



Promotion of sustainable mobility requires targeting specific mobility lifestyles

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**Funded by the
European Union**
NextGenerationEU



**Transformative
Cities**

This policy handbook was created as part of the Transformative Cities project in partnership with the City of Lahti and published on the Transformative Cities <https://transformative-cities.eu/> website in January 2025. Transformative Cities has received funding from the European Union – NextGenerationEU instrument in partnership with the Research Council of Finland under grant number No 352943.



Need for sustainability transformations in mobility

Concerns regarding problematic environmental and social externalities of mobility have been emerging in car-oriented societies, and sustainability transformations within the mobility sector are elusive due to increasing passenger travel activity – especially by private car (EEA, 2024). In Finland, 55% of total trips were traveled by a private car in 2023, and even citizens living in inner urban areas made 35% of their trips by a car (EEA, 2022; Traficom, 2024). While a range of techno-oriented solutions (e.g. electrification of cars) are required, they fail to holistically account for the problems of driving, such as physical inactivity, road safety, and amount of urban space occupied by roads. Further, as a consequence of urban design supporting lock-in behavior and practices¹ it is hard to compete with the freedom and effortlessness of movement private cars provide (Bertolini and Le Clercq, 2003; Akenji and Chen, 2016).

Sustainability transformations in mobility are, however, urgently needed and are guided by the ‘avoid, shift, improve’ (ASI) framework. According to this framework, instead of ‘improving’ vehicle technologies, we should first ‘avoid’ mobility (both trips and trip lengths) and, most importantly, **‘shift’ to more sustainable modes of transport, such as walking, cycling, or public transit.** Involving citizens is essential to understand how this shift could take place and which groups of citizens already have a lifestyle that embraces sustainable modes of transportation, and who could be nudged to such a behavior.

Understanding citizen’s mobility lifestyles and strategically utilizing this knowledge may give valuable leverage for transport and land-use planning. Mobility lifestyles are a product of personal characteristics, such as attitudes, preferences, socio-demographics, mobility options, mode choices, and residential location. Based on the understanding on these profiles, planners and decision-makers can identify targeted, lifestyle-specific mobility management strategies and other means to support sustainable mobility choices.

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¹ Lock-in refers to established consumer behaviour and practices resulting from culture, infrastructure, and other dominant societal circumstances.



How Were Lifestyle Profiles Studied?

Mobility lifestyles were studied within Transformative Cities project utilizing Maptionnaire² survey data of 4091 Finnish citizens living in the cities of Oulu, Lahti, and Espoo. The study subjects gave responses to a series of statements assessing their attitudes towards and preferences for mobility and housing. Based on the responses to the statements, a group of latent factors were identified (Figure 1) and used to group study subjects according to factor loadings. Further examination of statistically significant differences in respondents' socio-demographic background, perceived health, residential location, mobility options, and mobility behaviour for everyday travels across the groups resulted in the identification of distinct mobility lifestyle profiles.

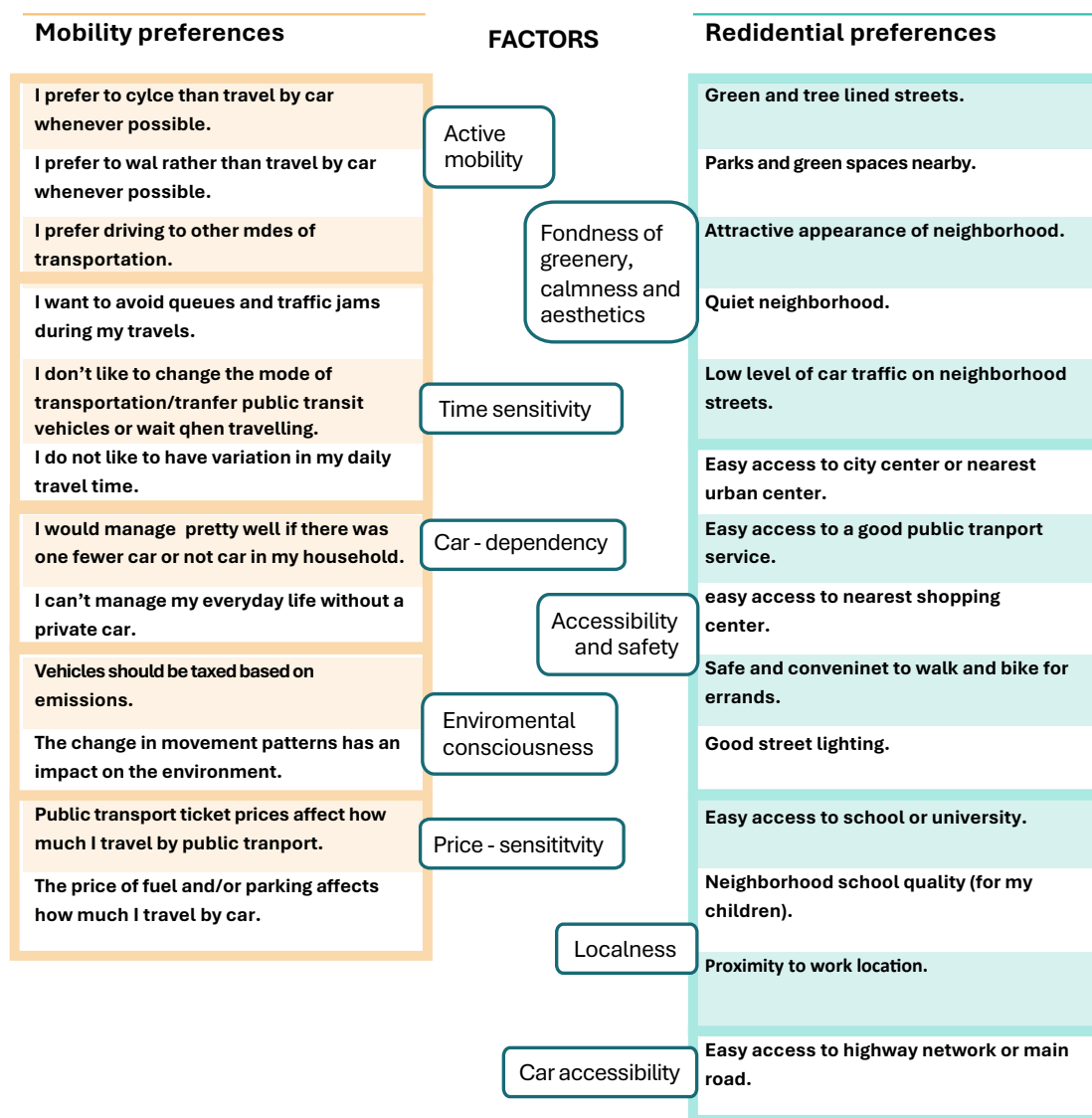


Figure 1. Latent factors derived from the attitude and preference statement responses in the city of Oulu.

² Maptionnaire is an online platform used for citizen engagement, based on public participation GIS technology.



Mobility lifestyle profiles are distinct but have uniform patterns across the cities

Six distinct mobility lifestyle profiles (Figure 2) were identified across the cities. These are:

1. Car-oriented neighborhood impartialists
2. Car-oriented suburbanites
3. Multimodal liveability enthusiasts
4. Pro-sustainable multimodals
5. Multimodal urbanites
6. Unhurried multimodals

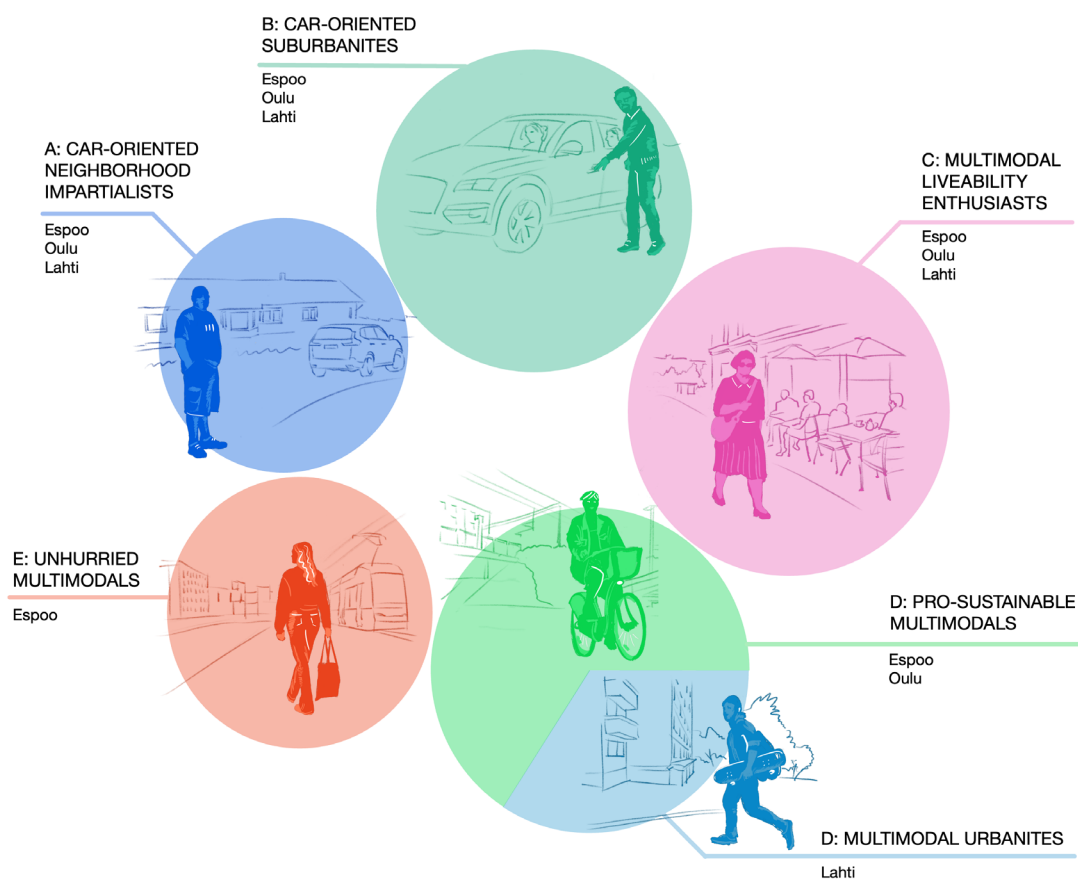


Figure 2. Mobility lifestyles identified in the cities of Espoo, Oulu, and Lahti.



Although each city has slightly distinct set of lifestyle profiles, the research underscores the uniform patterns between the cities. We hypothesize that similar patterns repeat in other Finnish cities with more than 100,000 inhabitants. Each profile has distinctive key characteristics: Within the two identified car-dependent lifestyle profiles – ‘car-oriented neighborhood impartialists’ and ‘car-oriented suburbanites’ – the informants more often live outside central urban areas and reach majority of everyday destinations by private car. ‘Car-oriented neighborhood impartialists’ are typically male and have reduced perceived health, and they are the least interested in neighborhood qualities. ‘Car-oriented suburbanites’ represent typically households with children and are quite satisfied with their life.

Informants in the four identified multimodal profiles are living in more central locations within the cities with intensive public transit services. Walking to everyday places is especially popular within female-dominant ‘multimodal liveability enthusiasts’ – a profile in which the informants are especially fond of residential area qualities such as aesthetics, safety, and accessibility, and they appreciate short distances to everyday destinations. ‘Pro-sustainable multimodals’ are the least car-dependent citizens, and they are more often in good physical condition. Multimodal urbanites have neutral mobility preferences, and they are typically young adults and students living in urban areas. ‘Unhurried multimodals’ are represented by adolescents, young adults, and elderly, and they are the keenest to travel by public transit.

Overall, the findings suggest modal choices could be predicted by urban zone of residence, travel preferences, and car-ownership. **Environmental consciousness, positive attitudes towards active mobility, car-independent thoughts, and living in central areas are likely to increase the use of sustainable transport modes.**

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Actions supporting sustainable mobility lifestyles

Understanding mobility lifestyles, that is, how attitudes and preferences, socio-demographics, and mobility options are intertwined with physically active mobility or car-dependency can unlock various ways of intervening urban planning and policy. ***It is important to simultaneously enable transitions away from car-dependency and reinforce already existing active mobility practices, and to develop cooperation between urban and transportation planning and other sectors of the city.*** The following actions are identified as essential to support this:

1) Develop attractive built environment for active mobility

Urban densification and mixed land-use within central or intensive transit zones reduces travel demand and encourages the use of active travel modes and, thus, is a key measure to reduce car-dependency (Karjalainen *et al.*, 2023). Infrastructure interventions, such as developing high-quality walking and cycling environments with enhanced maintenance, improving public transit services, and establishing car-free urban areas enable sustainable mobility choices. Neighborhood qualities, such as greenery and calm traffic environments can make active mobility – especially walking – more appealing for certain lifestyles.

2) Master soft policies that nudge each mobility profile towards sustainable behavior

Human actions are driven by norms, social constructs, habits, and emotions – which can be utilized to steer behaviour. Using various types of nudges – subtle pushes towards more sustainable choices without limiting the freedom of choice – can be used to steer mobility behavior. In cities, altering the mobility habits can be approached with lifestyle-specific nudges, which can highlight, for example, health or economic advantages.

3) Tell alternative stories of mobility

Alternative narratives are one way to challenge normative mobility practices (Freudendal-Pedersen, 2020). For example, car ownership is frequently considered essential in everyday life, particularly for families with children. Instead of focusing on the disadvantages of driving, narratives that promote car-free lifestyles and active travel as part of sustainable mobility lifestyle in urban settings are needed.

4) Develop cooperation with health and education sector

Developing cooperation between public sector agencies may unlock new prospects of promoting sustainable travel modes. For example, integrating the promotion of active mobility with healthcare interventions and education from early childhood (e.g., in health clinics and schools) has significant potential to enhance sustainable mobility, improve public health, and yield fiscal benefits.





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Funded by the
European Union
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For more information

Transformative Cities has received funding from the European Union – NextGenerationEU instrument and is funded by the Academy of Finland under grant number 352943.

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