D4.8: Set-up Report Budapest pilot

Redistribution of public space in Budapest 6th and 7th district

Deliverable

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Executive summary

The objective of the pilot is twofold: reallocating public space to reduce car dependency and increase the micro-mobility and active mobility options. The Budapest pilot project aims to increase the usage of the micromobility vehicles and shared mobility services.

The pilot project will focus on the city centre, it is very popular among people and tourists, and it is a densely populated area. The main street of this area is the Király street, which is handled by two different municipalities (6th and 7th district). The aim is to show the impact of changing the public space usage in this area with the creation of mobility points to park bikes and e-scooters that may support the adoption and user acceptance of micromobility and shared services.

This document presents how the pilot will assess the impact that the implementation of this mobility points will have on the users' acceptance, the operators' financial sustainability and on the city's triple bottom line (economic, environmental and social dimensions)..

To successfully implement and assess the impact, a wide variety of city stakeholders have been identified and will participate and support the pilot's activities beyond the pilot implementation, and finally, define the city specific policy response. The results coming from trials and sustainability assessment will be used to define new policies and to gain consensus with the most important potential stakeholders, in both, the passenger (demand side) and the shared mobility providers (supply side).

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1 Introduction

1.1 Aim of the deliverable

The aim of this deliverable is to be used as a reference document to guide and monitor the development of the pilot in WP4. It prepares the implementation of the SPROUT pilot in Budapest giving detailed information in terms of: (1) the mobility solution that will be implemented and tested; (2) the location, area and context where it will be introduced; (3) the specific actions required for its implementation and the role of the crucial stakeholders involved; (4) the identification of additional stakeholders to further enrich the pilot's ecosystem; (5) and a tailored evaluation framework to assess the pilot, derived from D4.1.

1.2 How this deliverable relates to other deliverables

D2.2 provides the baseline of the current mobility situation in each of the project cities, and D3.2 and D3.3 the definition of the expected impacts of the emerging mobility solutions without policy intervention. D4.1 provides the pilots with a generic evaluation framework they can adapt to the pilot specific case. Deliverable D4.8 will be the basis for deploying the activities under T4.3, T4.4 and T4.5 that will result in the impact assessment and city-specific policy response (D4.9) deliverable and the policy implementation messages from crosspilot results (D4.14).

1.3 Task Participants and sharing of contribution

The participants of this deliverable are the pilot leader (Budapest Közút Zrt.) and ZLC as T4.2 and WP4 leader. ZLC supported the pilot during the whole process for developing the deliverable. The pilot leader counted with some pilot partners such as Municipal government of the 6th and 7th district in Budapest and shared mobility providers.

1.4 Structure of Deliverable

The section that follows (Section 2) first describes the pilot mobility solution. Section 3 gives further detailed information about the location. It includes a description of the area, identified challenges (usage of the public space, parking of the micromobility vehicles). Section 4 contains a detailed action plan and an initial description of the pilot assessment activities and indicators. Afterwards, section 5 presents the legal and ethical issues may appear and how they will be addressed, the risk mitigation plan and the communication strategy. Finally, section 6 with the conclusions of the report.

2 Budapest pilot description

2.1 Micro -mobility in Budapest

Micromobility refers to modes of transport that have in common the short travel time and distance and the complementarity of traditional transport systems. We consider bicycles, scooters and various self-balancing devices (eg hoverboard, monocycle) as micromobility devices. In Budapest, shared services and micromobility devices operate in little or no regulated conditions. The most obvious consequence of this, is that in previous decades, due to the transport development practice that prioritized car use, the design of public spaces for the use of micromobility devices is unsafe and uncomfortable. In summer of 2020 there are 7 shared mobility providers in Budapest (3 car sharing: GreenGo, MOL Limo, SHARE-NOW; 1 e-moped: BlinkeeCity; 2 bicycles: MOL Bubi, Donkey Republic, 1 e-scooter: Lime).

The objective of the pilot is twofold: reallocating public space to reduce the car dependency and increase the micro-mobility and active mobility options. Budapest team are going to survey two use cases in the city centre of Budapest, which are detailed in the following section. The first use case is changing the traffic order in a designated area of 7th and 6th district. The second one is about introducing mobility points in the south part of 6th district. [definition of Mobility Point is in 2.4].

2.2 Pilot's use cases

The pilot area is in the city centre, which is very popular among young people and tourists, especially Király utca. This street is handled by two different municipalities (6th and 7th district). There are a lot of Airbnb properties[1], hotels, restaurants and pubs in the area. Public areas are currently car-centric, with parking spaces on both sides of the streets, with overcrowded narrow sidewalks.

The 6th and 7th District Municipality prohibits leaving shared micro-mobility vehicles in public areas. In the pilot area, there are a few trolleybus lines. On the border streets, there are many metro, tram and bus lines.

2.3 Use case 1: Planned traffic regulation changes

Budapest team scope is restricted to the *Király utca* between *Rumbach Sebestyén utca* and *Károly körút*. (Figure 1) Nowadays, this street is overcrowded because of the transit of vehicle traffic.

[1] Airbnb: Airbnb is an online marketplace that connects people who want to rent out their homes with people who are looking for accommodations in that locale.

Figure 1 Use case 1 as is situation: Király utca before the pilot interventions

The aim is to show the impact of changing the public space allocation in this area. Specifically, in this use case 1 there will be some one-way direction street changes in the southern part of the area (Andrássy út – Teréz körút – Erzsébet körút – Rákóczi út – Károly körút – Bajcsy-Zsilinszky út), most of the one-way streets will be opened for two-way cycling and there will be some new pedestrian zones as Figure 2 shows. Normally in Hungary it is not allowed to ride a bike or any micromobility device in the opposite direction in a one-way street. Before these changes it was difficult to move in this area, sometimes the users had to made detours when traveling. So, when pilot changes made there will be a lot of new shorter routes for bikers and micromobility users.

Figure 2. Use case 1: Planned interventions in the southern part of the pilot area.

2.4 Use case 2: Creation of micro-mobility points

Use case 2 will take place in the 6th district part, where mobility points will be created. Mobility points are dedicated small areas in public area for shared mobility service provider's vehicles to pick up and drop off (in Budapest e-scooters, shared bikes, carsharing are available). The pilot's scope is limited to the busiest area: Andrássy út – Nagymező utca – Király utca – Károly körút – Bajcsy-Zsilinszky út streets bordering area (Figure 3). By creating these mobility points, the project aims to react to the unregulated appearance of the micro-mobility services, especially e-scooters, we will understand if the already overcrowded public space by motorist traffic is getting worse (mainly due to street parking).Moreover, it will survey the further sustainability effect of creating approximately 80 mobility points, which will be implemented in the second half of 2020 September.

The network of mobility points will offer short-term parking spaces for e-scooters, bikes, cargo-bikes and e-mopeds. Using these points are allowed for private users and mobility service providers as well. These mobility points are 150 meters far from each other, it means users have to walk maximum 1 minute (75 meter) to reach one.

Budapest team aim is to show the behaviour change – based on service provider's data - of the users before and after the installation.

Figure 3. Use case 2: Area affected with new Mobility Points int the 6th district

2.5 Pilot challenges and expected benefits

Figure 4 shows the already identified problems, expected challenges and expected benefits from implementing these two use cases for improving public space allocation and micro-mobility management.

IDENTIFIED PROBLEMS

Lack of walkable places (sidewalks, public spaces etc.), high volumes of motorised traffic, perceived pollution, noise, safety concerns.

EXPECTED CHALLENGES

Motorists will be negatively affected by using surrounded areas.

.

EXPECTED BENEFITS

More liveable cities with open space for pedestrians and cyclists, and reastaurants and bars to intall terraces, and for green spaces; reduce traffic congestion and its negative impacts (pollution, noise, accidents).

Figure 4. Budapest pilot use cases challenges and expected benefits.

The motorised traffic will be excluded from the pilot area and the location will turn into a public space open for pedestrians and cyclists and also allowing restaurants and bars to install terraces. The motorised traffic will have to use the surrounding boulevards and avenues of the quarter; therefore, it cannot affect the residential streets of the area.

As it was mentioned before ,the main problem of public spaces is the high car use rate. In some streets, more than 70% of the street is used for moving and parking cars. It causes overcrowded sidewalks (most of them are very narrow, less than 1 meter) and lack of green areas. Installing mobility points creates the opportunity for people to lower car use needs, the municipalities can reallocate public space for green, sidewalks and terraces. The mobility points will increase the visibility of crossroads.

3 Stakeholders identification and involvement

Table 1 contains the pilot partners' contribution and likewise inputs coming from other stakeholders that will participate in the pilot activities too (see annexe 1 for further details).

Table 1. Budapest pilot stakeholders contribution.

Municipal Government of 6th district and of 7th district

- Support in enforcement and data collection
- In charge of communication and public engagement
- Validate the new regulatory framework and service providers' operation contracts

Police and Public space supervisors

- Informed about the pilot and ensure the success implementation

Budapest University of technology and economics

- Workshops during all the WP4 remaining tasks

MOL-Bubi, Lime, Donkey Republic (shared e-scooter providers)

- Communication activities
- Data collection
- Workshops participation

Cyclist association

- Workshops
- Surveys

Local business and local residents

- Potentially involved in workshops, surveys

4 Implementation and evaluation plan

Figure **5** is a Gantt diagram with Budapest pilot WP4 activities divided into three blocks. Each block contains the specific actions that will be implemented in every task further detailed in the following sections.

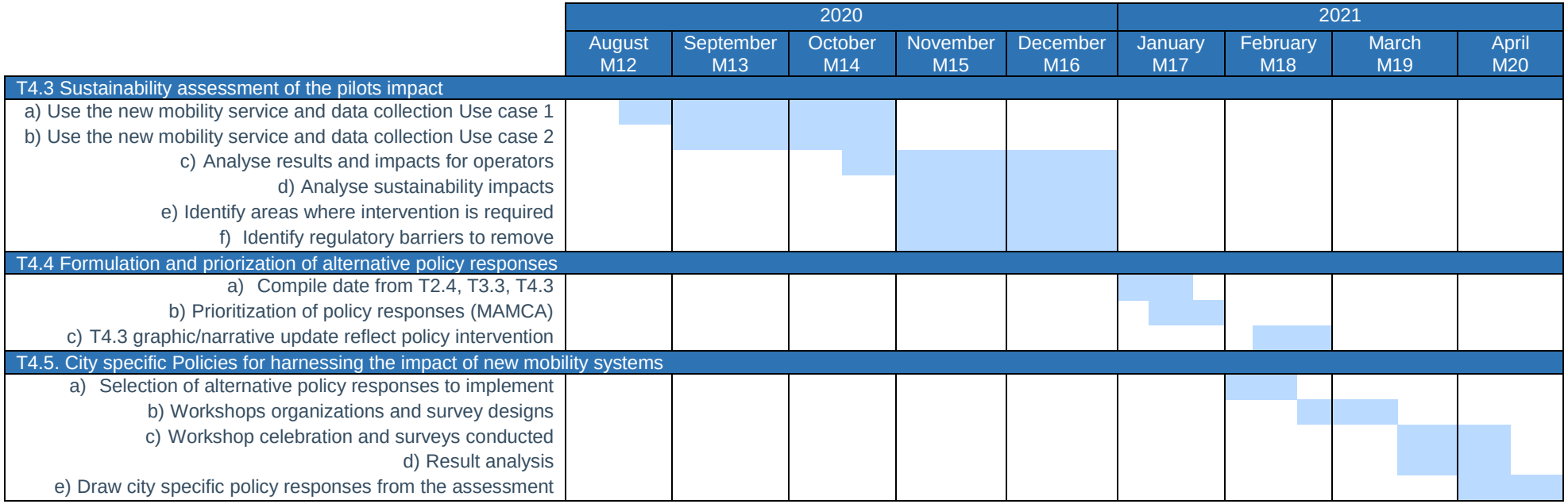

Figure 5.Pilot 1 WP4 activities timeline.

4.1 T4.3 Sustainability assessment of the pilots' impacts

4.1.1 Use case 1: Description of the activities to test the mobility solution

Use case 1 will contain a lot of traffic regulation changes around the pilot area. Budapest team expects that they will have a big impact on the pilot area. At the pilot area, the road traffic will be banned, there will be a new pedestrian zone with only load and authorised traffic. Nearly 40 parking places will be closed. These changes had been made from the 15th of August. This is a pilot change, maybe there will be some small changes. The testing will be finished in October. At that time the stakeholders will decide whether they will keep these changes or made it back to the original traffic regulations.

4.1.2 Use case 1: Assessment preparation.

One of the main objectives of this use case is to create a more liveable city with more space for walking, cycling, recreative activities, and also green spaces. To achieve this objective, the team will measure the usage of public space following Gehl's method, which consists in a Public Space Public Life (PSPL) survey to analyse the relationship between public space and public life, as well as the use. The survey results (quantitative and qualitative indicators) will help to understand citizens mobility behaviour patterns and activities, which may support improved decision making towards constructing and remodelling high-quality and liveable public spaces.

The second objective of this use case is to swap cars for micro-mobility vehicles, therefore, the team will investigate how the space reallocation has influenced this change and measure all the impacts from different stakeholders view:

- Operators operational feasibility and financial sustainability following D4.1 guidance or adapting when appropriate
- Environmental impact following D4.1 guidance or adapting when appropriate
- Users acceptance with surveys, local workshops
    - Bikers, e-scooters
    - Neighbourhood;
    - Restaurant and bars
- Cargo loading changing behaviour (Local markets delivery times)

4.1.3 Use case 2: Description of the activities to test the mobility solution -

At use case 2, there will be created micromobility points around the pilot area. We expect that there will appear more micromobility device users in the pilot area. In that use case, Budapest will cooperate with the shared mobility providers (Lime, Donkey Republic) to collect user data. The monitoring of the usage of the private micromobility vehicles is also important, so the average occupancy of the Mobility Points and the traffic of the micromobility vehicles in the surrounding roads will be measured.

4.1.4 Use case 2: Assessment preparation

For this use case, we will not be able to calculate financial indicators. It depends on the shared mobility providers operating in market base.

For the environmental impact assessment, we will follow D4.1 guidance and adapt when appropriate.

For the acceptance, surveys and workshops will be the methods we will use.

4.2 T4.4. Formulation and priorisation of alternative policy responses

4.2.1 Use case 1 & 2: Description of the activities

Budapest team wants to use the results of this pilot to cooperate with MAÚT (Hungarian Road and Rail Society) to review the urban planning regulations. The team wants to cooperate with the ITM (Innovation and Technology Ministry) to review the road traffic regulations. So, the team will develop a list of alternative policy responses. This list of alternative policy responses will consider:

- The adaptation of current policy elements/instruments (e.g. SUMP);
- The integration of urban mobility policies with other policies such as urban planning, social policy (e.g. vulnerable & different cultural background groups), gender-sensitive policies, employment policy (e.g. concerning on-demand logistics), financing policy;
- Policies to help urban mobility innovators overcome regulatory obstacles (e.g. innovative deals).

4.2.2 Use case 1 & 2: Assessment preparation

4.2.2.1 Research questions

- *How deeply should the policy go into the restriction of personal ownership?*
- *How to prioritize the policies considering stakeholders preferences?*
- *How to be a micromobility-focused policy*?

4.2.2.2 Performance indicators, data collection and assessment methods

Based on the results of T3.3, ‘Policy impacts of future urban mobility scenarios’, and T4.3, ‘Sustainability assessment of the pilots’ impacts’, a list of alternative policy responses will be developed for Budapest. These alternative policy responses will be ranked and prioritized, considering the preferences of the stakeholders involved and already selected in January,

2020. The ranking and prioritizing will be done through a MAMCA, a Multi-Actor-Multi-Criteria analysis (see D4.1)..

4.3 T4.5. City Specific Policies for harnessing the impact of new mobility systems

The objective of this section is to include a description of the activities the pilot will perform to assess the different alternative policy responses identified in T4.4. It will measure the implementation feasibility as the combination of several dimensions (legal, operational, financial) and user acceptance.

In Budapest, operational and legal policy recommendations will be tested during the pilot phase. With the changes of the usage of the public space, operational and users' acceptance aspects will be measured.. In the data collection phase there will be workshopsand online surveys to the pilot's stakeholders ,users and citizens in the targeted area.

4.3.1 Use case 1&2: Description and objectives

In this section the main focus will be on the generic research questions for each use cases.

4.3.2 Use case 1&2: Assessment preparation

4.3.2.1 Research questions

1st Use case:

- *Will the usage of the public space increase and improve liveabilityl*
- *Will there be more micromobility users in the targeted area?*

2nd Use case:

- *Could the shared mobility providers operate financially sustainable?*
- *What are the main legal and operational issues?*
- *How will change the behaviour of the usage of the public space?*
- *What percentage of the users will not use the new virtual docking stations (mobility points)*

4.3.2.2 Performance indicators, data collection and assessment methods

In Budapest, there will be measured legal, operational and user acceptance KPIs. Data will be collected directly from the shared mobility providers, and there will be survey for the users and the citizens' acceptance and workshops where the different city stakeholders will participate (see Table 2).

Table 2. *List of indicators for measuring Budapest pilot use cases implementation feasibility.*

Indicator	Description	Type of indicator	Description of the methods, the data inputs,	Limitation	Remark
Policy implementation feasibility (legal)					
Legal framework compatibility	This indicator responds to que question: *Is there any regulation that hinders the policy adoption that cannot be modified (policymakers)?*	Qualitative -Policymaker. Expert opinion.	Surveys and open discussion (policymakers).	Not foreseen	
Policy implementation feasibility (operational)					
City Investment costs	This indicator responds to the question: *Do you think that the city can assume the investment costs require for widely adopting the mobility solution by the city with this policy framework?*	Qualitative -Policymaker. Expert opinion.	Surveys and open discussion (policymakers)	Expert's opinion.	Reach policymakers with financial background,
City Operational cost	This indicator responds to the question: "*Do you think that the city can assume the operational costs require for widely adopting the mobility solution by the city with this policy framework?*"	Qualitative -Policymaker. Expert opinion.	Surveys and open discussion (policymakers)	Expert's opinion.	Reach policymakers with financial background,
City Revenues	This indicator responds to the question: *Do you think that the city will increase the*	Qualitative -Policymaker. Expert opinion	Surveys and open discussion (policymakers)	Expert's opinion.	Reach policymakers with financial background

	incomes from widely adopting the mobility solution by the city with this policy framework?				
User acceptance					
Probability of using the service	Potential users' subjective likelihood that they will use the mobility solution with the alternative policy framework	Qualitative: Users opinion	Questionnaires	Number of people asked not very representative. Users' opinion.	

5 Pilots management

5.1 Legal & Ethical issues

A described in the *D4.1 Pilot evaluation Framework,* cooperation in SPROUT activities is entirely voluntary at all stages and must be based on adequate information about the general purpose and nature of the project. For all activities in the pilot, it is planned to use fully rational adults that can understand and consent to their involvement in the pilot. This means that they will be in a position to understand their role in the pilot.

To be able to pay special attention to the needs of vulnerable groups and users with different cultural backgrounds considering gender issues and embed those special needs into its proposed city-led policy response, the pilot might need to collect vulnerable-groups, different cultural backgrounds, gender data.

5.2 Risk identification and mitigation plan

Table 3. Risks, contingency and mitigation actions (including COVID-19).

Task#.#	Risk description	Contingency action	Mitigation Action
Task4.3	Delays (COVID-19)	Try to anticipate all the paperwork	Alternative testing area
T4.3, T4.4, T4.5	Lack of stakeholders engagement	Provide them with incentives to participate	Broadcast a new request to involve new representatives; bring experts from forums.
	Delay in implementation (administrative causes)	Continuous communication with authorities and stakeholders	Alternative testing area

5.3 Communication strategy and channels

The pilot will follow the communication strategy and channels stated in the D4.1

6 Conclusion

The growing fuel-based mobility in the Budapest historic centre is deteriorating air quality and traffic jams. Parking in this area is also becoming impracticable. The pilot aims to try to reduce private vehicles' traffic and provide alternative modes of transport to the citizens.

The cross-section of downtown streets is finite (there is no space enough to create an extra lane for micromobility), so, we will try to make it more pleasant for sustainable bikers, e-scooter and shared mobility users. It will test the redistribution of the public sphere that includes space for modern shared modes of transport..

During the pilot, we will analyze the impacts of the changes to give directions to decision-makers to change regulations and make public places more liveable. It will lead to legal innovations, help to allocate public space and define regulations more adequately..

Anexe 1: Stakeholders identification

Table 4 gives detailed information about the stakeholders will participate in the pilot in Valencia. It explains the type of contribution and how they will be contacted if needed.

Table 4. Pilots stakeholder's identification and involvement

Type of stakeholder	Name of specific local stakeholder organisation	Involvement
Public administration		
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	Municipal government of 6th district;	The Municipality of the 6th district is responsible for the operation of public space (along with the Budapest Közút public road operator). The Municipality operates parking management and public area enforcement. The municipalitiy will be involved in the following tasks: - communication and public engagement - validate the regulatory framework and the service provider's operation contracts - support in enforcement and data collection
	Municipal government of 7th district;	The Municipality of the 7th district are responsible for the operation of public space (along with the Budapest Közút public road operator). The Municipality operates parking management

		and public area enforcement. The municipality will be involved in the following tasks: - communication and public engagement - validate the regulatory framework and the service provider's operation contracts - support in enforcement and data collection
	The Municipality of Budapest	The Municipality of Budapest (along with BKK) is responsible for the strategic mobility planning, development, parking management and public space reallocation management of the city. The municipality of Budapest will be involved in the following tasks: - communication and public engagement - development of the general regulatory framework and cooperation framework with the service providers
Public Services		

Police	Local Police	The Local police is responsible for law enforcement and depends on the City hall. Local Police will be informed about the pilot.
Public space supervision	Metropolitan Municipal Law Enforcement Directorate (FÖRI)	FÖRI is responsible for keeping order in the dedicated (those public place that is their authority) public place. FÖRI will be informed about the pilot.
Public space supervision	Public place supervision office of 6th district	This office is responsible for keeping order in the dedicated (those public place that is their authority) public place. This office will be informed about the pilot.
Public space supervision	Public place supervision office of 7th district	This office is responsible for keeping order in the dedicated (those public place that is their authority) public place. This office will be informed about the pilot.
Technical partners		
University	Budapest University of Technology and Economics	One of the oldest technical university in Hungary. There is a lot of research going on in the topic of the pilot. They are involved in the

		workshops.
'New mobility' providers		
Shared mobility operator that provide shared bikes	MOL Bubi	MOL Bubi colleagues will bring expertise and experience of implementing docking stations in public space. MOL Bubi is responsible for operating public bike sharing bikes. MOL Bubi will be involved in communication and preparation activities, workshops, and data collection.
Shared mobility operator that provide e-scooters	Lime	Lime is responsible for operating shared e-scooters. Lime will be involved in communication activities, workshops, and data collection.
Shared mobility operator that provide shared bikes	Donkey Republic	Donkey Republic is responsible for operating public bike sharing bikes. They will be involved in communication activities, workshops, and data collection
Local businesses		
Randomly selected restaurants and pubs		T4.3
Potential Stakeholders		
Cyclists' and pedestrians'	Cyclist association	This association will be informed about the

associations		pilot to support in the dissemination activities and also involved in the workshops.
Potential Users - Residents		
Civil society organisations representing residents (e.g. neighbourhood committees)	Randomly selected neighbourhood committees	Task 4.3