

The advantages of multi-modal concessions,

Two analyses in the Netherlands

TU Delft

arriva
a DB company

Gerald Hoekstra
Wijnand Veeneman
Niels van Oort
Rob Goverde



Thredbo

“

Various forms of Public Transport should
be better connected to each other,
to better match the traveller's needs

”

Organisational integration

Existence of one or more independent PTA(s)

Arrangements between operators

Operational integration

Network layout

Schedule

Information

Fares & tickets

Vehicle management

Physical integration

Access to facilities

Location of facilities

Design of stations

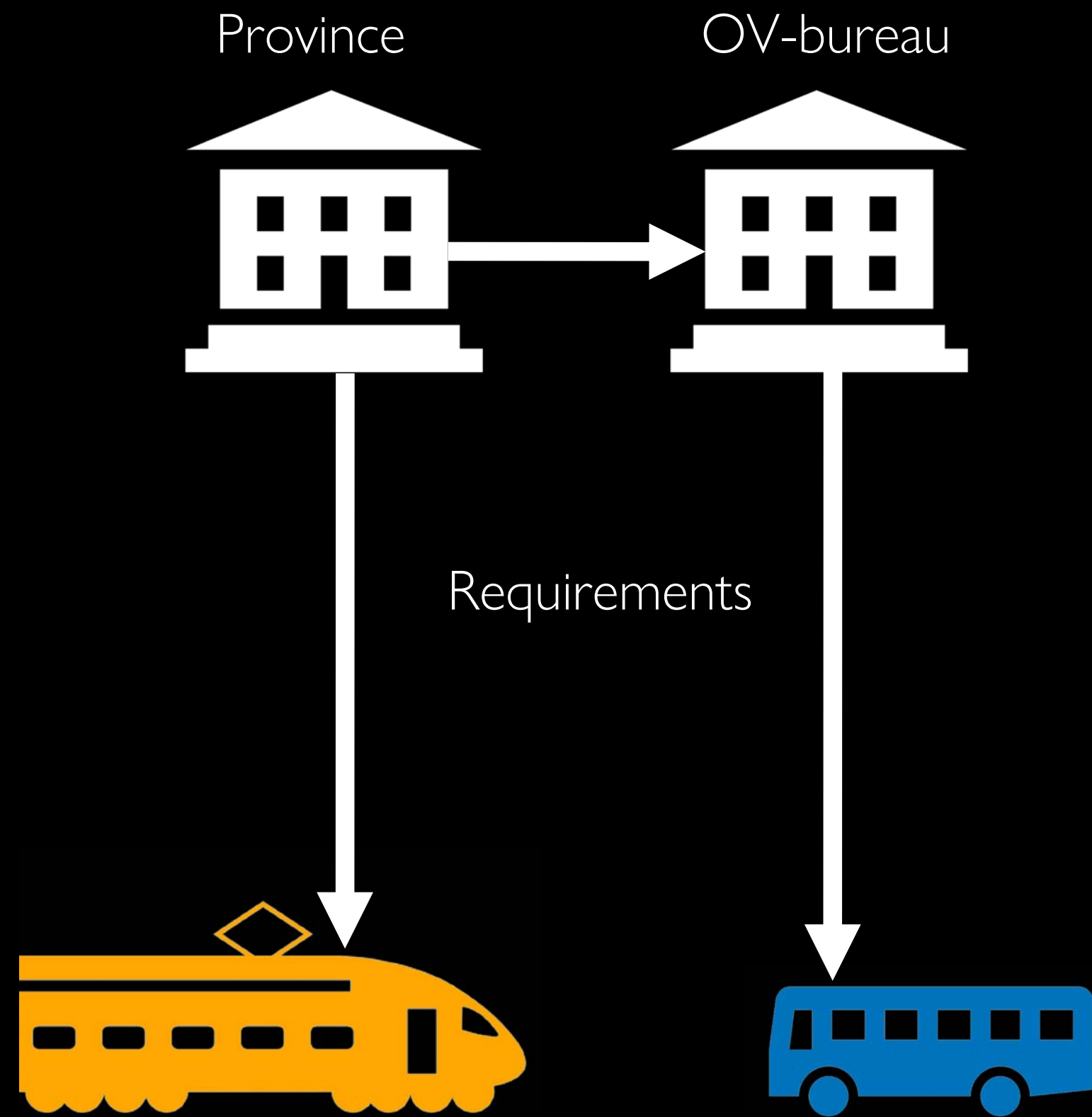
Control of vehicle movements

Main question

What are the pros and cons of contracting out regional multimodal public transport concessions for travellers, public transport authorities, and operators instead of regional unimodal concessions?

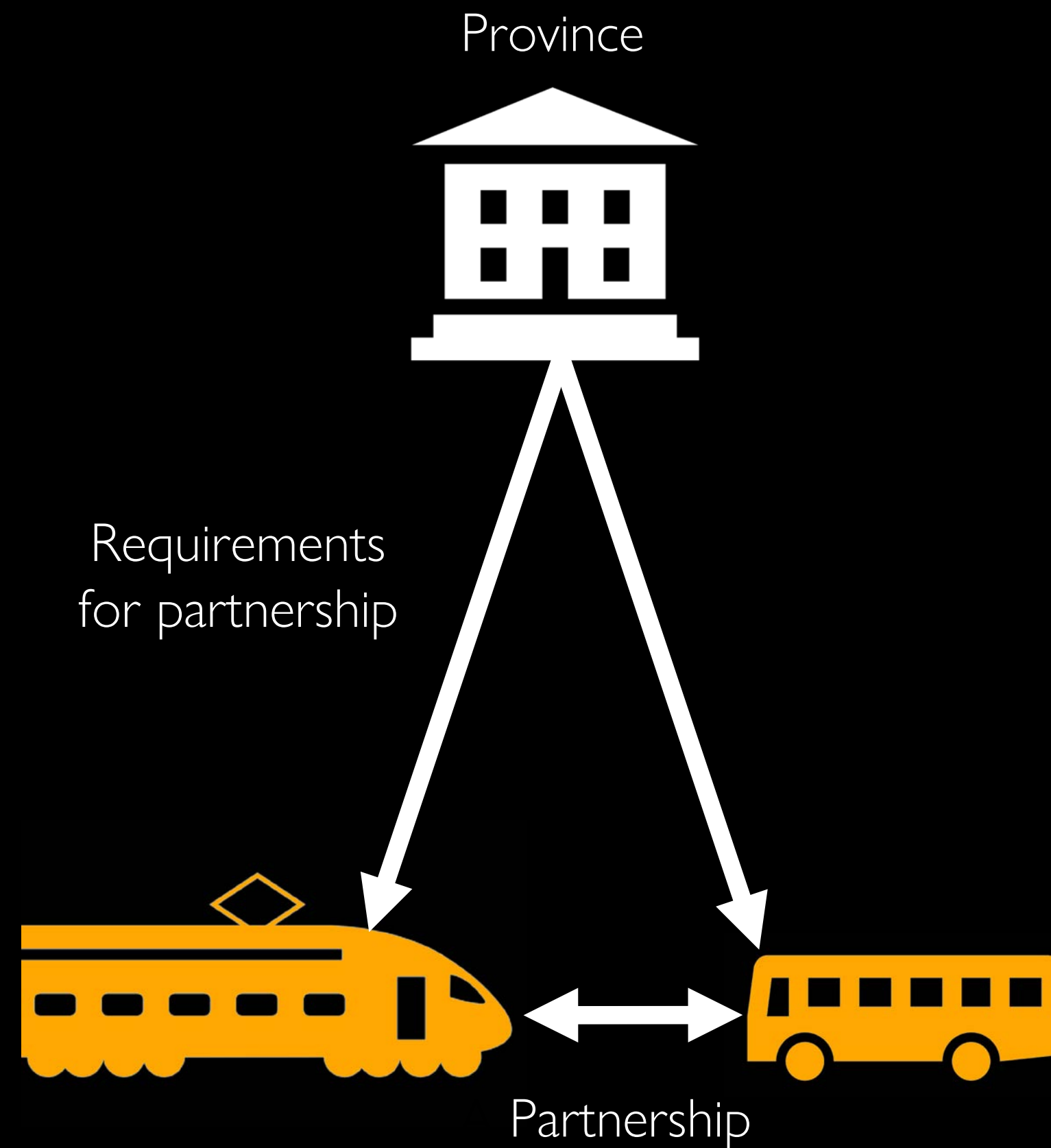
Groningen

Contract



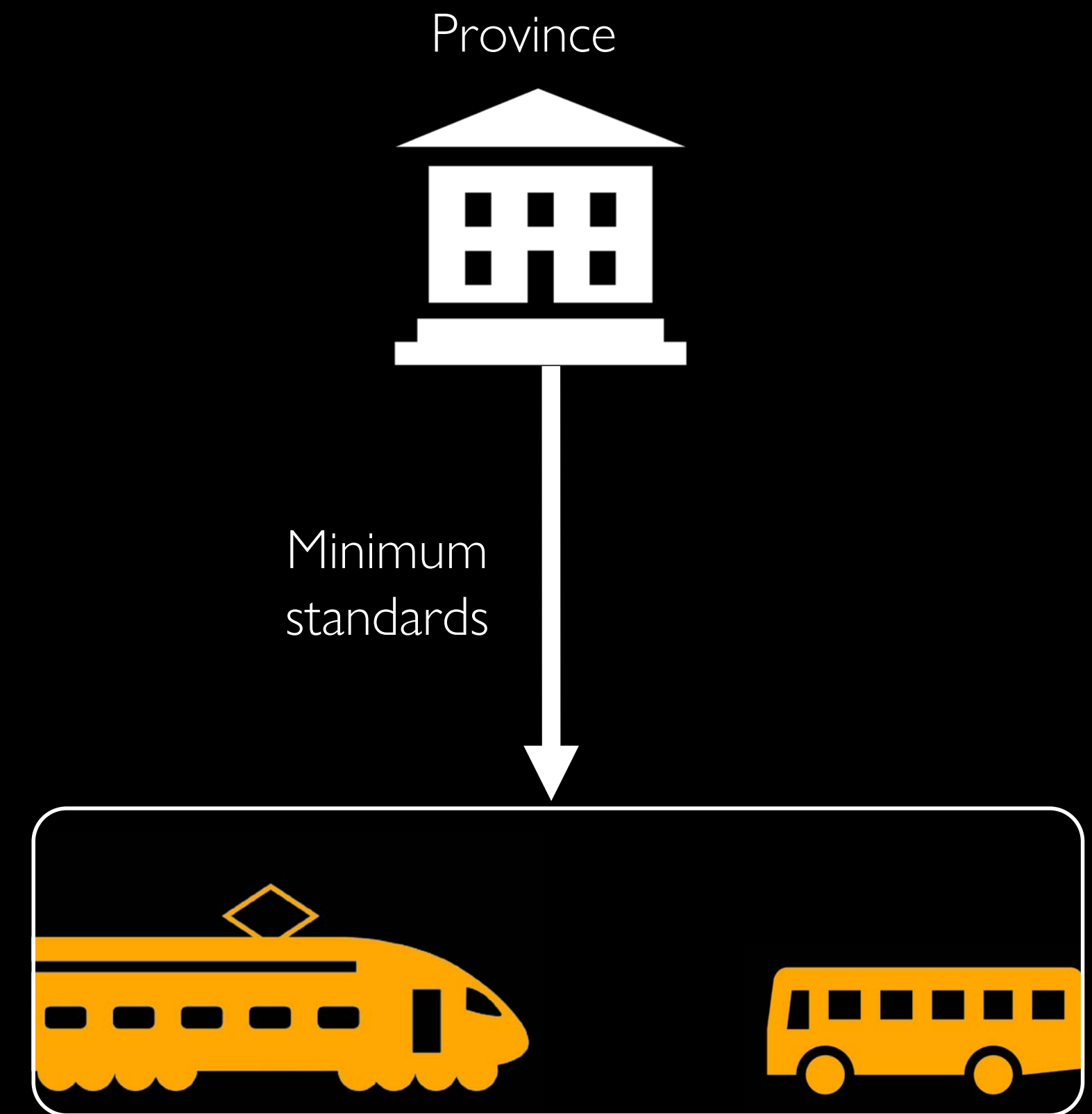
Fryslân

Partnership



Limburg

Internal



	Groningen Contract	Fryslân Partnership	Limburg Internal
Network	+/-	+/-	+
Schedule	+	+	+
(Regional) Information	-	+/-	+
(Regional) Fares & tickets	-	-	+
Vehicle management	-	-	-

Lessons learned

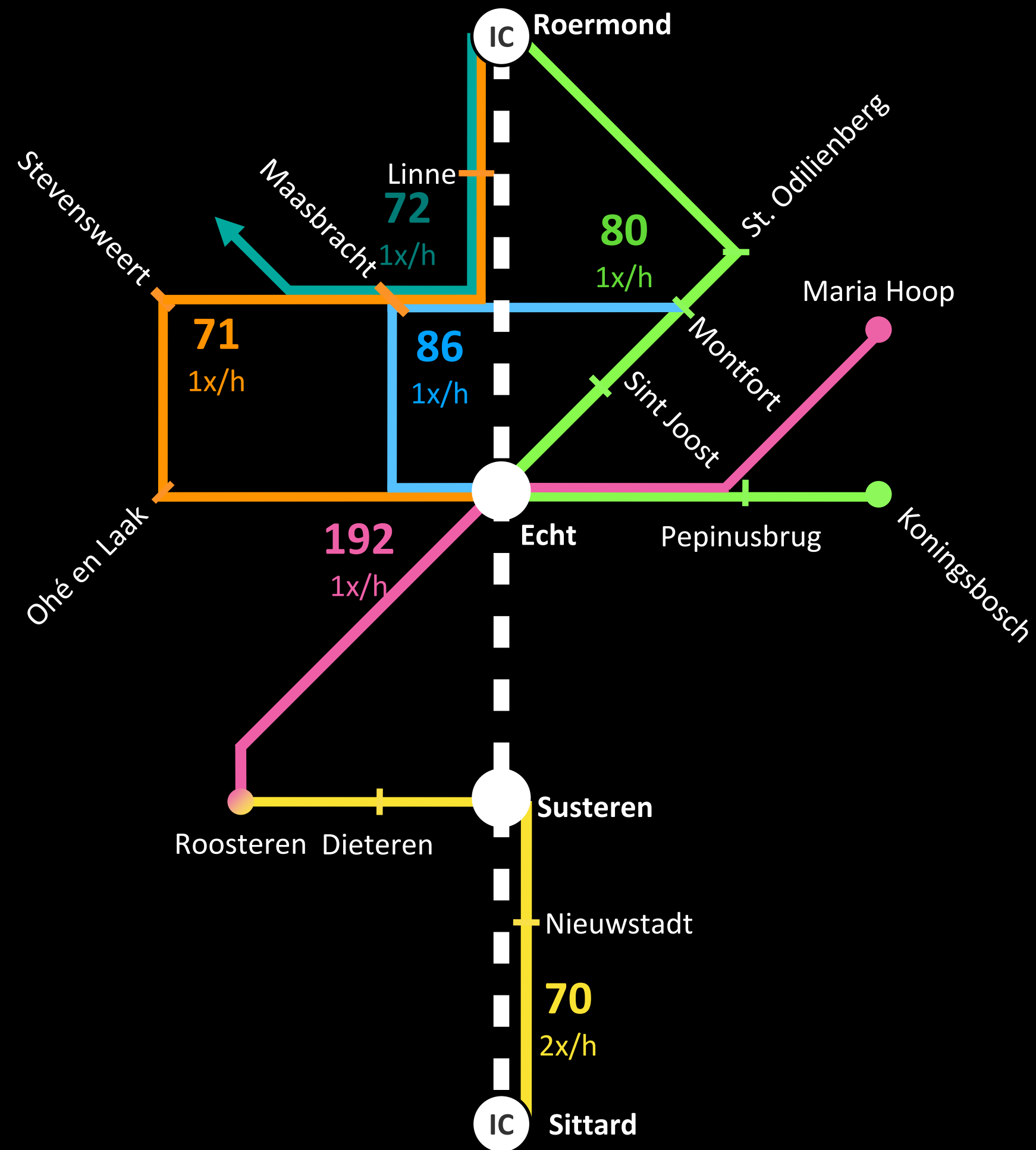
- ✓ Fare integration and a feeder network are interdependent
- ✓ Internal coordination successful in Limburg
- ✓ (Financial) interests are important and inhibit contractual coordination

Network assessment: passenger impacts

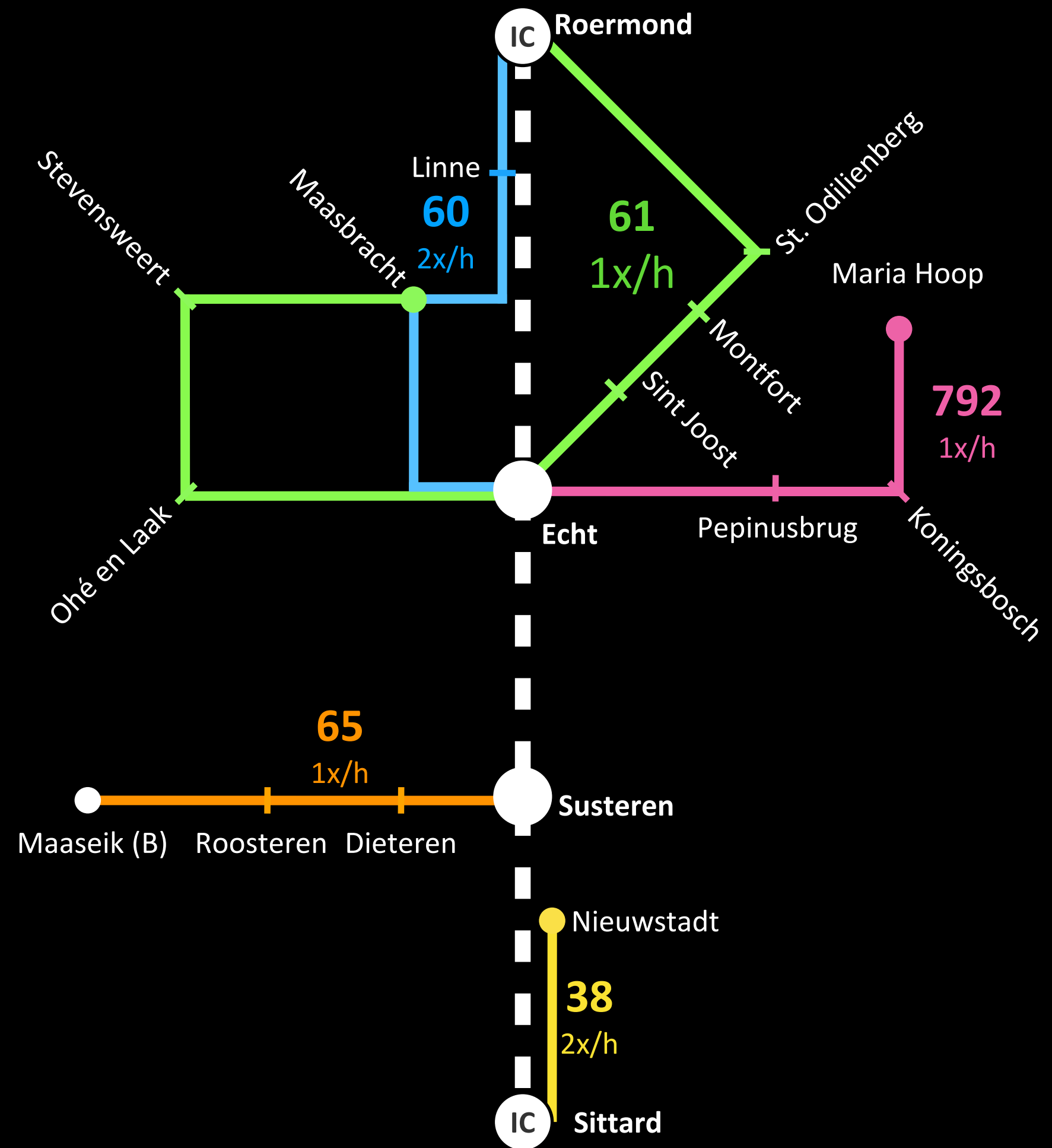
- ✓ Before and after network
- ✓ Smartcard + AVL data (Van Oort et al. 2015)
- ✓ Calculating travel times per OD

	Objective	Perceived
Supply		Generalised Travel Time
	Waiting time 2.18	
	In-vehicle time bus 1.28	
	In-vehicle time train 1.0	
	Transfer time 2.18	
+ Actual Demand	Transfer penalty 12.8	Generalised Travel Time

Former network



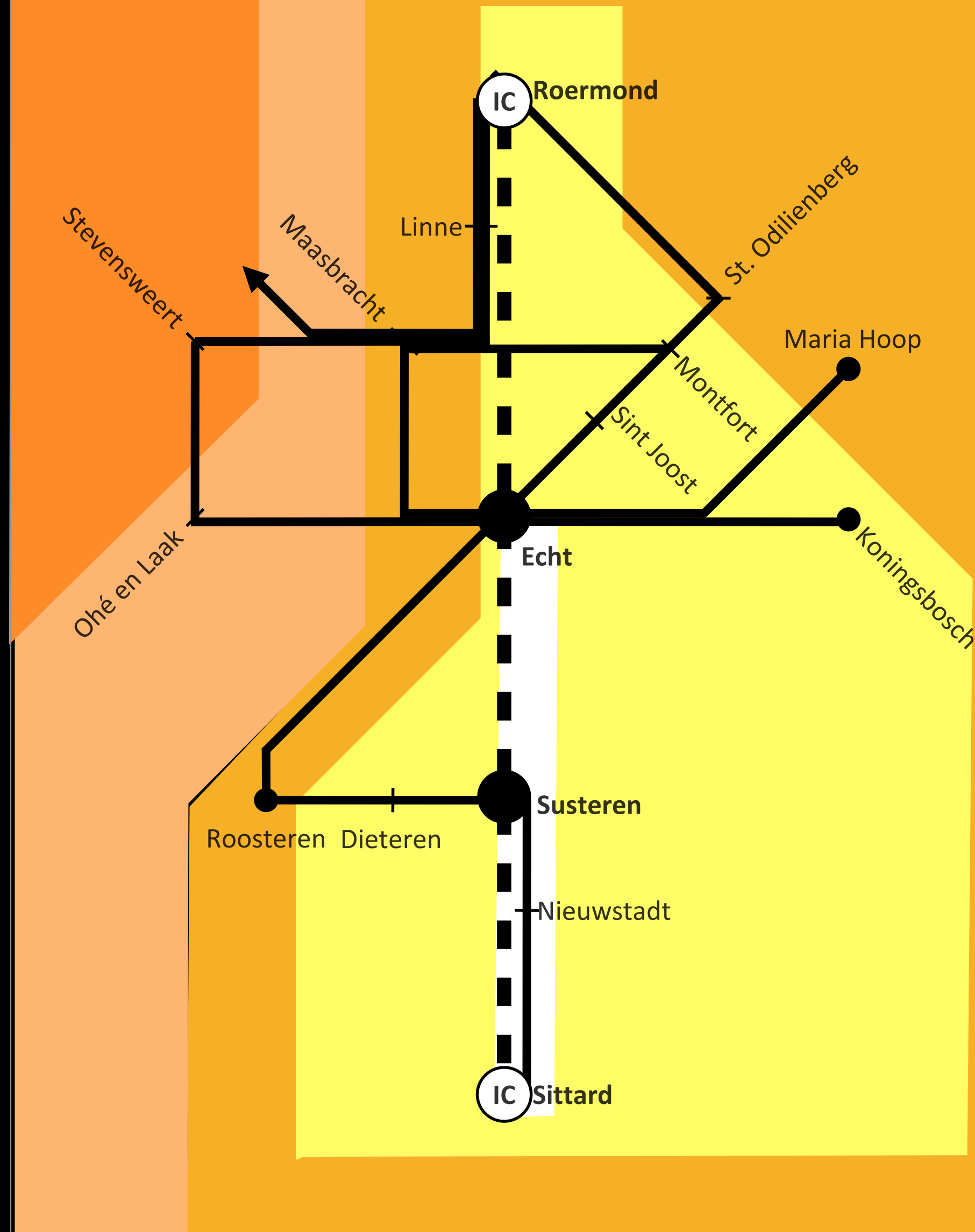
Current network



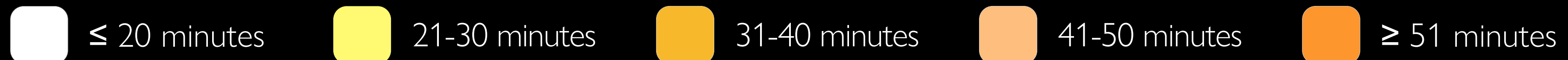
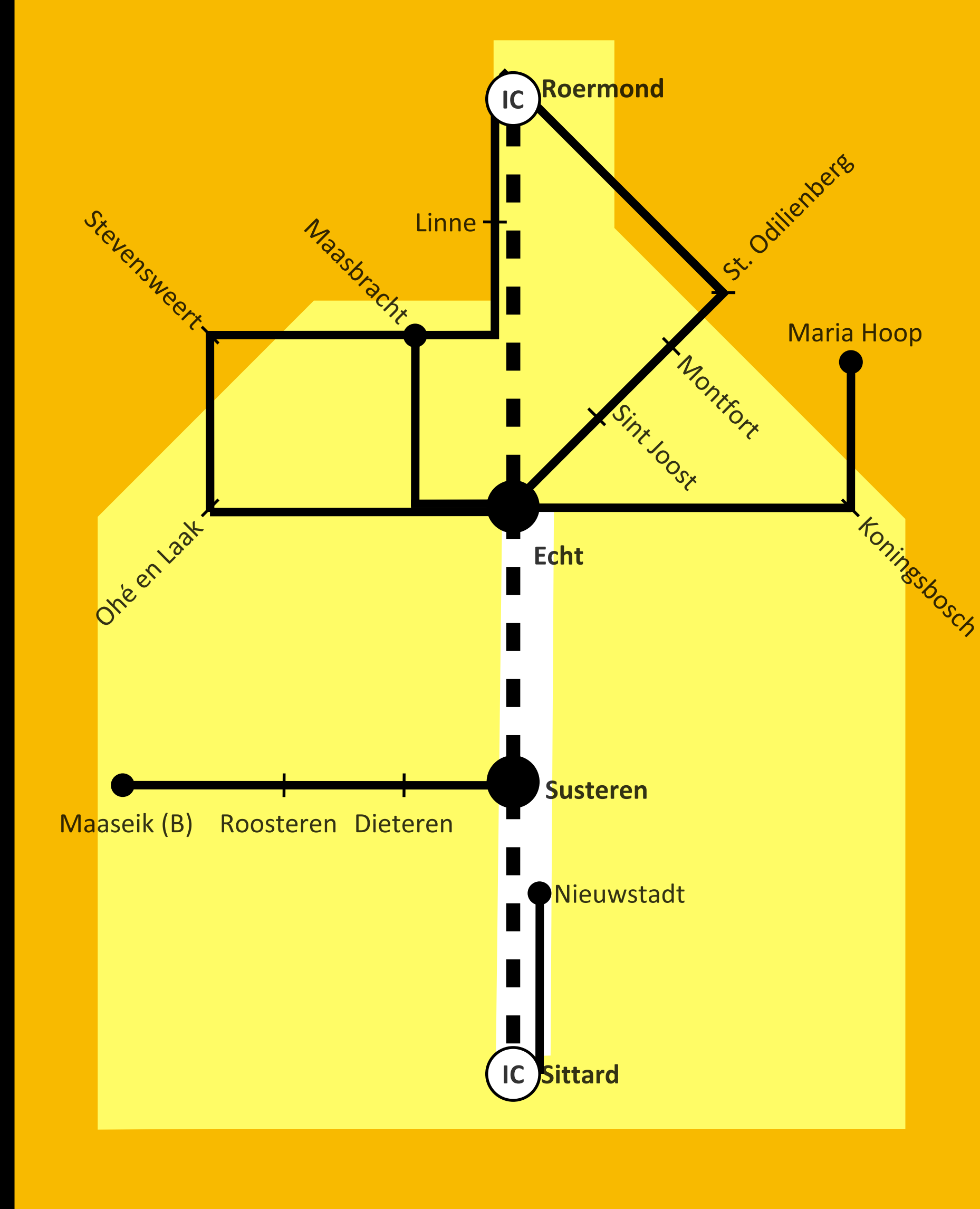
	Objective	Perceived
	Travel Time	Generalised Travel Time
Supply	<div>-7.3%</div> <div>36.8 to 34.1 min.</div>	<div>-9.6%</div> <div>74.0 to 66.9 min.</div>
+ Actual Demand	<div>Weighted Travel Time</div> <div>-1.3%</div> <div>23.7 to 23.3 min.</div>	<div>Weighted Generalised Travel Time</div> <div>-2.6%</div> <div>39.2 to 38.2 min.</div>

Travel Time

Former network



Current network



Lessons learned

- ✓ On balance, travel time decrease
- ✓ Improved transfers main contributor
- ✓ Extra interchanges

	Positive	Negative
Internal	Strengths <ul style="list-style-type: none">• Feeder network• Integrated fares and tickets	Weaknesses <ul style="list-style-type: none">• More interchanges• High investment risks
External	Opportunities <ul style="list-style-type: none">• Pressurised PT budgets• Directly competing train and bus operators	Threats <ul style="list-style-type: none">• Complex organisational structures• Duration on-going concessions

Questions / Contact?

W.W.Veeneman@TUDelft.nl

www.NielsvanOort.Weblog.TUDelft.nl

Gerald Hoekstra
Wijnand Veeneman
Niels van Oort
Rob Goverde

