Interreg CENTRAL EUROPE

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GreenPATH

Annex 1
Action Plan Template

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1. Introduction

Territorial context: The project includes the Kecskemét Functional Urban Area (FUA), which includes 23 settlements in addition to the central city of Kecskemét. The population of Kecskemét FUA is approximately 185,000, of which the population of Kecskemét is approximately 108,000. Economically, it was a market town, but today it is a center for the mechanical and automotive industries, and its industrial parks currently employ tens of thousands of people white-collar worker and blue-collar worker positions too.

The challenge: The background to the creation of the pilot was the previous demand made by large employers, who were aware that there were scattered demands for local bus services to be available to them from the train station at least every 30 minutes during the daytime between peak periods. The reason behind their request was that trains arriving and departing from Budapest and Szeged should be directly accessible, without transfers, for their employees and customers who have some kind of obligation to the company during this period, by personal appearance. The volume and dispersion of the demands actually represented a disadvantage during the implementation. The main problem was that neither the specific number of passengers nor the frequency of travel was clarified, but at the same time the demand was there for us.

Another disadvantage is that although the population of the FUA should have been reached, our service only covers the administrative area of Kecskemét, meaning we have no influence on traffic outside the city's administrative area, and the easiest way to advertise was on our own social media pages, supplemented by related news from local and regional online news sites.

Development process: We were able to address primarily stakeholders 1-3 regarding the work arising in connection with the pilot. Bilateral negotiations took place with the Municipality and the Transport Service Provider (ITK Co.). Multilateral negotiations usually took place with large employers, an online meeting specifically for the decision-making and request for help (feedback, promotion) related to our pilot project, to which we invited representatives of all the large employers involved. The challenges were clear in that the demands made by the large employers were declared to be scattered, non-regular demands. At the same time, the demand for a regular, 30-minute service during the daytime between peak hours was already on the agenda in previous negotiations. Our pilot project was created to test this under real conditions.

Overview of the action plan: The preparation of the pilot project required a lot of background work and there were also measures that helped the marketing of the pilot itself or the daily operational use. The demand-responsive journey booking interface had a preliminary test run, based on which it was possible to improve, fine-tune the program, and test whether our technical tools could also reliably handle the booking system and its administrative background. After that, we held a press conference, at which the Municipality, as the owner (and as a stakeholder), appeared. Here, we provided information not only about the creation of the pilot, but also about its basic essence and use. Some local and regional (primarily online) news portals reported on this. In addition, we held a closed workshop, at which, in addition to our own colleagues responsible for the planning, testing and operation of the pilot, some representatives of stakeholder number 2, i.e. Inter Tan-ker Co., also appeared. This workshop was important for them because, as a Service Provider, they provide both the bus drivers and the buses. The bus driver who is quasi-dedicated to this pilot bus service also attended the workshop, and he was also able to practice the administrative (validation) tasks of the driver on the demand-responsive service ordering interface.

The action plan consists of the following main elements:

Testing the reservation system, the aim of which was to check the technical operation and identify errors.

A communication campaign and press conference aimed at informing the target group and increasing awareness of the service.

In the case of a stakeholder workshop, the goal was to prepare the operational actors and coordinate the implementation of the pilot.

A test operation of a demand-responsive journey, where the goal was to examine real user needs and the functionality of the service.

2. Policy & Strategic Framework

The Interreg CE GreenPATH project is not related to a single, specific action plan or policy, but is part of a general, extra transport development-transport organization service. The experiences gained here can of course be utilized in the following documents. From a political point of view, it was an advantage that the local government, as our owner (and stakeholder), expressed its support for us, emphasizing in particular that this pilot project also meant the city's first demand-responsive bus service, which also meant an interesting test opportunity for the government to try out this mode of transport. Since our task is to use the resources entrusted to us as efficiently as possible, the operational and financial experiences gained during the demand-responsive pilot project contributed to the fact that direct, own consequences could be drawn both from the demand-responsive service itself and from the real travel needs of the area served in this way. The pilot project was a service development opportunity that provided flexible service in response to passenger needs, while filling a time of day when there were previously poorer access options to the industrial area.

Strategy / Plan / Policy	Level	Relevant objective or measure	How this Action Plan contributes
1. Sustainable Urban Development Strategy (FVS)	*urban*	This is the most important strategic document that defines the development directions of the city until 2030. Particularly relevant topics: climate adaptation, energy efficiency, green infrastructure, sustainable mobility.	*It promotes energy efficiency and sustainable mobility.*
2. TOP Plus Urban Development Program Plan (TVP)	*urban*	This already contains specific projects and investments. Development directions that are interesting for the Project: bicycle infrastructure, public transport, smart city services.	*As a pilot project, it contributes to the long-term development of public transport by analyzing it.*
3. ZIFFA - Green Infrastructure Development and Maintenance Action Plan	*urban*	Main topics that may be important for the Project: urban ecological network, ecosystem services.	*It helps maintain the urban ecological network and the ecosystem.*
4. Integrated Urban Water Management Plan (ITVT)	*urban*	This document may be interesting for the Project in some ways, such as the topic of green infrastructure.	*The document and the pilot can be linked through the theme of green infrastructure.*

5. Climate Strategy:	*urban*	CO_2 emissions, energy, public awareness, climate neutrality are of particular importance for the Project.	*From the perspective of the Project, CO_2 emissions, efficient energy use, public awareness-raising, and climate neutrality can be related points.*
6. Sustainable Mobility Plan (SUMP):	*urban*	The previous SUMP still provides a good basis today. Main topics: cycling, public transport, intermodality, transport digitalisation.	*The Project can be of help in terms of intermodality of public transport.*
7. Environmental Programme:	*urban*	This includes, for example, air quality, noise, environmental monitoring.	*The role of air quality and noise pollution appears.*
8. Digital transition strategy materials:	*urban*	They can highlight the modern technical side of the Project's approach, such as data management strategy, smart city analyses, smart governance.	*With the new, IT-based booking and control system, the project can draw attention to data management, simpler smart city solutions, and technological approaches to public transportation needs.*

3. Stakeholder Analysis

Organisation / Name	Contact details	Sector Public / Private	Role	Involved in Actions
Municipality of Kecskemét		*municipal*	*ownership and support role*	*Supports the implementation of the project, gives its consent as an owner*
Inter Tan-ker Co.		*private (corporate)*	*Public transport Service Provider*	*Pursuant to the Public Service Contract, it fulfills the timetable requests received from the customer (Transport Operator)*
Large employers		*private (corporate)*	*economic operator and employer*	*They assess the needs of their employees and partners, report any emerging needs to us, and help us with their feedback to improve our work.*

Local passengers		*private (client)*	*existing or latent local passenger*	*Potential local passengers on pilot journeys*
Commuter passengers		*private (client)*	*existing or latent commuter*	*Potential commuter passengers on pilot journeys*

4. Objectives

The basic goal was to facilitate travel between the Railway Station and the Southern Industrial Area during the daytime between peak hours, when the area cannot be reached or can only be reached by transferring. With the demand-responsive bus services created based on the scattered demands received in advance, we wanted to achieve the goal of meeting these scattered demands in terms of both geographically and time, in accordance with previous requests.

The specific aim was to increase the proportion of public transport use in the modal split, assuming that according to the requests made against it, more requests will come from the area to use the demand-responsive pilot bus service. Our pilot was linked to three measurable objectives, which acted as key performance indicators (KPI): Number of journeys launched divided by the number of announced journeys (only with DRT data), Number of DRT journeys launched divided by the number of all announced scheduled departures, The rate and change of passenger exchange at a given stop (which stop handled what amount of passenger traffic).

These key indicators help with several things. On the one hand, they show the change in the proportion of demand-responsive services launched to the announced demand-responsive services, as well as in comparison to the entire network. On the other hand, the number of passenger changes at stops shows the main directions that were most used, and how much traffic each stop served compared to previous demands.

The following tasks are the main ones in the implementation of the action plans related to the pilot, which will be implemented and reviewed afterwards.

- Investigate the advantages and disadvantages of implementing the pilot.

Advantages:

Introduction and practical testing of the first demand-responsive bus service.

Testing the DRT operating model in a real operating environment.

Ensuring the connection between the train station and the industrial area during the off-peak period.

Investigating whether an adequate mobility service can be provided with less frequent operation of traditional scheduled services.

Gathering experience for later DRT developments.

The introduction of the city's first DRT service provided valuable experience for the transport planner and the operator.

It allowed the testing of the reservation system, dispatching processes and the operating model.

It helped to assess the openness of the population and employees towards the new service form.

It provided a public transport connection at a time when the utilisation of traditional scheduled services is generally lower.

It could reduce unnecessary empty runs by adapting the transport to current needs.

It offered a more flexible service without having to maintain a dense timetable all day.

Disadvantages:

Potential passengers had to familiarise themselves with the operation of the new service and the booking process.

The operator was faced with a new task of organising and managing the DRT.

Initial operational fine-tuning was expected during the pilot.

Due to the lower number of passengers, it was more difficult to achieve high utilisation.

The potential user base was more limited than during peak times.

Increasing the awareness of the service could take longer.

During the implementation of the action plans related to the pilot, which will be implemented and reviewed thereafter, the following tasks are the most important, which we intend to carry out in the period 2026-2028, in order to ensure the long-term sustainability and development of the pilot in the local public transport system:

- Plan and implement a new passenger count, focusing especially on potential DRT areas.

Machine passenger counting and, if necessary, personal checks are carried out in potential DRT areas. The selection of measurement locations should take into account network priorities and the existing service structure. In DRT areas considered as alternatives to existing lines, more accurate passenger traffic data may be available for service planning.Collect and organize other needs related to the goals.

Need: Improving the accessibility of public transport

Goal: Serving low-traffic areas and peak times, addressing the first-last mile problem

Need: Reducing private car use

Goal: Providing an attractive alternative, adequate travel time, convenient booking, reliability

Need: Increasing the utilization of the service

Goal: Route planning tailored to passenger needs, dynamic journey organization, adequate capacity

Need: Improving the passenger experience

Goal: Easy booking option (mobile app, phone), accurate arrival information, short waiting time

Need: Supporting sustainable transport

Goal: Reducing emissions, energy-efficient operation, high utilization

Need: Introducing digital innovation

Goal: Building on the experiences of the DRT pilot project, we will begin to develop the IT and operational conditions necessary for the long-term introduction of demand-driven transport in the next two years.

Within this framework, we plan to introduce and further develop an integrated DRT software system that supports the entire process of the DRT service, from schedule planning and passenger information, through the reservation system and daily transport organization, to real-time vehicle tracking and data collection.

As part of the development, it is also necessary to develop an automated dispatch system that, when integrated into the daily transport organization processes, is able to create the most efficient service possible based on DRT needs. The prerequisite for this is that the systems used in scheduled transport and the data of the DRT system are properly integrated with each other, and the information necessary for the operation of DRT is also displayed on the bus drivers' on-board units (OBU).

The achievement of the above objectives represents a significant software integration and process development task, as a result of which the DRT service can be operated in an organic way, effectively and integrated into the daily operational processes, in line with the timetabled transport.

In addition to technological and operational developments, we will examine the economy and long-term sustainability of the DRT service, with particular regard to operating costs, vehicle and resource requirements, utilization, and the achievable efficiency gains. Based on the results of the study, it can be determined under what conditions and in what service model a wider, permanent introduction of the DRT system is justified.

Need: Examining the economics of the service

Goal: Monitoring costs, cost-benefit analysis, optimal fleet size definition

Need: Evaluation of the pilot

Goal: Definition of KPIs, measurement of passenger satisfaction, data collection, preparation of reports

- Review and prepare workflows related to the daily work of vehicles and bus drivers.

The preparation of daily tasks for vehicles and bus drivers is an integral part of the timetable service and is a regularly performed workflow. The process is adapted to the current timetable and operational situation, therefore it cannot be fully standardized in advance. The development of daily tasks is based on operational experience and the professional knowledge of the employees.

5. Actions

Action ID	A-01
Action Title	Launch of a demand-responsive pilot bus line
Type of Action	DRT bus line no.148 launched
Challenge Addressed	Meeting the needs expressed in previous consultations by facilitating the transportation of commuting workers in accordance with the Interreg CE GreenPATH directive.
Link to existing strategies	The Interreg CE GreenPATH project, is not linked to a single, specific action plan or policy, but is part of a general, extra transport development and transport organization service. The experiences gained here can of course be utilized in the following documents.
Description and Key implementation steps	1. Based on the needs we have received, to provide the best possible quality service to the group (commuting workers) allocated to us in the Interreg CE GreenPATH project.

	2. As a result of several internal professional consultations, create the final route of the pilot DRT bus line (or its variations) based on the semi-flexible route. 3. We tested the online booking interface in advance to ensure that it works properly, that the data is loaded as required, and that the appropriate information messages (e-mail, SMS) are received after the booking window closes. We also used this test interface for bus driver training at the internal workshop. 4. The DRT pilot bus line with the number 148 started on 1st June 2025 for a 6-month test period. 5. During the 6-month operation, we continuously monitored and checked whether everything was going well during the operation of the services (we checked the work of traffic controllers and bus drivers), and if help was needed, we provided professional and technical support. 6. In addition, we monitored the monthly passenger numbers, mileage, and which route variations within the DRT line are the most popular. 7. The pilot bus line operated until 30th November 2025. 8. Following the closure of the pilot, the processing and analysis of the final data, and the evaluation of the advantages and disadvantages began.
Responsible institution	Public Transport Centre of Kecskemét LLC. (KEKO LLC.)
Other institutions involved	Municipality of Kecskemét, Inter Tan-ker Co. (ITK Co)
Expected results	By launching the DRT bus, our goal was to cover the transportation needs of the Southern Industrial Area, which were previously not adequately served (providing direct access between the industrial area and the Railway Station). At the same time, our goal was to assess the real needs, comparing them with the needs provided to us by the large stakeholder companies.

6. Implementation Timeline

May 2024 – March 2025: Prepare our pilot project based on forecasted travel demand

April 2025: Finalization of the design of the demand-responsive pilot bus line

May 2025: Testing of the online journey booking interface

1st June 2025: Pilot launch

June 2025 – November 2025: Continuous feedback and professional, technical assistance

June 2025 – November 2025: Data analysis during pilot operation

30th November 2025: Pilot project closure

December 2025 – March 2026: Analysis of final data, preparation of statements

March 2026 – October 2026: Project summary and closure

These tasks are built on each other, and in the hierarchy, the only factor that matters is the time sequence. The sequence of actions is this because the preparation, implementation, and closure are also logically arranged in this way. During the operation of the pilot, there are tasks that are stacked on top of each

other, and the primary thing for these is that the pilot project itself is running. Feedback, professional and technical assistance, and intermediate analysis of data can only be implemented if the pilot test operation is continuously progressing in the meantime. The analysis of the final data, the preparation of statements, and their accuracy also depend on the efficiency and accuracy of the data collected during the operation of the pilot project.

7. Risk Analysis

Action ID	Risk	Likelihood (L/M/H)	Impact (L/M/H)	Mitigation measure
A-01-1	*Design flaw in the pilot project bus line*	*M*	*H*	*To provide the highest quality preliminary survey possible.*
A-01-2	The DRT pilot bus line is under-calibrated or over-calibrated.	*M*	*H*	*Based on the available data and knowledge of the location, it is best to create a middle ground.*
A-01-3	The online journey booking interface is not working properly; data errors and usability issues are occurring.	*L*	*M*	*The created online journey booking interface must be tested in advance to ensure that it works properly.*
A-01-4	Any issues arising from the launch of the DRT pilot bus line.	*L*	*L*	*Continuous monitoring during the pre-test period and at launch.*
A-01-5	There is some problem with the operation and transportation of journeys.	*L*	*L*	*Continuous monitoring and smooth communication during the pilot period. Providing professional and technical support.*
A-01-6	Incomplete or problematic data management.	*L*	*H*	*Continuous monitoring of passenger numbers and other performance data, continuous internal accounting of trips.*
A-01-7	Any issues arising from the closure of the DRT pilot bus line.	*L*	*H*	*Continuous monitoring during the pilot and at closure.*
A-01-8	Incomplete or problematic data management results in incomplete and distorted information during the final aggregation of data and the management of statements.	*M*	*H*	*Continuous monitoring of passenger numbers and other performance data, continuous internal accounting of trips.*

8. Financial Overview

Action ID	Action Title	Estimated cost (EUR)	Funding source	Status
A-01	*Launch of a demand-responsive pilot bus line*	*pilot implementation took place with existing operational costs*	*pilot implementation took place with existing operational costs*	*finished*
TOTAL	*Launch of a demand-responsive pilot bus line*	*pilot implementation took place with existing operational costs*	*pilot implementation took place with existing operational costs*	*finished*

9. Monitoring

May 2024 – March 2025: Prepare our pilot project based on forecasted travel demand.

The monitoring process here cannot be defined by a specific metric, but simply by the fact that at each meeting we developed the pilot bus service from some aspect (route management, operation, service ordering, etc.).

April 2025: Finalization of the design of the demand-responsive pilot bus line

Based on the previous workflow and monitoring, this is a relatively quick step, as it is the result of the previous planning process. Monitoring is only necessary based on whether the guidelines that we have recorded in the previous ones and that we need to specifically monitor are actually incorporated into the implementation of the pilot project.

May 2025: Testing of the online journey booking interface

Regular monitoring (multiple tests per day), complete test program again for each development step. Re-testing of developed, improved elements, as well as testing of previously working elements, to ensure that everything is visible and usable. The passenger side, the bus driver side and the administration side are also important.

1st June 2025: Pilot launch

The launch of the pilot could not have worked without the implementation of the previous work processes and their monitoring.

June 2025 – November 2025: Continuous feedback and professional, technical assistance

The monitoring already covered daily, practical tasks. We were able to adjust the information based on the requests and comments received from passengers from the customer service office. The primary monitoring tool was the measures and assistance related to the operation of IT tools from traffic service personnel and bus drivers. There were technical problems (fortunately rare), which we had to solve as soon as possible. But it also happened that the bus driver was operating the bus who was not entirely sure how to perform the bus service or on what device exactly to book the bus.

June 2025 – November 2025: Data analysis during pilot operation

The collection and monitoring of registration, booking, and travel data generated during the pilot operation helped us to have continuous, up-to-date information on the number of trips and mileage. We were able to manage this process together with feedback.

30th November 2025: Pilot project closure

The closure of the pilot project is an event in itself, not a process, as it was closed on 30th November 2025. However, monitoring is required in connection with its closure. Even before the closure, the journey booking interface must be closed in such a way that the passenger cannot book a journey on the date following the closure, and this closure must be checked. After the closure, it must be checked again that all IT systems and controls have been closed, the distribution of promotional information has been completed, and all journey bookings and trips have actually been logged.

December 2025 – March 2026: Analysis of final data, preparation of statements

After the pilot project data is closed, the summary and evaluation of booking, travel data, and mileage can begin, this time with regard to the entire duration of the pilot. Reports and analyses can be prepared from these. Monitoring is necessary in this case to ensure that all planned parameters of data collection and aspects of analysis are in place.

March 2026 – October 2026: Project Summary and Closure

Writing, summarizing, and publishing the remaining Work Package elements by the partner responsible for the given element of the WP. The pilot data is summarized and closed, and the Interreg CE GreenPATH project is also closed.

10. Conclusions

The essence of the Kecskemét pilot project was to serve the needs of commuters in some alternative way.

Building on previous demand, we created a demand-responsive bus line that served the Southern Industrial Area during the daytime between peak hours, providing fast and direct access from the Railway Station.

The pilot bus service was primarily aimed at commuters who worked atypical work schedules, had to arrive for meetings, or prospective employees who arrived for job interviews. The aim of the pilot was to reduce the need for individual motorized transportation and to create a fast, convenient, but demand-based service for the last mile in the forced transfers that arise during the commute.

Success is not the result of a single factor alone, but rather the proper management of the right processes.

Based on the previously expressed needs of large companies, the final route of the pilot DRT bus line had to be created through thorough internal professional consultations to provide the best possible service for commuters.

Part of the success was that we tested the online booking interface in advance to ensure that it worked properly and that the data was loaded as needed, and we tested this intensively from several aspects. We also used this test interface at the internal workshop to present the system and for bus driver training.

During the six-month pilot operation, we continuously monitored and checked whether everything was going well in the various operational workflows during the journey operations, and if help was needed, we provided professional and technical support. In the meantime, we also monitored mileage and other data, so that on the one hand there would be continuous feedback on the pilot's performance, and on the other hand, so that the processing, analysis and evaluation of the final data after the pilot's closure would show accurate data.

The involvement and connection of stakeholders in the project is multifaceted. The Municipality, as our owner, supported the implementation of the pilot, providing the financial background for the operation of

the company. Inter Tan-ker Co., as a service provider, provides the bus driver and the vehicle, and fulfills its contractual obligations based on the assigned tasks. In addition, it actively participated in the internal, professional workshop. The large employers indicated in the continuous, quarterly professional meetings what kind of public transport service demands they would have on us, which included the scattered constant demand, the actual survey and test of which was the pilot bus line. In addition, they received information materials, which we asked them to forward to their employees, and to indicate this method of transportation to those who wanted to get to the company for some reason. Local and commuter passengers contributed to the pilot with their registration, reservations, and trips.

The experiences of the pilot project provide a valuable basis for future transport development decisions. The professional, organizational and operational knowledge gained during the implementation made it clear that the introduction of a demand-driven service requires complex preparation and continuous coordination. At the same time, the pilot also pointed out that the development of a similar service in the future could be based on simpler, more targeted transport organization and scheduling solutions that are aligned with actual travel needs and available resources. The results of the project thus not only serve to evaluate the pilot, but also represent an experience base that can be used to establish the foundation for later developments and support decision-making.

11. List of Annexes

Annex 1 – Action Plan Canvas