive users. Despite having reduced their use of shared e-scooters, they continue using them as a compliment to their own vehicle.

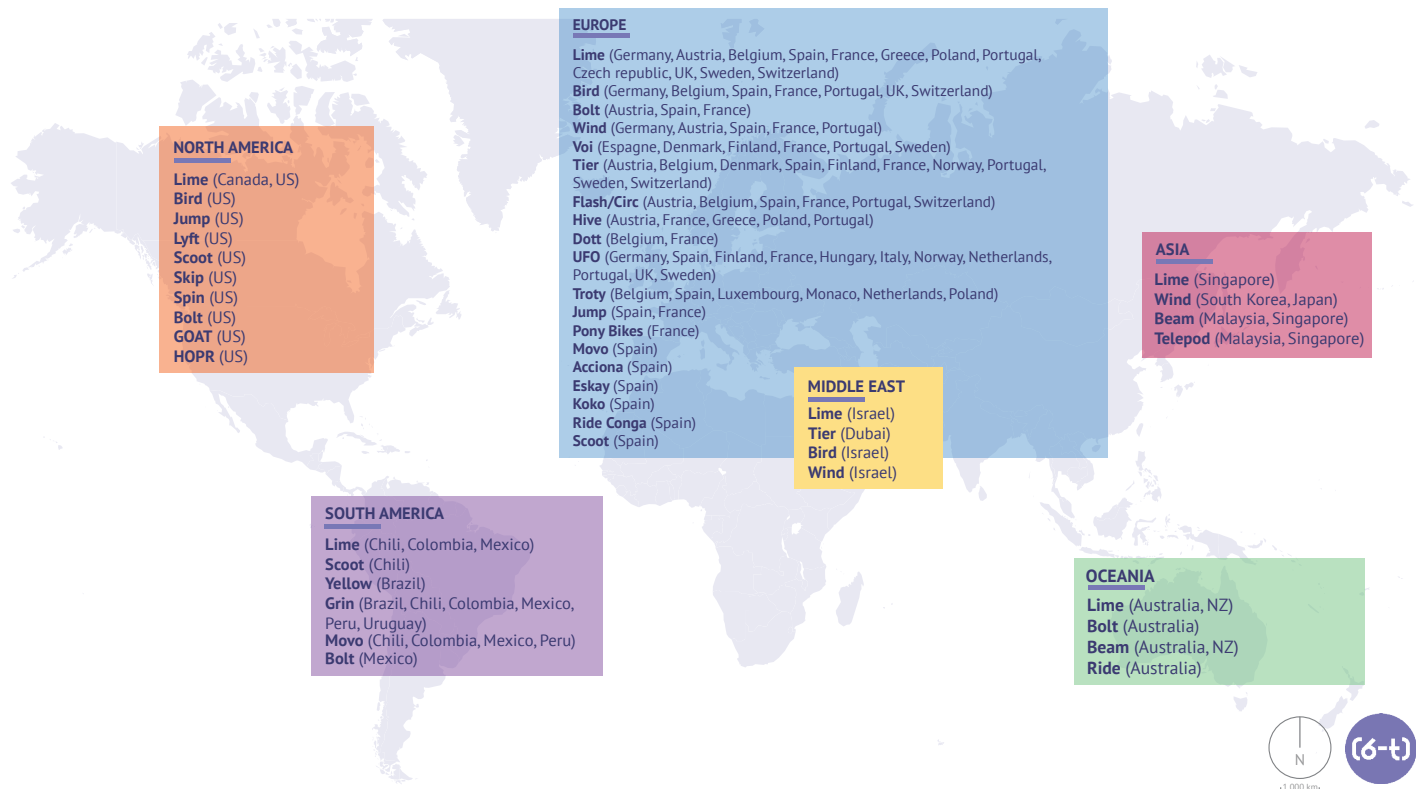
« I use my own scooter when I know for sure that I'll be able to drop it off somewhere safely and I never take it with me on public transportation. In those cases, I rent out a free-floating scooter. »

Arnaud, 21 y/o, user in Paris

And in the rest of the world?

In 2019, the global market comprised around twenty different providers, operating their services mainly in North America and Europe.

Overview of the free-floating e-scooter offer in the world as of May 2019



Perspectives

Given that the massive and rapid development of free-floating e-scooter services raises numerous issues (security, public space sharing, and occupation), this large-scale study aims at contributing to the debates having flourished around the subject by providing objective data.

Complementarity with public transportation

Free-floating e-scooter services are particularly suited to intermodal trips. The ways in which mass transit can benefit from these new mobility offers thus constitutes a major stake to consider.

A tool for local marketing

42% of users are visitors, the vast majority of whom are foreign tourists. These services may constitute a simpler and more recreational transport solution for them, filling their occasional mobility needs. As local authorities seek to develop their spatial marketing

strategies, the availability of these new mobility services may, therefore, represent a distinctive and attractive asset.

Impact of rising prices

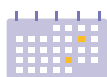
Users seem more price-sensitive when the service is integrated in the organization of their daily activities. Recently, some providers have started raising their service's price. Such price variation may lead to a decrease in use or to users switching to other, competitive offers.

Methodology

A methodological framework articulated around a quantitative survey



- This study is primarily based on a quantitative survey of free-floating electric scooter users, **conducted by 6t using its own funds, with the support of the ADEME. Lime, the first provider in France, agreed to diffuse this independent survey among its users**, which made it possible to obtain a representative sample.



- The questionnaire was **diffused online** between the 5th and the 15th of April 2019.



- Respondents used free-floating e-scooters in **Paris, Lyon or Marseille**.

4 382

- In total, 4382 user responses were collected through the quantitative survey.

A quantitative survey completed by a variety of other methods



- Prior to the quantitative survey, a **dozen exploratory interviews** were conducted. They provided a first insight on how the study's topics were perceived by users, thereby shaping the construction of the questionnaire.



- Complementing the quantitative approach, a series of **21 semistructured interviews** with Lime users was conducted. This qualitative analysis focused on the evolution of modal practices and on the intensive use of scooters. This allowed to verify and elaborate on several hypotheses formulated after survey data analysis.



- A benchmark - including an inventory of existing free-floating e-scooter services - allowed to contextualize the study, and to better delineate its object and scope. The overview relies on several sources of information: reports, press articles, online data.

Full report (in French) available on 6t's blog:

<https://6-t.co/en/free-floating-escooters-france/>

Recommended citation format : 6t-bureau de recherche, (2019), Uses and Users of Free-floating Electric Scooters in France, 158 p.

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