PILOT OVFlex (Domburg – Middelburg, Province of Zeeland)

Evaluation, March 2021

Table of Contents

1   GENERAL IDEA

The OVFlex is a sustainable on-demand bus service. It operates in a tourist region and travellers can take the bus between bus stops in that area. However, the bus does not follow a fixed route. OVFlex uses smaller equipment such as cars and taxi buses. Travelers have to book the trip they want to make in advance, by telephone or by means of an internet application.

This service is meant to service areas that are too sparsely populated to have fixed bus lines operating at fixed hours. Experience has shown that bus services that are scheduled at a pace lower than one per hour, do not deliver a satisfactory service. Busses in rural areas therefore are often used only by disadvantaged and elderly people who have no other means of transportation.

By offering a bus service on demand the customer has several advantages:

- More departure times in areas where previously only one bus per hour ran
- Environmentally friendly: bigger empty busses are not needed
- Custom-made transport with seating assurance (space for wheelchairs and strollers)
- The bus trip will be shorter than a fixed line service since it does not stop at every bus stop
- Easy to book online or via a smartphone application

By offering these advantages, public transport can service rural areas in a way that is more competitive with the private car. Although the modal shift will be limited, some of the advantages of public transport in terms of reduction of mobility poverty and environmental gains can be achieved.

Public transport generally is not a profitable activity, but public services have to spend the financial means in an ever more efficient way. The OVFlex is meant to provide a public bus service at a cost, similar to a regular bus, but to an extended group of customers.

2   CONTEXT

2.1   Geographic context

The pilot that will be implemented will take place on the peninsula of Walcheren, located in the province of Zeeland. This area would be characterised as rural. Walcheren is located in the west of the province of Zeeland in the Netherlands. This situates the location of the pilot between the city of Middelburg, which is the capital as well as the biggest city of the province, and the villages of Domburg and Zoutelande, which are located in the municipality Veere. The area consists of two municipalities: Middelburg and Veere.

Walcheren is situated in the Rhine-Meuse-Scheldt delta and therefore surrounded by water (West: North Sea, North: Lake Veere, South: Westerschelde). The motorway N57 runs across the island which connects Middelburg with the surrounding villages.

Both Zoutelande and Domburg are located within a 15-kilometre radius from Middelburg. The distance between the village centres of Domburg and Zoutelande is 9 kilometres. Since the villages and cities are relatively close to one another, the range of cycling routes, and the fact that Walcheren is a rather flat area with lack of hills, the area is perfect for bicycle rides.

Figure 1: Walcheren, geographical location of the pilot.

The area contains several villages, two motorways (N57, A58), two of the biggest cities in the province (Vlissingen and Middelburg), agricultural land and several kilometres of coastline and beaches.
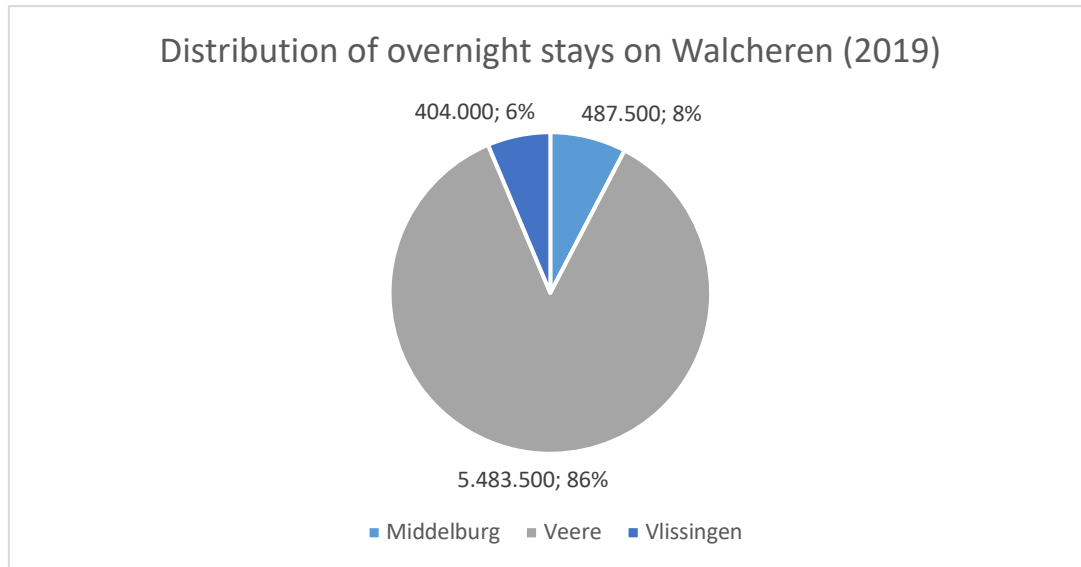
Figure 2: impressions of Walcheren

2.2 General statistics

The population density in Walcheren (526 per km^2) is the highest compared to the average population densities in the EU, the Netherlands and Zeeland. The total population in Zeeland is 385.379, of which 114.750 live on the island of Walcheren. The population on Walcheren is in general, with respect to age, older. The province of Zeeland and therefore Walcheren has an aging population, expected is that this trend will continue until 2040. The number of registered cars in the province is 206.057 (2020), which comes down to 537 cars per 1000 inhabitants (CBS, 2020).

As stated in article 3.2.4 (Toeristennet) of the concession decision the ''tourist lines'' must be aimed at the transportation of tourists between the facilities for the accommodations (including bungalow parks and campsites) and tourist destinations (as well as transfer points) and vice versa.

In 2019, 6.375.000 overnight stays were recorded on Walcheren (municipality Vlissingen, municipality Middelburg, municipality Veere). In the municipality Veere (including Zoutelande and Domburg), the highest number of overnight stays were observed; 5.483.500. Most of the tourists are from the Netherlands (average stay of 3,8 nights) and Germany (average stay of 5,0 nights).

Distribution of overnight stays on Walcheren (2019)

404.000; 6%   487.500; 8%

5.483.500; 86%

■ Middelburg ■ Veere ■ Vlissingen

Source: Kenniscentrum Kusttoerisme, 2019

2.2.1 Usage of public transport to travel to touristic attractions

In a recent study (2018), NHTV Breda and TU Delft researched why tourists, who travel to attractions in the Netherlands, use public transportation or not. Moreover, they identified and evaluated strategies in order to stimulate the usage of public transport among tourists and visitors. In this study, tourists refer to day visitors (traveling to attractions from their home) and tourists (traveling to attractions from their holiday home).

In this research report, a few important conclusions are drawn: *''this research has demonstrated the importance of convenience with regard to the choice of whether or not to use the public transport: Drivers related to convenience are well represented in the most important drivers for users, while the non-users are critical of the convenience of public transport.''*

''The latter group (tourists) first looks at the possibility of using their own vehicle to travel to attractions before considering alternatives. In this sense, this research provides evidence that making travel less attractive by using other modes can be an effective way to stimulate public transport use.''

''Strategies with the biggest impact on the likelihood of using public transport include improved door-to-door transportation, a one-ticket system and free traveling of the partner/family.''

2.2.2 Tourist residence- and travel behaviour

Research conducted by the Research Centre for Coastal Tourism shows that the most important travel needs and motives for Dutch as well as German tourists are 'to enjoy the nature', 'to do something I like to do', 'to discover new places' and 'getting back into a natural pattern' (Kenniscentrum Kusttoerisme, 2018).

These travel needs and motives are (in) directly recognised in the top five of the most important trips in Zeeland (for both visitors and residents) (CVTO, 2019):

1. Recreation (beach visits, sunbathing, relaxing, barbecuing, picknicks etc.)
2. Recreational hikes
3. **Shopping in city centres (fun shopping)**
4. Going out for lunch and/or dinner
5. Going to sidewalk cafes

When looking at the travel behaviour of visitors from Domburg and Zoutelande to Middelburg (as a tourist destination/attraction) by means of (GPS-)data (obtained in 2019 with permission via the VVV-Zeeland app using built-in context technology as part of MOVE), it shows that most of the visitors (who we were allowed to follow) visit Middelburg at least once during their stay and that some visit Middelburg even twice or three times, where they mainly used the car as a modality (yellow lines) and also, albeit to a lesser extent, the bicycle (blue lines).
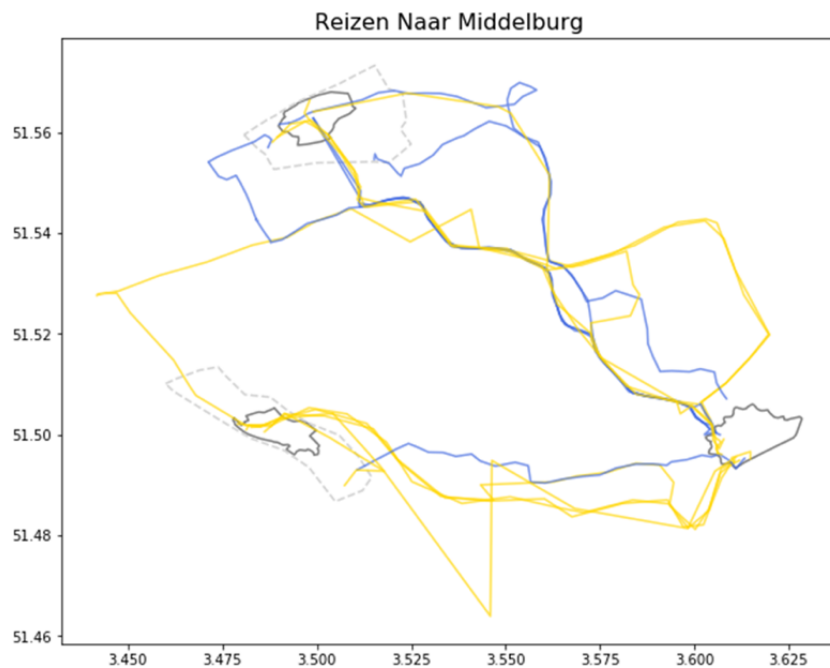
Figure 3: Trips to Middelburg in Zeeland

It also becomes clear that a visit to Middelburg takes on average two hours, and that during these two hours mainly shops (green and blue dots) and restaurants and cafes (yellow dots) are visited.
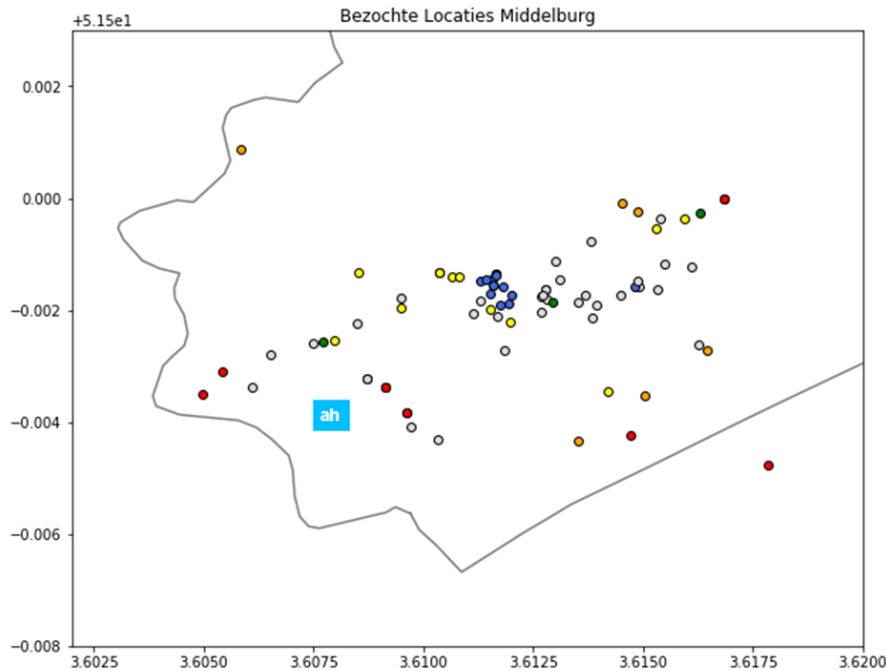
Figure 4: visited locations in Middelburg

2.3   Political context

In the coalition agreement 2019-2023, five tasks are stated. One of those five tasks concerns the transition of mobility, working together on smart mobility:

''… in recent years, the use of public bus transport, with fixed routes and fixed times, has continued to decline, the use of e-bikes increases, and the elderly continue to drive their cars until a later age. Because of this, the current public transportation system becomes less suited nowadays. The needs of residents and tourists require different and new solutions.''

The provincial government in Zeeland sets, within the public transport concession, an annual amount to implement the tourist public transport network.

The concession states: ''… *the concessionaire can claim an additional contribution of €300.000 for the implementation of tourist lines and marketing and tariff campaigns tailored to the tourism target group.''*

Since the start of the concession in 2015, Connexxion has operated the tourist network every year, mainly through a number of fixed connections on Schouwen-Duiveland and along the coast of Zeeuws-Vlaanderen. Despite the subsidy from the Province and the contribution, in form of redemption, by entrepreneurs, it has turned out to be loss-making every year.

It can be stated that this form of the tourist network is no longer desirable. Furthermore, the lack of widespread support from entrepreneurs for this way of transportation leads to a different approach.

2.4   Integration into the public transport network

Before integrating the OVFlex pilot into the public transport network in Zeeland, a brief overview of the network in Zeeland will be given. OVFlex will operate in the local network. This network also includes regular busses, taxis etc.

Figure 5: Public transport network on Walcheren

The bus routes in Zeeland are operated by Connexxion. In addition to this, Connexxion also operates routes between Zeeland and Belgium. In the same vein, De Lijn (BE), operates routes between Belgium and Zeeland. The international lines are:

- Bus line 42: Bruges - Breskens (De Lijn, BE)
- Bus line 50: Middelburg - Ghent (Connexxion, NL)

In addition to this, Zeeland has one main railway, which is the route Vlissingen – Amsterdam, with a stop at Middelburg station. Lastly, the ferry between Vlissingen and Breskens are also part of the public transport network in Zeeland. The ferry is not accessible for motorised vehicles such as cars and motorcycles.

The public transport network in Walcheren only consist of busses and local busses, which operate in smaller villages on Walcheren. The local busses can carry up to eight people and are driven by volunteers.

3   PILOT DESCRIPTION

3.1   Target Groups

The user groups of the OVFlex have not been specified yet. However, a general overview of the target group can be given. Emphasize has been placed on German and Dutch tourists, since these visitors are most present on Walcheren during the high season. Since most of the tourists reside in Domburg and Zoutelande during their visit, the concentration of tourists in these villages high. This also means that the number of tourists who reside in the villages often come with their own cars, resulting in an abundance of cars in the centres. By offering mobility alternatives such as the OVFlex bus, the abundance of cars in the centres should decrease.

3.2   Organisation

Since the pilot has not been conducted due to the current measurements related to COVID-19, no new organisation or legal structure has been set up yet. The pilot will be implemented via a partnership of existing organisations.

Province of Zeeland *Political Level*	**Municipality Veere & Municipality Middelburg** *Local Level*	**Connexxion** *Operational Level*
HZ Research Centre Coastal Tourism *Pilot Level*	**Entrepreneurs Asscociation Middelburg** *Pilot Level*	

3.3   Communication

An important factor in the success of the pilot is the reputation of the project. Local entrepreneurs (especially of tourist accommodations) play an important role in this; after all, they play a major role in informing their guests. It is therefore important to properly involve this party in the roll-out of the pilot.

3.4 Service Description

The service will be delivered in taxi busses. Departure will be from one (maximum of 2) central location in Domburg and Zoutelande to one central location in Middelburg (near Zusterplein).

3.4.1 Zusterplein Middelburg

The bicycle parking facility at the Zusterplein was revived in the summer of 2019 at the initiative of the Entrepreneurs Association Middelburg. Public toilets have been reopened and a business counter has been created. There are also plans to provide facilities for shared bikes and shared cars. These initiatives are intended to make and keep the centre of Middelburg attractive. The range of facilities also contribute to the quality of life and accessibility of the centre.

In the first six months, the location welcomed approximately 26.000 visitors. The location also provides tourist information and approximately 20% of the visitors make use of this service.

This facility in Middelburg can fulfil a broader role than just serving the centre of Middelburg. Nevertheless, other attractions on Walcheren could also benefit from this facility. For example, the tourist destinations such as Domburg (tourist market on Monday) and Zoutelande (tourist market on Tuesday). The square will also be the staring/final destination of the OVFlex bus.

3.4.2 SCITHOS simulation

Because of COVID-19, the pilot did not take place yet. However, because of the SCITHOS (Smart City Hospitality) simulation tool, it was possible to create a simulation for the pilot. The tool can simulate certain movements within an area. The essence of the simulation is that in areas so-called personas (such as inhabitants and tourists) and resources (locations where personas can go to) are included. By manipulating personas and resources (or properties of these) or the set rules, several scenarios can be simulated.

This results in an illustrative visualisation, where the personas are moving over the map during the day. One can see when the personas start to move, how they travel, where they are heading to, and when they return.
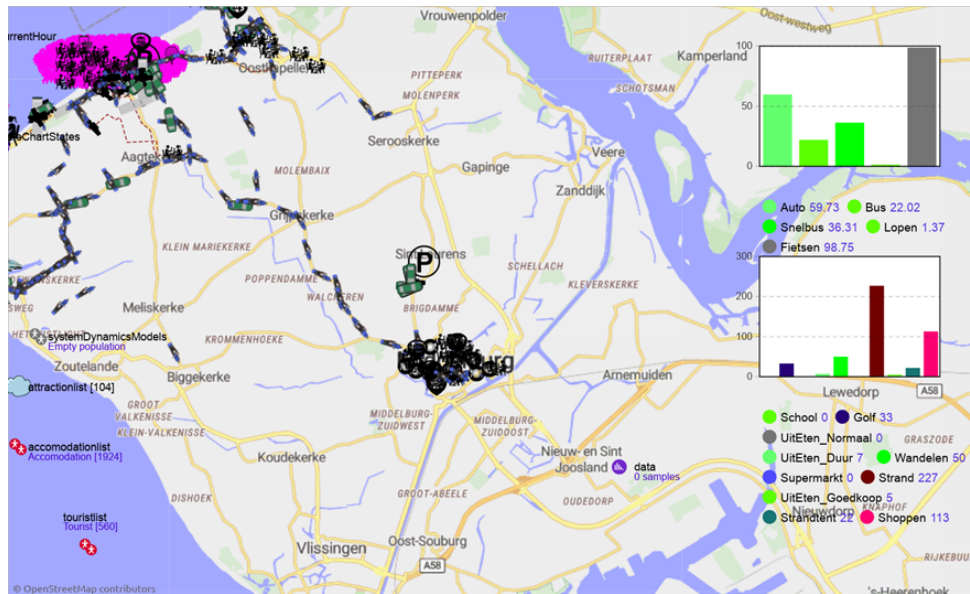
Figure 6: example of the simulation

Per mobility mode, a metric of the number of travelled kilometres of a period of ten days with a particular mobility mode has been observed in the SCITHOS simulation. These mobility modes are car, bus, express bus, walking or cycling. The base scenario is the starting point for simulating the pilot as well as stimulating the implications on capacity in Domburg and Zoutelande and movements by the COVID-19 virus. By adding the base scenario, a comparison can be made between OVFlex and the base scenario. Figure seven shows the comparison between the base setup and the OVFlex bus. distribution of the modes. Evidently, the OVFlex scenario has a large share in the express bus, which is mainly at the expense of the car and bicycle.
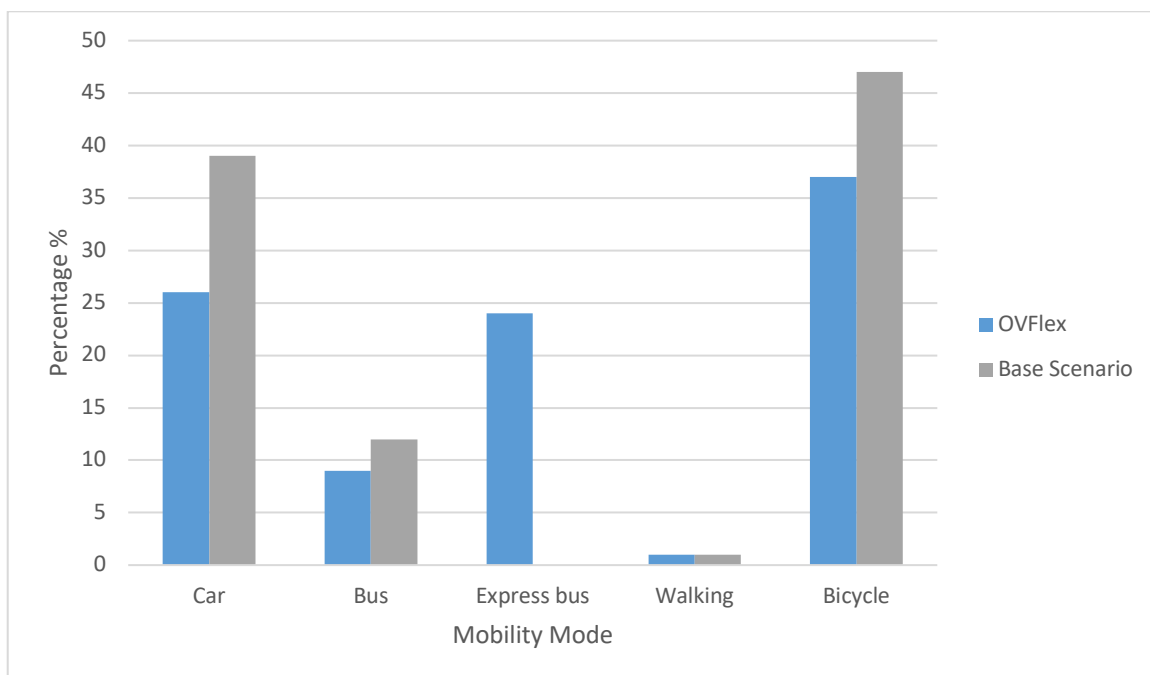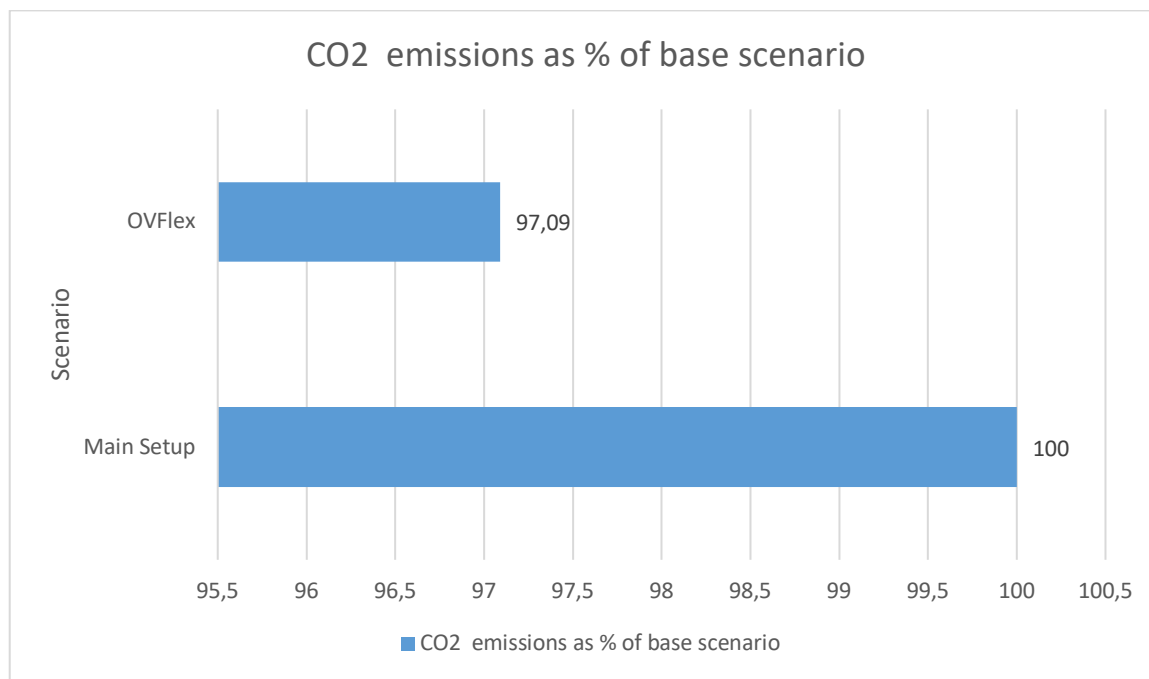

Figure 7: Percentage of mobility modes per scenario

Another metric that is being tested in the simulation is the CO_2 emission per mobility mode. Compared to the base scenario, where the CO_2 emission is 100%, the OVFlex scenario generates 97% of the CO_2 emissions.

Figure 8: Percentage (%) CO_2 emissions compared to the base scenario

3.4.3 Times of operation

Travelers can use the OVFlex seven days a week, between 9:00 and 24:00. However, a reservation must be made in advance. After all, the OVFlex only runs based on reservations. Nonetheless, an underlying timetable does apply. The starting point is that there is a departure option once per hour. OVFlex will operate from spring break until fall break, which is from May until October.

Domburg - Middelburg																
Domburg	Hof van Domburg	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Domburg	Singel	9:02	10:02	11:02	12:02	13:02	14:02	15:02	16:02	17:02	18:02	19:02	20:02	21:02	22:02	23:02
Middelburg	Zusterplein	9:22	10:22	11:22	12:22	13:22	14:22	15:22	16:22	17:22	18:22	19:22	20:22	21:22	22:22	23:22
Middelburg	Zusterplein	9:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30	20:30	21:30	22:30	23:30
Domburg	Schuitvlotstraat	9:50	10:50	11:50	12:50	13:50	14:50	15:50	16:50	17:50	18:50	19:50	20:50	21:50	22:50	23:50
Domburg	Hof van Domburg	9:54	10:54	11:54	12:54	13:54	14:54	15:54	16:54	17:54	18:54	19:54	20:54	21:54	22:54	23:54
Zoutelande - Middelburg																
Zoutelande	Nieuwstraat	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Zoutelande	De Meerpaal	9:05	10:05	11:05	12:05	13:05	14:05	15:05	16:05	17:05	18:05	19:05	20:05	21:05	22:05	23:05
Middelburg	Zusterplein	9:21	10:21	11:21	12:21	13:21	14:21	15:21	16:21	17:21	18:21	19:21	20:21	21:21	22:21	23:21
Middelburg	Zusterplein	9:35	10:35	11:35	12:35	13:35	14:35	15:35	16:35	17:35	18:35	19:35	20:35	21:35	22:35	23:35
Zoutelande	De Meerpaal	9:51	10:51	11:51	12:51	13:51	14:51	15:51	16:51	17:51	18:51	19:51	20:51	21:51	22:51	23:51
Zoutelande	Nieuwstraat	9:56	10:56	11:56	12:56	13:56	14:56	15:56	16:56	17:56	18:56	19:56	20:56	21:56	22:56	23:56

Figure 7: Timetable OVFlex

The minimum time prior to booking is ideally as short as possible. However, this is an important cost-determining factor. This must be further determined in consultation with the implementing party.

3.5 Financial Aspects

The pilot focuses mainly on tourists and day visitors. These travelers want to travel quick and comfortable, which are the most important triggers in the choice for mobility. Price plays a subordinate role in this.

In order to not compete with regular public transport, the fare is higher than the fare in bus line 52 or 53. In addition, public transport ticket types and rates such as OV chip card and SOV card are not valid. Payment can only be made immediately upon reservation. This also significantly reduces the risk of 'no show'. This is also the experience with similar projects elsewhere in the country. In 2020 it was proposed to pay a rate of €4,50 per person per trip from/to Domburg and €4,00 from/to Zoutelande. However, the fare for this year or next year is not determined yet.

Comparison

Route	Regular		OVFlex	
	Tariff per trip per person	*Travel time*	*Tariff per trip per person*	*Travel time*
Domburg-Middelburg	€ 3,59 (OV-chipcard) € 8,65 single ticket	36 minutes	€ 4,50	22 minutes
Zoutelande-Middelburg	€ 3,07 (OV-chipcard) € 8,65 single ticket	37 minutes	€ 4,00	21 minutes

Parking in the city centre of Middelburg costs €2,40 per hour. However, it is not the parking costs, but the congestion and the limited parking capacity, especially during the high season, that makes it unattractive to travel to Middelburg by car.

Financing for the pilot would be (partly) possible from the available resources for the Toeristennet Openbaar Vervoer. Yet, this may require an exemption and/or extension of (a number of) concession conditions surrounding this subsidy. In addition, funds may be available from the coalition agreement to promote Smart Mobility.

For the long-term, and in the event of a possible broader rollout, an additional research can be conducted to see whether entrepreneurs from the centres and/or municipalities involved are willing to make a contribution. After all, this service contributes to the attractiveness and accessibility of (village) centres and locations.