

## How to use

This cardset can be used individually or with colleagues and/or stakeholders. It is used in addition to the strategic and visual roadmap and consists of **26 roadmap element cards** and **6 need-based persona cards**.

Each **roadmap element card** has an indication of what horizon the element fits in, a short description of the element and shows which need-based persona(s) match this element. A detailed description of the roadmap elements can be found in the report.

The **need-based persona cards** give a description of the personas and their needs for public transport.



# A COVID-19 Measures

2020 | Current status

COVID-19 has had a huge impact on public transport. Trains can be used to around 40% of their normal capacity, for BTM transport this is 30-40%. It is still uncertain when public transport can be used to its full capacity again.

When travelling by public transport passengers are obligated to wear a facemask and keep 1,5-meter distance to other passengers. Due to COVID-19 other developments in public transport could run into delays or changes.



Major events

# B MaaS Pilots

2020 | Current status

The Ministry of Infrastructure and Water Management, together with seven regions, has developed seven nationally scalable MaaS pilots.

Each pilot focuses on different policy objectives: from accessibility and social inclusion to sustainability, cross-border transport and traffic congestion.

Due to COVID-19 delays have occurred in the execution of the pilots, it is expected that the pilots will start in the second half of 2020, and run throughout 2021.



Major events

# C Implementation ABT

2023 | Make it teamwork

Account-based ticketing will be implemented in 2023. With ABT calculations will take place in the back-office instead of at the terminals.

With ABT, the passenger can choose from multiple travel tokens (card F). Furthermore, because of the calculations happening in the back-office it is possible to apply new pricing strategies and offer personalized travel products (card G).

Additionally, the back-office is suited for the complex calculations needed for SiCiCo (card T), making the implementation of SiCiCo possible.



Major events



# D Digital Ticketing

2020 | Current status

With digital ticketing a ticket is bought via a smartphone application, the ticket is then scanned or shown to enter public transport.

An example of digital ticketing is the RET barcode application. With the RET barcode application, a mobile ticket can easily be bought for BTM in the RET transport area. The RET barcode application is ideal if the passenger does not have an OV-chipcard or if there is no vending machine nearby. With the barcode generated, you can check-in and out at the metro, and on the bus and tram the digital ticket is shown to the driver or conductor.



# Personalization

# E Personal Travel History

2021 | Clarifying the system

To give the passengers insight into their spendings on public transport it is important that they can see their own travel behaviour.

A personal travel history should offer the passenger:

- An approachable and easily understandable overview of their spendings on public transport;
- Insight into the built-up of travel costs;
- An overview of the costs for a door-to-door journey.



# Personalization

# F Travel Tokens

2023 | Make it teamwork

With the implementation of account-based ticketing in the Dutch public transport options open up to use other tokens than the OV-chipcard as identification. The main opportunity is the shift from calculations in the terminals to calculations in the back-office. Within the new system bank cards, smartphones, barcodes and other kinds of tokens can be used, in addition to the OV-chipcard, to identify with the system.

With this freedom, passengers can use the travel token of their choice, and with this personalize their journey with public transport.



# Personalization

# G Personalized Travel Products

2023 | Make it teamwork

With travel data connected to digital accounts and stored in a back-office, it is possible to analyse this data and offer personalized travel products.

These travel products can be based on the passenger's past behaviour in public transport and can be adjusted when the behaviour of the passenger changes.

The personalized travel products are especially well suited for passengers that use a post-paid payment method. With such a payment method the spendings are already clustered in payment periods, and the data is saved in a personal account.



# Personalization



# H Automatic Discount Utilization

2023 | Make it teamwork

With the implementation of account-based ticketing, most price calculations will happen in the back office. Which means that the calculations take place after the passenger has checked-out.

When the calculations in the back-office are combined with a post-paid payment method, for example with a monthly invoice, automatic discounts can be applied.

This automatic discount utilization is a way to offer passengers the best price, since the discount is applied automatically they don't have to worry about it.



# Personalization

# Local Travel Products

2020 | Current status

With a local travel product, the passenger is not forced to travel with a specific modality since all modalities are included in the travel product. This makes that the passenger can focus on other things, like the route with the least transfers, or the fastest route.

To make these kinds of travel products a reality carriers have to cooperate, this can be enforced by the concession contracts or a public transport authority (card N).





# J Regional Travel Products

2021 | Clarifying the system

The most logical step after the local travel products described in card I are regional travel products. Meaning the areas the products are valid for are broadened to a combination of multiple cities or even a province.

Making these regional travel products a reality will work in a similar matter as the local travel products, carriers will have to cooperate. Since we are talking about a larger area, the chances are that for a regional travel product more carriers will have to cooperate.





# K National Travel Products

2023 | Make it teamwork

After local and regional travel products, national travel products are the last step within the Dutch public transport system.

For a passenger, a national travel product would mean total freedom since it offers the possibility to use every modality available and no town, region or province borders have to be taken into account.

Since this product is available for business travellers, it already is feasible to make it available for private travellers.







# L International Travel Products

2025 | Adding new players

Using public transport does not mean staying within the Netherlands. Public transport can be used to travel to other countries. Additionally, there are enough passengers that live in border areas close to Belgium or Germany that use public transport for work, study or leisure in both countries.

A logical travel product for these passengers would be an international travel product. This can be a product for the whole Dutch system and, for example, the whole Belgian system, but it can also be a travel product for a border area.





# M Tariff Harmonization

2021 | Clarifying the system

Tariff harmonization makes the tariff system more unified and transparent.

Tariff harmonization can exist of:

- Removing the double starting rate;
- Adopting the regional rate and NS rate to one another;
- Offering one price for routes possible by multiple carriers.

It has to be noted that complete tariff integration is difficult to realize in our public transport system since the system is based on decentralization and market forces. However, it is possible, to achieve more cohesion while maintaining regional tariff freedom.





# N Public Transport Authority

2021 | Clarifying the system

To realize this roadmap a significant amount of cooperation is asked of the public transport parties. To guide this process a national public transport authority can be established.

Such a public transport authority can guide the carriers and regional authorities through the process of making agreements, mediate conflicts and enforce cooperation.





# O MaaS Plans

2023 | Make it teamwork

After the public transport carriers have harmonized their tariff systems and offerings it is important to keep adding to the system to get to one uniform MaaS structure. One of the things that can be done is offering MaaS plans, which essentially are travel products for public transport as well as MaaS.

To make these MaaS plans a possibility the carriers have to be open to cooperation with other mobility services.







# P International MaaS Plans

2025 | Adding new players

The MaaS plans discussed (card O) will eventually evolve into international MaaS plans, similar to MaaS in general. With these international MaaS plans, Dutch and international public transport and other mobility services will be offered through one platform.





# Q Explain the System

2021 | Clarifying the system

Currently, it is possible to find out how the Dutch public transport tariff system works, and to see the different parts of the prices but it is cumbersome. As a passenger, you have to search for this information actively and look at various different sources.

Thus, one of the first steps that need to be taken to give the passenger more insight and confidence is explaining the system.

This information on the tariff system needs to be offered in ways that suit digital savvy as well as non-digital-savvy passengers.





# R Decision Support System

2021 | Clarifying the system

To make sure passengers are confident and in control of their spending on public transport, it is important that a decision support system is available. Such a system will help the passenger to choose between the numerous travel products available.

A decision support system for public transport should:

- Offer a complete overview of all travel products available;
- Include the multiple discount propositions;
- Give the passenger control over the selection criteria (such as price, duration, etc);





# S Reduce Amount of Travel Products

2021 | Clarifying the system

Currently, there is a multitude of travel products to choose from, which is confusing to passengers. All carriers offer their own products, often similar to each other, but with slightly different conditions.

Reducing the amount of travel products will make it easier for passengers to find the travel product that suits his/her personal needs, without getting overwhelmed by the offering. Furthermore, it will reduce the complexity for the carriers as well, opening up possibilities when it comes to back-office calculations, harmonization and SiCiCo.







# T SiCiCo

2023 | Make it teamwork

Single check-in check-out (SiCiCo) is something that has been explored since 2011, different analyses on the implementation have been conducted, but to date, it is not implemented.

SiCiCo is closely linked with ABT and the tariff system. With a more harmonized, simpler tariff system and the back-office calculations offered by ABT it becomes easier to implement SiCiCo.

SiCiCo will offer advantages to the passenger as well as the carriers and other public transport stakeholders.





# U Service Society

2020 | Current status

The world we live in is more and more changing into a service society. Think of something, and there probably is a service for it. Consumers own fewer products, and use more services.

When it comes to transportation there is a shift noticeable as well. Students do not own a bike anymore, but instead, have a subscription to Swapfiets. For the last-mile of a journey on public transport, an OVfiets or MoBike can be used. And in neighbourhoods Hely hubs are popping up, offering multiple kinds of shared mobility, from cargo bikes to cars.





# V Digitization

2020 | Current status

In addition to products transitioning to services, there is digitization happening. Examples of digitization are:

- Physical products that come with their own application;
- Turning lights and music on by voice control (internet of things);
- Real-life experiences (such as grocery shopping) within an application;
- Customer service provided by chatbots (artificial intelligence).

It is thus logical that digitization will play a roll in the public transport context as well. Currently, this is already happening in the form of digital ticketing (card D).





# W MaaS Within NL

2023 | Make it teamwork

Mobility as a Service (MaaS) is an upcoming trend within the mobility landscape. MaaS is defined as a new transport concept that integrates existing and new mobility services into one single digital platform, providing customized door-to-door transport and offering personalized trip planning and payment options. Instead of owning individual modes of transportation, or to complement them, customers would purchase mobility service packages tailored to their individual needs, or simply pay per trip.







# X (deep) Personalization

2023 | Make it teamwork

To apply personalization in public transport there has to be an insight into the individual (travel) behaviour of passengers. Where do they travel? Which modalities do they use? How often do they travel by public transport?

With the implementation of ABT (card C) a database will be formed in the back-office that contains this individual information. With the use of this data, of course, while keeping an eye on the privacy of the passenger, in combination with developments like artificial intelligence it becomes possible to personalize services and products in public transport.





# Y International MaaS

2025 | Adding new players

Similarly to the travel products evolving from national to international products (cards K, L), MaaS will also evolve into international forms.

It is expected that these MaaS services will be used by passengers living in border areas for work, study or leisure activities. Additionally, they can be used by international travellers exploring the area.





# Z Green Cities

2025 | Adding new players

The coming years sustainability will become an even more important topic, resulting in more and more shared mobility and public transport usage and less private owned transportation. Mobility as a Service will play a significant role in this change, offering the passengers a door-to-door mobility concept, and thereby eliminating the need for private owned transportation.

However, this can only happen if MaaS, and public transport, are understandable and reliable enough for the passengers. The passengers should be confident and in control when it comes to their transportation.







## The Analogue Traveller

The analogue traveller uses public transport sporadically. This kind of traveller is not digital savvy, and does not want to, or is not able to use a smartphone and applications. The analogue traveller prefers the “old way” of buying paper tickets.









## The Information Hoarder

The information hoarder uses public transport regularly and wants to know every detail of the system. He/she always plans his/her trip upfront to find out all the details. Multiple sources are used to gather information on prices, departure times and routes. He/she is most insecure about trips on new routes. The information hoarder finds it important to know what he/she is paying for each trip individually.







## The International Traveller

The international traveller uses the Dutch public transport system intensively for a short period of time while on a holiday or business trip. He/she has to quickly learn how the system works. Furthermore, this traveller does not own an OV-chipcard, yet. The international traveller will choose speed and comfort over price since costs don't matter that much while on a trip. He/she prefers buying a travel product that will cover all travelling needs to prevent any hassle.







## The Carefree Traveller

The carefree traveller uses public transport regularly but has no need for extra information. He/she travels with public transport because he/she needs to go somewhere, and does not care about the costs or route. The carefree traveller wants to travel with the least friction possible and does not want to pay for each trip separately.







## The Money Watcher

The money watcher only uses public transport when necessary, since he/she has a small budget and needs to determine the value of a trip with public transport. The money watcher always compares the price of different public transport modalities and other transportation options and will choose price over speed & comfort. The money watcher wants to pay transaction-based, and cannot afford to use a prepaid or post-paid payment method.









## The Commuter

The commuter uses public transport practically every day to get from home to work and vice versa, he/she travels mostly on a fixed route. The commuter uses a travel product that offers unlimited travelling for a fixed price, often the costs for this travel product are reimbursed by the employer. For the commuter convenience is key, he/she will always pick the fastest route. The commuter has no interest in the costs of single tickets since he/she never uses these tickets.



