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Sprout

Sustainable Policy RespOnse to Urban mobility Transition

D2.3: Urban Mobility Transition Drivers

Work package:	WP 2 - Understanding transition in urban mobility
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SPROUT Project Profile

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Glossary of terms and abbreviations used

Abbreviation / Term	Description
AFC	Automated Fare Collection
BKK	Budapesti Közlekedési Központ / Centre for Budapest Transport
BMT	Budapest Mobility Plan
CERTH	Centre for Research and Technology Hellas
EU	European Union
GA	Grant agreement
IoT	Internet of Things
HS2	High Speed 2
KPI	Key performance indicator
LRT	Light rail transport
MaaS	Mobility as a Service
MT	Million Tonnes
NTLP	National Territory Landscaping Plan
SPROUT	Sustainable Policy Response to Urban Mobility Transition
SULP	Sustainable Urban Logistics Plan

TAP	Transport Action Plan
TD	Transition Driver
UCC	Urban Consolidation Centre
UK	United Kingdom
USA	United States of America
VUB	Vrije Universiteit Brussel
WP	Work Package
ZLC	Zaragoza Logistics Center

1 Executive Summary

The goal of SPROUT is to generate innovative policy responses to the challenges presented by the emergence of digitally-enabled business models, new mobility patterns and corresponding travel/transport behaviour/decisions, pursuing a city-led approach. This deliverable presents the results of SPROUT Task 2.3: “Urban Mobility Transition Drivers” and therefore provides an overview of the urban mobility transition drivers and the level of importance that was assigned to them by each of the SROUT cities. The city-specific sets of locally important drivers are essential in the construction of city-specific scenarios, which forms the core of WP3. The document also gives an overview of the locally relevant stakeholders to be mostly affected by (or affecting) the emerging mobility solutions that each city selected. They are the ones, who will be consulted in various stages of the SPROUT project, such as the construction of narrative scenarios in WP3.

A comparative analysis of the importance of drivers shows that the considered importance of drivers differs significantly from city to city, and that most drivers are considered ‘very’ or ‘extremely important’ for at least one city. On average, the drivers ‘political agenda’ ‘urban structure’ ‘climate change’ and ‘local environmental quality’ are considered the most important, while ‘security concerns’ and ‘individualisation’ are not considered more than moderately important by any of the cities

2 Introduction

2.1 SPROUT project introduction and aims

SPROUT provides a new city-led innovative and data driven policy response to address the impacts of the emerging mobility patterns, digitally-enabled operating and business models, and transport users' needs. Previously tested and implemented policy responses employing access restrictions, congestion charging or infrastructure provision, seem unable to adequately address the changes underway in the urban mobility scene. Furthermore, any policy response should take into account all stages of the policy lifecycle and should have an eye not only to the present, but also to the future.

Therefore, starting from an understanding of the transition taking place in urban mobility, SPROUT will help to:

- define the resulting impacts at the sustainability and policy level,
- harness these through a city-led innovative policy response,
- build cities' data-driven capacity to identify,
- track and deploy innovative urban mobility solutions, and
- navigate future policy by channelling project results at the local, regional, national and EU level.

To achieve its goals, SPROUT will employ 6 city pilots with real-life policy challenges faced as a result of urban mobility transition in both passenger and freight, covering urban and peri-urban areas, different emerging mobility solutions, and context requirements.

The project pays special attention to the needs of vulnerable groups and users with different cultural backgrounds, also taking gender issues into account. SPROUT ensures an active participation of numerous representatives from local and regional authorities through a 3-layer structure of cities' engagement approach, and through the creation of an Open Innovation Community on Urban Mobility Policy.

2.2 Aim of the deliverable

The first phase of the SPROUT project is dedicated to constructing a general overview of the cities' current status with regard to urban mobility and logistics. The goal of this deliverable is to present an overview of the urban mobility transition drivers that are considered relevant by each of the 1st and 2nd-layer SPROUT cities in contributing to the urban mobility transition. It also outlines the city-specific stakeholders that will be involved in various stages of the SPROUT project, such as the construction of urban mobility scenarios in WP3. It therefore presents the results of a survey that was conducted among the cities using the template that can be found in the annex of this document.

2.3 How this deliverable relates to other deliverables

This deliverable presents the results of task 2.3 ‘Urban Mobility Transition Drivers’. It builds further on the results of task 2.1 ‘Urban mobility transition inventory’, which were presented in D2.1, i.e. the definition of universally relevant urban mobility transition drivers and the template that was used for the survey among the SPROUT cities. The results presented in this deliverable will be essential in WP3, where city-specific urban mobility scenarios will be constructed, based on the sets of locally identified relevant drivers. The stakeholders identified for this task will be consulted in several later stages of the project, including the co-creation of scenarios (T3.1), stakeholder-based assessment of the prioritisation of alternative policy responses (T4.4), validation of pilots (T5.1), and building cities’ policy making capacity (T6.4).

2.4 Structure of the deliverable

The following section first describes the methodology of the data collection. This is followed by a presentation of the drivers and their considered level of importance, as well as the selection of locally relevant stakeholders for each city as well as the methods the cities used for capturing this information. At the end of the document, this information is summarised in a comparative table, followed by the conclusions. The template filled in by the cities can be found in the annex.

3 Methodology

3.1 Selection and assessment of the importance of drivers

In an earlier phase of the work package (task 2.1), the urban mobility transition drivers were identified following the PESTEL approach (Social, Technological, Economic, Environmental, Political, and Legal) to trend analysis (figure 3.1.1). This is a framework used to analyse and monitor the macro-environmental factors that may have a profound impact on an organisation or other entity. It includes both demand- (e.g. customer requirements) and supply-oriented (e.g. mobility innovations) drivers. For the selection and description of the drivers and their potential impacts on mobility, earlier EU projects such as Mobility4EU, TRANSFORuM NOVELOG, and CITYLAB were reviewed and complemented by various academic and policy documents. The main selection criterion was identified in the relevance of such drivers to urban mobility transition in the European context.

Political	Economic	Social	Technologi-cal	Environmen-tal	Legal
P1: LIberalization	Ec1: New employment arrangements as a result of the sharing economy	S1: Migration	T1: Electrification of mobility	En1: Climate change	L1: Labour and employment laws
P2: Political agenda	Ec2: Tourism	S2: Urban structure	T2: Adoption of smart-city technology	En2: Local environmental quality	L2: Consumer protection laws
P3: Transparency and corruption	Ec3: New business models	S3: Demographic composition	T3: Citizen & consumer-oriented digititalization		L3: Data and privacy laws
P4: Tax policy	Ec4: Economic growth and crisis	S4: Health consciousness	T4: Automation		L4: Health and safety laws
tizen & economic actors participation	Ec5: Transfor-mation of retail	S5: Changing behaviour towards car ownership			
		S6: Environmental consciousness			
		S7: Safety Concerns			
		S8: Security Concerns			
		S9: Individuali-zation			
		S10: The requirement for on-demand delivery			

Figure 3.1.1. PESTEL categorisation of drivers.

This resulted in a catalogue of drivers (see Deliverable D2.1) that was sent to and used by the SPROUT cities in task 2.3 to identify city-specific drivers, including instructions on the following methods for the selection of drivers and stakeholders:

a) analysis of internal documents and communications (within the city council, transport authority etc.);
b) expert interviews;
c) focus group discussions with local urban mobility stakeholders;
d) media analysis.

In a template, the local representatives of the cities indicated the importance of each of the drivers in the city-specific context, indicating the methods and documents that they used in the process. The level of importance was stated using a predefined 5-point scale that includes the options ‘not important’, ‘slightly important’, ‘moderately important’, ‘very important’ and ‘extremely important’.

3.2 Selection of stakeholders

In the SPROUT project, stakeholders are consulted in several later stages of the project, such as: co-creation of scenarios (T3.1), stakeholder-based assessment of the prioritisation of alternative policy responses (T4.4), validation of pilots (T5.1), and building cities’ policy making capacity (T6.4). The identification of stakeholders is based on the central question: ‘who affects or is affected by the urban mobility transition?’ Based on this question and previous EU projects carried out by the SPROUT partners (e.g. CITYLAB and MOBILITY4EU), a generic list of stakeholders was compiled (see deliverable D2.1). In task 2.3, the resulting generic list was used by the cities to identify city-specific stakeholders. Special attention was requested for the inclusion of vulnerable groups, but also for the inclusion of stakeholders that either emerge for the first time (e.g. operators of free-floating mobility services, start-ups etc.) or stakeholders assuming different roles from their traditional ones (e.g. public transport operators participating in sharing platforms).

4 Urban mobility transition drivers in 1st - layer SPROUT cities

The 1st -layer cities are those where the project use cases (pilots) will run, the sustainability and policy impacts of innovative or emerging transport solutions will be assessed, and city-specific policy responses to harness these impacts will be tested and assessed. These cities include: Valencia (Spain), Padova (Italy), Kalisz (Poland), Budapest (Hungary), Tel Aviv (Israel), and Ningbo (China). For organisational reasons, this last city could not provide the input required for this deliverable.

4.1 Valencia (Spain)

4.1.1 Drivers and stated level of importance

Table 4.1. Drivers and stated level of importance Valencia

Name of driver	Level of importance	Explanation
Political Drivers		
P1: Liberalization	Moderately important	
P2: Political agenda	Extremely important	
P3: Transparency and corruption	Extremely important	There is a specific sub-area of the city council dealing with these issues.
P4: Tax policy	Very important	
Economic Drivers		
Ec1: New employment arrangements	Very important	
Ec2: Tourism	Very important	
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Extremely important	
Ec4: Economic growth and crisis	Very important	
Ec5: Transformation of retail	Very important	
Social Drivers		
S1: Migration	Very important	
S2: Urban structure	Very important	

S3: Demographic composition	Moderately important	
S4: Health consciousness	Moderately important	
S5: Changing behaviour towards car ownership	Very important	
S6: Environmental consciousness	Very important	
S7: Safety Concerns	Moderately important	
S8: Security Concerns	Moderately important	
S9: Individualization	Moderately important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Moderately important	
Technological Drivers		
T1: Electrification of mobility	Very important	
T2: Adoption of smart-city technology	Very important	
T3: Consumer- and citizen-oriented digitalization	Very important	
T4: Automation	Slightly important	
Environmental Drivers		
En1: Climate change	Very important	
En2: Local environmental quality	Very important	
Legal Drivers		
L1: Labour and employment laws	Very important	
L2: Consumer protection laws	Moderately important	
L3: Data and privacy laws	Moderately important	
L4: Health and safety laws	Moderately important	

4.1.2 Selected stakeholders to be involved in SPROUT

Table 4.2. Selected stakeholders Valencia

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	**Local level**: Valencia city council (www.valencia.es) • Area of sustainable mobility and public space (General coordinator Mr Giuseppe Grezzi) • Area of urban ecology, climate change and energy transition (General Coordinator Mr Sergi Campillo Fernández) • Area of urban development and housing (General coordinator Ms Sandra Gómez) **Regional level**: Valencia Region Government (www.gva.es) • Area of agriculture, rural development, climate change and ecological transition (General coordinator Ms Mireia Mollà Herrera) • Area of housing and bioclimatic architecture (General coordinator Mr Rubén Martínez Dalmau) • Area of public works and mobility (General coordinator Mr Arcadi España García)
Public Services	
Police	Valencia city local police body. This stakeholder is responsible for law enforcement.
Emergency services	Civil Protection and Fire Fighting teams (local emergency number: 112) http://www.valencia.es/ayuntamiento/bomberos.nsf/vDocumentosTituloAux/Portada?opendocument&lang=1&nivel=1

Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Local bus company: EMT (https://www.emtvalencia.es/ciudadano/index.php?lang=en) Metro and tram: Ferrocarrils de la Generalitat Valenciana (FGV) (https://www.metrovalencia.es/wordpress_en/?page_id=14)
Operators of national or regional transport services (train, long-distance bus)	Passengers railway company: Renfe (www.renfe.es) Long-distance bus operators: • ALSA (https://www.alsa.es/en/) • Avanza (https://www.avanzabus.com/)
Conventional taxi companies	
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	**Car sharing**: Cabify. Since June 2019, there is only one company offering its services in Valencia, because Uber ceased operations after a new legislation came into force regarding the need to book taxi services 15 minutes in advance. https://valenciaplaza.com/UbersevadeValnciamientrasCabifysiguetrassortearlanormadelConsell **Bikes**: Valenbisi (http://www.valenbisi.com/) **Motorbikes**: Currently, there are six companies offering these services: Muving, Molo, Yego, Blinkee, eCooltra and Acciona Motosharing.
- Peer-to-peer platforms that provide a platform for individuals to share	Blablacar

vehicles or provide services (e.g. ride sharing): - Carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	
Platform-based taxi services (Uber, Lyft)	Cabify (https://cabify.com/es/spain/valencia)
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	
Mobility as a Service providers (e.g. Citymapper)	App Turismo Valencia
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	Centrol de control de trafico del Ayuntamiento Grupo EtraOther providers
Energy providers	
Petrol station owners	BP
Electricity providers	Naturgy Endesa
Providers of electric vehicle charging points	Not available yet.
Urban Logistics	
None or not yet selected - to be clarified	
Vehicle manufacturers (when relevant locally)	
None or not yet selected - to be clarified	
Users	
None or not yet selected - to be clarified	
Residents	
None or not yet selected - to be clarified	
Local businesses	

None or not yet selected - to be clarified

4.1.3 Methods used

Table 4.3. Methods used Valencia

Methods	
Consulted internal documents	• CPS and FVET (2018), Estudio de la distribución urbana de mercancías en la ciudad de Valencia y propuestas de actuación (Study on the urban distribution of goods in the city of Valencia and action proposals). • Ayuntamiento de Valencia (2013), Plan de movilidad urbana sostenible de Valencia.[1] (Sustainable urban mobility plan of Valencia)
Media	
Meetings, interviews, focus groups	(*) Meeting Fundacion Valenciaport and City Hall of Valencia Date: 6th November 2019

4.2 Padua (Italy)

4.2.1 Drivers and stated level of importance

Table 4.4. Drivers and stated level of importance Padua.

Name of driver	**Level of importance**	**Explanation**
Political Drivers		

[1] http://www.ayto-valencia.es/ayuntamiento/trafico.nsf/vDocumentosTituloAux/13E8AC560711B1ADC1257C5B0041648A?OpenDocument&bdOrigen=ayuntamiento%2Ftrafico.nsf&idapoyo=&lang=1&nivel=6

P1: Liberalization	Moderately important	
P2: Political agenda	Very important	
P3: Transparency and corruption	Extremely important	
P4: Tax policy	Moderately important	
Economic Drivers		
Ec1: New employment arrangements	Very important	
Ec2: Tourism	Moderately important	
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Very important	
Ec4: Economic growth and crisis	Moderately important	
Ec5: Transformation of retail	Very important	
Social Drivers		
S1: Migration	Slightly important	
S2: Urban structure	Very important	
S3: Demographic composition	Slightly important	
S4: Health consciousness	Moderately important	
S5: Changing behaviour towards car ownership	Moderately important	
S6: Environmental consciousness	Very important	
S7: Safety Concerns	Moderately important	
S8: Security Concerns	Slightly important	
S9: Individualization	Slightly important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Very important	
Technological Drivers		

T1: Electrification of mobility	Very important	
T2: Adoption of smart-city technology	Very important	
T3: Consumer- and citizen-oriented digitalization	Moderately important	
T4: Automation	Very important	
Environmental Drivers		
En1: Climate change	Moderately important	
En2: Local environmental quality	Extremely important	
Legal Drivers		
L1: Labour and employment laws	Slightly important	
L2: Consumer protection laws	Not important	
L3: Data and privacy laws	Very important	
L4: Health and safety laws	Very important	

4.2.2 Selected stakeholders to be involved in SPROUT

Table 4.5. Selected stakeholders Padua

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	Municipality of Padua and its departments for local level At metropolitan and regional level, there are other bodies (Different departments)
Public Services	
Police	At national level: Polizia di Stato, Carabinieri At local level: police

Emergency services	Croce Verde, emergency first responders.
Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Busitalia (Ferrovie dello Stato)
Operators of national or regional transport services (train, long-distance bus)	Trains: Trenitalia (Ferrovie dello Stato) + Italo Buses: many operators
Conventional taxi companies	
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	Mobike (Bikes) GoodBike (Bicincittà) (Bikes) APS Holding (cars)
Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g.Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	Blablacar Flootta
Platform-based taxi services (Uber, Lyft)	Uber, TaxiPadova
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	Google Maps, Waze, TomTom, Maps IOS
Mobility as a Service providers (e.g. Citymapper)	---
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart	Wip, a Regional App for smart parking

parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	
Energy providers	
Petrol station owners	Multiple providers: e.g. Eni, ERG, Q8
Electricity providers	Multiple providers: ENEL, ACEGAS, private providers,
Providers of electric vehicle charging points	NA
Urban Logistics	
Logistics service providers (delivery, warehousing, consolidation centers)	55 operators
Local businesses (shippers and receivers of goods)	NA
Vehicle manufacturers (when relevant locally)	
Cars	NR
Public transport (trains, trams, buses)	NR
Bicycles	NR
New and innovative means of transport	NR
Users	
Travellers' associations	
- Public transport passengers' associations	NA
- Drivers' associations	NA
- Cyclists' and pedestrians' associations	Associazione Amici della Bicicletta
Representatives of vulnerable groups	

- representatives of physically vulnerable (disabled, elderly, …)	Lot of associations, foundations
- socio-economically vulnerable groups (poor, ethnic minorities, immigrants, etc.)	Lot of associations
Residents	
Civil society organisations representing residents (e.g. neighbourhood committees)	Neighbourhood committees
Local businesses	
Federations of business owners (e.g. chamber of commerce)	Chamber of commerce

4.2.3 Methods used

Table 4.6. Methods used Padua

Methods
No data provided yet - to be clarified

4.3 Kalisz (Poland)

4.3.1 Drivers and stated level of importance

Table 4.7. Drivers and stated level of importance Kalisz

Name of driver	**Level of importance**	**Explanation**
Political Drivers		
P1: Liberalization	Moderately important	
P2: Political agenda	Moderately important	
P3: Transparency and corruption	Slightly important	

P4: Tax policy	Very important	
Economic Drivers		
Ec1: New employment arrangements	Moderately important	
Ec2: Tourism	Very important	
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Very important	
Ec4: Economic growth and crisis	Very important	
Ec5: Transformation of retail	Very important	
Social Drivers		
S1: Migration	Very important	
S2: Urban structure	Very important	
S3: Demographic composition	Extremely important	
S4: Health consciousness	Moderately important	
S5: Changing behaviour towards car ownership	Extremely important	
S6: Environmental consciousness	Very important	
S7: Safety Concerns	Very important	
S8: Security Concerns	Not important	
S9: Individualization	Moderately important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Slightly important	
Technological Drivers		
T1: Electrification of mobility	Very important	
T2: Adoption of smart-city technology	Very important	
T3: Consumer- and citizen-oriented digitalization	Very important	

T4: Automation	Slightly important	
Environmental Drivers		
En1: Climate change	Very important	
En2: Local environmental quality	Extremely important	
Legal Drivers		
L1: Labour and employment laws	Slightly important	
L2: Consumer protection laws	Slightly important	
L3: Data and privacy laws	Slightly important	
L4: Health and safety laws	Moderately important	

4.3.2 Selected stakeholders to be involved in SPROUT

Table 4.8. Selected stakeholders Kalisz

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	• City of Kalisz – City Development Department • Municipal Road and Transport Administration • Oświetlenie uliczne I drogowe Sp. z o.o.(Street lighting company)
Public Services	
Police	• Municipal Police • Paid Parking Zone management office
Emergency services	
Conventional public transport operators	
None or not yet selected - to be clarified	
'New mobility' providers	
None or not yet selected - to be clarified	

Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	
Mobility as a Service providers (e.g. Citymapper)	
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	ILiM own sources
Energy providers	
None or not yet selected - to be clarified	
Urban Logistics	
Logistics service providers (delivery, warehousing, consolidation centers)	Logistics Service Providers who offer their delivery services in the city of Kalisz
Local businesses (shippers and receivers of goods)	Receivers of goods located within the study area
Vehicle manufacturers (when relevant locally)	
None or not yet selected - to be clarified	
Users	
None or not yet selected - to be clarified	
Residents	
None or not yet selected - to be clarified	
Local businesses	
Federations of business owners (e.g. chamber of commerce)	Members of the Kalisz Business Incubator Foundation Regional Chamber of Commerce

4.3.3 Methods used

Table 4.9. Methods used Kalisz

Methods	
Consulted internal documents	Plan Gospodarki Niskoemisyjnej dla Miasta Kalisza
Media	Uzupełnienie planu gospodarki niskoemisyjnej dla miasta Kalisza o element zrównoważonej mobilności miejskiej
Meetings, interviews, focus groups	Strategia Rozwoju Miasta Kalisza na lata 2014-2024
Name and affiliation of participants.	Okresowy raport sprawozdawczy z realizacji Strategii Rozwoju Miasta Kalisza na lata 2014-2024, raport za rok 2019 (Periodic report from the realization of the development strategy of Kalisz city for the years 2014-2024, report for the year 2019)

4.4 Budapest (Hungary)

4.4.1 Drivers and stated level of importance

Table 4.10. Drivers and stated level of importance Budapest

Name of driver	**Level of importance**	**Explanation**
Political Drivers		
P1: Liberalization	Not important	
P2: Political agenda	Moderately important	
P3: Transparency and corruption	Moderately important	
P4: Tax policy	Slightly important	
Economic Drivers		

Ec1: New employment arrangements	Moderately important	
Ec2: Tourism	Very important	
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Slightly important	
Ec4: Economic growth and crisis	Moderately important	
Ec5: Transformation of retail	Slightly important	
Social Drivers		
S1: Migration	Not important	
S2: Urban structure	Extremely important	
S3: Demographic composition	Moderately important	
S4: Health consciousness	Moderately important	
S5: Changing behaviour towards car ownership	Slightly important	
S6: Environmental consciousness	Very important	
S7: Safety Concerns	Very important	
S8: Security Concerns	Slightly important	
S9: Individualization	Slightly important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Not important	
Technological Drivers		
T1: Electrification of mobility	Very important	
T2: Adoption of smart-city technology	Slightly important	
T3: Consumer- and citizen-oriented digitalization	Very important	
T4: Automation	Slightly important	
Environmental Drivers		

En1: Climate change	Extremely important	
En2: Local environmental quality	Very important	
Legal Drivers		
L1: Labour and employment laws	Moderately important	
L2: Consumer protection laws	Very important	
L3: Data and privacy laws	Very important	
L4: Health and safety laws	Very important	

4.4.2 Selected stakeholders to be involved in SPROUT

Table 4.11. Selected stakeholders Budapest

Type of stakeholder	Name of specific local stakeholder organisation
None or not yet selected - to be clarified selected yet - to be clarified	

4.4.3 Methods used

Table 4.12. Methods used Budapest

Methods
None selected yet - to be clarified

4.5 Tel Aviv (Israel)

4.5.1 Drivers and stated level of importance

Table 4.13. Drivers and stated level of importance Tel Aviv

Name of driver	Level of importance	Explanation
Political Drivers		
P1: Liberalization	Slightly important	While the bus companies are privately owned, pricing and routes are determined by the Ministry of Transport and they are subsidised;

		the Israel Train Company is a state-owned company.
P2: Political agenda	Very important	Both at a national and city/metropolitan level there is a push towards more sustainable transport with investment in things such as the light rail in the Tel Aviv Metropolis and provision of additional dedicated bus lanes, as well as initiatives such as carpooling lanes (pilot initiative as of October 2019 on two of the highways in the Tel Aviv metropolitan area). At the regional level, there is also the initiative of Public Transport on the Sabbath which, while in opposition to the political agenda at a national level, is in line with promoting the use of public transport. This means that funding is at a municipal level.
P3: Transparency and corruption	Not important	The municipality of Tel Aviv Yafo espouses a policy of transparency and public consultation. The municipality makes the data gathered and produced by its various departments and units available to the public.
P4: Tax policy	Very important	Car ownership is incentivised as part of salary packages. At the same time, 2+ lanes are being piloted with single-

		occupant cars being penalised and LEZ is being considered for Tel Aviv.
Economic Drivers		
Ec1: New employment arrangements	Not important	Commuting levels into Tel Aviv have not changed in the last 10+ years, while the percentage of those commuting out of Tel Aviv has increased by 4% since 2005 (Central Bureau of Statisitics).
Ec2: Tourism	Very important	In 2017, there were 1,404,500 hotel guests in Tel Aviv Yafo (a 42% rise since 2010)
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Moderately important	In the past year, several e-scooter sharing operators have emerged; this is in addition to the municipality-led bicycle sharing scheme and privately-operated bicycle sharing scheme and the car-sharing scheme.
Ec4: Economic growth and crisis	Very important	GDP for Israel and Tel Aviv have increased. There is greater demand for commuting.
Ec5: Transformation of retail	Moderately important	The rate of increase in online shopping is between 20-30%
Social Drivers		
S1: Migration	Not important	
S2: Urban structure	Very important	The population has increased beyond forecasts, making Tel Aviv Yafo an extremely dense city. In addition, its

		mixed land usage promotes alternative modes of transport. Car ownership, for example, is lower than the national average and the use of alternative modes of transport is increasing.
S3: Demographic composition	Very important	The median age in Tel Aviv Yafo is 35, which has remained fairly stable at least since 2010. 64% of the residents are of working age.
S4: Health consciousness	Not important	
S5: Changing behaviour towards car ownership	Moderately important	Being a dense urbanised city, the conditions exist towards favouring a carless lifestyle; however, at present there is almost no public transport on the Sabbath.
S6: Environmental consciousness	Very important	The municipality's policy is geared towards greater sustainability in its policies aimed at mobility.
S7: Safety Concerns	Very important	New modes such as e-scooters have aggravated the problems of road safety.
S8: Security Concerns	Moderately important	Security is an on-going issue in Israel.
S9: Individualization	Not important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Moderately important	Amazon has recently opened a base of operation in Israel, affecting on-demand service requirements. The importance of this driver is likely to increase.

Technological Drivers		
T1: Electrification of mobility	Slightly important	New building regulations now stipulate that preparation for provision of electricity points for electric cars is installed.
T2: Adoption of smart-city technology	Very important	Enhancing big data usage.
T3: Consumer- and citizen-oriented digitalization	Very important	Striving to implement additional applications for optimisation of route planning using real time data.
T4: Automation	Slightly important	At present, preparing the installation of facilities that are geared towards autonomous transport, although AVs are not expected during the relevant time period.
Environmental Drivers		
En1: Climate change	Slightly important	
En2: Local environmental quality	Moderately important	Low emission zones and introduction of traffic calming zones.
Legal Drivers		
L1: Labour and employment laws	Not important	At the municipal level (the laws covered in L1 – L3 are passed at a national level and the municipal bylaws have little impact on them).
L2: Consumer protection laws	Not important	At the municipal level
L3: Data and privacy laws	Not important	At the municipal level
L4: Health and safety laws	Very important	In line with the municipality's policy of encouraging more

		sustainable modes of mobility.
Other Drivers		
Citizen & economic actors' participation	Very important	User-centric design leading to inclusivity through public participation

4.5.2 Selected stakeholders to be involved in SPROUT

Table 4.14. Selected stakeholders Tel Aviv

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	Ministry of Transport Ayalon Highways NTA – Metropolitan Mass Transit System Tel Aviv Municipality
Public Services	
Police	Israel Police
Emergency services	
Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Bus operators Dan, Eged, Kavim, Metropolin Sherut Taxis (shared taxis)
Operators of national or regional transport services (train, long-distance bus)	Israel Train

Conventional taxi companies	
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	Car sharing: Tel-Auto; Car-2-Go Bicycle sharing: Tel-Ofan; Mobike E-scooters sharing: Bird, Wind, Lime
Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	
Platform-based taxi services (Uber, Lyft)	
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	Waze; Moovit; Google Maps
Mobility as a Service providers (e.g. Citymapper)	
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic	Tel Aviv municipality traffic control centre

monitoring service providers such as Kapsch, Siemens etc.)	
Energy providers	
Petrol station owners	
Electricity providers	Israel Electric Corporation
Providers of electric vehicle charging points	
Urban Logistics	
None or not yet selected - to be clarified	
Vehicle manufacturers (when relevant locally)	
None or not yet selected - to be clarified	
Users	
Travellers' associations	
- Public transport passengers' associations	15 Minutes – Public Transportation Alliance Transport Today Tomorrow
- Drivers' associations	
- Cyclists' and pedestrians' associations	Israel Bicycle Association
Representatives of vulnerable groups	
- representatives of physically vulnerable (disabled, elderly, …)	Association for the Blind and the Prevention of Blindness

- socio-economically vulnerable groups (poor, ethnic minorities, immigrants, etc.)	
Residents	
Civil society organisations representing residents (e.g. neighbourhood committees)	Neighbourhood representatives
Local businesses	
None or not yet selected - to be clarified	

4.5.3 Methods used

Table 4.15. Methods used Tel Aviv

Methods	
Consulted internal documents	Analyses of internal municipal databases, as well as the Department of Transport and the Central Bureau of Statistics Israel. Additionally, the relevant professionals within the municipality were interviewed (these people were also part of the steering committee, a full list of which can be found in the introduction to the SUMP, see below) and reports and works carried out related to the transport system were reviewed (the most important of which are the Strategic Plan for Tel Aviv and the Outline Plan for Tel Aviv, links below).
Media	

Meetings, interviews, focus groups	Consultations and round table meetings were held in April 2017 in preparation of the Sustainable Urban Mobility Plan. Representatives from various municipality departments, Ministry of Transport, NGOs and academia were present.

5 Urban mobility transition drivers in 2nd - layer SPROUT cities

The 2nd of the SPROUT city structure layer includes cities that will be involved in validating the transferability of the policy results specific to the pilot cities. By doing so, they will contribute to their transformation into what SPROUT calls a 'city-led policy response', i.e. a response that is widely applicable (in terms of its contents and structure) to European cities. For this to be achieved, each of the nine 2nd - layer cities has been associated to at least one pilot city, according to their interest in the new mobility solutions tested by pilot cities and their potential policy impacts, However, no future scenarios will be developed for the 2nd layer cities, but it was considered important to also have their views on the elements that will drive urban mobility in the future, to have a better understanding at a later stage of the project when the transferability of the pilot city results to them will be explored.

5.1 Ioannina (Greece)

5.1.1 Drivers and stated level of importance

Table 5.1. Drivers and stated level of importance Ioannina

Name of driver	Level of importance	Explanation
Political Drivers		
P1: Liberalization	Not important	
P2: Political agenda	Extremely important	
P3: Transparency and corruption	Slightly important	
P4: Tax policy	Moderately important	
Economic Drivers		
Ec1: New employment arrangements	Moderately important	
Ec2: Tourism	Extremely important	
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Moderately important	
Ec4: Economic growth and crisis	Very important	
Ec5: Transformation of retail	Moderately important	
Social Drivers		
S1: Migration	Moderately important	

S2: Urban structure	Extremely important	
S3: Demographic composition	Very important	
S4: Health consciousness	Moderately important	
S5: Changing behaviour towards car ownership	Slightly important	
S6: Environmental consciousness	Very important	
S7: Safety Concerns	Moderately important	
S8: Security Concerns	Not important	
S9: Individualization	Slightly important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Moderately important	
Technological Drivers		
T1: Electrification of mobility	Very important	
T2: Adoption of smart-city technology	Extremely important	
T3: Consumer- and citizen-oriented digitalization	Very important	
T4: Automation	Slightly important	
Environmental Drivers		
En1: Climate change	Very important	
En2: Local environmental quality	Very important	
Legal Drivers		
L1: Labour and employment laws	Very important	
L2: Consumer protection laws	Slightly important	
L3: Data and privacy laws	Moderately important	
L4: Health and safety laws	Moderately important	

5.1.2 Selected stakeholders to be involved in SPROUT

Table 5.2. Selected stakeholders Ioannina

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	Epirus Region; Ministry of Environment and Energy; Ministry of Infrastructures and Transport; Ioannina City Council
Public Services	
Police	Hellenic Police
Emergency services	Civil Protection Department
Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Local BUS: Urban Bus Ioannina
Operators of national or regional transport services (train, long-distance bus)	Regional BUS: Intercity bus KTEL SA
Conventional taxi companies	Radio Taxi Ioannina
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	Budget, Alamo, Hertz, Avis
Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	

Platform-based taxi services (Uber, Lyft)	
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	Google Maps, Waze, TomTom, OpenStreet Maps
Mobility as a Service providers (e.g. Citymapper)	
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	Ioannina smart Mobility: Application via MOTIVATE Project
Energy providers	
Petrol station owners	SHELL, AVIN, EKO, BP, Silk Oil, Revoil
Electricity providers	DEH, VOLTERRA, WATT AND VOLT, KEN
Providers of electric vehicle charging points	KEN, only one pilot spot
Urban Logistics	
None or not yet selected - to be clarified	
Vehicle manufacturers (when relevant locally)	
None or not yet selected - to be clarified	
Users	
Travellers' associations	
- Public transport passengers' associations	
- Drivers' associations	TAXI OWNERS ASSOCIATION WORKERS Ioannina
- Cyclists' and pedestrians' associations	

Representatives of vulnerable groups	
- representatives of physically vulnerable (disabled, elderly, …)	
- socio-economically vulnerable groups (poor, ethnic minorities, immigrants, etc.)	
Residents	
None or not yet selected - to be clarified	
Local businesses	
None or not yet selected - to be clarified	

5.1.3 Methods used

Table 5.3. Methods used Ioannina

Methods	
Consulted internal documents	Strategic Plan for Sustainable Urban Development of Municipality of Ioannina; Sustainable Energy Action Plan of Municipality of Ioannina; Sustainable Urban Mobility Plan of Municipality of Ioannina; National Statistical data
Media	
Meetings, interviews, focus groups	

5.2 Gothenburg (Sweden)

5.2.1 Drivers and stated level of importance

Table 5.4. Drivers and stated level of importance Gothenburg

Name of driver	**Level of importance**	**Explanation**
Political Drivers		

P1: Liberalization	Slightly important	
P2: Political agenda	Very important	Could also result in more rules and regulations
P3: Transparency and corruption	Moderately important	Also lack of trust
P4: Tax policy	Extremely important	
Economic Drivers		
Ec1: New employment arrangements	Not important	
Ec2: Tourism	Moderately important	This is also an argument for an attractive city
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Very important	
Ec4: Economic growth and crisis	Very important	Impact on mobility - affects the flow of people etc.
Ec5: Transformation of retail	Extremely important	
Social Drivers		
S1: Migration	Not important	
S2: Urban structure	Extremely important	
S3: Demographic composition	Very important	Impact on mobility re. ageing. It is also a behaviour, for example they do not want to give up their cars. A
S4: Health consciousness	Moderately important	
S5: Changing behaviour towards car ownership	Very important	
S6: Environmental consciousness	Very important	Important for political pressure
S7: Safety Concerns	Extremely important	
S8: Security Concerns	Moderately important	

S9: Individualization	Slightly important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Moderately important	
Technological Drivers		
T1: Electrification of mobility	Extremely important	This is going slower than preferred, but it has a huge impact
T2: Adoption of smart-city technology	Very important	Geo-fencing
T3: Consumer- and citizen-oriented digitalization	Extremely important	
T4: Automation	Very important	Takes time
Environmental Drivers		
En1: Climate change	Extremely important	A lot of pressure on cities just now to address this
En2: Local environmental quality	Moderately important	
Legal Drivers		
L1: Labour and employment laws	Slightly important	
L2: Consumer protection laws	Slightly important	
L3: Data and privacy laws	Slightly important	
L4: Health and safety laws	Extremely important	

5.2.2 Selected stakeholders to be involved in SPROUT

Table 5.5. Selected stakeholders Gothenburg

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public	The city of Gothenburg (urban transport administration, FK, SLK, SBK) Västra Götalands Region

space, on local, regional and metropolitan levels.	Gothenburg Region Trafikverket – regional road authority Business Region Gothenburg Parkeringsbolaget
Public Services	
Police	
Emergency services	
Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Västtrafik Göteborgs buss Ellös K-Es bussar Keolis i Sverige AB Nettbuss AB Styrsöbolaget Göteborgs spårvägar AB SJ Götalandståg (Source: https://www.vasttrafik.se/om-vasttrafik/partnerforetag/)
Operators of national or regional transport services (train, long-distance bus)	SJ MTR DSB first Green Cargo Flixbuss Nettbuss
Conventional taxi companies	Taxi Göteborg Taxi Kurir Svea taxi (Source https://www.taxiforbundet.se/)
'New mobility' providers	

Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	VOI Lime Tier
Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	Not available
Platform-based taxi services (Uber, Lyft)	Uber
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	Google Maps Västtrafik TomTom Trafik Göteborg
Mobility as a Service providers (e.g. Citymapper)	Moovit
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	
Energy providers	
Petrol station owners	Circle K Preem Shell ST1 Ok8 INGO Fordons Gas

	Tanka
Electricity providers	Göteborgs energi Göta energy Vattenfall Many more
Providers of electric vehicle charging points	Göteborgs energi City of Gothenburg
Urban Logistics	
Logistics service providers (delivery, warehousing, consolidation centers)	DHL Db Schenker DFDS Seaways PostNord DSV DHL express Pling Bring GLC Best (See even: http://www.logisticssweden.com/Logistics/0/Gothenburg)
Local businesses (shippers and receivers of goods)	Innerstaden Nordstan Avenyn Frölunda Torg
Vehicle manufacturers (when relevant locally)	
Cars	Volvo
Public transport (trains, trams, buses)	Man Volvo
Bicycles	
New and innovative means of transport	

Users	
Travellers' associations	
- Public transport passengers' associations	Swedish Public Transport Administration
- Drivers' associations	KAK (Kungliga automobile klubb) Bensinupprop
- Cyclists' and pedestrians' associations	Göteborgs cykelförbund
Representatives of vulnerable groups	
- representatives of physically vulnerable (disabled, elderly, …)	Funktionsrätt Göteborg
- socio-economically vulnerable groups (poor, ethnic minorities, immigrants, etc.)	
Residents	
None or not yet selected - to be clarified	
Local businesses	
Federations of business owners (e.g. chamber of commerce)	Innerstaden West Sweden Chamber of Commerce Nordstaden Citysamverkan

5.2.3 Methods used

Table 5.6. Methods used Gothenburg

Methods	
Consulted internal documents	https://stadsutveckling.goteborg.se/ Transport Strategy for a close-knit city http://forlivochrorelse.se/wp-content/uploads/2019/03/TRU_2018.pdf

	https://goteborg.se/wps/wcm/myconnect/e81af4a2-2917-4367-af19-08b6e789c61c/Göteborg+samt+SDN+2019.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=e81af4a2-2917-4367-af19-08b6e789c61c https://www.vastsvenskapaketet.se/wp-content/uploads/2018/06/Resvaneundersökning-2017-final.pdf
Media	Trafikanalys: https://www.trafa.se/ Statistikmydigheten (SCB): https://www.scb.se/ Nationella resvaneundersökning: (https://www.trafa.se/kommunikationsvanor/RVU-Sverige/) Transportstyrelsen: https://www.transportstyrelsen.se Trafikverket: https://www.trafikverket.se/
Meetings, interviews, focus groups	2019-11-07 Interview with Malin Andersson, Head of Department, Development and International affairs, Urban Transport Administration 2019-11-07 Interview with Magnus Jäderberg, Mobility Unit, Urban Transport Administration 2019-11-01 Interview with Fredrik Larsson, Head of Unit, Analysis, Urban Transport Administration 2019-10-29 Interview with Andreas Andersson Kurvde, Project Administrator, Urban Transport Administration

5.3 Arad (Romania)

5.3.1 Drivers and stated level of importance

Table 5.7. Drivers and stated level of importance Arad

Name of driver	Level of importance	Explanation
Political Drivers		
P1: Liberalization	Moderately important	Most public transport services are provided by the Public Transport Company

		(CTP Arad), functioning under the joint authority of the Local Council and the County Council. Modes of transport operated: trams (local and connecting the city to the neighbouring villages) and busses (local and regional – county level). There are also private operators providing transport on county routes. In addition, most companies established in the industrial zones provide bus transport to their employees (both commuters from the surrounding villages and city inhabitants). With EBRD support, Arad has also developed a study for outsourcing the operations of the regional bus services to the private sector. A local company producing both trams and trains has started a private rail transport service on national and international routes, all with connections in Arad. In this context, the local administration focuses on improving existing public services, using the current schemes, but in addition, there is a need to correlate them with the public services (improve intermodal

		connectivity, adapt routes and timetables, create a collaboration framework between public and private).
P2: Political agenda	Extremely important	In the past years, the local administration has developed a series of environment-oriented strategies and local policies focused on improving mobility. Arad has implemented a series of investment projects in transport (new trams, electric busses, improve existing tramline, roads and sidewalks, new bridges, modernise tram depot, e-ticketing), financed from the local budget, EBRD loans and EU funds. Improving mobility is a high priority.
P3: Transparency and corruption	Very important	Special attention is paid to transparency of investments, procurement and decision making at the local level. In addition to the legal obligation (publish information on the city's website and organise tenders via the electronic system for public procurements etc.), regular public meetings and debates with the community are held by local officials and employees, in order to build governance based on trust. Meetings with citizens are held regularly in each district

		and public debates with stakeholders are organised when important decisions are made.
P4: Tax policy	Moderately important	The Local Council has approved a tax policy to stimulate public transport by trams. Pensioners and students are offered free or discounted transport. A parking policy is under development, aiming at reducing the number of cars and stimulate public transport use by increasing tariffs in the city centre, among other measures. Fiscal incentives for electric vehicles are under consideration, in connection with a future project to develop charging infrastructure. Tariffs for local public transport are low in Arad. Still, people continue to use private cars extensively. This is why quality of the services and raising awareness seem to be more relevant than tax policies.
Economic Drivers		
Ec1: New employment arrangements	Slightly important	Arad has a labour force deficit. The local administration has limited responsibilities related to labour force and

		employment arrangements. Still, to be noted: an increased interest in teleworking and other flexible working arrangements.
Ec2: Tourism	Slightly important	Arad is more a transit city and less of a tourist destination. Tourism has low impact on mobility, while transit from Western Europe affects the main city axis. A new highway connecting the city to the Western border and other important national roads has improved transit traffic in the city. The local administration wishes to develop cultural tourism in order to stimulate economic growth. Improvement of pedestrian areas would play an important role.
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Moderately important	The Local Council approved a bike sharing study in 2018, but the system is not operational yet. Arad is a relatively small city, does not have a significant number of visitors and most local people own bikes. Therefore, the success of a bike sharing project is doubted by many. Nevertheless, the local administration intends to implement a bike sharing

		system as a pilot project at first. Similarly, local people are reluctant to car sharing solutions.
Ec4: Economic growth and crisis	Slightly important	Arad is one of the most prosperous towns in Romania, location playing an important role in its economic development. Transport habits have a higher impact on mobility than economic fluctuations.
Ec5: Transformation of retail	Slightly important	Online retail has increased in the past years, but most online shops are national and not local businesses. Online shopping has no significant impact on mobility. Malls and supermarkets prevail over inner-city shopping streets in Arad.
Social Drivers		
S1: Migration	Slightly important	Arad has a low number of immigrants. Some companies use labour force from non-EU countries, but with low impact on mobility. On the other hand, young skilled labour force migration for better jobs, from Arad to bigger cities is increasing, while migration to other countries is low compared to other Romanian regions, but still to be considered. The

		effect of this tendency on mobility has not been explored. Increased road traffic from the Romanian border with Hungary is noted during winter seasons and in summer, when many people come home from abroad.
S2: Urban structure	Very important	Most important institutions, high schools, cultural attractions and parks are located in the city centre, while the residential districts, with a higher population density, although benefitting from a number of schools (mostly primary and secondary schools) and a good distribution of shopping centres, are not attractive for recreational activities and do not provide all the administrative services available in the city centre. Increased traffic can be noticed during school periods. The local administration has started large infrastructure projects to improve the quality of urban life in residential districts, by developing new parks, playgrounds and sports facilities as well as upgrading the spaces between the blocks of flats.

		Active modes of travel are encouraged by developing bicycle lanes to connect all the city areas, but there is a lack of pedestrian areas both in the city centre and in the residential districts. Local urban regulations are in place and the main development axes are clear.
S3: Demographic composition	Slightly important	Arad has a high percentage of active population, but the birth rate is decreasing. Bicycle is a traditional mode of transport in Arad, very popular among young people. Free or discounted public transport for pensioners reflects on mobility choices.
S4: Health consciousness	Very important	In recent years, people have become more aware of air pollution issues and the importance of an active lifestyle, also encouraged by public health concerns among authorities and increased support for active travel modes and public transport. Still, people continue to use cars as their preferred means of transport in everyday life.
S5: Changing behaviour towards car ownership	Moderately important	Ownership of a car is seen as a must by most people. A significant improvement of public transport, both local

		and national, to ensure fast and comfortable transfer to daily destinations and for long travels would generate a change of attitude over time. The SUMP includes behaviour changes measures.
S6: Environmental consciousness	Very important	In the past years, people have become more aware of environmental issues, but most of them tend to overlook their individual role and are reluctant to such measures as traffic and parking restrictions. The SUMP includes awareness raising measures.
S7: Safety Concerns	Slightly important	Development of bicycle lanes has also led to a higher interaction between unprotected cyclists and car users. The local administration has enforced regulations on using bicycle lanes in 2016, but compliance enforcement is still difficult. Some car owners continue parking on cycling zones, while some cyclists are often inattentive and put themselves at risk. Still, most accidents happen on national roads and not in the city. Use of autonomous transport and new light modes is not an issue.

		Romanian legislation has regulations on mobile phone usage in traffic.
S8: Security Concerns	Slightly important	Arad is a safe city and has never faced major threats.
S9: Individualization	Slightly important	This might be a concern in relation to new generations, but no impact on mobility is noted yet.
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Slightly important	This might be a concern in relation to new generations, but no impact on mobility is noted yet.
Technological Drivers		
T1: Electrification of mobility	Moderately important	3 private electric cars and 74 hybrid cars are registered in Arad today. One taxi company has recently introduced electric cars. A feasibility study is under development for 5 charging stations (each with 2 charging points) to be installed in the city next year, in addition to the 4 already existing in private parking places (supermarkets, gas stations). The local administration has started purchasing electrical busses.
T2: Adoption of smart-city technology	Very important	Arad has developed its Digital Transformation Strategy in 2019 and smart solutions are also included in

		the Integrated Urban Development Strategy and SUMP, both to be updated so as to integrate technology solutions, among others, and correlated with a coherent Investment Plan in the near future (2019 – 2020). The e-ticketing system to be implemented starting next year will also include a monitoring system. An intelligent traffic management system is mentioned in the SUMP.
T3: Consumer- and citizen-oriented digitalization	Very important	Arad has developed its digital transformation strategy this year and digital solutions are also included in the Integrated Urban Development Strategy and SUMP. The e-ticketing system to be implemented starting next year will also include a real-time passenger information system and online route planners. The local administration intends to develop an open data platform, including mobility data sets, according to the digital transformation strategy.
T4: Automation	Slightly important	The local administration will approach such issues as automated vehicles, automation and intelligent

		traffic management when they will become important.
Environmental Drivers		
En1: Climate change	Very important	All local strategies (SUMP, SEAP, Green Strategy, Integrated Development Strategy) address climate change and include measures to decrease transport-related emissions. Incentives for public transport and parking restrictions are among them, supported by awareness raising campaigns *(see comments at S4, S5 S6 and En2)*
En2: Local environmental quality	Very important	All local strategies (SUMP, SEAP, Green Strategy, and Integrated Development Strategy) include local environmental measures. In addition to the mobility measures, shelterbelts are placed along roads. *(see comments at S4, S5, S6 and En1)*
Legal Drivers		
L1: Labour and employment laws	Slightly important	The local administration has limited responsibilities related to labour and employment laws.
L2: Consumer protection laws	Slightly important	Local administration has limited responsibilities related to consumer protection.
L3: Data and privacy laws	Slightly important	Data protection rules (GDPR) are enforced for all services

		provided by the local administration.
L4: Health and safety laws	Slightly important	Local administration has limited responsibilities related to health and safety laws. Arad local administration promotes low-emissions alternatives for transport by buying energy efficient trams and electric busses, encourages healthy mobility solutions and develops road safety measures with its local police.

5.3.2 Selected stakeholders to be involved in SPROUT

Table 5.8. Selected stakeholders Arad

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	City of Arad Arad County Council Regional Directorate for Roads and Bridges Timişoara (Direcția Regională de Drumuri și Poduri Timișoara) Regional Branch for Railways Timisoara (Sucursala Regională de Căi Ferate Timișoara)
Public Services	
Police	Arad Municipal Police – traffic Division
Emergency services	Arad County Clinical Emergency Hospital (Spitalul Clinic Județean de Urgență Arad)
Conventional public transport operators	

Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Arad Public Transport Company - S.C. Compania de Transport Public S.A. Arad
Operators of national or regional transport services (train, long-distance bus)	Rail Passengers Transport Authority Timișoara Regionala CFR Călători Timișoara S.C. REGIOTRANS S.A. S.C. TRANSCARPATICA S.A. S.C. PITOTRANS S.A. S.C. AUTOGEN S.R.L. FLIXBUS
Conventional taxi companies	S.C. VERBIȚĂ S.R.L. S.C. ARAD TAXI S.R.L. S.C. EUROPA TAXI S.R.L. S.C. FAVORIT S.R.L.
'New mobility' providers	
None or not yet selected - to be clarified	
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	GOOGLE MAPS WAZE
Mobility as a Service providers (e.g. Citymapper)	-
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	-
Energy providers	
Petrol station owners	OMV Petrom MOL Lukoil Rompetrol

Electricity providers	e-distribuție Banat
Providers of electric vehicle charging points	S.C. VERBIȚĂ S.R.L. Kaufland Romania – work point in Aurel Vlaicu District
Urban Logistics	
Logistics service providers (delivery, warehousing, consolidation centers)	S.C. PM GROUP CONSULTING S.R.L. S.C. FERONERIA PROD S.R.L. S.C. POLACH LOGISTICS &TRANSPORT S.R.L. S.C. NUOVA F&V TRANSPORT S.R.L. S.C. EXPO DESIGN SYSTEM S.R.L. S.C. SAPORI DI FRIUTTA S.R.L. S.C. PET JPS TRANS S.R.L. S.C. WEST PROMOTION S.R.L.
Local businesses (shippers and receivers of goods)	S.C. DAVIKER CARGO S.R.L. S.C. BILUX TOURISTIK S.R.L. S.C. DU C 64GMN AUTOTRANS SRMITREAN SPEDITION S.R.L. S.C. NCA SPED NCA S.R.L. S.C. BTZ STAFF TRANS S.R.L. S.C. CRIMATEX S.R.L. S.C. AGRO VANI MAD S.R.L. S.C. DAN EUROTRANS S.R.L. S.C. BERENZ SPEDITION S.R.L. S.C. CRISTIN DAMPER S.R.L. S.C. ARBOTRANS LOGISTIC S.R.L.
Vehicle manufacturers (when relevant locally)	
Cars	-
Public transport (trains, trams, buses)	S.C. ASTRA Vagoane Călători S.A.
Bicycles	-
New and innovative means of transport	-

Users	
Travellers' associations	-
- Public transport passengers' associations	-
- Drivers' associations	-
- Cyclists' and pedestrians' associations	Arad Bicycle Club (Clubul Bicicliştilor Arad) Arad Bike Association Alpine Amateur Cycling Association (Asociația Bicicliștilor Amatori) Arad Pro Evolution Association
Representatives of vulnerable groups	Association of Persons with Neuromotor Disabilities in Romania (Asociația handicapaților neuromotori din Romania – Arad) Arad The Temeraries' club Muscular Dystrophy Association in Arad (Asociația distroficilor musculari – Arad)
- representatives of physically vulnerable (disabled, elderly, …)	CHRISTIAN FOUNDATION - CHILDREN'S HOPE (FUNDAȚIA CREȘTINĂ SPERANȚA COPIILOR) Together the children - Humanitarian Association - (Asociația umanitară - Împreună copii)
- socio-economically vulnerable groups (poor, ethnic minorities, immigrants, etc.)	The Association Chance for Change (Asociația Șansa Schimbării) Networks Association The Home Of Hope (Căminul Speranței) SHARING SMILES Association
Residents	
Civil society organisations representing residents (e.g. neighbourhood committees)	Local Union of Housing Associations in Arad (Uniunea Locală a Asociaţiilor Locative Arad)
Local businesses	

Federations of business owners (e.g. chamber of commerce)	Arad County Chamber of Commerce, Industry and Agriculture (Camera de Comerț, Industrie și Agricultură a Județului Arad) The Romanian patronage – Arad Branch (Patronatul roman – Filiala Arad) Branch of Romanian Tourism Patronage – (Arad Branch Filiala Patronatului din Turismul Românesc – Filiala Arad)

5.3.3 Methods used

Table 5.9. Methods used Arad

Methods	
Consulted internal documents	-- Sustainable Urban Mobility Plan for the City of Arad (SUMP). - Integrated Urban Development Strategy (SIDU) - Sustainable Energy Action Plan for Arad (SEAP) - Green City Strategy for Arad - Digital Transformation Strategy for the City of Arad - IRES Survey (Romanian Institute for Assessment and Strategies) on citizens' satisfaction survey regarding the local public policies
Media	
Meetings, interviews, focus groups	30 October – 6 November 2019 Brief interviews and discussions with the following City Hall employees: Sorin Muntean, Head of Strategies Monitoring, Quality Management and Internal Control Division, member of the Unit for Monitoring and Evaluation of SUMP Implementation

	Sandra Dinulescu, Head of Division-Urban Development and Monuments Protection Division. Lucian Palcu, Head of Energy Office

5.4 Mechelen (Belgium)

5.4.1 Drivers and stated level of importance

Table 5.10. Drivers and stated level of importance Mechelen

Name of driver	Level of importance	Explanation
Political Drivers		
P1: Liberalization	Moderately important	There are discussions on liberalization, but it is not prominent. Public transport will stay state-owned; shared mobility (bike and scooter) options will be tendered. Car sharing is privatized.
P2: Political agenda	Extremely important	Mobility is one of the 3 main themes of the administrative agreement of the board of aldermen and mayor for this legislature (2019-2024). There is a big focus on bikes and shared mobility.
P3: Transparency and corruption	Not important	
P4: Tax policy	Slightly important	There is a large budget foreseen to invest in mobility by the city, but there is no focus on taxation.
Economic Drivers		
Ec1: New employment arrangements	Moderately important	In general, there is still a 'classical' 9 to 5 way of

		working, although new principles such as flexiwork and telework are becoming the new standard. Work-on-demand is in a very preliminary phase. The impact on mobility is still very small.
Ec2: Tourism	Moderately important	The growth of tourism is important for the city, but there is not a large impact on mobility as most of the traveling happens during off-peak hours. Although there are strong investments in creating parking spaces around the city centre.
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Extremely important	There are a lot of new sharing transport possibilities such as car, bike and scooter, to serve as an alternative to private cars.
Ec4: Economic growth and crisis	Very important	The economy is doing well, which results in a lot of logistics traffic and car movements.
Ec5: Transformation of retail	Very important	With the increase of e-commerce, there is a large increase of van delivery movements, with an 8% failure rate.
Social Drivers		
S1: Migration	Slightly important	The impact of migration on mobility is minimal in the city and therefore not so important.

S2: Urban structure	Very important	The density and the size of the city is increasing. There are a lot of new housing developments in and around the city, which will have an impact on mobility. The focus lies on sustainable mobility, creating car free zones, and focusing on car and bike
S3: Demographic composition	Very important	There are a lot of schools in Mechelen (38 primary schools and 22 high schools) which implies a lot of young people on bikes. There is a high need for safe bicycle infrastructure. Next to that, there is a growth in the amount of elderly people, who are less mobile and for whom bikes are not the best option. Optimizations in on demand public transport is needed.
S4: Health consciousness	Moderately important	The city wants to become the bicycle city of Flanders. The focus on health consequences of cycling is not so large. There is no health monitoring.
S5: Changing behaviour towards car ownership	Extremely important	Mobility is one of the focus points, with a large emphasis on car shared mobility. The city really wants to create a boom in car sharing through a push strategy.
S6: Environmental consciousness	Extremely important	The city signed the covenant of mayors (reduction of 20%

		CO_2 emission in 2020) and has an action plan to become climate neutral
S7: Safety Concerns	Slightly important	
S8: Security Concerns	Slightly important	
S9: Individualization	Slightly important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Moderately important	Especially in food, on-demand delivery is growing, with a relatively small impact on mobility (because it is mainly done by bike).
Technological Drivers		
T1: Electrification of mobility	Slightly important	Electrification is growing, the network of loading poles is becoming bigger, but it doesn't have an impact on mobility.
T2: Adoption of smart-city technology	Moderately important	
T3: Consumer- and citizen-oriented digitalization	Not important	At the moment, there are no initiatives on city level.
T4: Automation	Very important	Participation in a EU project on autonomous vehicles + ambition of the board of aldermen & the mayor to have self-driving taxis by the end of the legislature (2024).
Environmental Drivers		
En1: Climate change	Extremely important	Ambition to become climate neutral; climate action plan 2030.
En2: Local environmental quality	Extremely important	Ambition to become climate neutral; climate action plan 2030.

Legal Drivers		
L1: Labour and employment laws	Not important	There is no link made to mobility.
L2: Consumer protection laws	Not important	There is no link made to mobility.
L3: Data and privacy laws	Slightly important	Intention of gathering and using more data for mobility (eg.: using ANPR* data for mobility purposes) *= automated number plate recognition; used by police for law enforcement
L4: Health and safety laws	Not important	

5.4.2 Selected stakeholders to be involved in SPROUT

Table 5.11. Selected stakeholders Mechelen

Type of stakeholder	**Name of specific local stakeholder organisation**
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	Flemish government, department of mobility and public works.
Public Services	
Police	Politiezone Mechelen-Willebroek
Emergency services	Sint-Maarten Ziekenhuis, Mechelen/Duffel
Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Public Transport Company De Lijn

Operators of national or regional transport services (train, long-distance bus)	Public Transport Company De Lijn
Conventional taxi companies	Various companies
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	Cambio (Taxistop), Cozycar, Battmobiel, Mobit, Blue-Bike, Circ
Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	Car Amigo, Tapazz, Drivy
Platform-based taxi services (Uber, Lyft)	NA
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	Waze, Google Maps
Mobility as a Service providers (e.g. Citymapper)	DeParking
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	DeParking
Energy providers	
Petrol station owners	Esso, Total, Lukoil, Shell, Maes
Electricity providers	Engie, Eneco, Luminus
Providers of electric vehicle charging points	BlueCorner, Allego

Urban Logistics	
Logistics service providers (delivery, warehousing, consolidation centers)	ODTH, Van Dievel, DPD, PostNl, Bpost
Local businesses (shippers and receivers of goods)	Ecokoeriers
Vehicle manufacturers (when relevant locally)	
Cars	NA
Public transport (trains, trams, buses)	NA
Bicycles	NA
New and innovative means of transport	NA
Users	
Travellers' associations	
- Public transport passengers' associations	Trein, tram, bus
- Drivers' associations	NA
- Cyclists' and pedestrians' associations	Fietsberaad, Fietsersbond
Representatives of vulnerable groups	
- representatives of physically vulnerable (disabled, elderly, …)	
- socio-economically vulnerable groups (poor, ethnic minorities, immigrants, etc.)	
Residents	
None or not yet selected - to be clarified	
Local businesses	
Federations of business owners (e.g. chamber of commerce)	VOKA, Unizo, Mechelen Meemaken

5.4.3 Methods used

Table 5.12. Methods used Mechelen

Methods
No data provided yet - to be clarified

5.5 Ile-de-France (Paris) (France)

5.5.1 Drivers and stated level of importance

Table 5.13. Drivers and stated level of importance Ile-de-France

Name of driver	Level of importance	Explanation
Political Drivers		
P1: Liberalization	Slightly important	Already liberalized
P2: Political agenda	Very important	Generalization of low emission zones and other rules to fight against climate actions.
P3: Transparency and corruption	Slightly important	To guarantee the respect of rules, especially for road freight transport (UE framework).
P4: Tax policy	Very important	To encourage modal shift
Economic Drivers		
Ec1: New employment arrangements	Not important	
Ec2: Tourism	Not important	
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Very important	To promote new organizations while considering social and environmental issues.
Ec4: Economic growth and crisis	Moderately important	Impact on the capacity of companies to invest in innovative solutions.

Ec5: Transformation of retail	Extremely important	E-commerce, total transformation of delivery systems.
Social Drivers		
S1: Migration	Not important	
S2: Urban structure	Moderately important	Type and localization of logistic assets, supply chain structure.
S3: Demographic composition	Slightly important	
S4: Health consciousness	Slightly important	
S5: Changing behaviour towards car ownership	Slightly important	
S6: Environmental consciousness	Very important	Necessity of green vehicles, recycling, reverse logistics, packaging reduction.
S7: Safety Concerns	Very important	Short food circuits.
S8: Security Concerns	Moderately important	Trucks in urban areas.
S9: Individualization	Moderately important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Extremely important	Mutualization and massification of freight deliveries.
Technological Drivers		
T1: Electrification of mobility	Very important	
T2: Adoption of smart-city technology	Very important	
T3: Consumer- and citizen-oriented digitalization	Extremely important	
T4: Automation	Very important	
Environmental Drivers		
En1: Climate change	Extremely important	
En2: Local environmental quality	Extremely important	

Legal Drivers		
L1: Labour and employment laws	Very important	Especially for cargo bikers, and with the development of collaborative schemes for deliveries.
L2: Consumer protection laws	Moderately important	
L3: Data and privacy laws	Extremely important	Need to define ways to allow local authorities to access data.
L4: Health and safety laws	Slightly important	

5.5.2 Selected stakeholders to be involved in SPROUT

Table 5.14. Selected stakeholders Ile-de-France

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	

Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	From national to local:
	• National:
	  • Ministry of Ecology: State Environmental Policy, housing policy, energy policy, major road infrastructure planning and management, railway network planning, waterways network planning
	  • Ministry of the Interior: law-enforcement
	• Regional:
	  • Région Île-de-France: infrastructure funding, regional strategic planning (transport and land use), public transport planning and funding, economic development, environment (regional level)
	  • *Départements* (7 *départements* + the City of Pars in IDF): regional road infrastructure planning and management
	• Local:
	  • Municipalities/intermunicipalities (various cases depending on the transfers of

	responsibility from the first to the second): land use, public space, local road network, parking and loading zones management and enforcement, environment (local level) Specificity of the City of Paris: acting both as a *département* and a municipality
Public Services	
Police	National police forces: Police Nationale (in urban areas), Gendarmerie Nationale (in peri-urban and rural areas) Local police forces (municipal level): Police Municipale
Emergency services	Dense area: Paris Fire Brigade (under the authority of the French Army) Peri-urban and rural areas: departmental fire and rescue services (one per *départements*, 4 in IDF)
Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Organization authority: Île-de-France Mobilité Operators: • Metro: RATP • Rail: SNCF Bus: 90 private bus companies
Operators of national or regional transport services (train, long-distance bus)	Train: SNCF Long-distance bus: BlaBlabus, Ouibus, Eurolines, Isilines, Flixbus
Conventional taxi companies	G7 (8 000 taxis), Taxis Bleus (3 000 taxis), small or individual companies (6 000 taxis)
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	Shared cars: Ubeeqo, Car2Go, Free2Moove, ZipCar, Communauto Bikes: Vélib' (public concession – operated by Smovengo), Jump (Uber), Mobike, Donkey Republic, Oribiky E-motorbikes: Coup, Cityscoot

	E-scooters: Lime, Bird, Bolt, Wind, Tier, Wind, Circ, Hive, Voi, Jump, Ufo
Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	Carpooling: Blablacar, Idvroom, Mobicoop, MyEcoCar… Peer-to-peer car rental: Getaround (ex-Drivy), Ouicar
Platform-based taxi services (Uber, Lyft)	Uber, LeCab, Marcel, SnapCar, Heetch, Taxify, Kapten…
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	Google Maps, Waze, Tomtom, HereWeGo, Microsoft Maps, Maps.me, ViaMichelin, Apple Plans, Garmin Navigon…
Mobility as a Service providers (e.g. Citymapper)	CityMapper, RATP, Oui.sncf
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	
Energy providers	
Petrol station owners	Oil companies: Total, Elan, Shell, elf Independent distribution networks: Avia, BP, Esso Retail chains: Auchan, Carrefour, E.Leclerc, Casino…
Electricity providers	EDF, Total Direct Energy, engie, ENI, Cdiscount energie, …
Providers of electric vehicle charging points	Belib, Total, Renault, Nissan, Tesla, Leroy-Merlin, Auchan, Ikea, ADP, SEMMARIS…
Urban Logistics	

Logistics service providers (delivery, warehousing, consolidation centers)	
Local businesses (shippers and receivers of goods)	
Vehicle manufacturers (when relevant locally)	
Cars	1 600 establishments (900 with less than 10 employees), 73 000 employees
Public transport (trains, trams, buses)	
Bicycles	
New and innovative means of transport	Drones (cluster Drones Paris Region: https://www.clusterdronesparisregion.com/)
Users	
Travellers' associations	
- Public transport passengers' associations	Fédération Nationale des Associations des Usagers des Transports Ile-de-France (FNAUT IdF)
- Drivers' associations	40 Millions d'automobilistes, Union des Usagers de la Route
- Cyclists' and pedestrians' associations	Fédération des Usagers de la Bicyclette, Paris en Selle, …
Representatives of vulnerable groups	
- representatives of physically vulnerable (disabled, elderly, …)	Hundreds of them
- socio-economically vulnerable groups (poor, ethnic minorities, immigrants, etc.)	Thousands of them
Residents	
Civil society organisations representing residents (e.g. neighbourhood committees)	Thousands of them

Local businesses	
Federations of business owners (e.g. chamber of commerce)	Paris Ile-de-France Regional chamber of Commerce and Industry (CCI Paris IDF)

5.5.3 Methods used

Table 5.15. Methods used Ile-de-France

Methods	
Consulted internal documents	Chiffres clés region IDF edition 2019 Comparateur de territoires -données INSEE
Media	EGT PDUIF
Meetings, interviews, focus groups	NO

5.6 West-Midlands (Birmingham) (United Kingdom)

5.6.1 Drivers and stated level of importance

Table 5.16. Drivers and stated level of importance West-Midlands

Name of driver	Level of importance	Explanation
Political Drivers		
P1: Liberalization	Moderately important	
P2: Political agenda	Very important	
P3: Transparency and corruption	Not important	
P4: Tax policy	Not important	
Economic Drivers		
Ec1: New employment arrangements	Very important	
Ec2: Tourism	Moderately important	

Ec3: New business models (e.g. collaborative consumption, sharing economy)	Moderately important	
Ec4: Economic growth and crisis	Very important	
Ec5: Transformation of retail	Moderately important	
Social Drivers		
S1: Migration	Slightly important	
S2: Urban structure	Moderately important	
S3: Demographic composition	Moderately important	
S4: Health consciousness	Very important	
S5: Changing behaviour towards car ownership	Very important	
S6: Environmental consciousness	Very important	
S7: Safety Concerns	Very important	
S8: Security Concerns	Moderately important	
S9: Individualization	Moderately important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Moderately important	
Technological Drivers		
T1: Electrification of mobility	Very important	
T2: Adoption of smart-city technology	Slightly important	
T3: Consumer- and citizen-oriented digitalization	Moderately important	
T4: Automation	Moderately important	
Environmental Drivers		
En1: Climate change	Very important	
En2: Local environmental quality	Very important	

Legal Drivers		
L1: Labour and employment laws	Not important	
L2: Consumer protection laws	Not important	
L3: Data and privacy laws	Slightly important	
L4: Health and safety laws	Slightly important	

5.6.2 Selected stakeholders to be involved in SPROUT

Table 5.17. Selected stakeholders West-Midlands

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	West Midlands Combined Authority, Birmingham City Council, Coventry City Council, Dudley MBC, Sandwell MBC, Solihull MBC, Walsall MBC, City of Wolverhampton Council, National Grid, Western Power Distribution, Cadent, Severn Trent Water, NHS.
Public Services	
Police	West Midlands Police
Emergency services	West Midlands Ambulance Service NHS Trust
Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Numerous. Main operators – National Express Group, West Midlands Railways, Midland Metro Ltd, Diamond Buses, Chiltern Railways
Operators of national or regional transport services (train, long-distance bus)	Virgin Trains, Cross Country Trains, Chiltern Railways, Stagecoach bus.
Conventional taxi companies	TOA Taxis
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	N/A

Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	
Platform-based taxi services (Uber, Lyft)	Uber, Ola
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	
Mobility as a Service providers (e.g. Citymapper)	MaaS Global, Citymapper
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	
Energy providers	
Petrol station owners	BP, Esso, Jet, Shell, Sainsburys, Tesco, Waitrose, Asda
Electricity providers	DNO – Western Power Distribution
Providers of electric vehicle charging points	Charg -e, ESB, Ubitricity, Chargemaster.
Urban Logistics	
None or not yet selected - to be clarified	
Vehicle manufacturers (when relevant locally)	
Cars	Jaguar Land Rover, MG Cars, LEVC, Dynamo
Public transport (trains, trams, buses)	

Bicycles	
New and innovative means of transport	
Users	
None or not yet selected - to be clarified	
Residents	
None or not yet selected - to be clarified	
Local businesses	
None or not yet selected - to be clarified	

5.6.3 Methods used

Table 5.18. Methods used West-Midlands

Methods
No data provided yet - to be clarified

5.7 Minneapolis (United States of America)

5.7.1 Drivers and stated level of importance

Table 5.19. Drivers and stated level of importance Minneapolis

Name of driver	Level of importance	Explanation
Political Drivers		
P1: Liberalization	Not important	
P2: Political agenda	Very important	The fight between spending on roads versus other modes. Whether CAV will solve all transportation problems versus investment in other modes.
P3: Transparency and corruption	Not important	
P4: Tax policy	Very important	Long term sustainability of transportation funding

		sources at local, state, and federal level with value of the gas tax eroding.
Economic Drivers		
Ec1: New employment arrangements	Moderately important	Need for better Travel Demand Management practices.
Ec2: Tourism	Not important	
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Moderately important	In efforts to address goals of equity, climate, etc., new business models have the potential to help or hurt those efforts.
Ec4: Economic growth and crisis	Moderately important	An economic downturn could (if coupled with increased gas prices) drive increased use, or decrease use if people cut down on discretionary spending. Also, dependent on if new modes price in a consumer-friendly way to maintain demand.
Ec5: Transformation of retail	Very important	Continued growth of goods delivery vs. shopping locally puts significant pressure on the city's right of way, although we don't have a good means to understand exactly how much goods delivery activity is occurring.
Social Drivers		
S1: Migration	Moderately important	Significant refugee population. Potential for climate migration from more vulnerable areas of the US.

S2: Urban structure	Very important	Updating 2040 zoning and density was a significant fight. Now need to make sure we meet our goals to remain sustainable as a region.
S3: Demographic composition	Moderately important	Mobility of aging population is increasingly challenging as winter weather prevents mobility.
S4: Health consciousness	Slightly important	While health consciousness has increased, the cultural challenge in the US is that convenience outweighs health considerations.
S5: Changing behaviour towards car ownership	Extremely important	Younger generations are reducing car ownership, but the convenience for older generations is still dominating and increasing car ownership. Car loan defaults may start to impact this.
S6: Environmental consciousness	Extremely important	Significant part of the population is not conscious of the issues; of those that are, many still chose convenience over environmental impact awareness.
S7: Safety Concerns	Extremely important	Vehicle and pedestrian deaths are up significantly in the US. General acceptance of high death rates. Also, a misconception over what vehicles are “safe”, and convenience is still the driver.
S8: Security Concerns	Slightly important	Low-level risk of terrorism in our city. Higher risk of cyber-

		attacks similar to other US cities.
S9: Individualization	Slightly important	Not seen as a significant issue, but possibly more of an opportunity with transplant workers helping to change the commute culture in the city.
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Extremely important	Small size deliveries have a significant impact on competition for the curb and blocking bike lanes. Getting data is a significant challenge.
Technological Drivers		
T1: Electrification of mobility	Slightly important	Lack of density creates significant challenge for charging infrastructure. Concerned by impacts of batteries on environment. Challenge that most vehicles being created are not the types of vehicles most Americans buy.
T2: Adoption of smart-city technology	Moderately important	Not adopting in a general sense, but very proactive on mobility side to handle data protection and privacy.
T3: Consumer- and citizen-oriented digitalization	Extremely important	Very important, but lack of data and understanding of private vehicle use creates significant challenges.
T4: Automation	Moderately important	Adopting as it meets our goals and needs. Investing in ITS and signal priority updates, but awaiting further

		testing and development of CAV technology. Winter climate makes testing additionally difficult, which is currently reducing interest from the private sector.
Environmental Drivers		
En1: Climate change	Extremely important	Ambitious goals to address it, but no way to measure (lack of data) progress or influence individual trip choices when convenience still overrides personal environmental consciousness.
En2: Local environmental quality	Moderately important	Lack of serious air quality issues or public awareness limits the urgency of the issue and makes it hard to change residents' behaviour. We are focused on giving active modes more road space and electrifying our public transport buses.
Legal Drivers		
L1: Labour and employment laws	Moderately important	Growing in importance as new modes and vehicle types grow in popularity. Legal challenge in CA could impact US practices.
L2: Consumer protection laws	Slightly important	Growing in importance as new modes and vehicle types grow in popularity. Increased concerns over safety and insurance requirements/impacts.

L3: Data and privacy laws	Extremely important	The increasing consciousness of public and private sector individuals and policymakers is creating more challenges and questions about the need for change or adoption of more comprehensive regulation such as GDPR or CCPA. Locally impacted by MN Data Practices Act and the education gap between us and other cities in the region.
L4: Health and safety laws	Slightly important	Minnesota is behind on auto emission regulation. Toward zero death and vision zero policies at state and local level. Just passed hands free law for driving. Death rates in MN lower than other US states.

5.7.2 Selected stakeholders to be involved in SPROUT

Table 5.20. Selected stakeholders Minneapolis

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	City of Minneapolis Public Works, Hennepin County Community Works, MnDOT Metro Division, Metro Transit, Metropolitan Council, Minneapolis Parks & Rec Board
Public Services	
Police	Minneapolis Police Department
Emergency services	Minneapolis Fire Department, Hennepin County Medical Center

Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Metro Transit, Minnesota Valley Transit Authority, Plymouth Metrolink, Maple Grove Transit, Southwest Transit, University of Minnesota Transit
Operators of national or regional transport services (train, long-distance bus)	Amtrak, Jefferson Lines, Greyhound
Conventional taxi companies	A New Star Taxi, ABC, AIRPORT, BLUE & WHITE TAXI, CONTINENTAL TAXI, EAGLE TAXI, Ecuadorian Express, GREEN & WHITE TAXI, I TAXI, LIBERTY SUPER TAXI, MIDWEST STAR, MINNEAPPLE TAXI, RAINBOW TAXI, RED & WHITE TAXI, TARGET TAXI, Union Cab, VIKING TAXI, Yellow
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	HOURCAR, Zipcar, Lime, Lyft, Spin, Nice Ride
Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	Waze Carpool, Getaround, Turo, HyreCar
Platform-based taxi services (Uber, Lyft)	Uber, Lyft
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	Google Maps, Waze, Here, TomTom
Mobility as a Service providers (e.g. Citymapper)	Transit, Moovit

Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	Siemens
Energy providers	
Petrol station owners	
Electricity providers	Xcel Energy
Providers of electric vehicle charging points	Chargepoint
Urban Logistics	
Logistics service providers (delivery, warehousing, consolidation centers)	Fedex, USPS, TKI Intermodal, Street Fleet
Local businesses (shippers and receivers of goods)	Seward Co-op, Target, Peace Coffee
Vehicle manufacturers (when relevant locally)	
None or not yet selected - to be clarified	
Users	
Travellers' associations	
- Public transport passengers' associations	
- Drivers' associations	MN Trucking Association
- Cyclists' and pedestrians' associations	Our Streets, Minneapolis Bicycle Advisory Committee, Minneapolis Pedestrian Advisory Committee
Representatives of vulnerable groups	
- representatives of physically vulnerable (disabled, elderly, …)	Minneapolis Advisory Council on People with Disabilities, Minneapolis Advisory Council on Aging

- socio-economically vulnerable groups (poor, ethnic minorities, immigrants, etc.)	
Residents	
Civil society organisations representing residents (e.g. neighbourhood committees)	Minneapolis Neighbourhood and Business Associations
Local businesses	
Federations of business owners (e.g. chamber of commerce)	Minneapolis Regional Chamber of Commerce

5.7.3 Methods used

Table 5.21. Methods used Minneapolis

Methods	
Consulted internal documents	Draft Transportation Action Plan Access Minneapolis Comprehensive Plan Climate Action Plan
Media	Media analysis consisted of newsletter, social media, and local media scans for items related to urban mobility. Sources were input into a comprehensive spreadsheet using a form designed to organize the content optimally. Sources were organized by media type (article, plan, report, podcast, video, etc) and technical topic (Mobility Hubs, MaaS, CAV, Data, UAV, Equity, etc.). Approximately 160 items were catalogued between April 2019 and November 2019.

Meetings, interviews, focus groups	7-19 - Jim Erkle - MCEA 7-20 - Itasca Project 7-24 - Mary Morse Marti - Move Mpls 7-26 - Ethan Fawley - Our Streets 7-26 - Phillip Muesing - GreenStep 7-30 - John Doan - Mobility4All 7-30 - Ross Allanson - UofM 7-30 - Kevin Abbott, Joe Leitschuh, and Gregory Tieder - Supervalu 7-31 - Ben Shardlow - Mpls Downtown Council 7-31 - Jonathan Weinhagen - Mpls Chamber 8-1 - Philip Schaffner - MnDOT 8-7 - Lisa Austin - ABC Ramps 8-8 - Nick Mason - Bicycle Alliance 8-8 - Clay Parrish - Target 8-10 - Drew Schaffer - Mid-MN Legal Aid 8-14 - Bentley Graves - Minnesota Chamber of Commerce 8-15 - Michael Huber - Blue Cross 8-15 - Michael Noble - Fresh Energy 8-15 - Steve Holes - MSP Airport

5.8 Almada (Portugal)

5.8.1 Drivers and stated level of importance

Table 5.22. Drivers and stated level of importance Almada

Name of driver	Level of importance	Explanation
Political Drivers		
P1: Liberalization	Very important	
P2: Political agenda	Extremely important	
P3: Transparency and corruption	Slightly important	

P4: Tax policy	Very important	
Economic Drivers		
Ec1: New employment arrangements	Moderately important	
Ec2: Tourism	Very important	
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Moderately important	
Ec4: Economic growth and crisis	Very important	
Ec5: Transformation of retail	Very important	
Social Drivers		
S1: Migration	Not important	
S2: Urban structure	Extremely important	
S3: Demographic composition	Very important	
S4: Health consciousness	Slightly important	
S5: Changing behaviour towards car ownership	Moderately important	
S6: Environmental consciousness	Moderately important	
S7: Safety Concerns	Moderately important	
S8: Security Concerns	Not important	
S9: Individualization	Slightly important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Moderately important	
Technological Drivers		
T1: Electrification of mobility	Very important	
T2: Adoption of smart-city technology	Very important	
T3: Consumer- and citizen-oriented digitalization	Moderately important	

T4: Automation	Slightly important	
Environmental Drivers		
En1: Climate change	Very important	
En2: Local environmental quality	Very important	
Legal Drivers		
L1: Labour and employment laws	Moderately important	
L2: Consumer protection laws	Moderately important	
L3: Data and privacy laws	Slightly important	
L4: Health and safety laws	Moderately important	

5.8.2 Selected stakeholders to be involved in SPROUT

Table 5.23. Selected stakeholders Almada

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	Lisbon Metropolitan Area; Environmental Ministry; Ministry of Infrastructures City Council CCDRLVT
Public Services	
Police	PSP, GNR
Emergency services	Fire Department and Civil Protection
Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Local BUS: Transportes Sul do Tejo (TST) and Carris Local TRAM: Metro Transportes do Sul (MTS) Local TRAIN: Fertagus Local FERRY: Transtejo

Operators of national or regional transport services (train, long-distance bus)	Regional TRAIN: Comboios de Portugal (CP) Regional BUS: Rede Expressos
Conventional taxi companies	several
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	CIRC (e-scooters)
Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	
Platform-based taxi services (Uber, Lyft)	Uber, Kapten, Bolt
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	Google Maps, Waze, TomTom
Mobility as a Service providers (e.g. Citymapper)	Citymapper, Moovit, LisboaViagem
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	ViaVerde, ViaCard,
Energy providers	
None or not yet selected - to be clarified	
Urban Logistics	
None or not yet selected - to be clarified	

Vehicle manufacturers (when relevant locally)
None or not yet selected - to be clarified
Users
None or not yet selected - to be clarified
Residents
None or not yet selected - to be clarified
Local businesses
None or not yet selected - to be clarified

5.8.3 Methods used

Table 5.24. Methods used Almada

Methods	
Consulted internal documents	Almada Sustainable Urban Logistics Plan; Almada Mobility Inquiry 2015.
Media	
Meetings, interviews, focus groups	

5.9 ‘s-Hertogenbosch (The Netherlands)

5.9.1 Drivers and stated level of importance

Table 5.25. Drivers and stated level of importance ‘s-Hertogenbosch

Name of driver	**Level of importance**	**Explanation**
Political Drivers		
P1: Liberalization	Slightly important	
P2: Political agenda	Very important	
P3: Transparency and corruption	Not important	
P4: Tax policy	Slightly important	

Economic Drivers		
Ec1: New employment arrangements	Not important	
Ec2: Tourism	Very important	
Ec3: New business models (e.g. collaborative consumption, sharing economy)	Extremely important	Enables new ways of organizing mobility services.
Ec4: Economic growth and crisis	Very important	Determines the amount of available financial resources.
Ec5: Transformation of retail	Not important	
Social Drivers		
S1: Migration	Not important	
S2: Urban structure	Extremely important	Determines the main use of transportation mode.
S3: Demographic composition	Very important	Determines the ability to stay open to new types of mobility services.
S4: Health consciousness	Moderately important	It is proven that health consciousness determines the adaption of walking and cycling.
S5: Changing behaviour towards car ownership	Slightly important	
S6: Environmental consciousness	Moderately important	
S7: Safety Concerns	Not important	
S8: Security Concerns	Not important	
S9: Individualization	Not important	
S10: The rise of next-hour to same-day (on-demand) delivery requirement	Slightly important	
Technological Drivers		

T1: Electrification of mobility	Extremely important	Fast growth in e-bikes and e-cars.
T2: Adoption of smart-city technology	Slightly important	
T3: Consumer- and citizen-oriented digitalization	Slightly important	
T4: Automation	Slightly important	
Environmental Drivers		
En1: Climate change	Very important	
En2: Local environmental quality	Extremely important	PAS
Legal Drivers		
L1: Labour and employment laws	Slightly important	
L2: Consumer protection laws	Not important	
L3: Data and privacy laws	Moderately important	
L4: Health and safety laws	Slightly important	

5.9.2 Selected stakeholders to be involved in SPROUT

Table 5.26. Selected stakeholders ‘s-Hertogenbosch

Type of stakeholder	Name of specific local stakeholder organisation
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	Deputy major / Alderman Ufuk Kâhya
Public Services	
Police	
Emergency services	
Conventional public transport operators	

Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	Arriva
Operators of national or regional transport services (train, long-distance bus)	NS
Conventional taxi companies	
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	Greenwheels Beamerz Goodmoves Swapfiets Amber mobility
Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	Snappcar Mywheels
Platform-based taxi services (Uber, Lyft)	
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	Google Maps, Waze and TomTom are all available, but not a local stakeholder
Mobility as a Service providers (e.g. Citymapper)	Beamerz
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking and traffic monitoring service providers such as Kapsch, Siemens etc.)	Vialis

Energy providers	
Petrol station owners	
Electricity providers	
Providers of electric vehicle charging points	Allego
Urban Logistics	
Logistics service providers (delivery, warehousing, consolidation centers)	TLN Evofenedex PostNL, DHL, etc.
Local businesses (shippers and receivers of goods)	
Vehicle manufacturers (when relevant locally)	
None or not yet selected - to be clarified	
Users	
Travellers' associations	
- Public transport passengers' associations	Reizigersoverleg Brabant
- Drivers' associations	ANWB
- Cyclists' and pedestrians' associations	Fietsersbond
Representatives of vulnerable groups	
- representatives of physically vulnerable (disabled, elderly, …)	Gehandicaptenplatform
- socio-economically vulnerable groups (poor, ethnic minorities, immigrants, etc.)	Quiet community
Residents	
Civil society organisations representing residents (e.g. neighbourhood committees)	Neighbourhood communities (e.g. BLB)
Local businesses	

Federations of business owners (e.g. chamber of commerce)	Hartje

5.9.3 Methods used

Table 5.27. Methods used ‘s-Hertogenbosch

Methods	
Consulted internal documents	We analysed several internal documents.
Media	
Meetings, interviews, focus groups	We organized a focus group with internal experts on mobility issues.

6 Conclusion

In this deliverable, the results of task 2.3 were presented, i.e. the assessment of the importance of the urban mobility transition drivers by each of the 1st and 2nd – layer SPROUT cities, as well as preliminary lists of local stakeholders. As for the latter, most cities have made a detailed selection of stakeholders to be involved in the project, while other cities still need to specify their lists.

Table 6.1 provides a summary of the stated level of importance of the transition drivers for the cities. It can be noticed that the considered importance of drivers differs significantly from city to city, and that most drivers are considered 'very' or 'extremely important' for at least one city. Considering the larger driver categories, environmental ('climate change', 'local environmental quality') and technological drivers ('electrification of mobility', 'adoption of smart-city technology' and 'consumer-oriented digitalisation') are considered the most important, but when considering individual drivers, 'political agenda' (category of political drivers) and 'urban structure' (category of social drivers) are considered the most important. While the SPROUT cities vary wildly in type and size, it is not possible to distinguish clear patterns relating the importance of drivers with the characteristics of cities.

Table 6.1. Stated level of importance of the predefined drivers in the 1st and 2nd -layer SPROUT cities (0 = not important, 4 = extremely important)

	Valencia	Padova	Kalisz	Budapest	Tel Aviv	Ile-de-France	Mechelen	Ioannina	's-Hertogenbosch	Gothenburg	Arad	Almada	West-Midlands	Minneapolis	**Average**
Political Drivers															
P1: Liberalization	2	2	2	0	1	1	2	0	1	1	2	3	2	0	**1,4**
P2: Political agenda	4	3	2	2	3	3	4	4	3	3	4	4	3	3	**3,2**
P3: Transparency and corruption	4	4	1	2	0	1	0	1	0	2	3	1	0	0	**1,4**
P4: Tax policy	3	2	3	1	3	3	1	2	1	4	2	3	0	3	**2,2**
Economic Drivers															
Ec1: New employment arrangements	3	3	2	2	0	0	2	2	0	0	1	2	3	2	**1,6**
Ec2: Tourism	3	2	3	3	3	0	2	4	3	2	1	3	2	0	**2,2**
Ec3: New business models	4	3	3	1	2	3	4	2	4	3	2	2	2	2	**2,6**
Ec4: Economic growth and crisis	3	2	3	2	3	2	3	3	3	3	1	3	3	2	**2,6**
Ec5: Transformation of retail	3	3	3	1	2	4	3	2	0	4	1	3	2	3	**2,4**
Social Drivers															
S1: Migration	3	1	3	0	0	0	1	2	0	0	1	0	1	2	**1,0**
S2: Urban structure	3	3	3	4	3	2	3	4	4	4	3	4	2	3	**3,2**
S3: Demographic composition	2	1	4	2	3	1	3	3	3	3	1	3	2	2	**2,4**
S4: Health consciousness	2	2	2	2	0	1	2	2	2	2	3	1	3	1	**1,8**
S5: Changing behaviour towards car ownership	3	2	4	1	2	1	4	1	1	3	2	2	3	4	**2,4**
S6: Environmental consciousness	3	3	3	3	3	3	4	3	2	3	3	2	3	4	**3,0**
S7: Safety Concerns	2	2	3	3	3	3	1	2	0	4	1	2	3	4	**2,4**
S8: Security Concerns	2	1	0	1	2	2	1	0	0	2	1	0	2	1	**1,1**
S9: Individualization	2	1	2	1	0	2	1	1	0	1	1	1	2	1	**1,1**

S10: The rise of next-hour to same-day (on-demand) delivery requirement	2	3	1	0	2	4	2	2	1	2	1	2	2	4	**2,0**
Technological Drivers															
T1: Electrification of mobility	3	3	3	3	1	3	1	3	4	4	2	3	3	1	**2,6**
T2: Adoption of smart-city technology	3	3	3	1	3	3	2	4	1	3	3	3	1	2	**2,5**
T3: Consumer- and citizen-oriented digitalization	3	2	3	3	3	4	0	3	1	4	3	2	2	4	**2,6**
T4: Automation	1	3	1	1	1	3	3	1	1	3	1	1	2	2	**1,7**
Environmental Drivers															
En1 : Climate change	3	2	3	4	1	4	4	3	3	4	3	3	3	4	**3,1**
En2 : Local environmental quality	3	4	4	3	2	4	4	3	4	2	3	3	3	2	**3,1**
Legal Drivers															
L1: Labour and employment laws	3	1	1	2	0	3	0	3	1	1	1	2	0	2	**1,4**
L2: Consumer protection laws	2	0	1	3	0	2	0	1	0	1	1	2	0	1	**1,0**
L3: Data and privacy laws	2	3	1	3	0	4	1	2	2	1	1	1	1	4	**1,9**
L4: Health and safety laws	2	3	2	3	3	1	0	2	1	4	1	2	1	1	**1,9**

Annex A: Template sent to cities (drivers and stakeholders)

Please indicate in the template which method you have used and give some details on the research process (e.g. identify the experts or institutions that provided that data or participated in a meeting).

Methods used

	If you analysed internal documents and communications, please list which documents/sources your consulted	
Table to be filled-in	If you undertook a media analysis, please indicate how you collected the data (e.g. which type of media did you analyse? How many references did you find to each driver?).	
	If you organised an interview, meeting or a focus group, please indicate dates and the name and affiliation of participants.	
	If you organised an interview, meeting or a focus group, please indicate dates and the name and affiliation of participants.	

Drivers and level of importance

Please fill in the template, indicating the level of importance of each of the drivers in your city, and explain your choice. You can find an explanation on the drivers in the annex.

	Name of driver For more information about the drivers, see annex	**Level of importance** Click in the boxes below to select the appropriate level of importance	**Explanation** Any additional comments on why the driver is important in your city
Table to be filled-in	**Political Drivers**		
	P1: Liberalization	Choose an item.	
	P2: Political agenda	Choose an item.	

	P3: Transparency and corruption	Choose an item.	
	P4: Tax policy	Choose an item.	

Table to be filled-in	**Economic Drivers**		
	Ec1: New employment arrangements	Choose an item.	
	Ec2: Tourism	Choose an item.	
	Ec3: New business models (e.g. collaborative consumption, sharing economy)	Choose an item.	
	Ec4: Economic growth and crisis	Choose an item.	
	Ec5: Transformation of retail	Choose an item.	
	Social Drivers		
	S1: Migration	Choose an item.	
	S2: Urban structure	Choose an item.	
	S3: Demographic composition	Choose an item.	
	S4: Health consciousness	Choose an item.	
	S5: Changing behavior towards car ownership	Choose an item.	
	S6: Environmental consciousness	Choose an item.	
	S7: Safety Concerns	Choose an item.	
	S8: Security Concerns	Choose an item.	
	S9: Individualization	Choose an item.	
	S10: The rise of next-hour to same-day (on-demand) delivery requirement	Choose an item.	
	Technological Drivers		
	T1: Electrification of mobility	Choose an item.	

	T2: Adoption of smart-city technology	Choose an item.	
	T3: Consumer- and citizen-oriented digitalization	Choose an item.	
	T4: Automation	Choose an item.	

Table to be filled-in	**Environmental Drivers**		
	En1 : Climate change	Choose an item.	
	En2 : Local environmental quality	Choose an item.	
	Legal Drivers		
	L1: Labor and employment laws	Choose an item.	
	L2: Consumer protection laws	Choose an item.	
	L3: Data and privacy laws	Choose an item.	
	L4: Health and safety laws	Choose an item.	
	Other Drivers		
	Other drivers, not fitting in any of the categories listed above (specify):	Choose an item.	
		Choose an item.	

Identification of stakeholder groups in 1st and 2nd layer cities

Type of stakeholder	**Insert name of specific local stakeholder organisation**
Public administration	
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	

Public Services	
Police	
Emergency services	
Conventional public transport operators	
Operators of local transport (local bus, tram, (sub)urban rail, ferry, metro)	
Operators of national or regional transport services (train, long-distance bus)	
Conventional taxi companies	
'New mobility' providers	
Shared mobility operators that provide shared cars, (e-)bikes, scooters, motorbikes	
Peer-to-peer platforms that provide a platform for individuals to share vehicles or provide services (e.g. ride sharing): - carpooling (e.g. Blablacar) - peer-to-peer car rental (e.g. CarAmigo)	
Platform-based taxi services (Uber, Lyft)	
Data/Tech companies	
Wayfinding and route planning providers (e.g. Google Maps, Waze, TomTom, JoynJoyn)	
Mobility as a Service providers (e.g. Citymapper)	
Providers of smart technology for traffic management (e.g. Intelligent traffic management, smart parking	

and traffic monitoring service providers such as Kapsch, Siemens etc.)	
Energy providers	
Petrol station owners	
Electricity providers	
Providers of electric vehicle charging points	
Urban Logistics	
Logistics service providers (delivery, warehousing, consolidation centers)	
Local businesses (shippers and receivers of goods)	
Vehicle manufacturers (when relevant locally)	
Cars	
Public transport (trains, trams, buses)	
Bicycles	
New and innovative means of transport	
Users	
Travelers' associations	
- Public transport passengers' associations	
- Drivers' associations	
- Cyclists' and pedestrians' associations	
Representatives of vulnerable groups	
- representatives of physically vulnerable (disabled, elderly, …)	

- socio-economically vulnerable groups (poor, ethnic minorities, immigrants, etc.)	
Residents	
Civil society organisations representing residents (e.g. neighbourhood committees)	
Local businesses	
Federations of business owners (e.g. chamber of commerce)	
Other	