



E L V I T E N

ELVITEN Demonstration Project
Electrified L-category Vehicles
Integrated into Transport and Electricity
Networks

STA Annual Conference, 26 November 2019



Electric L-category Vehicles (EL-Vs) in urban areas: Why?



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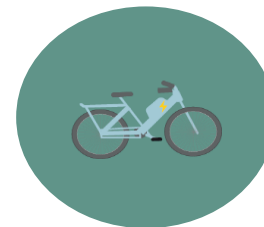
- L-category vehicles are popular for personal and light goods transport in many cities. But they typically have Internal Combustion Engines.
- Shift to electro-mobility has so far focused on cars, public transport and city logistics.
- EL-Vs have potential to replace cars and ICE L-Vs and to complement public transport.
- But adoption so far has been slow:
 - Low awareness
 - Lack of charging facilities, sharing schemes, etc.



The ELVITEN demonstration project



- “*Electrified L-category Vehicles Integrated into Transport and Electricity Networks*”
- 3-year EU project (2017-2020)
- Seeks to realise the potential of EL-Vs by:
 - Establishing usage schemes in six pilot cities (for personal transport and light deliveries)
 - Evaluating their impacts on travel and charging patterns, on the overall effects on transport networks and city liveability.
- Aim is to integrate EL-Vs with existing transport networks.



ELVITEN demonstration cities



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	Berlin 
	Bari 
	Rome (<i>Municipio IX</i>) 
	Genoa 
	Trikala 
	Malaga 



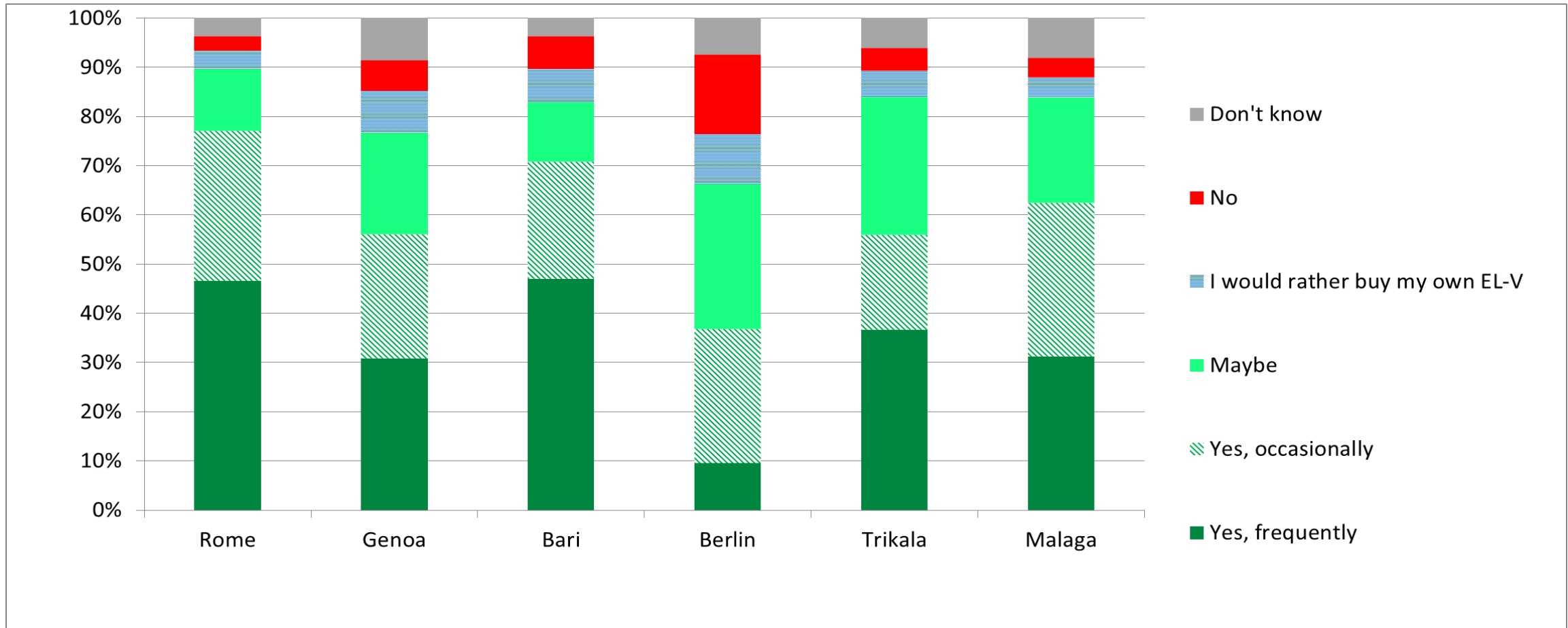
- **City data collection**
 - General city characteristics / Transport characteristics / Travel characteristics / L-V / EL-V use
- **Public perception survey**
 - Online survey in 5 languages: 7,390 valid responses, 6,988 from the demo cities
- **Fleet operator interviews**
 - 60 interviews with fleet managers and drivers
 - 31 companies: deliveries (post, parcels, food, flowers..), car and bike sharing

City profiles: Public perception survey



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- Would you use an EL-V sharing scheme if there was one in your city?

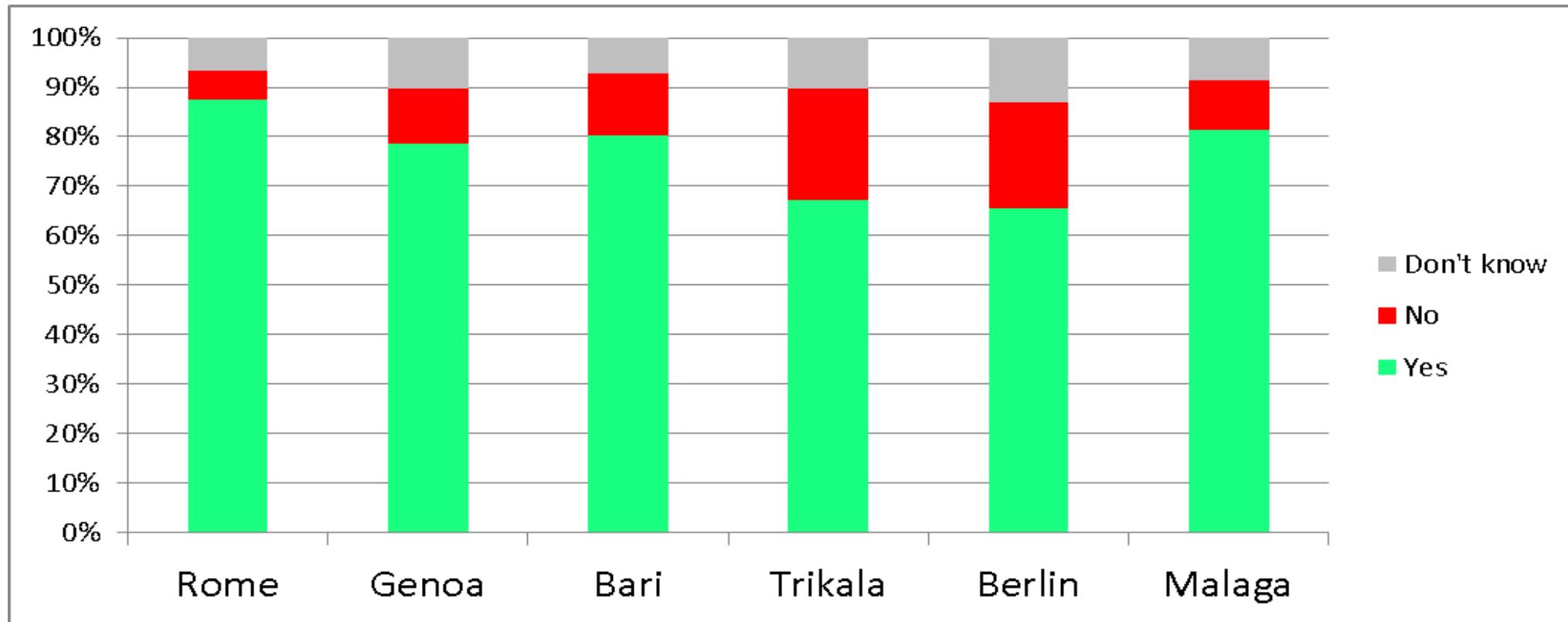


City profiles: Public perception survey



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- Would consider using a light electric vehicles as a part of multi-modal journey, with for instance public transport?

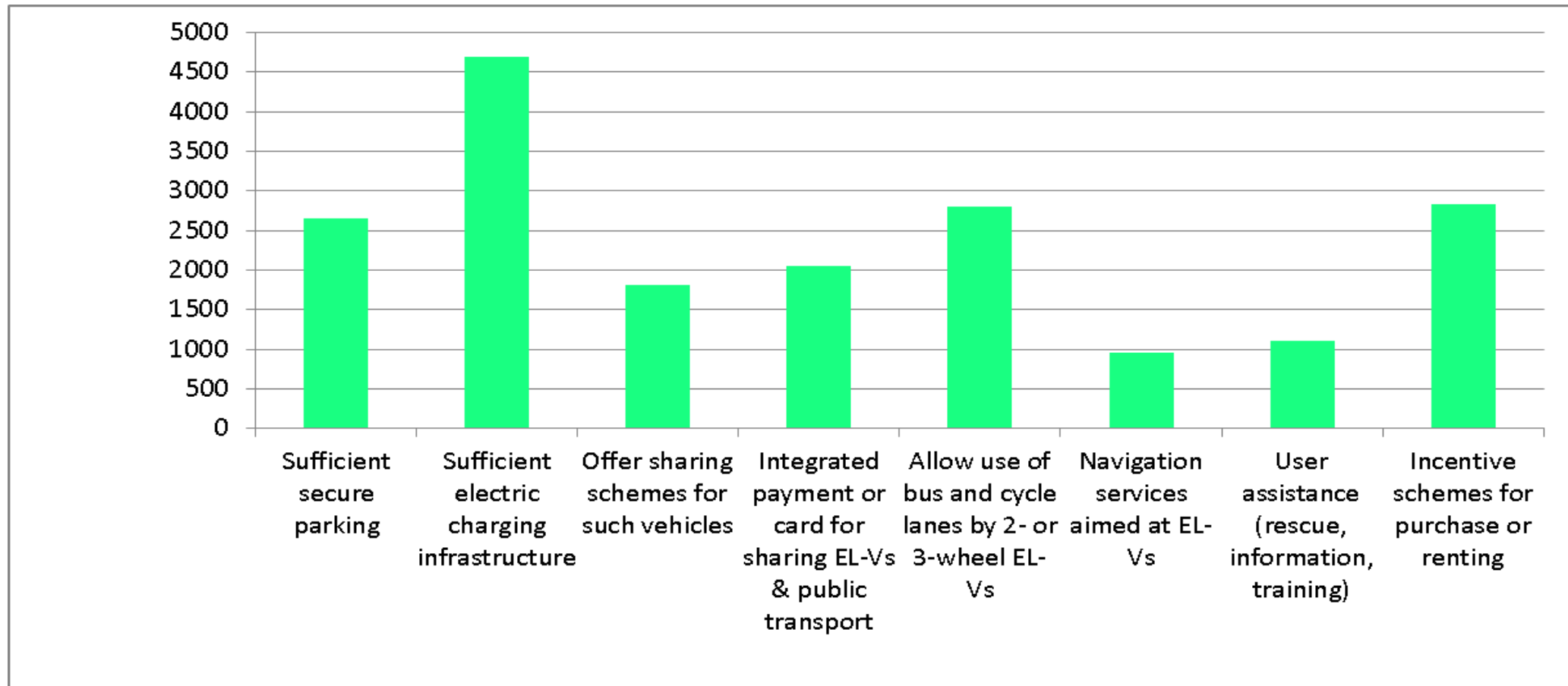


City profiles: Public perception survey



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- Most popular measures to facilitate EL-V use (all cities)







Usage schemes



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Type of user		EL-V ownership	EL-V sharing (free)
	Commuters	●	●
	Leisure / Shopping	●	●
	Visitors (tourists, business)		●
	Deliveries	●	Possibly – for occasional use

On-going work: Pilots & Data collection and analysis



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Trips distribution by gender

- Male/female/other

Trips distribution by user type

- Frequent/Occasional (threshold: 20 trips per month)

Trips by purpose

- Home/Shopping/Work/Leisure/Test/Delivery

Trips by vehicle type

- E-bikes/Scooters/Tricycles/Quadricycles

Usage per age

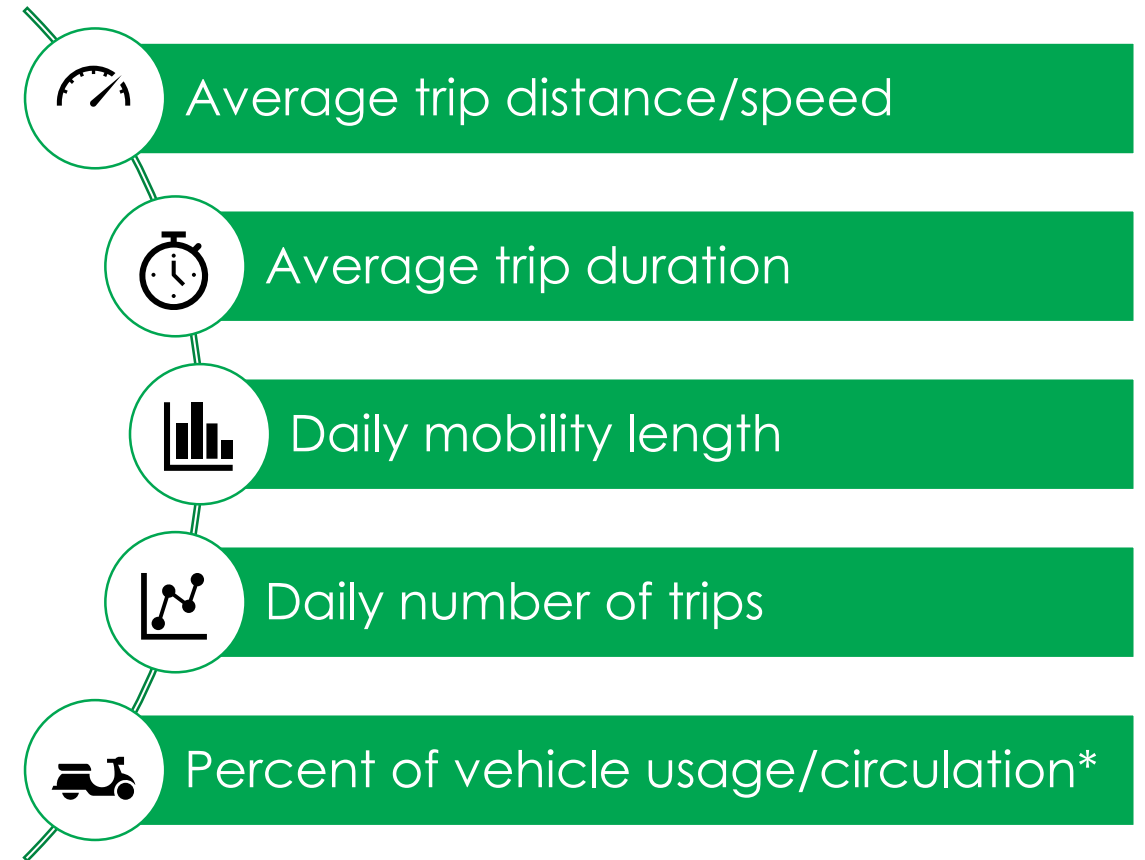
- <18, 19-26, 27-40, 41-65, >65

Weekly distribution

- Weekdays / weekends & bank holidays / Fridays / Christmas period

Trips distribution over day

- 7-10h, 10-13h, 13-16h, 16-19h, 19-22h, 22-01h, 01-07h



Project targets and state of things

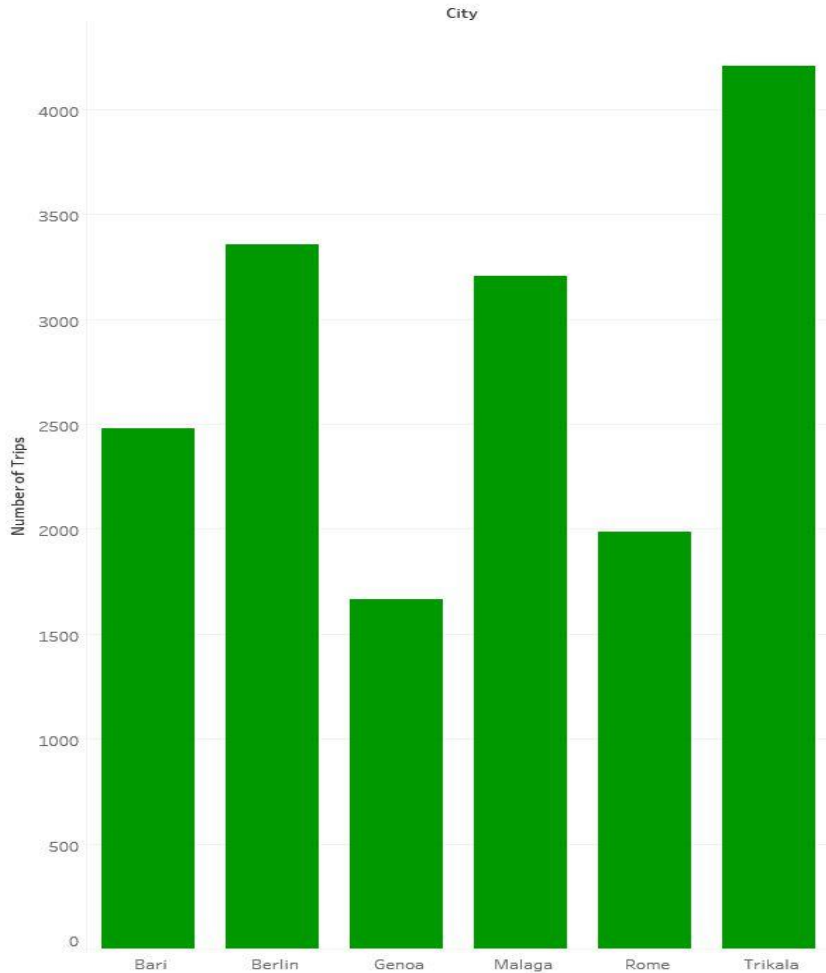
	Total trips	Vehicles	Active Users
Bari	2,480	75	52
Berlin	3,356	10	107
Genoa	1,667	10	13
Malaga	3,205	40	94
Roma	1,989	60	50
Trikala	3,593	28	36
TOTAL	17,174	223	415

- **Target 1:**
84,000
trips
- **Target 2:**
50%
vehicle
usage

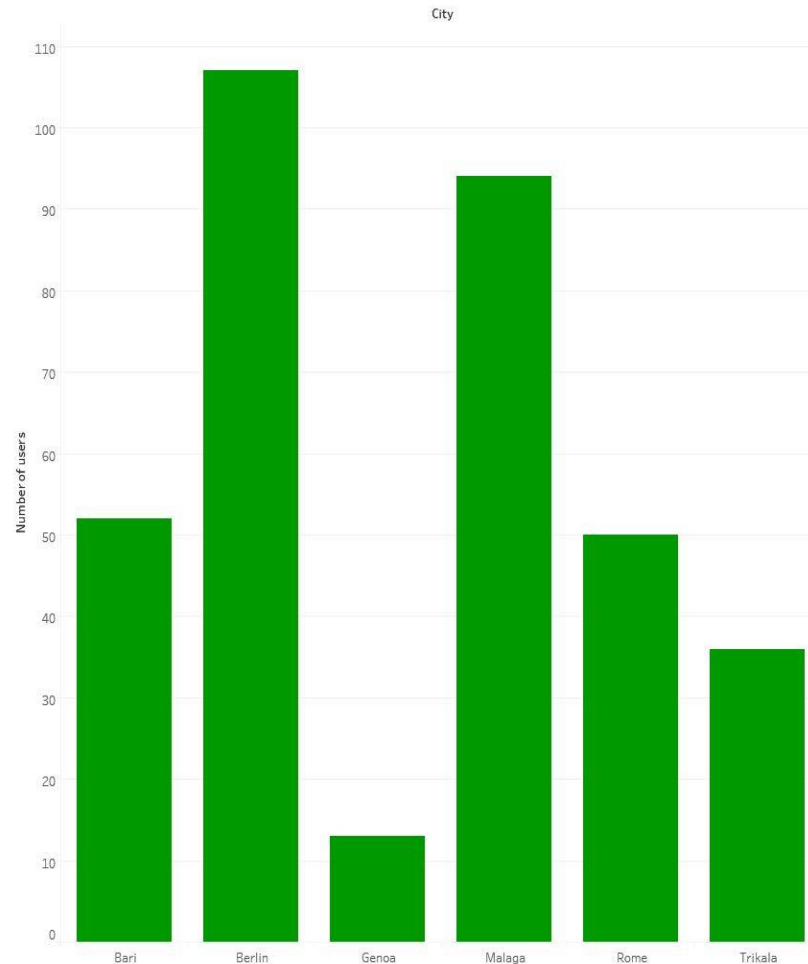
Key figures per city



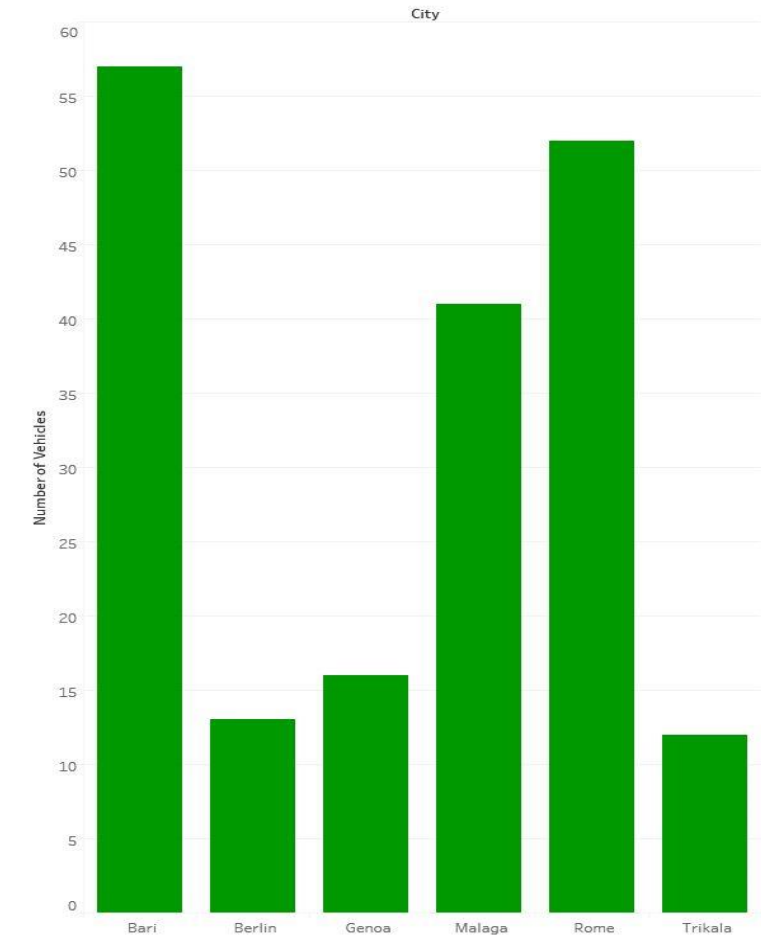
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Number of trips



Number of users



Number of vehicles

Rome pilot: Light Electric Vehicles (EL-Vs)



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60 Last generation L1e-A electric bikes delivered

40-70 km range

750W engine

Extremely stable and resistant "fatbike"

Rome pilot: e-hubs



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10 closed modular charging stations (e-hubs) to be installed in December 2019 in two locations

Smartphone access control via Bluetooth

Steel, weather resistant construction

Allows for user sharing

Rome pilot: Vehicle flow map



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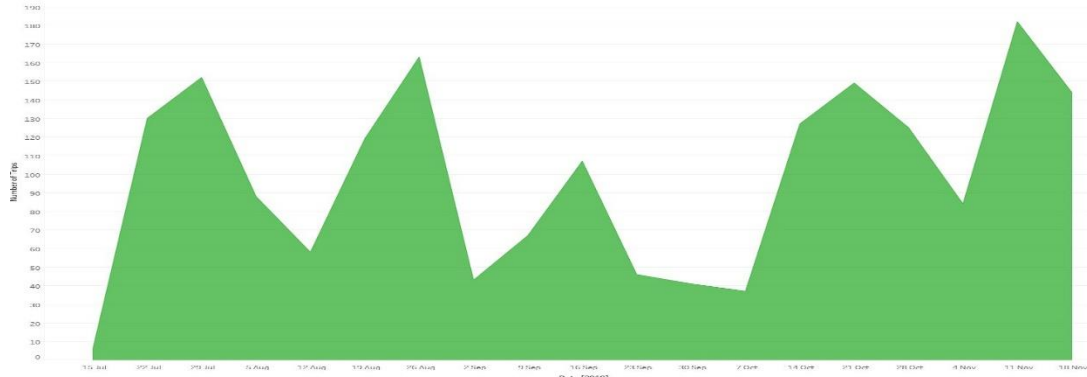


Black Boxes installed in the vehicles allow us to track the trips and collect the necessary data for the electric mobility analysis.

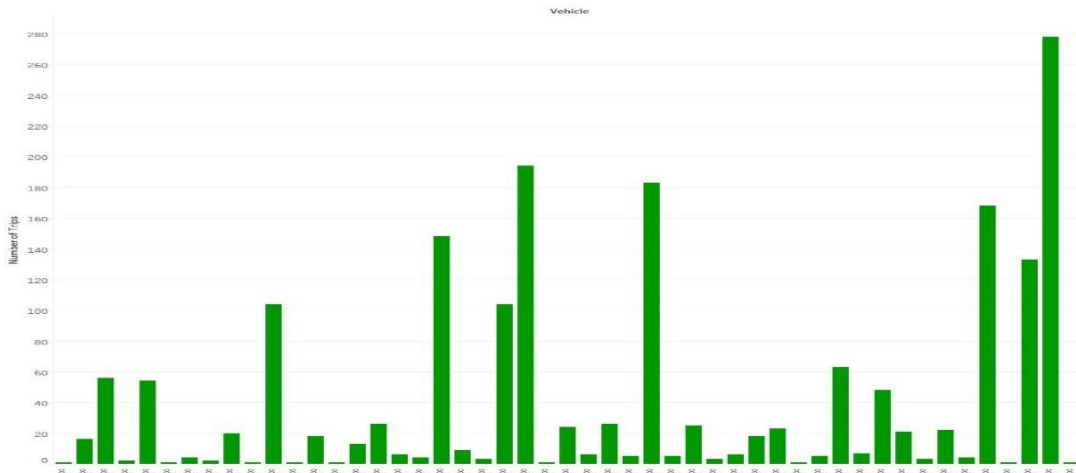
Rome pilot: Key figures to date



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Total trips per month



Vehicle activity

50 active users

49 vehicles already deployed

9,440 Km driven in total

5.9 Km average per trip

THANK YOU FOR YOUR ATTENTION

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 www.elviten-project.eu



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