BIPforMaaS

Piedmontese citizens' interest towards Pay-per-use and MaaS services

BIPforMaaS

TECNOLOGIE TELEMATICHE TRASPORTI TRAFFICO TORINO

In collaboration with

FONDAZIONE LINKS
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1 BIPforMaaS PROJECT

The BIPforMaaS project aims to evolve the digital infrastructure of the BIP system through the study of the following two themes:

PAY-PER-USE

New integrated regional LPT tariff system, based on
Pay-per-use and best fare logic

The new **integrated Pay-per-use** tariff system, alongside the existing ones, will offer **maximum spatial, temporal and payment flexibility**

MaaS

Integration of regional LPT services with other transport services, in order to promote the spread of new digital services for mobility according to the paradigm **"Mobility as a Service"**

With the **regional MaaS,** citizens will have easy and immediate access to the **mobility services** available in the area, through **a single application and a single payment tool**

2 SURVEY

To gauge the interest of Piedmontese citizens, a survey consisting of a part of revealed preferences and a part of declared preferences was designed and disseminated.

Revealed preferences

Used to collect general information on the interviewees (socio-economic characteristics) and on their choices regarding mobility services already on the market (e.g. mobility habits)

Traditional survey

Declared preferences

Used to investigate issues related to MaaS-like services

Discrete Choice Model

2 SURVEY

DECLARED PREFERENCES

DISCRETE CHOICE MODEL

A person is called upon to express his preference with respect to sets of choices, each made up of two or more alternatives. Alternatives are described by attributes (products / services) which vary on different levels

The services / attributes inserted have been differentiated to adapt the model to the urban and extra-urban area:

	Urban area	Extra-urban area
Price	•	•
Urban LPT	•	
Extra-urban LPT	•	•
Taxi and Chauffeur services	•	•
Car rental	•	•
Car sharing	•	
Shared micromobility (bicycle/ e-scooter/scooter)	•	

Example of choices:

2 SURVEY

- Urban areas: Turin, the municipalities of its metropolitan area and all the other main cities across the region
- Extra-urban areas: all the other municipalities

3 SURVEY RESULTS

ON-LINE ADMINISTRATION BETWEEN OCTOBER AND DECEMBER 2020

Reference population: people over 14 years old, living in Piedmont

3428 responses

88% from urban areas

MAIN FEATURES OF THE SAMPLE

AGE

0% 15 – 17 years

14% > 60 years

56% 40 – 59 years

30% 18 – 39 years

GENDER

41% FEMALES

59% MALES

3 SURVEY RESULTS

OTHER FEATURES OF THE SAMPLE

RESIDENCY

- 60% city of Turin
- 22% metropolitan area
- 11% other municipalities
- 7% Other main cities

INCOME

- 48% 15k – 28k €
- 27% 28k – 55k €
- 11% none
- 9% < 15k €
- 3% 55k – 75k €
- 2% > 75k €

MEANS OF TRANSPORT HOME – WORK

- 55% public
- 30% private
- 15% non-motorized

Piedmontese population is well represented on almost all indicators of the sample. Only an over-sampling of frequent LPT users was found, which is considered positive since they represent some of the potential main users of the proposed innovations.

3 SURVEY RESULTS

OTHER FEATURES OF THE SAMPLE

AVERAGE WEEKLY TRANSFERS

50% 3 – 4 transfers

39% less than 3 transfers

11% 5 or more transfers

DAILY TRANSFERS HOME – WORK/SCHOOL

14% NO

86% YES

WHERE DO TRANSFERS TAKE PLACE?

60% within the municipality of residence

39% to another municipality

1% to multiple municipalities

3 SURVEY RESULTS

MOBILITY FEATURES OF THE SAMPLE

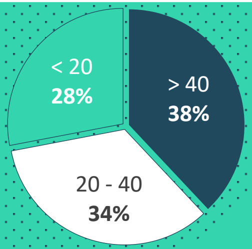
Who travels **daily** to the workplace/school?

USING LPT AT LEAST ONCE A MONTH

49% NO

51% YES

NUMBER OF TRIPS BY LPT IN A YEAR



LOCATION OF WORKPLACE/SCHOOL

1% in multiple municipalities

39% in municipality other than the one I live in

60% in the municipality in which I live in

MAIN MODE OF TRANSPORT

9% bicycle

5% on foot

1% micro-mobility

2% PTW

37% urban LPT

18% extra-urban LPT

28% private car

3 SURVEY RESULTS

MOBILITY FEATURES OF THE SAMPLE

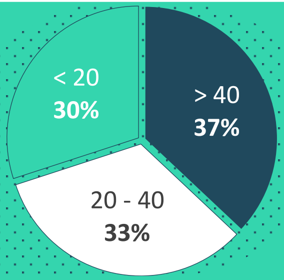
Who does NOT travel daily to the workplace/school?

USING LPT AT LEAST ONCE A MONTH

51% NO

49% YES

NUMBER OF TRIPS BY LPT IN A YEAR



LOCATION OF WORKPLACE/SCHOOL

11% in more municipalities

25% in municipality other than the one I live in

64% in municipality in which I live in

MAIN MEANS OF TRANSPORT

5% on foot

2% other

1% micro-mobility

11% bicycle

2% PTW

24% urban LPT

15% extra-urban LPT

40% private car

3 SURVEY RESULTS

PAY-PER-USE

PREFFERED PAYMENT METHOD

14% monthly charge to an associated card/ bank account

72% BIP card top-up according to actual use

INTERESTED

71% YES

29% NO

REASON FOR LACK OF INTEREST

8% other

18% I prefer to buy single tickets

43% I am happy with the subscription options already available

31% I am not using LPT for transport

There are no strong correlations between interest in Pay-per-use and **the characteristics of the parties** involved, however ...

- MALES SHOW MORE INTEREST THAN FEMALES
- INTEREST GROWS FOR THOSE RESIDING IN RURAL/ PERIPHERAL AREAS
- INTEREST DECREASES WITH INCREASE IN INCOME
- INTEREST DECREASES FOR THOSE WHO USE THE CAR AS A MODE OF TRANSPORT
- INTEREST DECREASES WITH INCREASE IN AGE

3 SURVEY RESULTS

MOBILITY AS A SERVICE

INTEREST IN A SINGLE BOOKING APP

- 11% No, there is no need.
- 31% Yes, but the apps I currently use are enough for me.
- 53% Yes, it would be very useful.
- 5% I don't know.

MOBILITY APP ON A SMARTPHONE

- 26% none
- 52% 1 – 2
- 18% 3 – 4
- 4% 5 +

WHO HAS AT LEAST ONE APP

TYPE OF APP

- 2% other
- 4% taxi services
- 39% LPT services
- 38% maps for routes
- 13% shared mobility services
- 4% parking services

AVERAGE APP USE

- 1% rarely
- 41% at least once a week
- 40% every day
- 18% occasionally (once a month)

3 SURVEY RESULTS

MOBILITY AS A SERVICE

Reasons for lack of interest in MaaS packages:

SKEPTICS

- 26% — The private car meets my mobility needs
- 24% — I autonomously combine the different means of transport and do not see convenience in MaaS
- 17% — LPT alone meets my mobility needs
- 14% — I don't want to depend on my smartphone to be able to make a transfer

OPEN-MINDED

- The private car/ LPT meets my mobility needs but I could consider using other means of transport — 11%

3 SURVEY RESULTS

MOBILITY AS A SERVICE

INTEREST IN SHARING THE MAAS PACKAGE WITH FAMILY MEMBERS

74% YES

26% NO

PREFERRED PAYMENT METHOD

31% monthly charge to an associated card/ bank account

69% BIP card top-up according to actual use

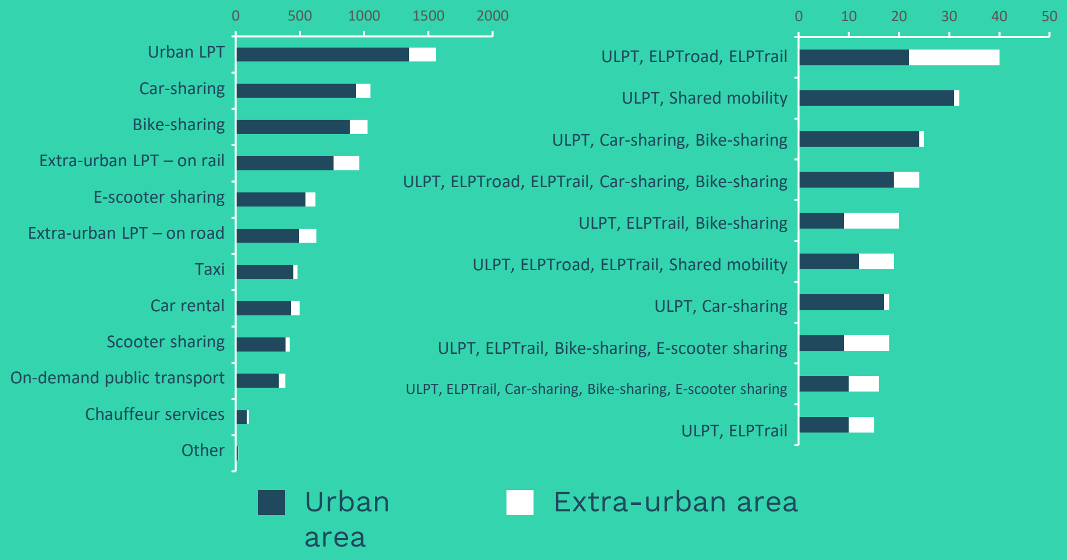
3 SURVEY RESULTS

MOBILITY AS A SERVICE

IDEAL MaaS PACKAGES

By mode of transport

By composition



There are no strong correlations between interest in MaaS packages and **the characteristics of the parties** involved, however ...

MALES SHOW MORE INTEREST

INTEREST DECREASES FOR THOSE RESIDING IN RURAL/ PERIPHERAL AREAS

INTEREST DECREASES WITH THE INCREASE IN INCOME

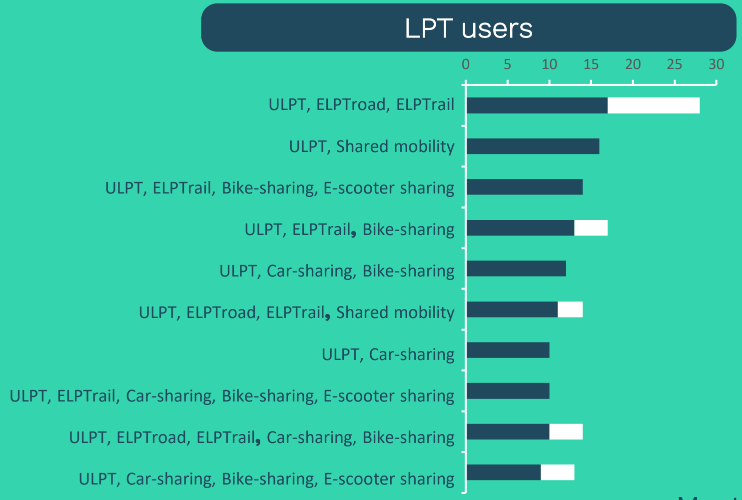
INTEREST DECREASES WITH INCREASE IN AGE

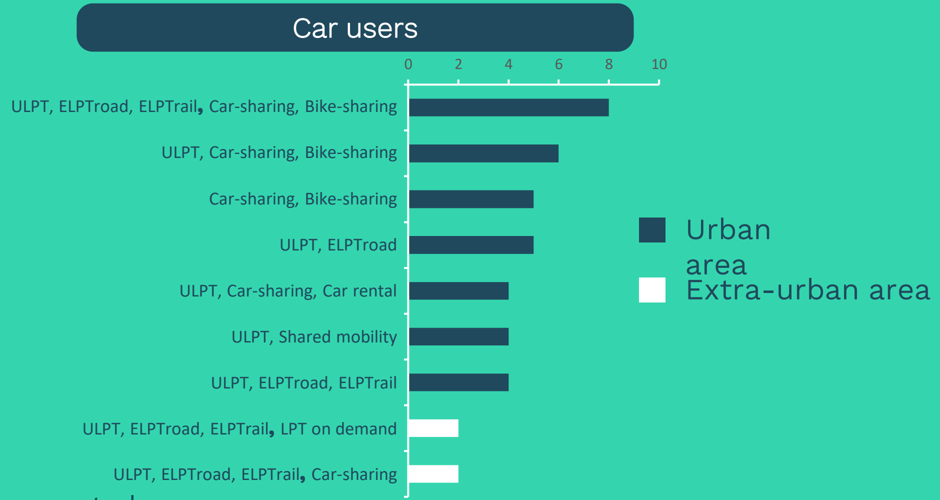
INTEREST DECREASES WITH THE USE OF THE CAR

3 SURVEY RESULTS

MOBILITY AS A SERVICE

IDEAL MaaS PACKAGES
LPT users VS Car users





Most requested packages

- All LPT services
- Urban and railway public transport + bike-sharing
- Urban LPT + shared mobility

- All LPT services + car and bike sharing services
- Urban LPT + car and bike sharing
- Car and bike-sharing
- Urban LPT + extra-urban LPT (on road)

3 SURVEY RESULTS

DISCRETE CHOICE EXPERIMENT - URBAN AREA

- The **perceived value** of MaaS packages **decreases** with the increase in cost and **increases** as the offered services grow.
- Consistently with literature, **urban local public transport** is the **most interesting** transport service among those proposed. **Micro-mobility**, **car rental** and **car sharing** follow.
- The **lowest value** is attributed to **extra-urban local public transport**, a reasonable result considering that the respondents live in urban areas and mostly move within their municipality of residence.
- The price was a **determining factor** of the packages' choice.

3 SURVEY RESULTS

DISCRETE CHOICE EXPERIMENT - URBAN AREA

ESTIMATED WILLINGNESS TO PAY (WTP)
willingness to pay for the services included in MaaS packages

- **Urban LPT** is the only service that is **adequately valued** or at least close to real values. In some cases, respondents are even willing to pay more than market prices.
- The extra-urban LPT, if included in the package, must be included at a "symbolic" cost, as it is valued far below the real prices.
- The **gap** between WTP and real price **increases** with the increase in the amount of services offered between **taxi/ chauffeur services**, **car rental and micro-mobility**. This can be interpreted as a lack of interest towards a large number of such services, but also as a desire to have services with a unit price that falls as the offer increases (in the proposed packages the unit cost has been kept constant. The only exception being unlimited LPT services).
- **Taxi/ chauffeur services and car rental** are services for which the user is willing to pay less than the market value. If included in packages, they must be **under-valued**.
- The values of **car sharing** and **micro-mobility** are closer to real prices.

3 SURVEY RESULTS

DISCRETE CHOICE EXPERIMENT – EXTRA-URBAN AREA

- The **perceived value** of MaaS packages **decreases** with the increase in cost and **increases** as the offered services grow.
- In line with what happens in the urban area, the **extra-urban local public transport** is the most interesting transport service. **Car rental and taxi / chauffeur services** follow.
- The price is no longer the main driver of the package choice, as in the urban case, but the relative importance shifts to the LPT service.

3 SURVEY RESULTS

DISCRETE CHOICE EXPERIMENT – EXTRA-URBAN AREA

ESTIMATED WILLINGNESS TO PAY (WTP):
willingness to pay for the services included in MaaS packages

- The **extra-urban LPT** is again the only service that is **adequately valued** and in general the participants are willing to pay more than market prices.
- As in the urban case, the **gap** between WTP and real price **grows** with the increase in the quantity of services offered between **taxi / chauffeur services and car rental**.
- For **taxi / chauffeur services and car rental**, the difference between the market value and the willingness to pay is confirmed, with greater evidence compared to the urban area.

4 CONCLUSIONS

Pay-for-use and MaaS SOLUTIONS RATING

- Pay-for-use and MaaS are very interesting solutions.
- For both, payment with a BIP card top-up based on actual use is indicated as a preference.
- Respondents expressed interest in a single booking App for MaaS mobility services.
- Another element of interest is the possibility of sharing the purchased MaaS mobility packages with other family members.

4 CONCLUSIONS

IDEAL MaaS PACKAGES

- The mobility packages preferred by respondents always include LPT as a basis.
- In urban areas, the package that includes urban LPT with all sharing services is especially required, followed by the one that includes urban LPT, car-sharing and bike-sharing (therefore excluding e-scooter and scooter).
- In extra-urban areas, the preferred package includes only and exclusively LPT services (urban and extra-urban road + rail services). The package consisting of urban LPT, rail services and bike-sharing follows.

4 CONCLUSIONS

IDEAL MaaS PACKAGES: LPT USERS VS CAR USERS

- LPT users always require the presence of urban LPT together with other public transport services and sharing services, prioritizing the bike sharing service.
- Car users show equal interest in urban and extra-urban LPT and sharing services, prioritizing the bike sharing and car sharing services.
- The preference of car users for LPT and car sharing services suggests that, if meeting their needs, car users would be willing to make a modal shift towards more sustainable modes of transport.

4 CONCLUSIONS

WILLINGNESS TO PAY (WTP)

The willingness to pay (WTP) decreases with the increase in the number of services, indicating a low interest in a large number of services offered, but also an interest in additional services only at a decreasing unit price:

- The LPT is the only service that is adequately valued: in some cases, respondents are also willing to pay more than the current rates.

- The gap between the willingness to pay for a service and its real price increases as the quantity of offered services grows, in particular for taxis/ chauffeur services, car rental and micro-mobility in urban areas. This can be interpreted as a lack of interest towards a large number of such services, but also as the desire to have services with a unit price that reduces as the offer grows.