UDM Tool - User characteristics

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INDIMO inclusive terminology: descriptions of user characteristics

To avoid misalignments, we suggest to distinguish three different levels:

1. **User profiles:** the specific users of each digital mobility service/application explored by each pilot project (i.e. Older people who receive/send parcels; Migrants or foreign people who receive/ send parcels; Vulnerable pedestrians; Informal ride sharing users; Healthy food delivery users; On demand ride sharing users).

2. [Vulnerable-to-exclusion] **User Characteristics:** describes the characteristics of users directly addressed by each pilot (e.g. older people, foreigners, rural residents in Emilia-Romagna; older people and PRM in Antwerp; ethnic minorities and women in Galilee; women in Berlin; PRM, women, older people in Madrid)

3. [Hidden] **User characteristics:** includes characteristics not directly addressed by pilots but mentioned in one or more pilots as *"hidden"* characteristics (e.g. caregivers in the Antwerp pilot). Such characteristics will not appear as separated ones, but are mentioned in the user characteristic description when applicable/appropriate.

PLEASE NOTE: this inclusive terminology only refers to user characteristics and not to user profiles. Descriptions have been developed taking into consideration how users' characteristics have been addressed in each pilot. The project website will include only the main user characteristics, which will be also included in all official project communication materials (e.g. brochure).

Older people

Globally, the population is ageing and the World Health Organisation (WHO) predicts that, by 2050, the population aged 60 years or more will double, whilst those aged 80 years or more will number 400 million persons.

The ageing process is not uniform across the population, there is no a “typical” older person. A large part of this diversity arises from people’s physical and social environments and the impact of these environments on their lifestyle, opportunities and health behaviours. Mobility opportunities are part of these facilitating or hindering environments.

From the travel behaviour perspective, older people have a quite varied routine compared to people who spend most of their day in schools or workplaces. When fully independent, mobility needs of the eldest are mainly linked to socialisation, pursuing their own interests and activities, caring for grandchildren and family support. Often, physical constraints affect travel behaviour and needs, especially when living alone and relatives are far away. The need to monitor personal health condition is another important factor affecting travel choices, therefore easy access to healthcare services and public facilities must not be

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neglected.

Circumstances and life conditions can evolve rapidly and the risk of social isolation and loneliness is deeply increased by poor mobility choices. In addition, frailest older adults may live in permanent or non-permanent reduced mobility conditions.

In the context of mobility services, new technology represents a powerful tool to help reduce loneliness and increase autonomy, since it gives older adults more self-reliance and connectedness. Differently in health-care services, technology if often perceived by users as a tool of isolation (e.g. distance-monitoring). Despite the increasing number of older adults accessing the web, a strong digital divide between older adults and younger people still exists. Moreover, an internal divide exists also among those who actively seek connection and those who are not interested or afraid of it. Older people are less keen to use new smartphones since they rather maintain routine gestures with the old ones. They are often not reached by a fast-speed connection, especially if they live in rural areas, or aren't aware of its benefits.

Understanding travel choices and use of digital mobility apps across age groups is of paramount importance to ensure solutions are designed to fit their needs. To this end, INDIMO will focus on services related with pedestrian mobility and with product delivery for this target group.

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Ethnic minorities

In the context of INDIMO the term ethnic minorities includes all people who permanently live in a multi-ethnic community. Cultural identity is an important factor influencing individual needs, travel choices, and travel distance. Depending on the size and typology of the built context, on the local multi-cultural mix and on the level of social cohesion, the severity of social exclusion may strongly vary. National and local policies are rarely able to provide equal access to social and economic opportunities and resources to minorities, and for transport services the same applies.

People whose religious or cultural beliefs limit their interaction with the social, physical or digital environment, especially when they are abroad or find

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themselves in an unfriendly or unfamiliar context also count as ethnic minorities. For people belonging to this category, barriers to the use of digital (and non-digital) mobility services can be related with the perceived fear of victimization while travelling, which influences travel needs and behaviour. Such fear can be related to real traumatic experiences or by actual insecurity due to contextual factors. When deciding about their mode choices ----and which routes to select- ethnic minorities must consider all odds. In particular, women and older people belonging to this group are those most affected by the lack of services addressing their need for personal safety.

Digital mobility services oftentimes do not target this group's needs, therefore potential users do not receive paramount information, causing higher isolation and fragmentation of the community.

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Foreign people

In the context of INDIMO the term foreign people includes people who settle in a host country that differs from their home country especially from the linguistic and cultural point of view. As for ethnic minorities, foreign people's cultural identity is an important factor influencing individual needs, travel choices, and travel distance.

For this group the main barrier to the use of digital (and non-digital) mobility services is represented by local language proficiency, excluding them from the related benefits and from participating in the local decision-making processes. Another barrier is the lack of access to online banking services due to the large amount of documentation required in most European countries. Such documentation hard to obtain both from host countries and from the countries of origin, preventing access to the digital payment options.

For the same reason foreigners with lower economic conditions can hardly afford to rent or buy houses in central or connected areas and encounter difficulties with the bureaucracy and contracts. Therefore, they often live in poorly served suburbs, both in terms of public transport and digital connectivity.

It has been observed that foreign people, especially migrants who have recently settled in a host country, are more likely to commute, walk and cycle compared to locals of the same age and broadly use digital technologies which allow them

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to keep social connections with their families and peers. Finally, it is worth mentioning the fact that care-givers often belong to this group, resulting in very specific mobility patterns and needs.

Understanding travel behaviour and use of digital mobility apps across different cultural groups is paramount to ensure solutions are designed to fit their needs.

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People living in peri-urban or rural areas

In the context of INDIMO this group represents all the people who encounter barriers to digital mobility services due to geographic conditions with poor access to transport infrastructure and/or to reliable digital network connections. In fact the overall digital connectivity, from the peri-urban areas towards rural areas the level of service tend to decline. This group not only includes those who permanently dwell in such areas, but also those who temporarily choose to live and/or work far from central areas for some reason.

It has to be noted that concerning needs and requirements there are differences among people living in peri-urban areas or rural areas. In terms of transport services peri-urban areas are usually poorly served by short-haul sharing mobility services and delivery services while accessibility to long-haul or mass-transit transport is quite accessible. Rural areas are poorly served by all transport services and the only available digital mobility services are mostly car-pooling services and route planners.

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Universidade NOVA de Lisboa,2019. Implications of Mobility as a Service (MaaS) in Urban and Rural Environments: Emerging Research and Opportunities (page 145)

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Lower educated people

Lower educated people may encounter barriers using digital mobility services in terms of understanding both features and terminology. Digital mobility applications may use technical jargons related either to the transport domain or to the digital innovation world, hampering full comprehension. Without appropriate guidance, complex procedures, long legal documentation and tricky gestures constitute barriers to people with a lower level of education.

As a corollary in Europe the average level of education is lower among people with lower economic conditions, minorities and women. Such fact may be linked with the insufficient support to equal access to education services. A lower level of education is one of the factors influencing the use of digital technologies, especially among older adults.

If coupled with low-digital skills, people belonging to this group hardly keep-up with the pace of new terminology related to technology and innovation, resulting in higher frustration when using digital services.

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Lower income people

Lower income people not only have difficulties keeping pace with innovative products, such as last generation smartphones since they are too expensive for them. They may also have no access to cashless payment methods as they are not eligible for bank account and/or credit/debit cards.

Speaking about services offering individual or on-demand transport options, they are generally more expensive (€/km) than the public transport options. Applications are free of charge, yet the actual use oftentimes only allows for cashless payments. As an example, in areas where mass transit offer is poor or the person needs a car trunk, there are no affordable options.

It has to be mentioned that in most countries lower income people do not have equal access to education, fair living conditions and social participation. That makes it even more difficult for them to take advantage of digital mobility services.

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People lacking digital skills

People lacking digital skills are people who for any reason have low familiarity with the digital world. Such people are hardly aware of available services and, in some cases, they are only familiar with devices which are not powerful enough to run latest digital mobility applications. As a consequence, compared to digitally skilled people, they may have a more limited knowledge about the surrounding transport network, since physical wayfinding and signage are slowly disappearing everywhere (e.g. city maps, front offices, info points) while the amount of online information is increasing.

On average older people belong to this group, therefore they must rely on the support of more skilled members of their family, peers or community in order to use such services.

In the context of INDIMO, new digital mobility services should ensure information is easily accessible also to people belonging to this group.

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Non-connected people

Non-connected people include both – people who are temporarily or situationally excluded (e.g. device lost), people who use digital technologies but do not carry smartphones, people who for same reason have no internet connection even though they carry a smartphone and people who are unwilling or unable to use digital technologies.

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On-site information access points (touchscreens, displays) in transport hubs or human support for shared mobility can in part mitigate the barriers these people face when they wish to use such services. Yet it may not be enough since the service itself should take care of diverse needs and skills: except those unwilling to use digital services at all, all others will be involved in the INDIMO research in order to identify their needs.

References:

https://en.unesco.org/sites/default/files/internet_universality_indicators_print.pdf

Women

Due to a persisting lack of interest in gender issues, the mobility services are not designed with a gender-inclusive approach. Literature confirms that in Europe, women use public transport more than men. This is mostly due to the economic gap resulting from women's primary care role and the impact this has on employment and socio-economic conditions.

Women as passengers of public transport have diverse needs regarding safety, security and comfort. Certain transit environments are rather avoided and frequently travel patterns change, in order to protect their own safety. Studies confirm that the majority of women have been exposed to different degrees of sexual harassment, other forms of unwelcome behaviour or ultimately physical aggression while using public transport services. This causes economic and social harm, thus inequality.

Women's mobility choices are more complex, often related to carrying luggage or accompanying other people (children, PRMs, elders).

Other differences concern, for example, the value given to travelling time: when possible it is used to perform small tasks and if under pressure, journeys can be considered as preparation time or used to organize personal life. As final consideration, for employed women, as for all people going to work, appearance is crucial: wearing business suites or heels can prevent taking in consideration active mobility as an option.

To this day, improving mobility is often equated with improving automobility - not the mobility of all people. These are issues INDIMO wants to address. In the INDIMO project work-life balance questions will be considered from a gender perspective, including cross-barriers such as religious and cultural habits. Involving women from different socio-cultural backgrounds will help to develop digital mobility services and facilitate a more equal transport offer.

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Caregivers

Care-giving activities and household-related journeys are under-evaluated by mobility planners and transport service providers. They involve not only women, but also men in helping other family or community members. As a reference term, according to Eurostat up to 25.8% of EU individuals working part-time suggest 'child and adult care reasons' as motivating their decisions.

The strategic design of digital mobility services is traditionally based on full-time work commutes only and multiple stop-overs are scarcely considered by most digital route-planning applications.

INDIMO will consider the daily mobility needs people who are in charge of caring tasks implying chained journeys (i.e. accompanying children and/or older adults, health care purposes, daily food shopping or "key life services" in general, that include trips to the supermarket, drugstore, family doctor, etc.). INDIMO will also support the development of digital and decision-making tools that facilitate this kind of mobility, which represents 40% of trip purposes worldwide.

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in-europe

People with reduced mobility (PRM) / People with reduced vision

This group includes every person whose mobility in transport is reduced due to any kind of impairment. Each impairment – be it temporary or permanent, physical, sensory, visual or cognitive – influences how the person interacts with the physical or digital context.

Depending on the severity of their condition, people with reduced mobility (PRM) may use public transportation in autonomy or with some kind of aid (a person or a device). In both cases, a higher level of guidance is needed to provide impaired people with appropriate information and access (low-floor vehicles, in-level access to stations, high-contrast screens, etc.), according to all special needs.

INDIMO will focus on multi-channeled messages, since depending on the specific condition or impairment people belonging to this group are excluded from mainstreamed information (e.g. visually impaired people cannot read visual-only maps).

Effective real-time information services (about traffic, public transport disruptions and infrastructure conditions) is paramount for PRMs, as they seldom travel alone to unfamiliar destinations. Currently such destinations are only reached if someone can assist and inform them about the specific context , offer support when barriers appear (physical or digital) and help identifying alternative itineraries. As an example in case of rerouting, PRM people have a very narrow set of choices, compared to most transport users. Digital solutions, despite being extremely cheaper to adapt than physical infrastructures, rarely offer specific support in this sense.

Caregivers should also be involved in the design of such specific solutions, since they are often those who help PRMs to overcome barriers, also with digital applications.

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Socially isolated people

This group includes all those people who, for any reason, live an objective situation of absence of social relations and contact with others. Social isolation can lead to loneliness and vice versa. They are different but related concepts and they may occur at the same time.

Loneliness is an important influence on quality of life. It concerns the discrepancy between the social relations a person has and those he or she would

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like to have. This discrepancy may tell of the number of relationships or the intimacy of the relationships.

According to the literature, loneliness consists of two main dimensions, social and emotional. In the INDIMO project, the focus in on social loneliness, a concept that can vary across different life stages, social groups, cultures and historical periods. It refers to the absence of an acceptable social network, that is, a wider circle of friends and acquaintances that can provide a sense of belonging, of companionship and of being a member of a community.

With a limited access to mobility services – because of socio-economical, cultural, or physical reasons – a social participation is hardly possible. In the context of the INDIMO project the specific needs of people belonging to this group will be addressed and digital mobility and delivery services solutions to mitigate isolation will be identified.

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Covid-19 confined people

Since beginning of year 2020 and for all the duration of the pandemic situation created by the COVID-19 outbreak, people belonging to this group are affected by mobility restrictions imposed by governments and health authorities to preserve public health and prevent infection.

The Covid 19 confined group of people includes people with none or reduced number of daily trips allowed out of home. Confinement due to COVID-19 restrictions distinguishes between isolation (separates sick people with a contagious disease from people who are not sick) and quarantine (separates and restricts the movement of people who were exposed to a contagious disease).

In the context of the INDIMO project the specific needs of people belonging to this group will be addressed and digital delivery solutions to mitigate the negative impacts of being confined will be identified. Concretely, when one

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contangoed person lives alone and cannot go out, s/he may need a care giver's support for her/his basic needs (i.e., food and medicaments, shopping and waste disposal). However, when the contangoed person is living with other family members, the support needed for respecting quarantine rules is potentially increased. Digital Delivery Solutions have become essential to maintain acceptable living standards during pandemic time.

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