International Transport Forum

Enabling Micromobility's Full Potential through Good Regulation

Presentation by Sebastian Schlebusch, Dott

Roundtable on Micromobility, Equity and Sustainability

17-19 March 2021

OECD

Enabling micromobility's full potential through good regulation

OECD/ITF Roundtable Discussion

19th March 2021

dott

Today’s agenda

A The users’ perspective

B The operators’ perspective

C The public perspective

D Aligning the objectives

E Recommendations to achieve key objectives

Dott, the trusted European operator

Dott is a European, sustainable and responsible micro-mobility operator

Facts about Dott:

- 16 European cities
- 30,000 live scooters every day
- 300,000+ monthly riders
- Carbon neutral on every ride
- Profitable on every ride

We're known for:

- E-scooters and e-bikes (soon)
- 100% in-house operations
- Full transparency to cities
- Environmental responsibility: we repair everything, we do not throw away anything, we recycle everything we can not repair.

A The users' perspective (1/2)

Main drivers to use our services[1]

Efficiency

- Time saving, especially for short-medium trip lengths (1-5km)
- Driven mainly by free-floating experience

Availability

- 24/7
- Short walking distance to nearest scooter / final destination **(see details >>)**
- Dott's pledge: An active scooter < 150m max

Pleasure / Fun / Sustainability

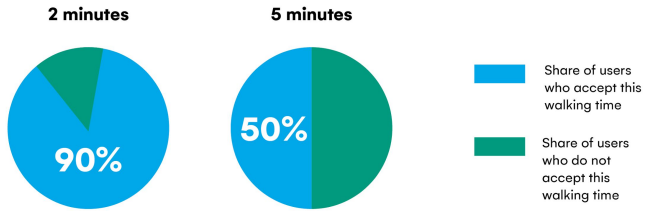
- Especially for younger cohorts (18-24, 25-34)
- Belonging to innovative, modern community

(1) Dott's internal user research (09/2020), online survey across 4 markets (France, Belgium, Germany, Italy), 717 respondents

Further insights on willingness to walk

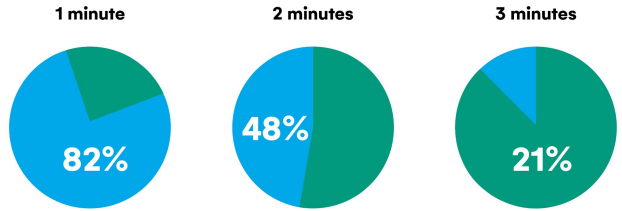
Share of e-scooters users ready to walk...

Paris



6T (2019) User survey on free-floating e-scooter users in Paris

Oslo



Norwegian Institute of Transport Economics (TØI) (2021)

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A The users' perspective (2/2)

Main barriers to use our services[1]

Perceived high price

- Typical cost per trip (w/o discounts): €2.50-3.50
- Immediate exposure to full mobility cost (non-subsidised)

Limited service area/ accessibility

- Focus on urban centres or areas of minimum certain density
- Excluding areas with bad public transport

Feeling unsafe

- Lack of dedicated cycling infrastructure
- Speed differences with car traffic when riding on roads
- Riding on poorly maintained roads

(1) According to Dott's internal user research (09/2020), online survey across 4 markets (France, Belgium, Germany, Italy), 717 respondents

B The operators' perspective (1/2)

Market segments - the micromobility pioneers

Meet the "no car" students

- 18-25 yrs old
- Male (63%) and female (35.6%)
- Live within the city limits (65.5%)
- Student (61.5%) or full time worker employee (20.0%)
- **80% do not own a car**
- 68.1% have a subscription to public transport

Meet the "young workers"

- 25-35 yrs old
- Male (73.9%) and female (22.6%)
- Live within the city limits (73.4%)
- Full time worker employees (42.9%) or full time worker executives (18.2%)
- **68.8% do not own a car, whilst 24% own one car**
- 51.3% have a subscription to public transport

Meet the "male commuter"

- 36-45 yrs old
- Male (78.92%) and female (18.9%)
- Live within the city limits (67.67%)
- Full time worker employees (46.4%) or full time worker executives (24.9%)
- **46.1% do not own a car, whilst 45.6% own one car and 8.2% own more than one car**
- 45.6% with a subscription to public transport, 39.4% without

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B The operators' perspective (2/2)

Main cost drivers of the service

Low density service areas

- Caused by fragmented governance or heavy policy restrictions
- Rule of thumb for suitable density: >1,500 pop/km2

Low scale operations

- Caused by artificially low fleet caps
- Reduced availability for users → less attractive service
- Prevents operational scale economies

Low user uptake

- Driven by barriers to use

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C The public perspective (1/2)

Key objectives

Safety for all

- **For users**
  - Safe hardware, well maintained
  - Best possible rider education
- **For non-users**
  - No street clutter, orderly and tidy streets
  - No sidewalk riding

Social inclusion / affordability for all

- Low income-tarifs
- Serving underserved areas, esp. the first mile

Sustainability

- Full life cycle considerations, esp. batteries
- Zero-emission operations
- No gig-economy

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D Aligning the objectives (2/2)

Good regulations address all stakeholders' objectives

User	Operator	Public	Good Regulation
Maximum availability and reliability	Avoiding low scale operations	No street clutter	Demand oriented fleet size with **dynamic fleet cap and cap of operators** (ex. competitive tender)
Efficiency / time savings	Best user experience for all market segments	Orderly and tidy streetscapes	**Parking in dedicated spots**, dense, exclusive, mandatory
Affordable trips	Profitability and high user uptake	Low income-tarifs	**Subsidize** micromobility for **low-income** citizens
Safe rides	Removing barriers to use and provide best user experience	Safety for all, users and non-users alike, no sidewalk riding	Stimulate **better infrastructure**, incentivise operators who **share insights** to improve infra. (ex. better tender score)
Door to door accessibility	Operational efficiency by avoiding low density areas	Serving areas underserved by public transportation	**Incentivise expansions** of service area (ex. **subsidised trips** to particular areas)
Sustainability	Good financial results, demonstrated social and environmental impact	full life cycle considerations, zero-emission ops, no gig-economy	**Incentivise** operators with clear **sustainability track record** (ex. better tender score)

Recommendations to achieve key objectives

Appendix

Recommendations to achieve key objectives

A **Avoiding clutter through optimal fleet size model, selected European cities**

B **Achieving high parking compliance, supported by infrastructure and technology, example Paris**

C **Good parking infrastructure planning for Greater Urban Areas, recommendations tailored to London**

D **Industry commitments to sustainability**

Appendix A

Optimal fleet size model (1/2): A data-based method to determine appropriate fleet size levels

Approach	Data	Sources
Total population	• City population • + Rest of metropolitan area • + Annual tourist inflow	• Eurostat, National Statistics Offices, Citypopulation.com
Addressable population	• Share of 18-65 • Estimated share of city population in suggested service area (based on density) • Estimated time spent in city by metro area residents (work & leisure) • Estimated time of year spent in city by tourists	• Citypopulation.com • Dott estimate based on number of metro area pop vs city population & tourists vs population
Historical demand	• Historical demand in city per available vehicle vs average demand in other european cities	• Dott analysis based on data from Fluctuo in 4 regulated cities: Paris, Lyon, Rome, Milan
Target fleet density	• Average fleet per 1,000 addressable population in other european cities	• Based on peak fleet density in 4 cities above
City-wide suggested cap	• Target fleet per 1,000 addressable population * addressable population	• Based on peak fleet density for selected cities & average fleet density for target cities

Appendix A

Optimal fleet size model (2/2): Results

	Regulations in progress				Existing mature regulated cities			
	Oslo	Madrid	BCN	Dublin	Lyon	Paris	Milan	Rome
Total population	1.3M + 4.8M tourists	6.6M + 10.4M tourists	5.6M + 12.0M tourists	2.1M + 8.1M tourists	1.9M + 6.5M tourists	12.2M + 30.0M tourists	4.4M + 10.9M tourists	4.3M + 27.0M tourists
Addressable population	0.4M	1.3M	1.1M	0.45M	0.55M	1.7M	0.7M	1.1M
Historical demand vs average (2.0)	x1.8	x1 (N/A)	x1 (N/A)	x1 (N/A)	x1.2	x1.1	x1.2	x0.8
Target fleet density (Per 1000 addressable population; 10.0 average)	17	10	10	10	11	10	11	7
City-wide suggested fleet size Current city cap	**7,100** No cap	**12,900** 10,000	**10,700** closed	**5,400** closed	4,500 4,000	15,500 15,000	6,800 6,000	12,000 16,000

Appendix

B High parking compliance (1/3), supported by infrastructure and technology, example Paris

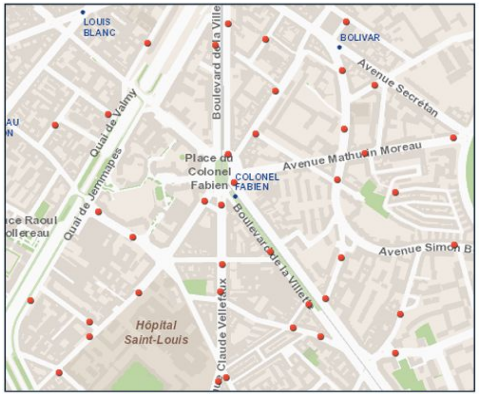
Achieving a dense and connected parking network

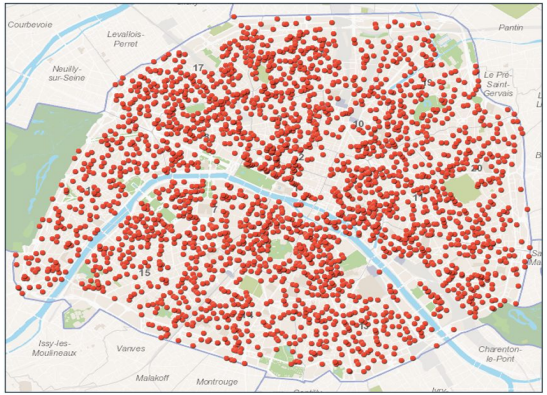
- **Network of 2,500 parking hubs across 81km²**
  - ~32 hubs / km²
  - ~102m average distance to the next hub
  - Maximum of 2 min walking distance
  - Dimensions of 1,50m x 2,50-3,0m
  - Capacity of 6 scooters per bay (catering for 15k total)

Dedicated markings for scooters

- **Guiding principles**
  - Mainly replacing on street car parking
  - Used by all operators
  - Marked with a scooter pictogram

- **Strong governance**
  - Central leadership giving ordinance to districts to implement parking bays
  - Operators finance the investment through vehicle license fees





Dense network across whole Paris

Appendix

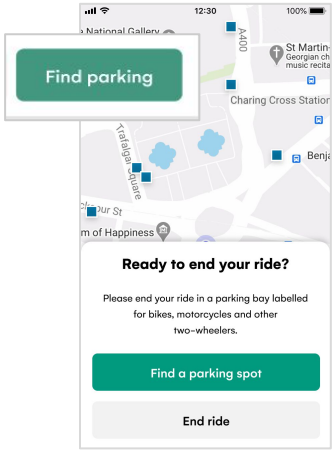
B High parking compliance (2/3), supported by infrastructure and technology, example Paris

At the end of the ride, the user must park on a designated parking hub. The Dott app guides the user.

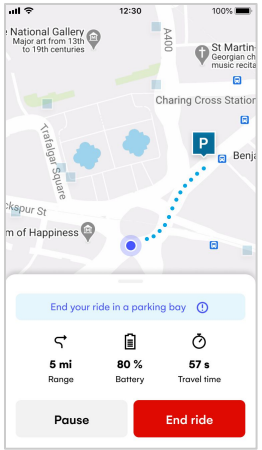
Find nearest parking hub
- Check on the app for the closest parking hubs
- We show directions to the closest one

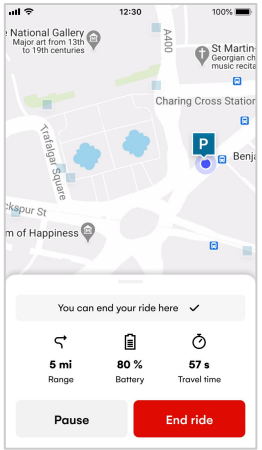
Hit “End ride”

Verify parking compliance before ride actually ends
- We ask for confirmation and for a photo if need be
- Behind-the-scene, a lot of tech, latest GPS, machine learning
- If we have doubts, we automatically dispatch a patroller

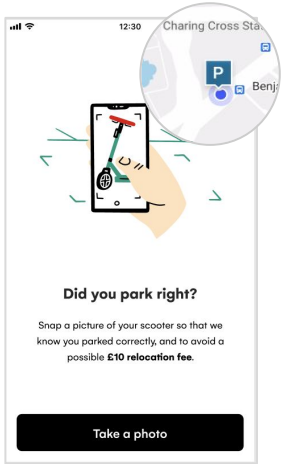


Checking for closest parking.

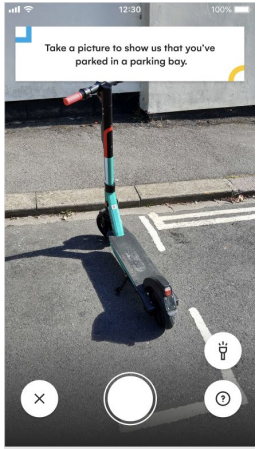


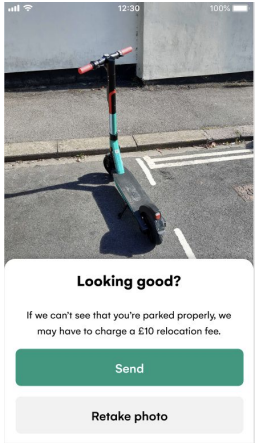


OK, there, let’s “End ride”



Confirmation asked





User takes a photo

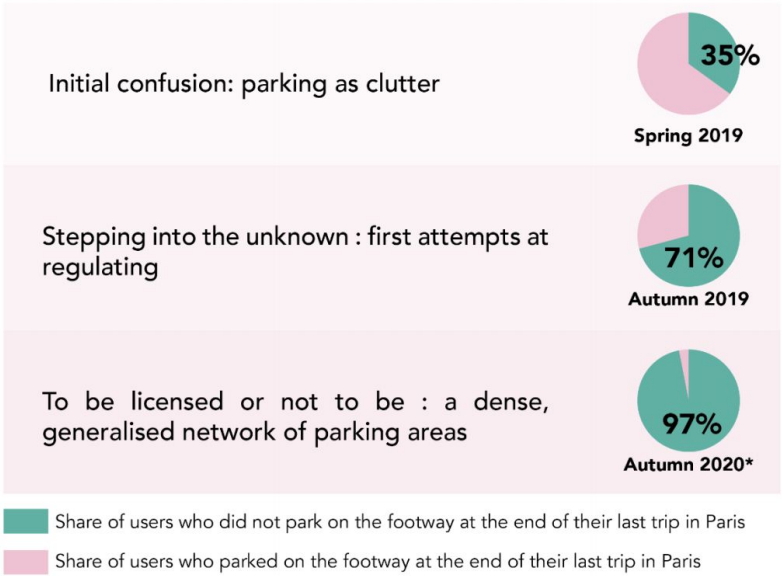
Behind the scene, Dott is checking GPS, the photo, recent data about parking in these hubs and evaluates whether properly parked or not

Appendix

B High parking compliance (3/3), supported by infrastructure and technology, example Paris

Result: 97% parking compliance in Paris

Regulation and parking compliance



Spring 2019 data: Lime user survey, https://6-t.co/en/etudes/uses-and-users-of-free-floating-e-scooters-in-france/
Autumn 2019 data: Dott user survey, https://6-t.co/utilisateurs-trottinettes-dott/
Autumn 2020 data: Dott internal parking compliance data

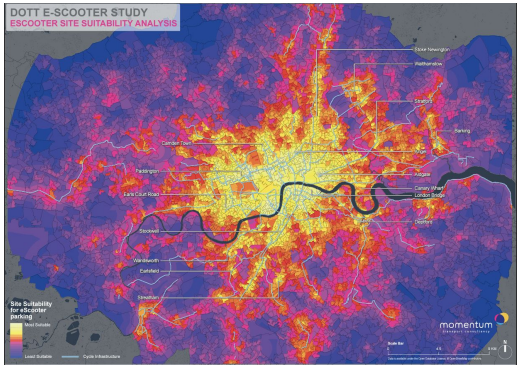
Appendix

C Good parking infrastructure planning for Greater Urban Areas, recommendations tailored to London

Transferring knowledge from Paris to London[1]

- **Recommended key planning principles**
  - **Central London:** 2 min walking max
  - **Inner London:** 3.5 min walking max
  - **Outer London:** max 5 min walking within 10 min riding distance from town centres & metro/railway stations
    → **approx. 5,200 parking hubs** across 11 participating boroughs

- **Recommended governance**
  - Neutral governance body including TfL, local boroughs, operators, other key stakeholders
  - Consistent design and planning principles across all local authorities
  - Dedicated fund to implement
  - Constant performance monitoring



London E-scooter parking hotspots

Sample Central London hub designs

(1) Momentum Transport Consulting & Dott (2020): https://ridedott.com/assets/pdf/smart-parking.pdf

D Industry's commitments to sustainability

Pledge from Dott, Tier and Voi from July 2020[1]

10 voluntary commitments covering the full e-scooter life-cycle

Manufacturing

1. Using at least 20% recycled material in all new e-scooters from 2021
2. Purchasing all new e-scooters with swappable batteries from 2020[2]

Operations

3. No precarious 'gig' work in any market, and committing to living wage standards
4. Responsible growth, with no flooding of streets
5. Running all warehouses on green energy by end of 2020
6. Using only electric vehicles for recharging and maintenance of fleet by end of 2021
7. Taking steps to mitigate the risk of e-scooters ending up in waterways and combining resources to retrieve e-scooters from waterways in cities where we are jointly active

End of life

8. Never demolishing an e-scooter, and recycling parts that cannot be repaired or reused as spare parts
9. Finding second-life solutions for all functioning e-scooters

Throughout the lifecycle

10. Calculating the carbon emissions during the full lifecycle and offset the emissions.

(1) https://www.intelligenttransport.com/transport-news/102774/dott-tier-and-voi-commit-to-higher-e-scooter-standards/
(2) https://ridedott.com/blog/global/why-swappable-batteries-are-the-way-to-go

Thank you!

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