O.T3.1 PILOT ACTION 2

Partner template

Version 2

Project index number and acronym	CE1100 LOW-CARB
Lead partner	PP1 - Leipzig Transport Company (LVB)
Output number and title	O.T.3 Pilot implementation of multimodal mobility information systems and applications
Deliverable number and title	O.T3.1 Output factsheet pilot action 2
Responsible partner(s) (PP name and number)	PP11 - SZKT
Project website	www.interreg-central.eu/low-carb
Delivery date	30/11/2020
Status	Final

Summary description of the pilot action (including investment, if applicable) explaining its experimental nature and demonstration character

A thorough stakeholder involvement process resulted in long-running debates concluded with the elaboration of a PT master plan with clearly defined objectives and measures. In LOW-CARB, SZKT extended its stakeholder involvement process to companies for planning low-carbon mobility PT offers for the pilot area of Szeged's Industrial Logistic Centre which is located in the outskirts (FUA). This pilot area is characterized by a marginal PT offer and generates congestion in the rush hours which causes negative environmental impacts at the city level. Furthermore,SZKT continued its modernisation and extension of PT in the FUA by integrating on open-data based planning approach. Thus, SZKT examined the quality of public transport services offered for employers and employees in the pilot area, and, for the very first time, a light industry and commerce dominated area in Szeged was examined so closely by many different perspectives in terms of mobility. To experiment with big-data

based mobility planning methods, SZKT developed and tested a passenger counting technique based on WiFi sensor data as a first part of the pilot action. As a second part, it developed a CO2 calculator integrated into its travel planner, with the purpose to educate commuters about the ecological impact of their travel behavior.
As the planning area is the biggest industrial area of Szeged with more than 3000 employees and major employers also, and it seems that Pick Zrt. will move its headquarter to this area, too. New mobility solutions were developed in the project and will be even more in the future. After the examination of the action plan, in the realization phase the ITS service, ticket selling infrastructure but also the bike roads will be developed in order to offer a more reliable and attracting reach time but also more comfortable ways to target this area.

NUTS region(s) concerned by the pilot action (relevant NUTS level)

The pilot action will affect the mobility method (including a more reliable and greener mobility) of a NUTS Sub-region HU333, Csongrád county. This region means 4 263 km² of landscape and almost 400 000 inhabitants. The local level consists from 281 km² of surface and 170 000 inhabitants. Szeged is the third largest city in Hungary near the southern border of the country. At Szeged there are two PT operators: SZKT is responsible for the electric public transport (tram and trolleybus operations with minor bus service) and Volánbusz Zrt. is operating the bus lines.

Investment costs (EUR), if applicable

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Expected impact and benefits of the pilot action for the concerned territory and target groups and leverage of additional funds (if applicable)

Due to territorial separation of Szeged's north industrial area, the intermodal mobility in the FUA has a key importance. The data collected with the WiFi passenger counting methodology will contribute to making real-time adaptations in planning possible, and the CO2 calculator will help to better inform and educate commuters to the planning area, but also in the whole FUA. As complementary measures to the action plan for sustainable workplace mobility, the pilot action will contribute data-based planning and information, with the overall objective to reduce the travel time, number of interconnections for more flexible travel modes of employees working at FUA of Szeged. For long term plan it is included to enhance the bicycle route and to have one or more direct public transport lines to the area (in addition to the existing line).

Sustainability of the pilot action results and transferability to other territories and stakeholders.

The pilot action will make Szeged's traffic and mobility management more sustainable in a long run. Actions formulated and steps made in pilot action 2 are sustainable in the mid- and long term perspective. Replicating the WiFi counting method or the CO2 calculator, or, generally, the open-data based mobility platform, will only require minimum or medium investments. Achievements, planned next steps and activities can be transferred and adopted by cities with similar geographical and demographical parameters. For a city with 150-200 thousand of inhabitants in the region it can be most likely very useful to adopt partially or fully the lessons learnt in Szeged, but also the mobility planning techniques based on data. With identical or similar scenarios, it is most likely that solutions in our city can be transferred and adopted by others.

Lessons learned and added value of transnational cooperation of the pilot action implementation (including investment, if applicable)

Before realizing the pilot action at Szeged, it was important to explore the options and to collect the know-how regarding all sub-topics of the pilot, to have clear and complete picture about the goals and also to make a comprehensive analysis of the context and requirements. For this reason, communication with local project partners and and a good cooperation is crucial, also a good flow of information. We are grateful to have had this good collaboration. Other noticeable lessons learnt regarding all pillars of Low-Carb project: how to conduct surveys in the future, how to integrate collected data into our open-data concept and what are the biggest bottlenecks during the implementation of actions.

Contribution to/ compliance with:

- relevant regulatory requirements
- sustainable development - environmental effects. In case of risk of negative effects, mitigation measures introduced
- horizontal principles such as equal opportunities and non-descrimination

During the implementation phase of the project SZKT had to respect several legal aspects, most likely regarding data collection, handling and processing. In all thematic pillars we encountered minor issues regarding data.
During the realization of surveys connected to the action plan for Szeged's FUA (Norh-Western Industrial area) we had to comply with GDPR regulations as from 25th may 2018. For the Wi-Fi based passenger counting system it was also important, that hardware devices used for continuous passenger counting to be in compliance with all international IT regulations. Regarding the CO2 based mobility planner application it can be said, that respecting the actual and applicable privacy policy rules regarding personal data handling was a challenge.
Regarding environmental effects of the pilot, it can be said, that measures realized during the project but also for mid- and long-term aims will make the mobility of FUA Szeged even more environmentally friendly and sustainable as it is today.

References to relevant deliverables (e.g. pilot action report, studies), investment factsheet and web-links
If applicable, additional documentation, pictures or images to be provided as annex

Deliverable references:
D.T3.7.2 Pilot handbook
D.T1.4.2 Strategies handbook
D.T1.5.1-4 SZKT action plan
D.T3.2.4 Report pilot action 2
D.T.3.2.2 Documentation and validation WiFi passenger counting
D.T.3.2.3 Documentation and validation of CO2 calculator

The Wi-Fi based passenger counting system surface:

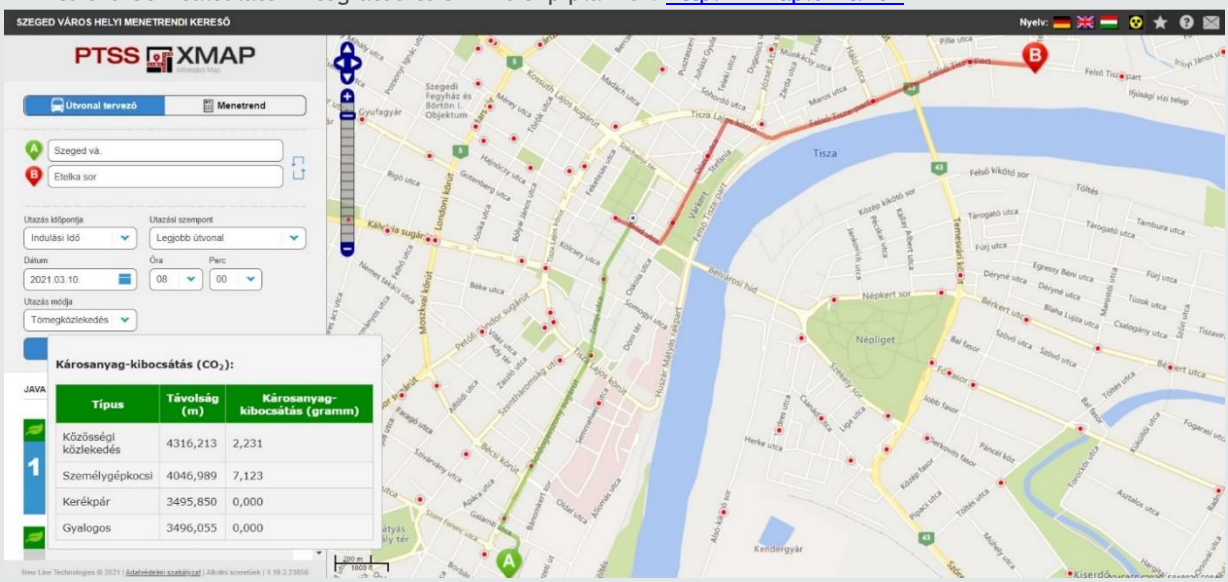
Home > SZKT > WifiScanReports > WifiScanReport

DateFrom 2020. 09. 21. NULL DateTo 2020. 09. 30. NULL
GetOn True False NULL TaskRef NULL
SeenCounter >= NULL ClientMacAddress NULL
VehicleJourneyPrivateCode NULL VehicleRegNumber NULL
TaskItemRef NULL LineName NULL

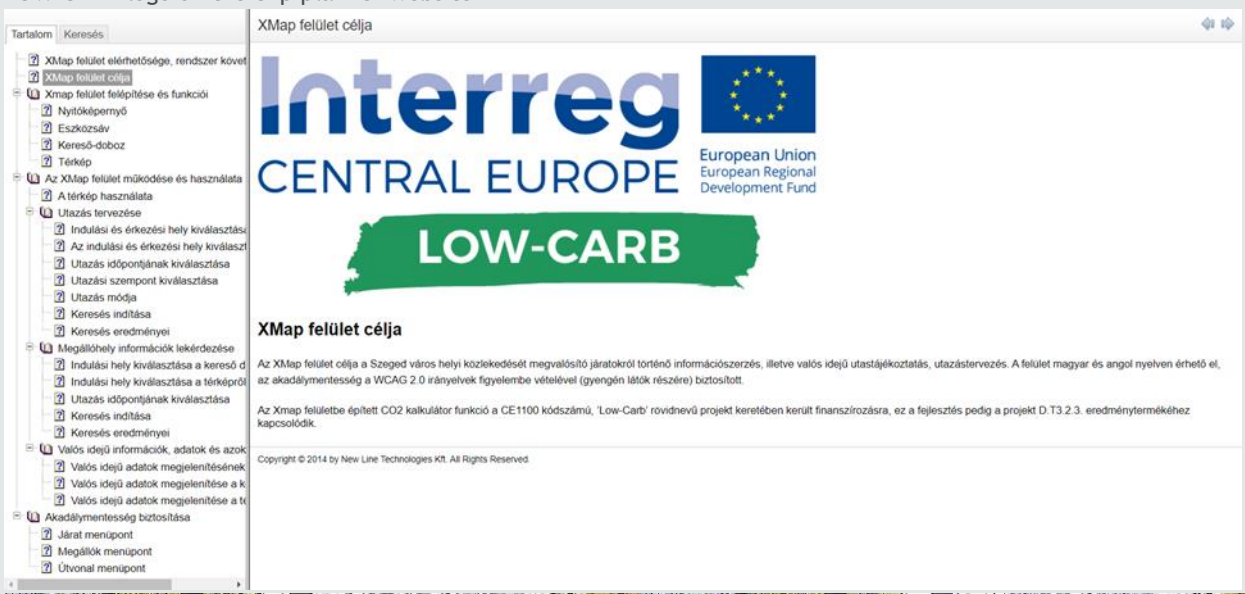
1 of 2 ? Find | Next

Task Ref	Task Item Ref	Stop Point Name	Line Name	Route Name	Vehicle Journey Private Code	Vehicle Reg Number	Estimated Departure Time	Estimated Arrival Time	Observed Departure Time	Observed Arrival Time	Get On	Event Time	Seen Counter
5701050	2	Csillag tér (Budapesti krt.)	10	Tarján, Víztorony tér - Klinikák	2451911	T603	9/27/2020 6:29:00 AM	9/27/2020 6:29:00 AM	9/27/2020 6:30:40 AM	9/27/2020 6:30:11 AM	True	9/27/2020 6:30:20 AM	6
5700323	11	Szent György tér	4	Kecskés - Tarján	2454638	V208	9/27/2020 10:49:00 AM	9/27/2020 10:49:00 AM	9/27/2020 10:49:49 AM	9/27/2020 10:49:20 AM	True	9/27/2020 10:49:28 AM	3
5700323	14	Rózsa utca (József A. sgt.)	4	Kecskés - Tarján	2454638	V208	9/27/2020 10:52:00 AM	9/27/2020 10:52:00 AM	9/27/2020 10:53:05 AM	9/27/2020 10:52:30 AM	False	9/27/2020 10:52:37 AM	3
5700324	2	Szalámigyár	4	Kecskés - Tarján	2454641	V208	9/27/2020 11:36:00 AM	9/27/2020 11:36:00 AM	9/27/2020 11:36:20 AM	9/27/2020 11:35:54 AM	True	9/27/2020 11:36:14 AM	2
5700324	5	Szivárvány kitérő	4	Kecskés - Tarján	2454641	V208	9/27/2020 11:40:00 AM	9/27/2020 11:40:00 AM	9/27/2020 11:39:44 AM	9/27/2020 11:39:13 AM	False	9/27/2020 11:39:12 AM	2
5700324	2	Szalámigyár	4	Kecskés - Tarján	2454641	V208	9/27/2020 11:36:00 AM	9/27/2020 11:36:00 AM	9/27/2020 11:36:20 AM	9/27/2020 11:35:54 AM	True	9/27/2020 11:36:10 AM	2
5700324	5	Szivárvány kitérő	4	Kecskés - Tarján	2454641	V208	9/27/2020 11:40:00 AM	9/27/2020 11:40:00 AM	9/27/2020 11:39:44 AM	9/27/2020 11:39:13 AM	False	9/27/2020 11:39:14 AM	2
5701418	6	Vitéz utca	4	Kecskés - Tarján	2454634	V203	9/27/2020 9:22:00 AM	9/27/2020 9:22:00 AM	9/27/2020 9:32:38 AM	9/27/2020 9:32:15 AM	True	9/27/2020 9:32:16 AM	7
5701418	15	Deák Ferenc Gimnázium	4	Kecskés - Tarján	2454634	V203	9/27/2020 9:33:00 AM	9/27/2020 9:33:00 AM	9/27/2020 9:40:36 AM	9/27/2020 9:40:31 AM	False	9/27/2020 9:40:16 AM	7
5700215	8	Tisza Lajos krt. (Károlyi u.)	4	Kecskés - Tarján	2454597	V204	9/27/2020 2:23:00 PM	9/27/2020 2:23:00 PM	9/27/2020 2:24:35 PM	9/27/2020 2:23:42 PM	True	9/27/2020 2:24:35 PM	6

Link to the CO2 calculator integrated to SZKT's trip planner: http://xmap.szkt.hu/



LOW-CARB logo on the trip planner website



Pictures from Szeged showing camera-based validation of the WiFi passenger counting method. Source: SZKT.

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