ACCESS TO MOBILITY SERVICES

This document has been prepared by a group of experts under the "European Urban Mobility Observatory and Support" contract. It does not reflect or anticipate the position of the Commission. It does not constitute a legal proposal. The purpose of this document is to outline the indicators and the data required to calculate them, which the experts consider to be most appropriate for urban nodes to measure in the respective area. This document is intended to serve as a basis for reflection and further work on relevant indicators required by the TEN-T Regulation.

Data requirements

#	Indicator	Dataset	Owner	(Possible) collection methods	Timing & frequency of collection	Comments on data availability
D1	I1 Total population of city/FUA *[# inhabitants]*	Data on the size of the total population on 1st January	Cities, Offices for national or local statistics	n/a	Data collected every year	**Survey:** 93 city, 4 FUA, 113 both city and FUA 210 total at city and/or FUA level (98% of respondents)
D2	I2 Total area of city/FUA *[km^2]*	Data on the size of the total surface area	Cities, Offices for national or local statistics, Eurostat	n/a	Once, and updated if changes occur	**Survey:** 92 city, 3 FUA, 105 both city and FUA 200 total at city and/or FUA level (93% of respondents)
D3	I3 Mean annual income of households per capita *[€ per year]*	**Preferred dataset** Data on the value of the mean income of households per capita at city/FUA level	Cities, Offices for national or local statistics, Tax agencies, Eurostat	n/a	Data collected every year	**Survey:** 47 city, 3 FUA, 52 both city and FUA 102 total at city and/or FUA level (47% of respondents)
		Alternative dataset Income of households per capita by NUTS 2 regions in the Eurostat database https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_2HHINC__custom_8946463/default/table?lang=en		n/a		

#	Indicator	Dataset	Owner	(Possible) collection methods	Timing & frequency of collection	Comments on data availability
D4	O1, O2 Number of public transport stops and stations with fewer than 4/with 4 or more scheduled departures per hour *[# stops and stations]*	**<u>Preferred dataset</u>** General Transit Feed Specification (GTFS) dataset. Delegated Regulation in MMTIS applicable as of December 2023, data on public transport will be available	Cities, Public transport authorities or operators	Database elaboration	Data collected every year	**Survey:** 79 city, 8 FUA, 57 both city and FUA 144 total at city and/or FUA level (67% of respondents)
		<u>Alternative dataset</u> Any other available source of information describing public transport service in the city/FUA		n/a		
D5	O3, O4 Annual distance travelled by public transport vehicles (buses, trolleybuses, coaches, trams, light rails, waterbuses, metros, trains) *[# vehicle-km]*	Reports of public transport operators serving the city/FUA	Cities, Public transport authorities or operators	n/a	Data collected every year	**Survey:** 95 city, 10 FUA, 61 both city and FUA 166 total at city and/or FUA level (77% of respondents)
D6	O5, O6, O7, O8 Total fleet size of free-floating and station-based shared mobility services (E-micromobility/ bicycles (including pedelecs)/ mopeds / cars) *[# vehicles]*	Shared mobility vehicle data on vehicle stock in the city/FUA	Cities, Shared mobility operators	n/a	Data collected every year	**Survey:** <u>E-micromobility sharing:</u> 67 city, 4 FUA, 13 both city and FUA 84 total at city and/or FUA level (39% of respondents). Only 66 cities/FUAs (31% of respondents) have access to data for all companies providing the service. Not all urban nodes have a E-micromobility sharing system. <u>Bicycles sharing:</u>

#	Indicator	Dataset	Owner	(Possible) collection methods	Timing & frequency of collection	Comments on data availability
						88 city, 6 FUA, 18 both city and FUA 112 total at city and/or FUA level (52% of respondents). Only 95 cities/FUAs (44% of respondents) have access to data for all companies providing the service. Not all urban nodes have a bicycles (including pedelecs) sharing system. <u>Moped sharing:</u> 41 city, 3 FUA, 8 both city and FUA 52 total at city and/or FUA level (24% of respondents). Only 35 cities/FUAs (16% of respondents) have access to data for all companies providing the service. Not all urban nodes have a moped sharing system. <u>Car sharing:</u> 71 city, 7 FUA, 16 both city and FUA 94 total at city and/or FUA level (44% of respondents). Only 56 cities/FUAs (26% of respondents) have access to data for all companies providing the service. Not all urban nodes have a car sharing system.

#	Indicator	Dataset	Owner	(Possible) collection methods	Timing & frequency of collection	Comments on data availability
D7	O9, O10, O11, O12 Area covered by free-floating shared mobility services (E-micromobility/ bicycles (including pedelecs)/ mopeds / cars) *[km²]*	Shared mobility service data describing the service in the city/FUA	Cities, Shared mobility operators	n/a	Data collected every year	**Survey:** E-micromobility sharing: 27 city, 2 FUA, 10 both city and FUA 39 total at city and/or FUA level (18% of respondents). Not all urban nodes have a E-micromobility sharing system. Bicycles sharing: 31 city, 2 FUA, 11 both city and FUA 44 total at city and/or FUA level (20% of respondents). Not all urban nodes have a bicycles (including pedelecs) sharing system. Moped sharing: 13 city, 2 FUA, 3 both city and FUA 18 total at city and/or FUA level (8% of respondents). Not all urban nodes have a moped sharing system. Car sharing: 20 city, 2 FUA, 10 both city and FUA 32 total at city and/or FUA level (15% of respondents). Not all

#	Indicator	Dataset	Owner	(Possible) collection methods	Timing & frequency of collection	Comments on data availability
						urban nodes have a car sharing system.
D8	O13, O14, O15, O16 Number of station-based shared mobility services stations (E-micromobility/ bicycles (including pedelecs)/ mopeds / cars) *[# stations]*	Shared mobility service data describing the service in the city/FUA	Cities, Shared mobility operators	n/a	Data collected every year	The survey didn't include specific questions on this particular aspect
D9	O17 Annual distance travelled by shared mobility service vehicles (E-micromobility, bicycles (including pedelecs), mopeds , cars) *[# vehicle-km]*	Reports and data of shared mobility service operators in the city/FUA	Cities, Shared mobility operators	n/a	Data collected every year	The survey didn't include specific questions on this particular aspect
D10	O18 O19 Cost of a standard public transport pass valid for one month/ one year *[€]*	Reports of public transport operators serving the city/FUA	Cities, Public transport authorities or operators	n/a	Data collected every year	**Survey:** Pass valid for one month: 90 city, 13 FUA, 61 both city and FUA 164 total at city and/or FUA level (76% of respondents) Pass valid for one year: 87 city, 13 FUA, 59 both city and FUA

#	Indicator	Dataset	Owner	(Possible) collection methods	Timing & frequency of collection	Comments on data availability
						159 total at city and/or FUA level (74% of respondents)
D11	O20 Annual number of public transport passes valid for one month *[# passes per year]*	Reports of public transport operators serving the city/FUA	Cities, Public transport authorities or operators	n/a	Data collected every year	**Survey:** 99 city, 13 FUA, 57 both city and FUA 169 total at city and/or FUA level (79% of respondents)
D12	O21 Annual number of public transport passes valid for one year *[# passes]*	Reports of public transport operators serving the city/FUA	Cities, Public transport authorities or operators	n/a	Data collected every year	**Survey:** 92 city, 13 FUA, 55 both city and FUA 160 total at city and/or FUA level (74% of respondents)
D13	O22 Annual passengers carried by public transport *[# passengers per year]*	Reports of public transport operators serving the city/FUA	Cities, Public transport authorities or operators	n/a	Data collected every year	**Survey:** 89 city, 11 FUA, 57 both city and FUA 157 total at city and/or FUA level (73% of respondents)
D14	O23, O24, O25, O26 shared mobility vehicles (E-micromobility/ bicycles (including pedelecs)/ mopeds / cars) subscriptions *[# subscriptions]*	Reports and data of shared mobility service operators in the city/FUA	Cities, Shared mobility operators	n/a	Data collected every year	**Survey:** <u>E-micromobility sharing:</u> 19 city, 1 FUA, 10 both city and FUA 30 total at city and/or FUA level (14% of respondents). Not all urban nodes have a E-micromobility sharing system. <u>Bicycles sharing:</u> 41 city, 3 FUA, 13 both city and FUA

#	Indicator	Dataset	Owner	(Possible) collection methods	Timing & frequency of collection	Comments on data availability
						57 total at city and/or FUA level (27% of respondents). Not all urban nodes have a bicycles (including pedelecs) sharing system. <u>Moped sharing:</u> 10 city, 1 FUA, 4 both city and FUA 15 total at city and/or FUA level (7% of respondents). Not all urban nodes have a moped sharing system. <u>Car sharing:</u> 25 city, 6 FUA, 10 both city and FUA 41 total at city and/or FUA level (19% of respondents). Not all urban nodes have a car sharing system.
D15	O27, O28, O29, O30 Annual number of trips by shared mobility vehicle (E-micromobility/ bicycles (including pedelecs)/ moped/ car) *[# trips per year]*	Reports and data of shared mobility service operators in the city/FUA	Cities, Shared mobility operators	n/a	Data collected every year	**Survey:** <u>E-micromobility sharing:</u> 69 total at city and/or FUA level (32% of respondents). Not all urban nodes have a E-micromobility sharing system. <u>Bicycle sharing:</u> 105 total at city and/or FUA level (49% of respondents). Not

#	Indicator	Dataset	Owner	(Possible) collection methods	Timing & frequency of collection	Comments on data availability
						all urban nodes have a bicycles (including pedelecs) sharing system. <u>Moped sharing:</u> 40 total at city and/or FUA level (19% of respondents). Not all urban nodes have a moped sharing system. <u>Car sharing:</u> 61 total at city and/or FUA level (28% of respondents). Not all urban nodes have a car sharing system.
D16	O31 Number of car parking spaces in Park&Ride lots *[# spaces]*	Reports of public transport operators serving the city/FUA	Cities, Public transport authorities or operators	n/a	Data collected every year	**Survey:** 89 city, 5 FUA, 53 both city and FUA 147 total at city and/or FUA level (68% of respondents)
D17	O32 Number of bicycle parking spaces at public transport stops and stations *[# spaces]*	Reports of public transport operators serving the city/FUA	Cities, Public transport authorities or operators	n/a	Data collected every year	**Survey:** 85 city, 4 FUA, 57 both city and FUA 121 total at city and/or FUA level (56% of respondents)
D18	O33 Number of public transport stops and stations fully accessible for persons	Reports of public transport operators serving the city/FUA	Cities, Public transport authorities or operators	n/a	Data collected every year	**Survey:** 105 city, 6 FUA, 47 both city and FUA 158 total at city and/or FUA level (73% of respondents)

#	Indicator	Dataset	Owner	(Possible) collection methods	Timing & frequency of collection	Comments on data availability
	with reduced mobility *[# stops and stations]*					
D19	O34 Number of public transport vehicles accessible for persons with reduced mobility *[# vehicles]*	Reports of public transport operators serving the city/FUA	Cities, Public transport authorities or operators	n/a	Data collected every year	**Survey:** 101 city, 8 FUA, 62 both city and FUA 171 total at city and/or FUA level (80% of respondents)
D20	O35 Total fleet size of taxi and ride-hailing (services) [# vehicles]	Taxi, ride-hailing vehicle data on vehicle stock	Cities, taxi and ride-hailing operators	Vehicle stock	Yearly	**Survey:** **<u>Taxi and shared mobility vehicles (cars)</u>** <u>Total (any type of breakdown)</u> 74 city, 38 FUA (includes 19 both city and FUA) 93 total at city and/or FUA level (43% of respondents) 38 don't know
D21	O36 Annual number of trips by taxi and ride-hailing (services) [# trips per year]	Reports of service operators serving the city/FUA	Cities, transport authorities or operators	n/a	Data collected every year	**Survey:** <u>daily commuting trips by taxi and ride-hailing</u> 22 city, 2 FUA, 25 both city and FUA 49 total at city and/or FUA level (23% of respondents) 29 don't know (13% of respondents)

Overview and analysis of data availability

Based on the analysis of responses to the urban mobility data and indicators survey, which was carried out in August-October 2023 and which collected responses from 215 urban nodes out of 430, the following considerations have been drawn for each dataset required for the indicators described above.

Summary and conclusions

This indicator area focuses on two major groups of transport modes: public transport and shared mobility. From the aggregated results of the SUMI survey, it is observed that around 70% of the respondents (67-79% depending on the specific questions) report data availability for public transport, both on the supply and the demand sides, as well as on the costs of tickets and passes. The data related to ensuring accessibility for individuals with reduced mobility at public transport stops or stations, as well as in vehicles, , are – on average – even more widely available to cities/FUAs.

The same cannot be said regarding the availability of data on shared mobility, as the availability rate is highly variable but (if we exclude data on the size of bicycles (including pedelecs) sharing fleets) never exceeding 50%. In general, older shared mobility systems (bicycles (including pedelecs) and car sharing), sometimes directly provided by cities, enable the availability of a certain amount of data useful for calculating indicators. Conversely, more recently introduced and mostly private systems in the shared mobility landscape (E-micromobility, mopeds), sometimes due to less stringent contracts with cities, frequently do not allow urban nodes to have knowledge of service characteristics and usage patterns. In the future, upon contract renewal, it is possible that a requirement could be introduced for operators to provide the requested data.

However, data related to public transport, as well as those concerning bicycles (including pedelecs) and car sharing options, are subject to European regulation. Specifically, the provision of EU-wide Multi-Modal Travel Information Services (MMTIS) is covered by the Delegated Regulation 2017/1926 of 31 May 2017 supplementing the ITS Directive 2010/40/EU. The MMTIS Delegated Regulation was established to support the provision of EU-wide multimodal travel information services. To facilitate the easy exchange and reuse of this data for the provision of comprehensive travel information services, transport authorities, transport operators, infrastructure managers and transport on demand service providers are required to keep the static data, corresponding metadata, and information on the quality of the data up to date and accessible to users via a common or national access point (NAP).

Altogether, a good level of overall data availability is estimated for the indicators related to public transport, while that for shared mobility services is not as promising. In both cases, the Delegated Regulation 2017/1926 could potentially enhance data availability, if not at the city/FUA level, at least at the national level (through national access points). However, the compliance of Member States should be investigated, as the Delegated Regulation mandates, as a final obligatory step, the provision of all data for all identified transport modes and across all EU networks by 1/12/2023.

It is worth noting that 115 cities/FUAs (53% of respondents) declared a general capability to perform analyses using GIS systems. This data is significant as, in this indicator area, such analyses have the potential to handle more sophisticated indicators, where geographic aspects are included, thus providing a more representative picture of the population's access to mobility services. Consideration could therefore be given to using or defining indicators inspired by those

reported by DG REGIO for public transport (https://ec.europa.eu/regional_policy/information-sources/maps/low-carbon-urban-accessibility_en). These could provide a more robust alternative to some of those indicators currently included for public transport.

For the provision of parking facilities for cars and bicycles near public transport stops or stations, data appears to be available in the majority of cities that responded to the survey, particularly concerning Park & Ride (two thirds of respondents) but also regarding bicycles (including pedelecs) parking spaces (56% of respondents).

Finally, just under half of respondents reported having access to data related to the mean income of households, which is necessary to calculate the corresponding indicator R21. This distribution of responses suggests that, in some cases, the data may exist (potentially even on a larger territorial scale, i.e. NUTS 2 regions - https://ec.europa.eu/eurostat/databrowser/product/page/nama_10r_2hhinc) without being known to urban administrations or Functional Urban Areas (FUAs).

Detailed analysis

D1. (I1) Total population of the city/FUA [# inhabitants]

Survey results

- 210 respondents reported collection of/access to this data
  - 98% of respondents
  - 93 at city level only, 4 at FUA level only, 113 at both city and FUA level

D2. (I2) Total area of the city/FUA [km^2]

Survey results

- 200 respondents reported collection of/access to this data
  - 93% of respondents
  - 92 at city level only, 3 at FUA level only, 105 at both city and FUA level

D3. (I3) Mean annual income of households per capita [€ per year]

Survey results

- 87 respondents reported collection of/access to data related to “median household income”
  - 40% of respondents
  - 38 at city level only, 3 at FUA level only, 46 at both city and FUA level

- 102 respondents reported collection of/access to data related to “mean household income”
    - 47% of respondents
    - 47 at city level only, 3 at FUA level only, 52 at both city and FUA level

D4. (O1, O2) Number of public transport stops and stations with fewer than 4/with 4 or more scheduled departures per hour [# stops and stations]

Survey results

- 144 respondents reported collection of/access to this data
    - 67% of respondents
    - 79 at city level only, 8 at FUA level only, 57 at both city and FUA level

D5. (O3, O4) Annual distance travelled by public transport vehicle (bus, trolleybus, coach, tram, light rail, waterbus, metro, train) [# vehicle-km]

Survey results

- 166 respondents reported collection of/access to this data
    - 77% of respondents
    - 95 at city level only, 10 at FUA level only, 61 at both city and FUA level

D6. (O5) Total fleet size of free-floating and station-based shared e-micromobility services [# vehicles]

Survey results

- 84 respondents reported collection of/access to this data
    - 39% of respondents
    - 67 at city level only, 4 at FUA level only, 13 at both city and FUA level
    - It should be noted that only 66 cities/FUAs (31% of respondents) have access to data for all companies providing the service, while 18 cities/FUAs (8% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
    - 28 cities/FUAs (13% of respondents) declare that they do not have a E-micromobility sharing system

(O6) Total fleet size of free-floating and station-based shared bicycle services [# vehicles]

Survey results

- 112 respondents reported collection of/access to this data
    - 52% of respondents

- 88 at city level only, 6 at FUA level only, 18 at both city and FUA level
- It should be noted that only 95 cities/FUAs (44% of respondents) have access to data for all companies providing the service, while 19 cities/FUAs (9% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
- 11 cities/FUAs (5% of respondents) declare that they do not have a bicycles (including pedelecs) sharing system

(O7) Total fleet size of free-floating and station-based shared moped services [# vehicles]

Survey results

- 52 respondents reported collection of/access to this data
  - 24% of respondents
  - 41 at city level only, 3 at FUA level only, 8 at both city and FUA level
  - It should be noted that only 35 cities/FUAs (16% of respondents) have access to data for all companies providing the service, while 7 cities/FUAs (3% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
  - 51 cities/FUAs (24% of respondents) declare that they do not have a moped sharing system

(O8) Total fleet size of free-floating and station-based shared car services [# vehicles]

Survey results

- 94 respondents reported collection of/access to this data
  - 44% of respondents
  - 71 at city level only, 7 at FUA level only, 16 at both city and FUA level
  - It should be noted that only 56 cities/FUAs (26% of respondents) have access to data for all companies providing the service, while 28 cities/FUAs (13% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
  - 17 cities/FUAs (8% of responders) declare that they do not have a car sharing system

D7. (O9) Area covered by free-floating shared e-micromobility services [km^2]

Survey results

- 39 respondents reported collection of/access to this data
    - 18% of respondents
    - 27 at city level only, 2 at FUA level only, 10 at both city and FUA level
    - It should be noted that only 66 cities/FUAs (31% of respondents) have access to data for all companies providing the service, while 18 cities/FUAs (8% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
    - 28 cities/FUAs (13% of respondents) declare that they do not have a E-micromobility sharing system

(O10) Area covered by free-floating shared bicycle services [km^2]

Survey results

- 44 respondents reported collection of/access to this data
    - 20% of respondents
    - 31 at city level only, 2 at FUA level only, 11 at both city and FUA level
    - It should be noted that only 95 cities/FUAs (44% of respondents) have access to data for all companies providing the service, while 19 cities/FUAs (9% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
    - 11 cities/FUAs (5% of respondents) declare that they do not have a bicycles (including pedelecs) sharing system

(O11) Area covered by free-floating shared moped services [km^2]

Survey results

- 18 respondents reported collection of/access to this data
    - 8% of respondents
    - 13 at city level only, 2 at FUA level only, 3 at both city and FUA level
    - It should be noted that only 35 cities/FUAs (16% of respondents) have access to data for all companies providing the service, while 7 cities/FUAs (3% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
    - 51 cities/FUAs (24% of respondents) declare that they do not have a moped sharing system

(O12) Area covered by free-floating shared car services [km^2]

Survey results

- 32 respondents reported collection of/access to this data
    - 15% of respondents
    - 20 at city level only, 2 at FUA level only, 10 at both city and FUA level
    - It should be noted that only 56 cities/FUAs (26% of respondents) have access to data for all companies providing the service, while 28 cities/FUAs (13% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
    - 17 cities/FUAs (8% of responders) declare that they do not have a car sharing system

D8. (O13, O14, O15, O16) Number of station-based shared e-micromobility/bicycle/moped/car stations [# stations]

Survey results

- The survey didn't include specific questions on this particular aspect. Considering that, in some cases (66 cities/FUAs for E-micromobility sharing, 95 for bicycles (including pedelecs) sharing, 35 for moped sharing, 56 for car sharing), urban nodes have access to data related to all shared mobility operators, it's conceivable that a similar data availability exists for these indicators. Moreover, it's possible that this data may increase as contracts with public administrations are updated.

D9. (O17) Annual distance travelled by shared vehicle (e-micromobility, bicycle, moped, car) [# vehicle-km]

Survey results

- The survey didn't include specific questions on this particular aspect. Considering that, in some cases (66 cities/FUAs for E-micromobility sharing, 95 for bicycles (including pedelecs) sharing, 35 for moped sharing, 56 for car sharing), urban nodes have access to data related to all shared mobility operators, it's conceivable that a similar data availability exists for these indicators. Moreover, it's possible that this data may increase as contracts with public administrations are updated.
- Moreover, 155 cities/FUAs (72% of respondents) declared having (or having access to) transport models; in this case, it is possible that the kilometres travelled by each type of mobility service are already factored into the estimation of kilometres travelled for the respective transport mode (i.e., the kilometres travelled by shared bicycles (including pedelecs) are likely already included in the total kilometres travelled by bicycles (including pedelecs) in the city/FUA, and so forth).

D10. (O18) Cost of a standard public transport pass valid for one month [€]

Survey results

- 164 respondents reported collection of/access to this data

- 76% of respondents
- 90 at city level only, 13 at FUA level only, 61 at both city and FUA level

(O19) Cost of a standard public transport pass valid for one year [€]

Survey results

- 159 respondents reported collection of/access to this data
  - 74% of respondents
  - 87 at city level only, 13 at FUA level only, 59 at both city and FUA level

D11. (O20) Annual number of public transport passes valid for one month [# passes per year]

Survey results

- 169 respondents reported collection of/access to this data
  - 79% of respondents
  - 99 at city level only, 13 at FUA level only, 57 at both city and FUA level

D12. (O21) Annual number of public transport passes valid for one year [# passes]

Survey results

- 160 respondents reported collection of/access to this data
  - 74% of respondents
  - 92 at city level only, 13 at FUA level only, 55 at both city and FUA level

D13. (O22) Annual passengers carried by public transport [# passengers per year]

Survey results

- 157 respondents reported collection of/access to this data
  - 73% of respondents
  - 89 at city level only, 11 at FUA level only, 57 at both city and FUA level
  - Breakdown of this information by gender is available in 36 cities/FUAs (17% of responders)

D14. (O23) Shared e-micromobility subscriptions [# subscriptions]

Survey results

- 30 respondents reported collection of/access to this data

- 14% of respondents
- 19 at city level only, 1 at FUA level only, 10 at both city and FUA level
- It should be noted that only 66 cities/FUAs (31% of respondents) have access to data for all companies providing the service, while 18 cities/FUAs (8% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
- 28 cities/FUAs (13% of respondents) declare that they do not have a E-micromobility sharing system

(O24) Shared bicycle subscriptions [# subscriptions]

Survey results

- 57 respondents reported collection of/access to this data
  - 27% of respondents
  - 41 at city level only, 3 at FUA level only, 13 at both city and FUA level
  - It should be noted that only 95 cities/FUAs (44% of respondents) have access to data for all companies providing the service, while 19 cities/FUAs (9% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
  - 11 cities/FUAs (5% of respondents) declare that they do not have a bicycles (including pedelecs) sharing system

(O25) Shared moped subscriptions [# subscriptions]

Survey results

- 15 respondents reported collection of/access to this data
  - 7% of respondents
  - 10 at city level only, 1 at FUA level only, 4 at both city and FUA level
  - It should be noted that only 35 cities/FUAs (16% of respondents) have access to data for all companies providing the service, while 7 cities/FUAs (3% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
  - 51 cities/FUAs (24% of respondents) declare that they do not have a moped sharing system

(O26) Shared car subscriptions [# subscriptions]

Survey results

- 41 respondents reported collection of/access to this data
    - 19% of respondents
    - 25 at city level only, 6 at FUA level only, 10 at both city and FUA level
    - It should be noted that only 56 cities/FUAs (26% of respondents) have access to data for all companies providing the service, while 28 cities/FUAs (13% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
    - 17 cities/FUAs (8% of responders) declare that they do not have a car sharing system

D15. (O27) Annual number of trips by shared e-micromobility [# trips per year]

Survey results

- 69 respondents reported collection of/access to this data
    - 32% of respondents
    - It should be noted that only 66 cities/FUAs (31% of respondents) have access to data for all companies providing the service, while 18 cities/FUAs (8% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
    - 28 cities/FUAs (13% of respondents) declare that they do not have a E-micromobility sharing system

(O28) Annual number of trips by shared bicycle [# trips per year]

Survey results

- 105 respondents reported collection of/access to this data
    - 49% of respondents
    - It should be noted that only 95 cities/FUAs (44% of respondents) have access to data for all companies providing the service, while 19 cities/FUAs (9% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
    - 11 cities/FUAs (5% of respondents) declare that they do not have a bicycles (including pedelecs) sharing system

(O29) Annual number of trips by shared moped [# trips per year]

Survey results

- 40 respondents reported collection of/access to this data
    - 19% of respondents
    - It should be noted that only 35 cities/FUAs (16% of respondents) have access to data for all companies providing the service, while 7 cities/FUAs (3% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
    - 51 cities/FUAs (24% of respondents) declare that they do not have a moped sharing system

(O30) Annual number of trips by shared car [# trips per year]

Survey results

- 61 respondents reported collection of/access to this data
    - 28% of respondents
    - It should be noted that only 56 cities/FUAs (26% of respondents) have access to data for all companies providing the service, while 28 cities/FUAs (13% of respondents) have access to data for only some of them. *Also note that the previous data may be inconsistent with the number of cities/FUAs that have reported the availability of the data; this discrepancy is due to the impossibility of tracing individual urban node responses back to the survey.*
    - 17 cities/FUAs (8% of responders) declare that they do not have a car sharing system

D16. (O31) Number of car parking spaces in Park & Ride lots [# spaces]

Survey results

- 147 respondents reported collection of/access to this data
    - 68% of respondents
    - 89 at city level only, 5 at FUA level only, 53 at both city and FUA level

D17. (O32) Number of bicycle parking spaces at public transport stops and stations [# spaces]

Survey results

- 121 respondents reported collection of/access to this data
    - 56% of respondents
    - 85 at city level only, 4 at FUA level only, 57 at both city and FUA level

D18. (O33) Number of public transport stops and stations fully accessible for persons with reduced mobility [# stops and stations]

Survey results

- 158 respondents reported collection of/access to this data
    - 73% of respondents
    - 105 at city level only, 6 at FUA level only, 47 at both city and FUA level

D19. (O34) Number of public transport vehicles accessible for persons with reduced mobility [# vehicles]

Survey results

- 171 respondents reported collection of/access to this data
    - 80% of respondents
    - 101 at city level only, 8 at FUA level only, 62 at both city and FUA level

D20. (O35) Total fleet size of taxi and ride-hailing services [# vehicles]

Survey results

- 93 respondents (excluding overlap) reported collection of/access to data on taxi and shared mobility vehicles (cars), in total for any type of breakdown.
    - 43% of respondents
    - 74 at city level only, 38 at FUA level only (including 19 at both city and FUA level)

D21. (O36) Annual number of trips by taxi and ride-hailing service [# trips per year]

Survey results

- 49 respondents reported collection of/access to data on daily commuting trips by taxi and ride-hailing (service)
    - 23% of respondents
    - 22 at city level only, 2 at FUA level only, 25 at both city and FUA level

Survey: open-ended feedback

From the interpretation of the open-ended answers, it is evident that – concerning public transport – the vast majority of data and information are available to cities/FUAs through public transport operators, with whom they have contracts, or which are entirely public entities. Only 4 urban nodes report that these data are (only) available at the national level (Ministries), while 2 declare that the data are collected at the regional level (Regional transport authorities).

With regard to shared mobility, all 5 respondents who provided open-ended feedback state that operators are aware of the data relevant for calculating the indicators, but that they are not obligated to share these data with public authorities.

Indicators

Number	Indicator	To be calculated by:
	Input indicators	
I1	Total population of the city/FUA *[# inhabitants]*	Urban node
I2	Total area of the city/FUA *[km^2]*	Urban node
I3	Mean annual income of households per capita *[€ per year]*	Urban node
	Output indicators	
O1	Number of public transport stops with fewer than 4/with 4 or more scheduled departures per hour *[# stops]*	Urban node
O2	Number of public transport stations with fewer than 4/with 4 or more scheduled departures per hour *[# stations]*	Urban node
O3	Annual distance travelled by public transport bus, trolleybus, coach, tram, light rail, and waterbus *[# vehicle-km]*	Urban node
O4	Annual distance travelled by public transport metro and train *[# vehicle-km]*	Urban node
O5	Total fleet size of free-floating and station-based shared e-micromobility services *[# vehicles]*	Urban node
O6	Total fleet size of free-floating and station-based shared bicycle services *[# vehicles]*	Urban node
O7	Total fleet size of free-floating and station-based shared moped services *[# vehicles]*	Urban node
O8	Total fleet size of free-floating and station-based shared car services *[# vehicles]*	Urban node
O9	Area covered by free-floating shared e-micromobility services *[km^2]*	Urban node
O10	Area covered by free-floating shared bicycle services *[km^2]*	Urban node
O11	Area covered by free-floating shared moped services *[km^2]*	Urban node
O12	Area covered by free-floating shared car services *[km^2]*	Urban node
O13	Number of station-based shared e-micromobility stations *[# stations]*	Urban node
O14	Number of station-based shared bicycle stations *[# stations]*	Urban node
O15	Number of station-based shared moped stations *[# stations]*	Urban node
O16	Number of station-based shared car stations *[# stations]*	Urban node
O17	Annual distance travelled by shared vehicle (e-micromobility, bicycle, moped, car) *[# vehicle-km]*	Urban node
O18	Cost of a standard public transport pass valid for one month *[€]*	Urban node
O19	Cost of a standard public transport pass valid for one year *[€]*	Urban node
O20	Annual number of public transport passes valid for one month *[# passes per year]*	Urban node
O21	Annual number of public transport passes valid for one year *[# passes]*	Urban node
O22	Annual passengers carried by public transport *[# passengers per year]*	Urban node

O23	Number of shared e-micromobility subscriptions per year *[# subscriptions]*	Urban node
O24	Number of shared bicycle subscriptions per year *[# subscriptions]*	Urban node
O25	Number of shared moped subscriptions per year *[# subscriptions]*	Urban node
O26	Number of shared car subscriptions per year *[# subscriptions]*	Urban node
O27	Annual number of trips by shared e-micromobility *[# trips per year]*	Urban node
O28	Annual number of trips by shared bicycle *[# trips per year]*	Urban node
O29	Annual number of trips by shared moped *[# trips per year]*	Urban node
O30	Annual number of trips by shared car *[# trips per year]*	Urban node
O31	Number of car parking spaces in Park & Ride lots *[# spaces]*	Urban node
O32	Number of bicycle parking spaces at public transport stops and stations *[# spaces]*	Urban node
O33	Number of public transport stops and stations fully accessible for persons with reduced mobility *[# stops and stations]*	Urban node
O34	Number of public transport vehicles accessible for persons with reduced mobility *[# vehicles]*	Urban node
O35	Total fleet size of taxi and ride-hailing services *[# vehicles]*	Urban node
O36	Annual number of trips by taxi and ride-hailing service *[# trips per year]*	Urban node
	Result indicators	
R1	Public transport stops with fewer than 4/with 4 or more scheduled departures per hour per 1,000 inhabitants *[# stops/1,000 inh.]*	EC
R2	Public transport stations with fewer than 4/with 4 or more scheduled departures per hour per 1,000 inhabitants *[# stops/1,000 inh.]*	EC
R3	Public transport stops with fewer than 4/with 4 or more scheduled departures per hour per km^2 *[# stops/km^2]*	EC
R4	Public transport stations with fewer than 4/with 4 or more scheduled departures per hour per km^2 *[# stops/km^2]*	EC
R5	Annual distance travelled by bus, trolleybus, coach, tram, light rail, and waterbus per 1,000 inhabitants *[# vehicle-km/1,000 inh.]*	EC
R6	Annual distance travelled by metro and train per 1,000 inhabitants *[# vehicle-km/1,000 inh.]*	EC
R7	Annual distance travelled by bus, trolleybus, coach, tram, light rail, and waterbus per km^2 *[# vehicle-km/km^2]*	EC
R8	Annual distance travelled by metro and train per km^2 *[# vehicle-km/km^2]*	EC
R9	Vehicles of shared e-micromobility services per 1,000 inhabitants (free-floating and station-based) *[# vehicles/1,000 inh.]*	EC
R10	Vehicles of shared bicycle services per 1,000 inhabitants (free-floating and station-based) *[# vehicles/1,000 inh.]*	EC
R11	Vehicles of shared moped services per 1,000 inhabitants (free-floating and station-based) *[# vehicles/1,000 inh.]*	EC
R12	Vehicles of shared car services per 1,000 inhabitants (free-floating and station-based) *[# vehicles/1,000 inh.]*	EC

R13	Percentage of area covered by free-floating shared e-micromobility services *[% of km^2]*	EC
R14	Percentage of area covered by free-floating shared bicycle services *[% of km^2]*	EC
R15	Percentage of area covered by free-floating shared moped services *[% of km^2]*	EC
R16	Percentage of area covered by free-floating shared car services *[% of km^2]*	EC
R17	Number of station-based shared e-micromobility stations per km^2 *[# stations/km^2]*	EC
R18	Number of station-based shared bicycle stations per km^2 *[# stations/km^2]*	EC
R19	Number of station-based shared moped stations per km^2 *[# stations/km^2]*	EC
R20	Number of station-based shared car stations per km^2 *[# stations/km^2]*	EC
R21	Economic affordability of standard public transport passes allowing travel over the year based on the mean annual income of households per capita *[% of income]*	EC
R22	Annual number of public transport passes valid for one month per 1,000 inhabitants *[# passes/1,000 inh. Per year]*	EC
R23	Annual number of public transport passes valid for one year per 1,000 inhabitants *[# passes/1,000 inh.]*	EC
R24	Annual passengers carried by public transport per 1,000 inhabitants *[# passengers/1,000 inh.]*	EC
R25	Shared mobility (e-micromobility, bicycle, moped, car) subscriptions per 1,000 inhabitants *[# subscriptions/1,000 inh.]*	EC
R26	Annual number of trips by shared e-micromobility per 1,000 inhabitants *[# trips/1,000 inh. per year]*	EC
R27	Annual number of trips by shared bicycle per 1,000 inhabitants *[# trips/1,000 inh. per year]*	EC
R28	Annual number of trips by shared moped per 1,000 inhabitants *[# trips/1,000 inh. Per year]*	EC
R29	Annual number of trips by shared car per 1,000 inhabitants *[# trips/1,000 inh. per year]*	EC
R30	Bicycle parking spaces at public transport stops and stations per 1,000 inhabitants *[# spaces/1,000 inh.]*	EC
R31	Taxi and ride-hailing vehicles per 1,000 inhabitants *[# vehicles/1,000 inh.]*	EC
R32	Annual taxi and ride-hailing trips per 1,000 inhabitants *[# trips/1,000 inh. per year]*	EC

Method of calculation of result indicators

Please note that the equations below could be applied centrally at European level to calculate the values of the result indicators based on input and output data provided by the urban nodes under the input and output indicators.

#	**Method name** (component of indicator)	**Indicator(s)**	**Equation**	**Variables**
M1	Public transport stops with fewer than 4/with 4 or more scheduled departures per hour per 1,000 inhabitants *[# stops/1,000 inh.]*	R1	$PTS_f{}^{stop} = \frac{\sum_{i,m} PTS_{if}{}^{stop,m}}{P}$*1000	- $PTS_f{}^{stop}$ = number of public transport stops with frequency f per 1,000 inhabitants *[# stops/1,000 inh.]* - $PTS_{if}{}^{stop,m}$ = number of public transport stops i with frequency f of mode m *[#]* - P = Total population *[# inhabitants]* - f = frequency of service departures (fewer than 4 scheduled departures per hour/more than 4 scheduled departures per hour) - Public transport stop refers to the following modes m: buses, trolleybuses, coaches, trams, light rails, waterbuses - Multiplied by 1,000 to have the index with respect to 1,000 inhabitants
M2	Public transport stations with fewer than 4/with 4 or more scheduled departures per hour per 1,000 inhabitants *[# stations/1,000 inh.]*	R2	$PTS_f{}^{station} = \frac{\sum_{i,m} PTS_{if}{}^{station\ m}}{P}$*1000	- $PTS_f{}^{station}$ = number of public transport stations with frequency f per 1,000 inhabitants *[# stations/1,000 inh.]* - $PTS_{if}{}^{stop,m}$ = number of public transport stations i with frequency f of mode m *[#]* - P = Total population *[# inhabitants]* - f = frequency (fewer than 4 scheduled departures per hour/more than 4 scheduled departures per hour) - Public transport station refers to the following modes m: metros, trains

#	**Method name** (component of indicator)	**Indicator(s)**	**Equation**	**Variables**
				- Multiplied by 1,000 to have the index with respect to 1,000 inhabitants
M3	Public transport stops with fewer than 4/with 4 or more scheduled departures per hour per km^2 *[# stops/km^2]*	R3	$ATS_f{}^{stop} = \frac{\sum_{i,m} PTS_{if}{}^{stop,m}}{A}$	- $ATS_f{}^{stop}$ = number of public transport stops with frequency f per km^2 *[# stops/ km^2]* - $PTS_{if}{}^{stop,m}$ = number of public transport stops I with frequency f of mode m *[#]* - A = Total area *[km^2]* - f = frequency (fewer than 4 scheduled departures per hour/more than 4 scheduled departures per hour) - Public transport stop refers to the following modes m: buses, trolleybuses, coaches, trams, light rails, waterbuses
M4	Public transport stations with fewer than 4/with 4 or more scheduled departures per hour per km^2 *[# stations/km^2]*	R4	$ATS_f{}^{station} = \frac{\sum_{i,m} PTS_{if}{}^{station\ m}}{A}$	- $ATS_f{}^{station}$ = number of public transport stations with frequency f per km^2 *[# stations/ km^2]* - $PTS_{if}{}^{stop,m}$ = number of public transport stations i with frequency f of mode m *[#]* - A = Total area *[km^2]* - f = frequency (fewer than 4 scheduled departures per hour/more than 4 scheduled departures per hour) - Public transport station refers to the following modes m: metros, trains
M5	Annual distance travelled by bus, trolleybus, coach, tram, light rail, and waterbus/metro and train per 1,000	R5, R6	$PVkm^M = \frac{\sum_{m \in M} Vkm^m}{P}$*1000	- $PVkm^M$ = public transport distance travelled by group of modes M per 1,000 inhabitants per year *[# vehicle-km /1,000 inh.]* - Vkm^m = public transport distance travelled by modes m per year *[# vehicle-km]* - P = Total population *[# inhabitants]*

#	**Method name** (component of indicator)	**Indicator(s)**	**Equation**	**Variables**
	inhabitants *[# vehicle-km/1,000 inh.]*			- M = M1 (buses, trolleybuses, coaches, trams, light rails, waterbuses) and M2 (metros, trains) - m = public transport modes (buses, trolleybuses, coaches, trams, light rails, waterbuses, metros, trains) - Multiplied by 1,000 to have the index with respect to 1,000 inhabitants
M6	Annual distance travelled by bus, trolleybus, coach, tram, light rail, and waterbus/metro and train per km^2 *[# vehicle-km/km^2]*	R7, R8	$PVkm^M = \frac{\sum_{m \in M} Vkm^m}{A}$	- PVkm^M = public transport distance travelled by group of modes M per 1,000 inhabitants per year *[# vehicle-km /km^2]* - Vkm^m = public transport distance travelled by modes m per year *[# vehicle-km]* - A = Total area *[km^2]* - M = M1 (buses, trolleybuses, coaches, trams, light rails, waterbuses) and M2 (metros, trains) - m = public transport modes (buses, trolleybuses, coaches, trams, light rails, waterbuses, metros, trains)
M7	Vehicles of shared e-micromobility, bicycle, moped, car services per 1,000 inhabitants (free-floating and station-based) *[# vehicles/1,000 inh.]*	R9, R10, R11, R12	$VPsh^m = \frac{Vsh^m}{P} * 1000$	- VPsh^m = Number of vehicles of shared mobility service mode m (E-micromobility, bicycles (including pedelecs), moped , cars) per 1,000 inhabitants (free-floating and station-based) *[# vehicles/1,000 inh.]* - Vsh^m = Number of vehicles of shared mobility service mode m (E-micromobility, bicycles (including pedelecs), moped , cars) *[# vehicles]* - P = Total population *[# inhabitants]*

#	**Method name** (component of indicator)	**Indicator(s)**	**Equation**	**Variables**
				- Multiplied by 1,000 to have the index with respect to 1,000 inhabitants
M8	Percentage of area covered by free-floating shared e-micromobility/ bicycle/moped/car services *[% of km²]*	R13, R14, R15, R16	$APsh^m = \frac{Ash^m}{A}$	- $APsh^m$ = Percentage of area covered by free-floating shared mobility services of mode m (E-micromobility, bicycles (including pedelecs), moped , cars) *[% of km²]* - Ash^m = Area covered by free-floating shared mobility services of mode m (E-micromobility, bicycles (including pedelecs), moped , cars) [*km²]* - A = Total area *[km²]*
M9	Stations of station-based shared e-micromobility/bicycle/ moped/car services per km² *[# stations/km²]*	R17, R18, R19, R20	$AShSt^m = \frac{\sum_{i,m} ShSt_i{}^m}{A}$	- Number of station-based shared mobility service stations (E-micromobility/ bicycles (including pedelecs)/ moped/ cars) per km² *[# stations/km²]* - $ShSt_i^m$ = Station-based shared mobility service station i of mode m (E-micromobility, bicycles (including pedelecs), moped, cars) *[#]* - A = Total area *[km²]*
M11	Economic affordability of standard public transport passes allowing travel over the year based on the mean annual income of households per capita *[% of income]*	R21	$EcAffPT = \frac{\left(PT^{month} * CPT^{month} + PT^{year} * CPT^{year}\right)}{\left(PT^{month}/12 + PT^{year}\right)}{MnInc}$	- EcAffPT = Economic affordability of standard public transport passes [% of income] - $PT^{month/year}$ = Number of public transport passes (valid for one month / valid for one year) *[# passes per year]* - $CPT^{month/year}$ = Cost of public transport passes (valid for one month / valid for one year) *[Euro/pass]* - MnInc = Mean income of households per capita *[Euro/inh.]*

#	**Method name** (component of indicator)	**Indicator(s)**	**Equation**	**Variables**
				- Cost of a monthly pass multiplied by 12 to calculate the annual expenditure - Annual number of monthly passes divided by 12 to have the annual users of monthly passes
M12	Annual public transport passes valid for one month/one year per 1,000 inhabitants *[# passes/1,000 inh.]*	R22, R23	$SPT^{p} = \frac{PT^{p}}{P} * 1000$	- SPT^{p} = Number of annual public transport passes of typology p (valid for one month / valid for one year) per 1,000 inhabitants *[# passes/1,000 inh.]* - PT^{p} = Number of annual public transport passes of typology p (valid for one month / valid for one year) *[# passes]* - P = Total population *[# inhabitants]* - Multiplied by 1,000 to have the index with respect to 1,000 inhabitants
M13	Annual passengers carried by public transport per 1,000 inhabitants *[# passengers/1,000 inh.]*	R24	$SPTpass = \frac{PTpass}{P} * 1000$	- SPTpass = Number of passengers carried by public transport per 1,000 inhabitants per year *[# passengers/1,000 inh.]* - PTpass = Number of passengers carried by public transport per year *[# passengers]* - P = Total population *[# inhabitants]* - Multiplied by 1,000 to have the index with respect to 1,000 inhabitants
M14	Shared mobility (e-micromobility, bicycle, moped, car) subscriptions per 1,000 inhabitants *[# subscriptions/1,000 inh.]*	R25	$SshSub^{m} = \frac{shSub^{m}}{P} * 1000$	- $SshSub^{m}$ = Number of shared mobility vehicles subscriptions to mode m per 1,000 inhabitants (E-micromobility, bicycles (including pedelecs), mopeds, cars) *[# subscriptions/1,000 inh.]* - $shSub^{m}$ = Number of shared mobility vehicle subscriptions of mode m (E-micromobility,

#	**Method name** (component of indicator)	**Indicator(s)**	**Equation**	**Variables**
				bicycles (including pedelecs), mopeds, cars) *[# subscriptions]* - P = Total population *[# inhabitants]* - Multiplied by 1,000 to have the index with respect to 1,000 inhabitants
M15	Annual shared e-micromobility/bicycle/ moped/car trips per 1,000 inhabitants *[# trips/1,000 inh. per year]*	R26, R27, R28, R29	$SshRides^{m} = \frac{Rsh^{m}}{P} * 1000$	- SshRides^{m} = Number of shared mobility service trips by mode m (E-micromobility, bicycles (including pedelecs), mopeds, cars) per 1,000 inhabitants per year *[# trips/1,000 inh.per year]* - Rsh^{m} = Number of shared mobility service trips by mode m (E-micromobility, bicycles (including pedelecs), mopeds, cars) *[# trips]* - P = Total population *[# inhabitants]* - Multiplied by 1,000 to have the index with respect to 1,000 inhabitants
M16	Bicycle parking spaces at public transport stops and stations per 1,000 inhabitants *[# spaces/1,000 inh.]*	R30	$\mathrm{S}^{\mathrm{Bk}}\mathrm{Sp} = \frac{^{\mathrm{Bk}}\mathrm{Sp}}{\mathrm{P}} * 1000$	- S^{Bk}Sp = Number of bicycle parking spaces at public transport stops and stations per 1,000 inhabitants *[# spaces/1,000 inh.]* - ^{Bk}Sp = Number of bicycle parking spaces at public transport stops and stations *[# spaces]* - P = Total population *[# inhabitants]* - Multiplied by 1,000 to have the index with respect to 1,000 inhabitants
M17	Taxi and ride-hailing vehicles per 1,000 inhabitants *[# vehicles/1,000 inh.]*	R31	$VPtr \quad = \frac{Vtr}{P} * 1000$	- VPtr = Number of vehicles of taxi and ride-hailing (service) per 1,000 inhabitants *[# vehicles/1,000 inh.]* - Vtr = Number of vehicles of taxi and ride-hailing (service) *[# vehicles]*

#	**Method name** (component of indicator)	**Indicator(s)**	**Equation**	**Variables**
				- P = Total population *[# inhabitants]* - Multiplied by 1,000 to have the index with respect to 1,000 inhabitants
M18	Annual taxi and ride-hailing trips per 1,000 inhabitants per year *[# trips/1,000 inh. per year]*	R32	$trRides = \frac{Rtr}{P} * 1000$	- trRides = Number of taxi and ride-hailing (service) trips per 1,000 inhabitants per year *[# trips/1,000 inh.per year]* - Rtr = Number of taxi and ride-hailing (service) trips *[# trips]* - P = Total population *[# inhabitants]* - Multiplied by 1,000 to have the index with respect to 1,000 inhabitants

Definitions of terms and acronyms used

Term	**Definition**	**Source(s)**
Area covered (by free-floating shared mobility services)	This represents the area in which free-floating shared mobility vehicles can be picked up and left.	
Bicycle	A road vehicle which has two or more wheels and is generally propelled by the muscular energy of the persons on that vehicle, in particular by means of a pedal system, lever or handle (e.g. bicycles, tricycles, quadricycles and invalid carriages). Included are bicycles with electric pedal assistance (pedelecs).	- Eurostat Glossary for transport statistics, page 37 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f

Term	Definition	Source(s)
Bus	A passenger road motor vehicle designed to carry more than 24 persons (including the driver), and with provision to carry seated as well as standing passengers. Refers to class I and class II of categories M2 and M3 of the UN Consolidated Resolution on the Construction of Vehicles (R.E.3).	- Glossary for transport statistics 5TH EDITION 2019, International Transport Forum, Eurostat, p. 40 https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-gq-19-004
Car	A vehicle used for carriage of passengers, comprising not more than eight seats in addition to the driver's (UNECE category M1).	- UNECE Consolidated Resolution on the Construction of Vehicles (R.E.3), Rev. 6, page 6: https://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29resolutions/ECE-TRANS-WP.29-78r6e.pdf
City	A city is a local administrative unit where at least 50 % of the population lives in one or more urban centres (i.e., a cluster of contiguous grid cells of 1 km² - excluding diagonals - with a population density of at least 1,500 inhabitants per km² and collectively a minimum population of 50,000 inhabitants after gap-filling).	- Eurostat glossary (webpage): https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Category:Regions_and_cities_glossary
Coach	Passenger road motor vehicle designed to seat 24 or more persons (including the driver) and constructed exclusively for the carriage of seated passengers. Refers to class III of categories M2 and M3 of the UN Consolidated Resolution on the Construction of Vehicles (R.E.3).	- Eurostat Glossary for transport statistics, page 40 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f
E-micromobility	A motorised, micro-mobility device such as an e-micro-scooter, a segway, a monorail, self-balancing unicycle. The device should have at least one wheel, be designed for one person, and have an electric motor that can achieve a maximum speed of up to 25 km/h.	- CARE DATABASE – CaDaS Common Accident Data Set, page 68/133 (Version 3.8.1, September 2021): https://road-safety.transport.ec.europa.eu/system/files/2023-09/CADaS%20Glossary_v%203_8_1.pdf
Free-floating (shared mobility service)	Service where vehicles don't have to be returned to the place where they were picked up, although remaining within a defined operating area (rather than being restricted to specific stations or fixed locations).	
Fully accessible (public transport	A fully accessible stop, or specifically, station, is a facility that enables access to public transport modes for persons with reduced mobility, allowing them to make use of all mobility options (e.g., all platforms, all station fronts, etc.) within the stop or station itself.	

Term	Definition	Source(s)
stops and stations)		
Functional urban area (FUA)	A functional urban area consists of a densely inhabited city and a less densely populated commuting zone whose labour market is highly integrated with the city (OECD, 2012).	- Eurostat glossary (webpage): https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Category:Regions_and_cities_glossary
Income of households per capita	It measures the mean annual income of households per capita, referring to disposable income. The total disposable income of a household is calculated by: - adding together the personal income received by all household members - adding income received at household level - deducting taxes paid and inter-household cash transfers paid.	- Eurostat - Income and living conditions, Methodology: https://ec.europa.eu/eurostat/web/income-and-living-conditions/methodology
Light rail	A rail line mainly for urban and interurban transport of passengers (often electrified), characterised by lower travel speed and more frequent stops compared to a conventional railway line.	- Eurostat Glossary for transport statistics, page 11 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f?t=1568383761000
Metro	An electric rail line mainly for urban transport with the capacity for heavy volumes of traffic involving very frequent train movements. Metro lines are also characterised by closely spaced stations.	- Eurostat Glossary for transport statistics, page 10 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f?t=1568383761000
Mode	The way in which passengers and/or goods can be transported.	- Eurostat - Transport Glossary (webpage): https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Category:Transport_glossary
Moped	A two-, three- or four-wheeled road motor vehicle which is fitted with an engine having a cylinder capacity of less than 50cc and a maximum authorized design speed in accordance with national regulations. Where limitations concerning the engine displacement are not applicable, a restriction in terms of motor power may be in force. Refers to categories L1 and L2 of the UN Consolidated Resolution on the Construction of Vehicles (R.E.3).	- Eurostat Glossary for transport statistics, page 37 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f?t=1568383761000

Term	Definition	Source(s)
	For the purposes of this document, speed-pedelecs are also considered mopeds.	
Motorcycle	A two-, three- or four-wheeled road motor vehicle not exceeding 400 kg of unladen weight. All such vehicles with a cylinder capacity of 50 cc or over are included, as are those under 50 cc which do not meet the definition of moped. Refers to categories L3, L4 , L5 , L6 and L7 of the UN Consolidated Resolution on the Construction of Vehicles (R.E.3).	- Eurostat Glossary for transport statistics, page 38 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f?t=1568383761000
Park & Ride	A parking lot that allows travellers to park their vehicles (cars) in specially designated areas near public transport stops or stations, often regulated with specific fees (including free options) and parking duration rules designed to encourage their use. After parking, individuals can then continue their journey using public transport or shared mobility options.	
Pass (public transport)	Registration to a public transport service that allows you to use it at any time (for a month or year after the payment of the related fare). In the case of a subscription, if it is valid for more than a month (but less than a year), this is to be considered as a monthly subscription.	
Pedelec	A type of pedal-assisted bicycle where the electric assistance cuts off when the vehicle reaches approximately 25 km/h (exact limit depends on local regulations). A pedalec only provides assistance when the user is pedalling. Speed-pedelecs are considered separately.	- International Transport Forum (ITF) - Measuring New Mobility Definitions, Indicators, Data Collection, page 20: https://www.itf-oecd.org/sites/default/files/docs/measuring-new-mobility-definitions-indicators-data.pdf
Public transport (PT)	Service to a transport service user provided or planned/organized by public authorities for the transport of passengers from an origin to a destination. Here it includes the following modes: buses, trolleybuses, coaches, trams, light rail, metros, trains, water buses.	- ISO 14083:2023. Greenhouse gases — Quantification and reporting of greenhouse gas emissions arising from transport chain operations, Chapter 3.1.31: https://www.iso.org/obp/ui/#iso:std:78864:en
Public transport station	A station is defined in this document as a place served by metros, trains, and ferries (ports) aimed at letting passengers getting on and off. - PASSENGER STATION: Train station for passenger traffic, equipped with specific facilities for the access of the passengers and providing related	- Eurostat Glossary for transport statistics, pages 12 and 61 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f?t=1568383761000

Term	Definition	Source(s)
	services. - PASSENGER PORT: A port with facilities to embark and disembark passengers. Such ports may also provide services such as water and electricity supply, clearance of waste etc.	
Public transport stop	A stop is defined in this document as a place served by buses, trolleybuses, coaches, trams, light rails, and waterbuses aimed at letting passengers getting on and off. - TRANSPORT PASSENGER STOP: A place for passenger transport vessels to moor to embark and/or disembark passengers using the transport network.	- Eurostat Glossary for transport statistics, page 61 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f?t=1568383761000
Scheduled departures per hour	The mean number of scheduled departures per hour is calculated by considering the number of departures planned on weekdays between 6:00 and 20:00 at each public transport stop and station. This calculation involves summing all scheduled departures of all stopping lines at each stop or station.	- Aligned to: DG REGIO paper - Measuring urban accessibility for low-carbon modes: https://ec.europa.eu/regional_policy/information-sources/maps/low-carbon-urban-accessibility_en
Shared (mobility service)	A transport system where users share a vehicle over time as personal rental, allowing them to access the service on an as-needed basis. For the scope of this document, it is generally intended for short-distance travels (within the city/FUA) and limited rental periods.	
Speed-pedelec	A type of pedal-assisted bicycle where the electric assistance cuts off when the vehicle reaches approximately 45 km/h (exact limit depends on local regulations). A speed-pedelec only provides assistance when the user is pedalling.	- International Transport Forum (ITF) - Measuring New Mobility Definitions, Indicators, Data Collection, page 20: https://www.itf-oecd.org/sites/default/files/docs/measuring-new-mobility-definitions-indicators-data.pdf
Station-based (shared mobility service)	Service where shared vehicles must be picked up and dropped off at fixed locations.	

Term	Definition	Source(s)
Subscription (shared mobility)	Registration to a shared mobility service that allows you to use it at any time (with or without additional charges).	
Taxi or ride-hailing (service)	A licensed passenger car for hire with a driver, without predetermined routes. Includes ride-hailing which refers to ordering a customised ride online, usually via a smartphone application, usually for immediate start of the service. Ride-hailing companies, via websites and mobile apps, match passengers with drivers.	*Taxi:* - Eurostat Glossary for transport statistics, page 39 (5th edition, 2019): - https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f?t=1568383761000 *Ride-hailing:* - European Commission Notice on well-functioning and sustainable local passenger transport-on-demand (taxis and PHV) 2022/C 62/01, I. Introduction: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022XC0204%2803%29#ntr1-C_2022062EN.01000101-E0001
Total area	Total surface area of the city/FUA. Total Surface Area (TSA) is defined as the area of any given statistical area and includes land area and inland waters (lakes, rivers etc.).	- Eurostat - Area by NUTS 3 region: https://ec.europa.eu/eurostat/cache/metadata/en/reg_area3_esms.htm#stat_pres1678717181575
Total population	Total number of inhabitants (usual resident population) of a given area (functional urban area or city): the number of inhabitants on 1st January of the year in question (or, in some cases, on 31st December of the previous year).	- Eurostat glossary: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Population_figure
Train (passenger)	Train for the carriage of passengers composed of one or more passenger railway vehicles and, possibly, vans moving either empty or under load. *Here it applies to heavy rail only (metro, light rail, and tram are addressed separately).*	- Eurostat Glossary for transport statistics, page 21 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f?t=1568383761000
Tram	A passenger or freight road vehicle designed to seat more than nine persons (including the driver) or to transport freight, which is rail borne and connected to electric conductors or powered by diesel engine. The tramway is generally integrated into the urban road system.	- Eurostat Glossary for transport statistics, page 16 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-

Term	Definition	Source(s)
		004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f?t=1568383761000
Trolleybus	A passenger road vehicle designed to seat more than nine persons (including the driver), which is connected to electric conductors, and which is not rail-borne.	- Eurostat Glossary for transport statistics, page 40 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f
Vehicle-km	Unit of measurement representing the movement of a vehicle over one kilometre. The distance to be considered is the distance actually travelled.	- Eurostat Glossary for transport statistics, page 48 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f
Water bus	An inland waterways passenger vessel (ferry) designed to transport passengers, and sometimes also vehicles and cargo, across or along waterways. A waterbus transports passengers only on a public scheduled service.	- Eurostat Glossary for transport statistics, page 65 (5th edition, 2019): https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f