

Pilot in Saaremaa

Demand-Responsive
Transport to ensure
accessibility, availability
and reliability of rural
public transport

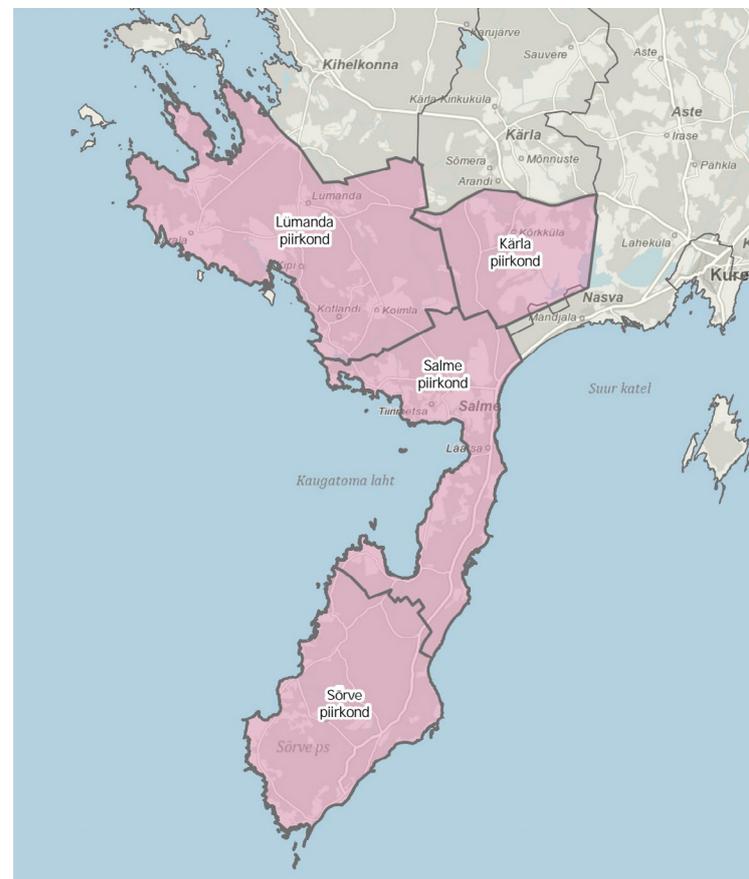
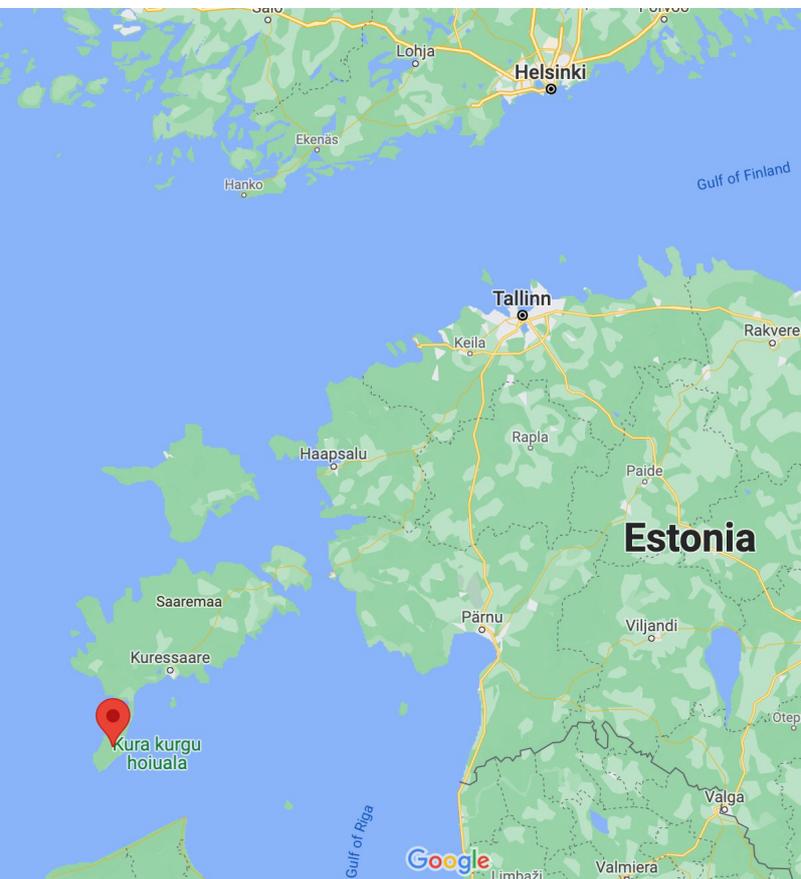


PILOT IN SAAREMAA, ESTONIA

Starting and ending date of pilot

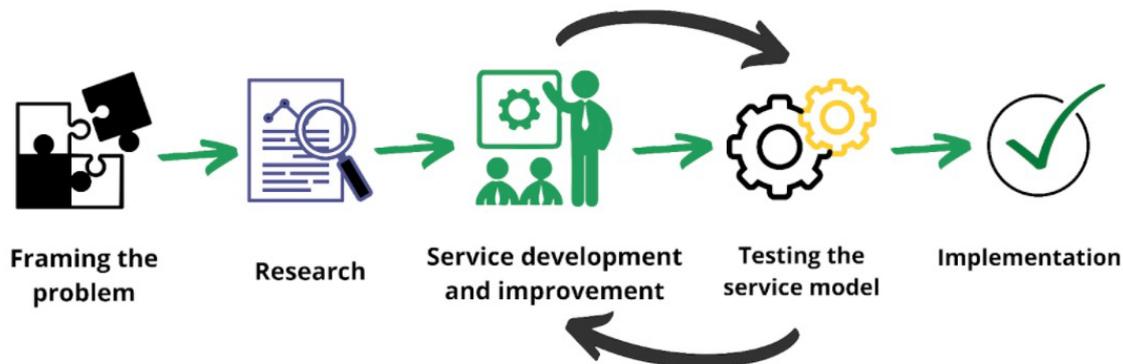
01.07.2021-30.06.2022

Map



VISUAL REPRESENTATION OF THE PILOT PROCESS

The innovation process used by the Norwegian transport operator RUTER is used as the basis for developing the Saaremaa demand-responsive transport (DRT) service model. This approach follows the principles of service design.



The innovation process aims to develop a solution that corresponds to the user's expectations, considers user comfort and cost-effectiveness, and is based on continuous service improvement, development, and testing.

- **Step 1: Problem framing.** Target groups in Saaremaa Sõrve pilot are mapped and their main problems in the context of mobility services are identified. Answers will be given to "20 questions prior to implementing the DRT service model".
- **Step 2: Research.** Feedback from Saaremaa Sõrve target groups will be analysed in the context of the possible delivery of the service model. The questionnaire will be used both in the research and service testing phase.
- **Step 3: Service development and improvement.** After the service has been launched, the process will be evaluated continuously, according to the feedback received from the questionnaire. A project steering group will be established, which will monitor the delivery of the service model monthly. In cooperation with the pilot partners and steering group, the service performance and related key parameters are monitored continuously, and changes are introduced if necessary. The situational framework for the development of the service model may be assessed using the PESTEL model, to understand the factors that affect it.
- **Step 4: Testing the service model.** Continuous testing of the service model performance takes place (pilot ends on 30.06.2022).
- **Step 5: Implementation.** If the service has proved its sustainable functioning, improving and testing its delivery will become daily and regular.

SHORT INTRODUCTION TO THE PILOT

Saaremaa county is the first municipality in Estonia to start working on a new on-demand transport solution to provide residents with a convenient and demand-friendly transportation system. During a year-long test period, the solution is available for use to all residents and guests. Their usage statistics and feedback contribute to the continued optimisation and development of the solution.

Pilot audience

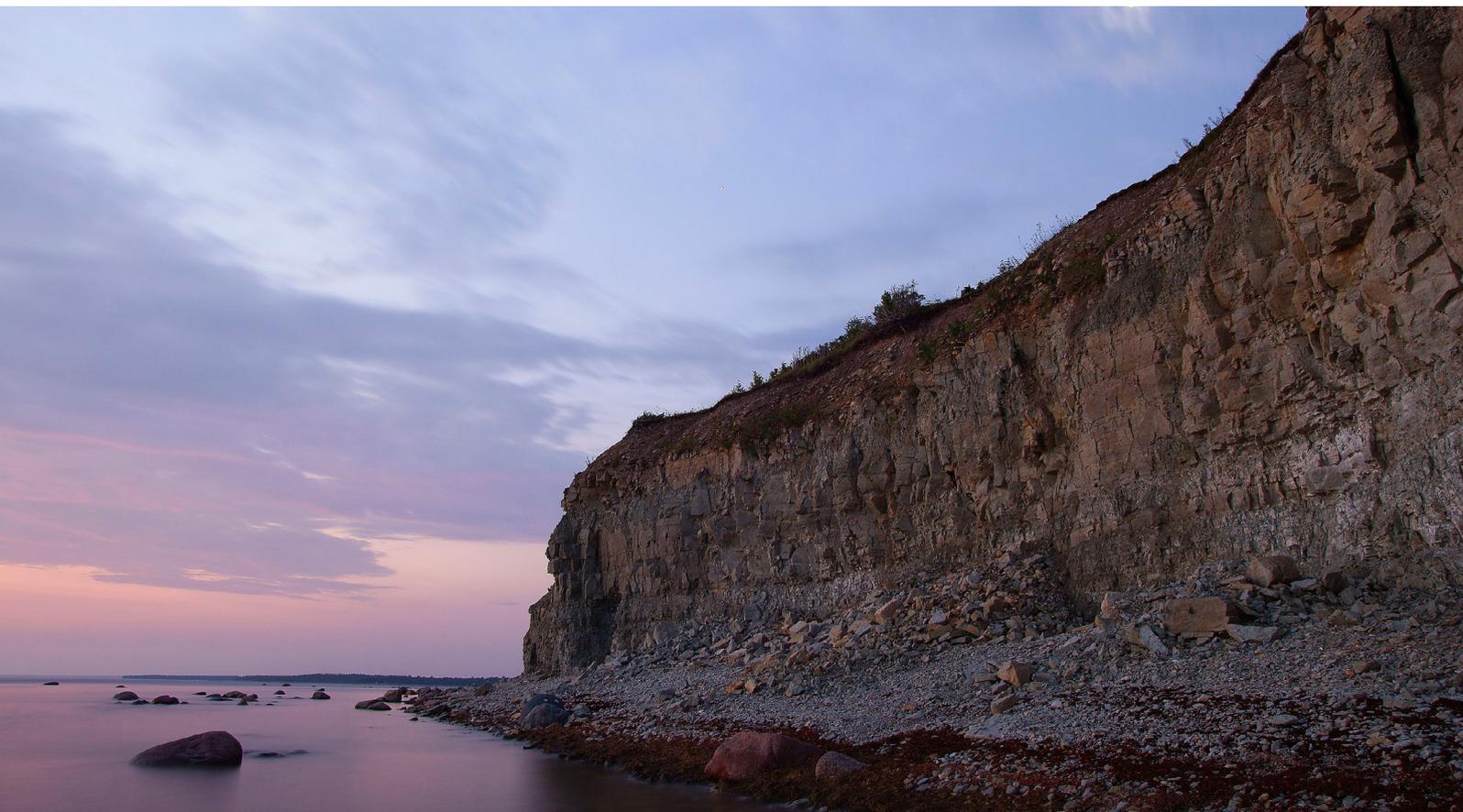
The target group for the Saaremaa demand-responsive transport service are Salme, Torgu, Lümända (since 10.2021) and Kärla (since 10.2021) area residents, quests and tourism businesses that operate in the same area. The service is currently only available in Salme, Torgu, Lümända and Kärla areas.

Aim of pilot

Develop a demand-responsive transport service model to offer the inhabitants more convenient and needs-based public transport.

Covid-19

The pilot has not been affected by COVID-19.



EVALUATION

Organisation of the pilot

Business model optimisation

Today Saaremaa DRT service is running every day from 08.00 until 21.00, allowing maximum flexibility for morning, evening and weekend trips. All the trips are made door-to-door.

To keep the vehicle running well enough, we concluded that allowing various target groups to use DRT ensures a sustainable number of passengers and fulfilment of the vehicles. While drafting the business rules, the possibility of handling multiple target groups must be considered. A wide range of target groups ensures that the chosen fleet will be sustainable, occupied by customers, and not travel empty.

ICT solution

For the ICT solution, we are using Modern Mobility VEDAS software that enables:

- **For the operator** - launching and providing the demand transport service;
- **For the customer** - ordering trips by phone through the dispatcher (present pilot) or ordering transport through the customer application (coming January 2022);
- **For the dispatcher** - registration of passengers and drivers in the system and their administration, entry of orders, preparation of driving circuits for drivers, and overview of the status of the fulfilment of orders;
- **For drivers** - the management of the driving routes assigned to them by the dispatcher or through the user's orders (viewing driving tasks, starting, ending, interrupting the execution of orders).

The ICT solution is built to be easy to use for all parties. From the dispatcher point of view, the orders are submitted and tasks are automatically generated for the drivers. After a dispatcher makes the tasks, drivers can automatically see all the orders from their application.

Vehicle utilisation in rural areas

We used two 7-seater vehicles provided by Toyota Baltic: SUV Toyota Highlander and minivan Toyota Proace City Verso. Both vehicles are very passable and more economical than, for example, 20-seater buses. Passenger orders are grouped together according to the vehicles' driving circles.

Customer service level to get people not to use the car

For people living in sparsely populated areas, a private car provides the necessary flexibility for mobility at any given time. When asked whether the respondents who use cars would be ready to shift from using a private car to DRT, 30 out of 33 (90.9%) answered affirmatively and only 3 (9.1%) would not give it up. But they would be willing to suggest DRT to their children - and DRT would definitely find its niche in particular "one direction" rides (like catching the long-distance Tallinn coach).

Offering a DRT solution in a sparsely populated area is a big enough step towards making people give up cars. Maintaining cars is a costly alternative if you can use the DRT solution exactly when you need it.

Pilot KPIs

To monitor DRT delivery monthly and assess whether the service model should be altered. In the Saaremaa pilot, the following indicators are used:

1. Number of passengers in total
2. Passengers per ride
3. Number of orders
4. Mileage of completed driving routes in total (km)
5. Share of beneficial mileage (km)
6. Kilometer cost per passenger (euro)
7. Direct cost per kilometer (euro)
8. Direct costs (euro)
9. Passenger kilometers (km)

Customer experience

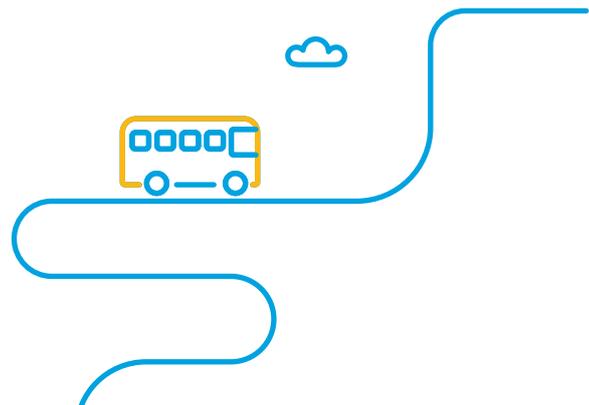
Inhabitants on the Sõrve peninsula in Saaremaa would gladly use DRT.

- Out of the 33 respondents who use a private car 30 (90.9%) are ready to replace it with DRT. 3 (9.1%) would not give up using a private car, but they would be willing to suggest DRT to their children - and DRT would find its niche in certain "one direction" rides (like catching the Tallinn coach).
- Analysing in detail why did people use DRT, out of 50 respondents, 15 (20.8%) used DRT to spend spare time, 13 (18.1%) to go shopping, 10 (13.9%) to get to work, 9 (12.5%) for tourism purposes, 8 (11.1%) to catch a long-range coach (to or from Tallinn) for achieving multimodality (combining various means of transportation to reach the destination). It was also noted that DRT is used to visit a doctor, get to school, visit events, non-educational educational activities, get to rehabilitation treatment, consume different services, visit one's summer residence in summer, take care of grandchildren, attend church, visit cemetery etc.
- When the 50 DRT users were asked whether they would use DRT in future, 49 (98%) answered affirmatively. In total, the DRT service was rated by the 50 respondents on an average with a very high value of 6.62 (on a 7-grade scale, 1-weak and 7-excellent).

Ordering DRT is convenient for the inhabitants.

Out of 50 respondents, 46 (92%) said that ordering was smooth and there were no problems. It must be noted that the eldest DRT user was an 85-year old lady who was very positive about the service and thanked for its convenience and smooth operations. One of the respondents had ordered DRT for his 80-years old neighbour, who was likewise happy with the service. Ordering DRT is also easy for the younger generations accustomed to using innovative mobility services.

| AGE | FEEDBACK | AGE | FEEDBACK |
|-----|--|-----|--|
| 16 | Everything is perfect. | 57 | Working well. Excellent! |
| 37 | Excellent and highly necessary service. I very much hope that it will be sustained to benefit the people living in sparsely populated areas. | 78 | Disseminate the information to the people not having a personal car. |
| 43 | Suits me! | 85 | The service is really handy. Even the phone number is so simple that everyone can handle it. It is so simple. |
| 31 | Everything was OK - carry on and sustain a living on the islands. | 75 | No need to change. Clearly understandable. The service must be sustained. |
| 35 | Nothing to add, everything has been perfect. | 29 | The vehicle was very comfortable and the driver very kind and friendly. |
| 68 | The delivery area could be wider: not only Kuressaare, but also Lümända and Kihelkonna, for example. | 69 | I would like to hand out three prizes: one for the Folding Fan, the second for the rulator and the third for those who designed DRT. |



Cost - benefit

- Payment method - free of charge to the user during the pilot project, subsidised by the Estonian Transport Administration.
- Fleet and drivers - Toyota Baltic provided two vehicles, SUV Toyota Highlander and mini-bus Toyota Proace City Verso. The drivers were organised by the transport operator Saaremaa municipality.
- Dispatcher - employed by Saaremaa municipality for answering the calls ordering a ride.

Service benefits

- Accessibility to services will increase - people overall satisfaction will increase
- Allows people to get around in places or times that are not covered by regular bus services
- People will use rather DRT than personal vehicles - better for the environment.
- DRT has a positive effect of attracting people to live in rural areas.

DRT vehicle in Saaremaa. Photo: Modern Mobility



CONCLUSION

Overall experience with the pilot

We are very glad to have an opportunity to have such a pilot experience in Estonia, Saaremaa. Through that pilot, we see large potential to showcase that DRT services could one day be all parts in rural areas in Estonia.

RUTER innovation process structure works very well in the given context, and it could be successfully used for elaborating DRT service models. Five phases must be carried out:

1) frame the problem; 2) Analyse the problem; 3) Start developing the service and continuously update it; 4) Carry out as much tests as possible and keep switching the service between phases three and four until it is ready for phase five; and 5) implement it until the service has become a regular part of the daily life.

While developing the service model, use PESTEL analysis to understand the national framework and local factors to understand how DRT is related to political, economic, social, technological, environmental, and legal aspects. It is important to ask during the service model elaboration and testing what can be done more efficiently to introduce the service and how to ensure that it will become part of daily life through continuous service improvement.

Response

 **Interreg**
Baltic Sea Region



EUROPEAN
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DEVELOPMENT
FUND

Read more about the
RESPONSE project here:
response-project.eu

