POLIS
CITIES AND REGIONS FOR TRANSPORT INNOVATION

ANNUAL CONFERENCE 2022

30 November
1 December, 2022
Brussels, Belgium

#POLIS2022

Sustainable transport infrastructure in the strategic urban region Eurodelta

(2F. Ramping up regions)

Dagmar Keim (Sure Eurodelta)

Stefanie Van Den Bogaerde (Senior Consultant, Tractebel ENGIE)

POLIS
CITIES AND REGIONS FOR TRANSPORT INNOVATION

ANNUAL CONFERENCE 2022

30 November
1 December, 2022
Brussels, Belgium

#POLIS2022

Sustainable transport infrastructure in the Eurodelta: highlights from ESPON research

2F. Ramping up Regions

Dagmar Keim (xxx)

Stefanie Van Den Bogaerde (Senior Consultant, Tractebel ENGIE)

SURE Eurodelta

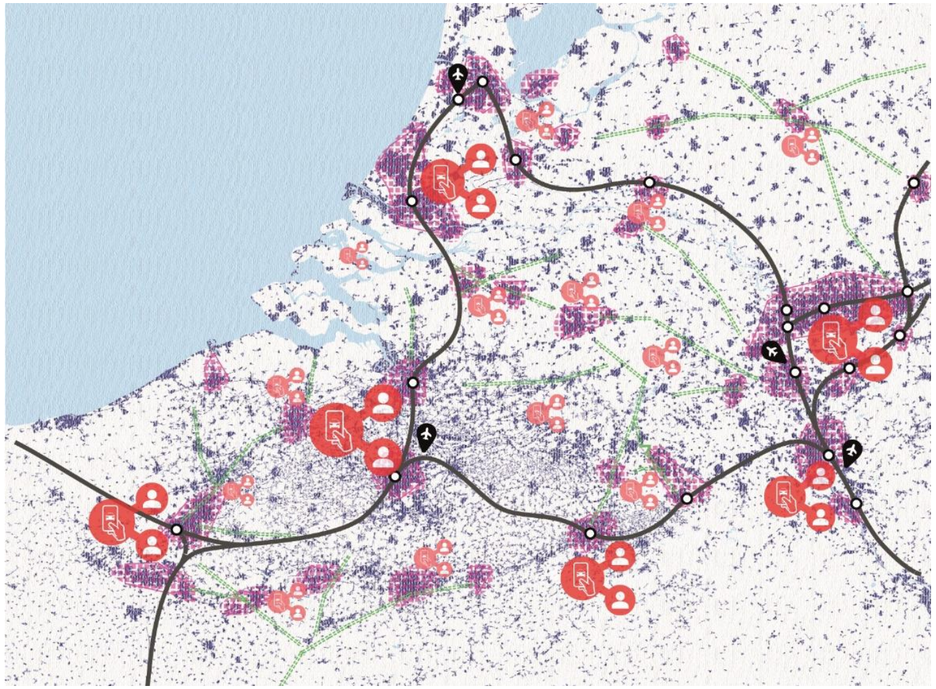
Potential to be one of Europe's enablers of change in the transformation to a sustainable and inclusive Europe.

Rich, ambitious, shared values and culture, goed network of infrastructure, 40 miljoen inhabitants, interconnected economies, many related start-ups, high level of knowledge, part of une urbanized system (OECD) within 3-5 hours travel time…

Cities and regions interconnected by proximity face the similar challenges, culture and values.

If we can realize the transition anywhere it is here! The first circular delta.

Pilot for the Green Deal.



https://sure-eurodelta.eurometrex.org/

Implementing the results

1 year participation of 11 stakeholders

Province South-Holland

Province Gelderland

City of Amsterdam

City of Den Haag

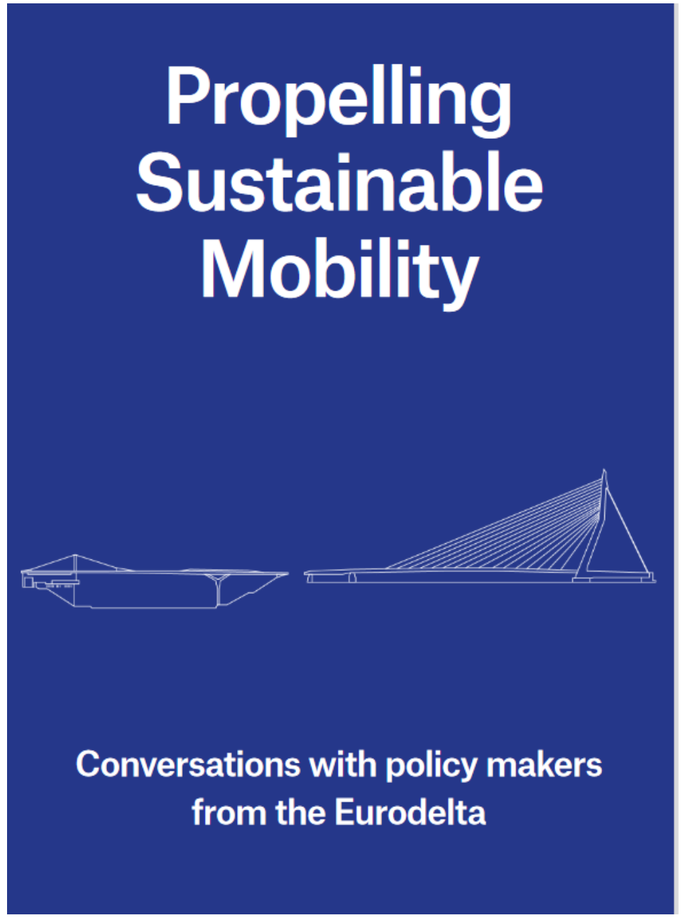
Regio Vlaanderen

Brussels-Capital Region

Metropoolregio Rijnland

Metropoolregio Lille

Regionalverband Ruhr



08 Conversations with Policy Makers

Filip Boelaert & Fons Verhelst
— Flemish Region

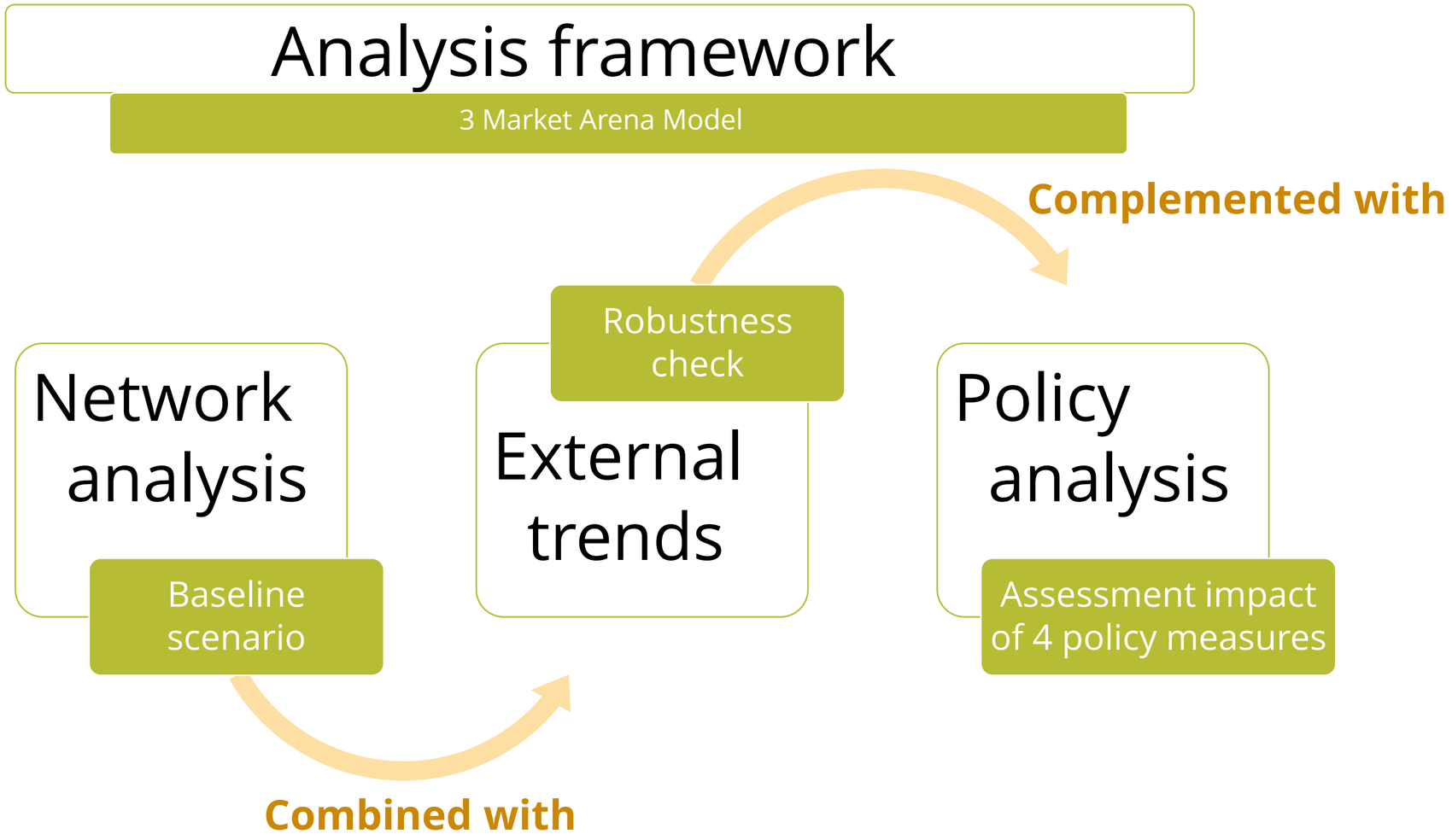
Erik Pasveer
— City of Amsterdam

Audrey Masquelin & Benoit Wiatrak
— Métropole Européenne de Lille

Dominik Elsmann
— Aachener Verkehrsverbund

Frans Weekers
— Benelux Union

Approach STiSE study



Study results

Study results: https://www.espon.eu/sustainable-transport

To be able to better show all the different cut throughs that the baseline information contains, an online tool has been developed:

- Passenger transport:

https://analytics.omnitransnext.dat.nl/public/vzYDW5PrvGYBMmIVFM7R3NA0

- Freight transport:

https://analytics.omnitransnext.dat.nl/public/wGpCiiC4EQO6M1PKC392FRLA

Baseline scenario - overall observations

The baseline scenario shows that, with the overall expected growth of transport, **sustainability appears to be far out of reach.**

- Transport per car is still growing, although emission impact is reducing due to policy & technology
- Air transport share in emissions growing
- Growth rate other modes slower than car
- External trends (e.g., technological) make good progress…
- **… however, not enough for reaching sustainability targets**

Need for additional policy measures, bold policy choices

Key findings: analysis policy measures

- Aviation shift on short/midrange distances
- Zero Emission Zones in all large cities
- The potential of MaaS
- Improving regional cross-border public train transport

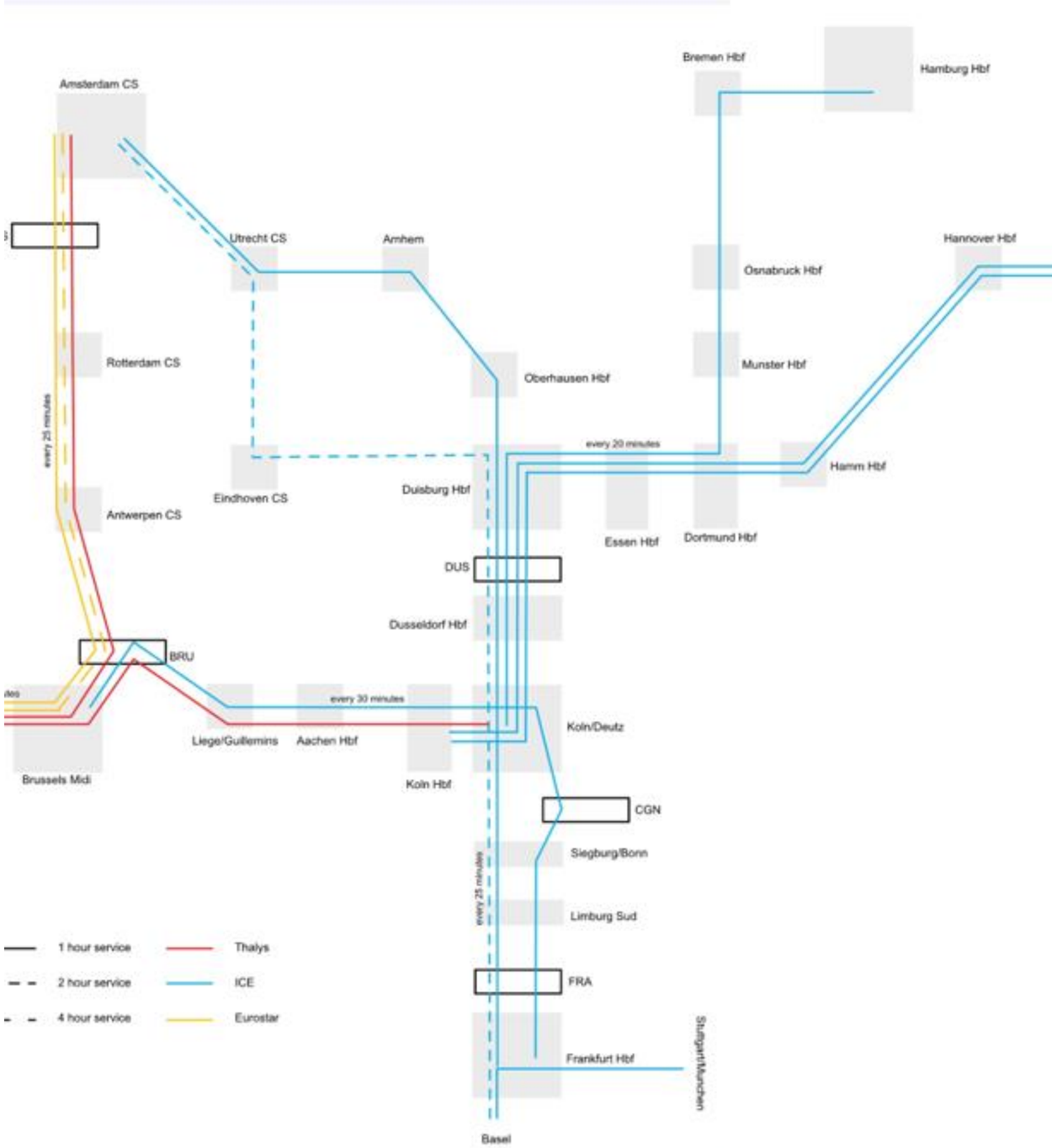
Aviation shift on short/midrange distances

Description policy measure

A policy ban of all the regular aviation services on short and mid range distances (< 500km to 700 km) within, to and from the SURE area, with a shift to High-speed rail

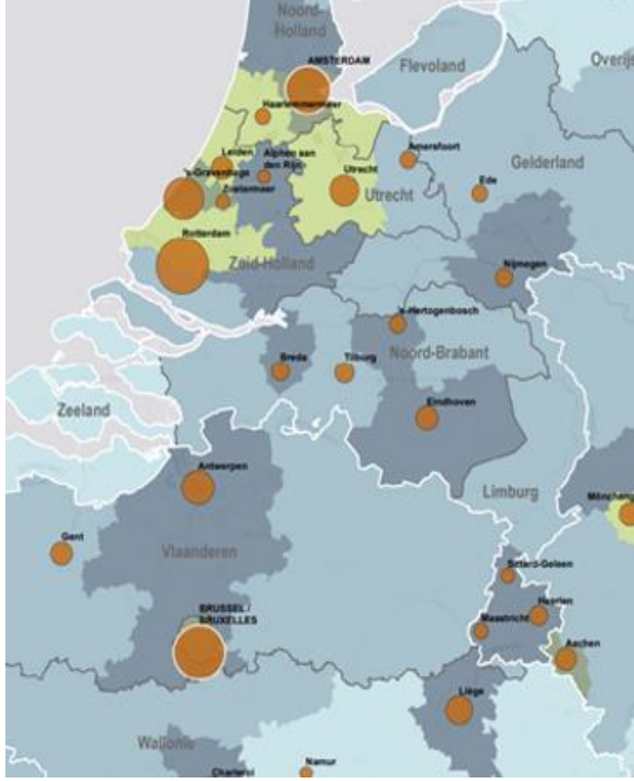
Impacts of the measure

The shift from aviation to high-speed rail for short and midrange distances will have a major impact on the CO2 emissions and the noise in and around the four relevant airports in the Eurodelta. It will give a boost to HST, and it will possibly double or even quadruple the volumes of HST-travel on the existing tracks. Therewith it could also have a major impact on domestic and short-range travel within the SURE area and lead to a shift form car to train.



rack plan with aviation shift within and towards the SURE area (source: STISE research consortium)

Zero Emission Zones in all large cities



Description policy measure

Implementation of harmonized Zero Emission Zones (ZEZs) in all major cities (> 100.000 inhabitants) located in the SURE area for passenger cars, Light Duty Vehicles (LDVs) and Heavy Duty Vehicles (HDVs), by 2035.

Impacts of the measure

Harmonizing ZEZs could have substantial efficiency and societal benefits, but specific population groups and economic actors could be adversely impacted if no targeted accompanying measures are implemented. Experience shows that it is very difficult to harmonize access criteria due to the subsidiarity principle, while harmonizing other aspects could appear to be very challenging due to the high number of actors to be involved and the absence of institutional framework to carry out such a process at Euro-delta level. An appropriate forum for policy dialogue should be set up to assess political feasibility, options for harmonization and their impacts. If areas for consensus are identified, a structured concertation process involving national and local authorities shall be launched to design, plan and implement the harmonization process.

Exploring the potential of MaaS

Description policy measure

Exploring Mobility as a Service (MaaS) – with focus on passenger transport - from the public authority's perspective: defining the role public authorities have in this development, how can they operate and what the potential benefit is they can realize if the measure is effective - considering the required accompanying measures in order to realize this benefit.

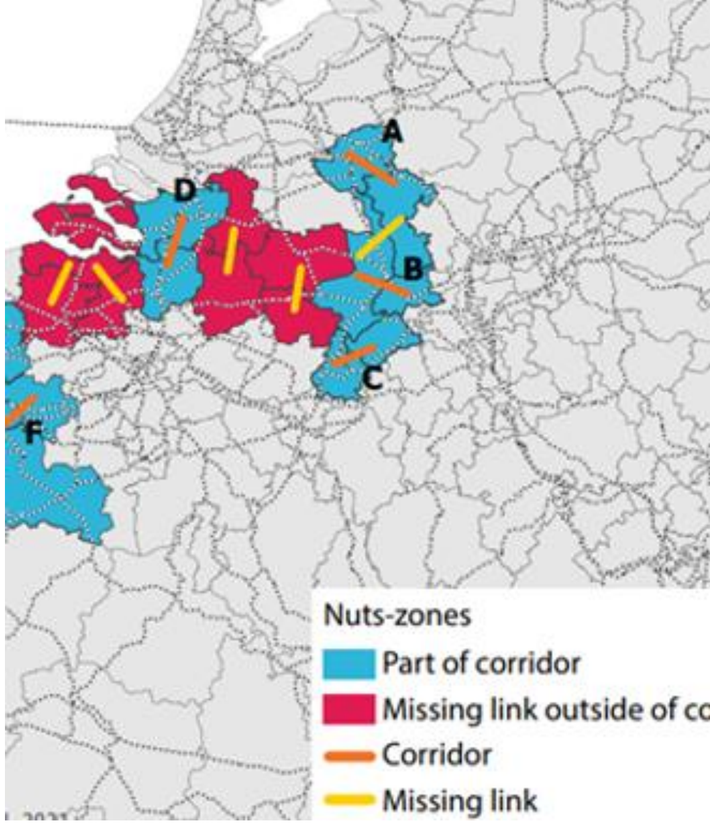
Impacts of the measure

The Potential of MaaS measure shows a potential in realising more sustainable transport, however this potential is largely uncertain, strongly depends on the position public authorities take and the necessary investments in both digital and physical infrastructure that need to be done to facilitate a larger modal shift. The prerequisites as defined (regarding standardisation and sharing of data and information) are no-regret measures that can be started immediately. Furthermore, development of a vision and implementation plan for MaaS and how it can contribute to the relevant societal goals is essential to grasp the potential at hand.

Improving regional cross-border public train transport

Description policy measure

This policy focuses on the improvement of regional cross-border public train transport in the 3 STISE project corridors Rhine-Waal, Rhine-Scheldt and Lille-Brussels. The goal of this measure is to result in a shift from road to rail transport for regional cross-border passenger travel.



Impacts of the measure

The assessment of the policy ambition to improve cross-border rail transport has shown that a shift from road to rail could be realised for several cross-border corridors in the SURE area. There is sufficient demand to operate profitable rail services, if the cross-border connections are well integrated with the national rail and bus services and passenger-friendly services are provided. The measure has the potential to contribute to more sustainable transport and is in-line with plans of the European Green Deal. Compared to the overall emissions in transport, the potential emission reduction of this measure is limited, since the regional cross-border passenger segment is rather small. However, the policy should be seen in the broader context of a shift from road to rail.

Key findings: analysis policy measures and estimations of sustainability parameters

Estimated impacts of development / policy measures	Impact on modal shift	Environmental impact (Comparison with the situation without the policy measures)						Other impacts (socio-econ, fin…other)	Implementation (involved stakeholders, ease of implementation, time scale, replicability…)	Cooperation required (cross-border, inter-municipalities…)
		CO_2 emissions		NO_x emissions		PM_{10} emissions				
		2030	2050	2030	2050	2030	2050			
Units		Mton (TTW)	Mton (TTW)	Mton (TTW)	Mton (TTW)	kton (TTW)	kton (TTW)			
Estimated impact of (extra) measure Aviation shift	Modal shift of aviation to, from and within the SURE area on short and midrange distances.	-0,94 Mton	-0,86 Mton	-0,002 Mton	-0,002 Mton	-0,03 kton	-0,03 kton	A further noise reduction of 10-20% around the selected airports. A further energy reduction of approximately 11.000 10^6 mega-joule/per year. An extra boost to economic development around the HST nodes, and a better accessibility to jobs also for domestic travel	It needs an additional investment of some 0,5-1 billion € in the period 2022-2030, 7,5 billion € in the period 2030-2040 and 21-22 billion € beyond 2040	There is a need to come up with a princ statement of all the involved SURE pu stakeholders, including the relevant EC rectorates on the short run, and the ins ment of an Ambassador Team to further out the measure
Estimated impact of (extra) measure Zero Emissions Zones (ZEZ)	ZEZ schemes primarily aim at accelerating vehicle fleet renewal. They have very limited impacts on modal shift, unless they are coupled with additional modal shift policies and measures.	-25,9 Mton	-15,3 Mton	-0,08 Mton	-0,01 Mton	-0,95 kton	-0,80 kton	Harmonizing ZEZ could have substantial efficiency and societal cost savings benefits, but specific population groups and economic actors could be adversely impacted if no targeted accompanying measures are implemented.	Experience shows that it is very difficult to harmonize access criteria due to the subsidiarity principle, while harmonizing other aspects could appear to be very challenging due to the high number of actors to be involved and to the absence of institutional framework to carry out such process at Eurodelta level.	Appropriate forum for policy dialogue sho be set up to assess political feasibility, tions for harmonization and their impacts areas for consensus are identified, a str tured concertation process involving natio and local authorities shall be launched to sign, plan and implement the harmonizat process.
Estimated impact of (extra) measure Potential of MaaS	MaaS, with the right prerequisites can create a modal shift of up to 10%	-0,59 Mton	-2,59 Mton	-0,001 Mton	-0,001 Mton	0,006 kton	0,019 kton	MaaS if implemented like Scenario 2 ("MaaS as a new form of public transport") can enhance quality of living, realize societal goals but requires investments in both digital and physical infrastructure	The described prerequisites are no-regret measures to profit from digitalization of transport. A strong public vision and policy framework is needed to grasp the benefits.	Standardization is essential to allow MaaS grow, but this requires cooperation on all l els. On national level, cooperation in d sharing is essential to realize economies scale for data access points.
Estimated impact of (extra) measure Improving Regional Cross-border public train transport	In the border regions with sufficient traffic a shift from road to rail can be realized	-0,014 Mton	-0,007 Mton	+0,000017 Mton	+0,000002 Mton	-0,002 kton	-0,003 kton	Improving cross-border connectivity especially for commuters, students and inhabitants without cars, positive effect on the labour market and cohesion between SURE countries	Clear vision required to integrate cross border rail connections in national rail networks and local bus services. Construction of new rail infrastructure and reactivsting closed lines are long-term projects; on short term services on existing infrastructure can be improved.	Challenging cooperation with multiple sta holders from local, regional and national thorities together with rail infrastructure p viders and rail operators.

Thank you for your attention!

For questions:

D.Keim@amsterdam.nl

Stefanie.vandenbogaerde@tractebel.engie.com