

 Regio Gelderland

 Verkeer en Vervoer



Automated Driving: a glimpse of a future vision

24 april 2024

HAN University of Applied Sciences

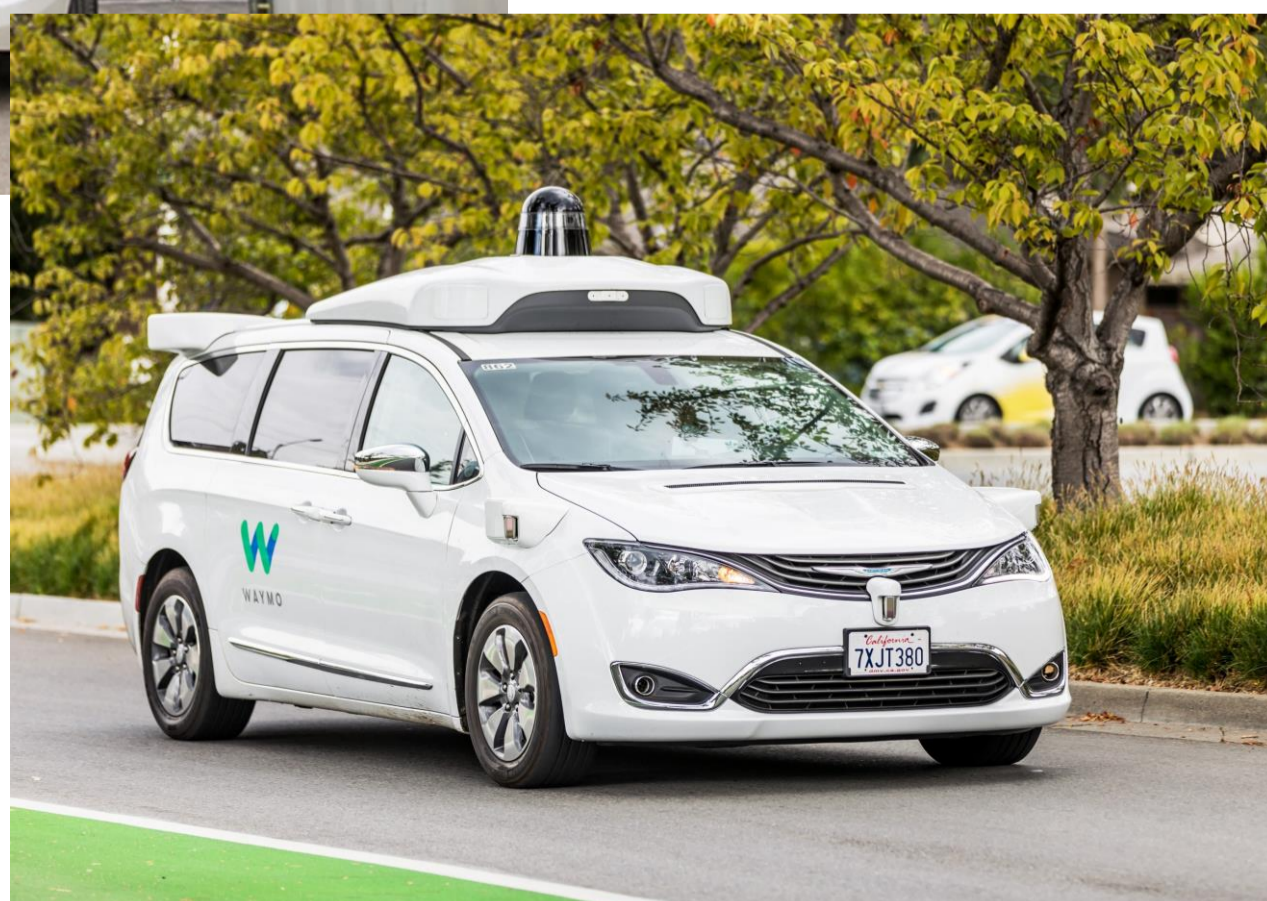
Peter Morsink

Royal HaskoningDHV / KIVI Verkeer & Vervoer

Automated Vehicles: part of the Mobility Transition



Automated Vehicles



Human driver



Automated system

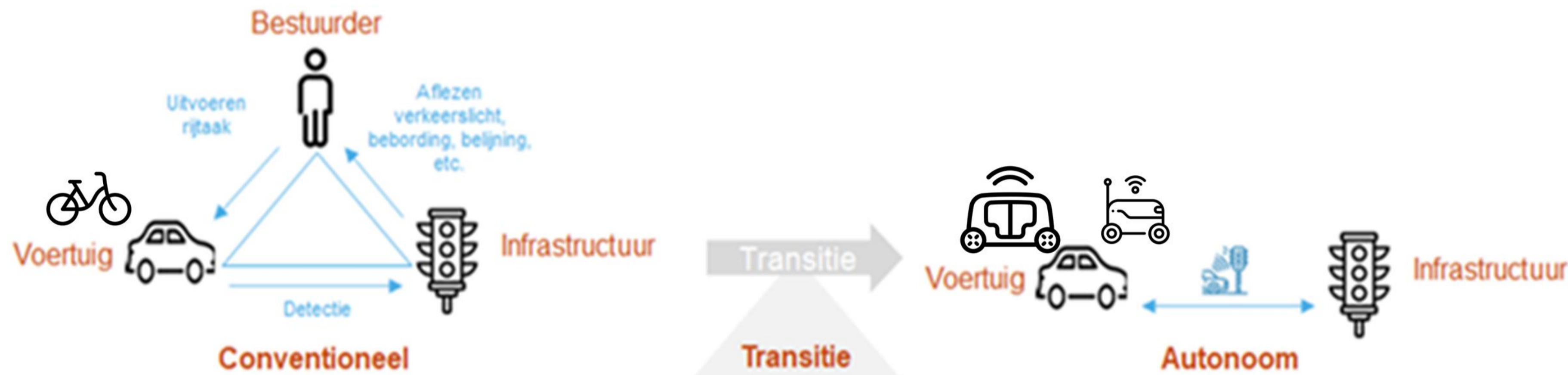
HUMAN DRIVER
MONITORS THE ROAD

AUTOMATED DRIVING
SYSTEM MONITORS THE ROAD

		Steering and acceleration/ deceleration	Monitoring of driving environment	Fall-back when automation fails (DDT fall-back)	Operational design domain
0	NO AUTOMATION				LIMITED
1	DRIVER ASSISTANCE				LIMITED
2	PARTIAL AUTOMATION				LIMITED
3	CONDITIONAL AUTOMATION				LIMITED
4	HIGH AUTOMATION				LIMITED
5	FULL AUTOMATION				UNLIMITED

Transition: people & technology

Technology increasingly supports and takes over tasks from the human driver / road user and traffic manager



Digitalization & Automation

Developments:

- Digitalization
- Increasing Data & Information
- Connectivity & 4G/5G
- Artificial Intelligence (AI)
- Short term traffic forecasts
- Connected & Cooperative Automated Mobility (CCAM)
- New systems and mobility services



Advanced Driver Assistance Systems in cars are becoming mandatory

Stepwise approach ensuring safe and successful deployment is key

*Automated vehicles can make traffic safer, more efficient and sustainable.
And contribute to more liveable city and quality of public space.
Our role is to leverage those benefits while mitigating risks.*

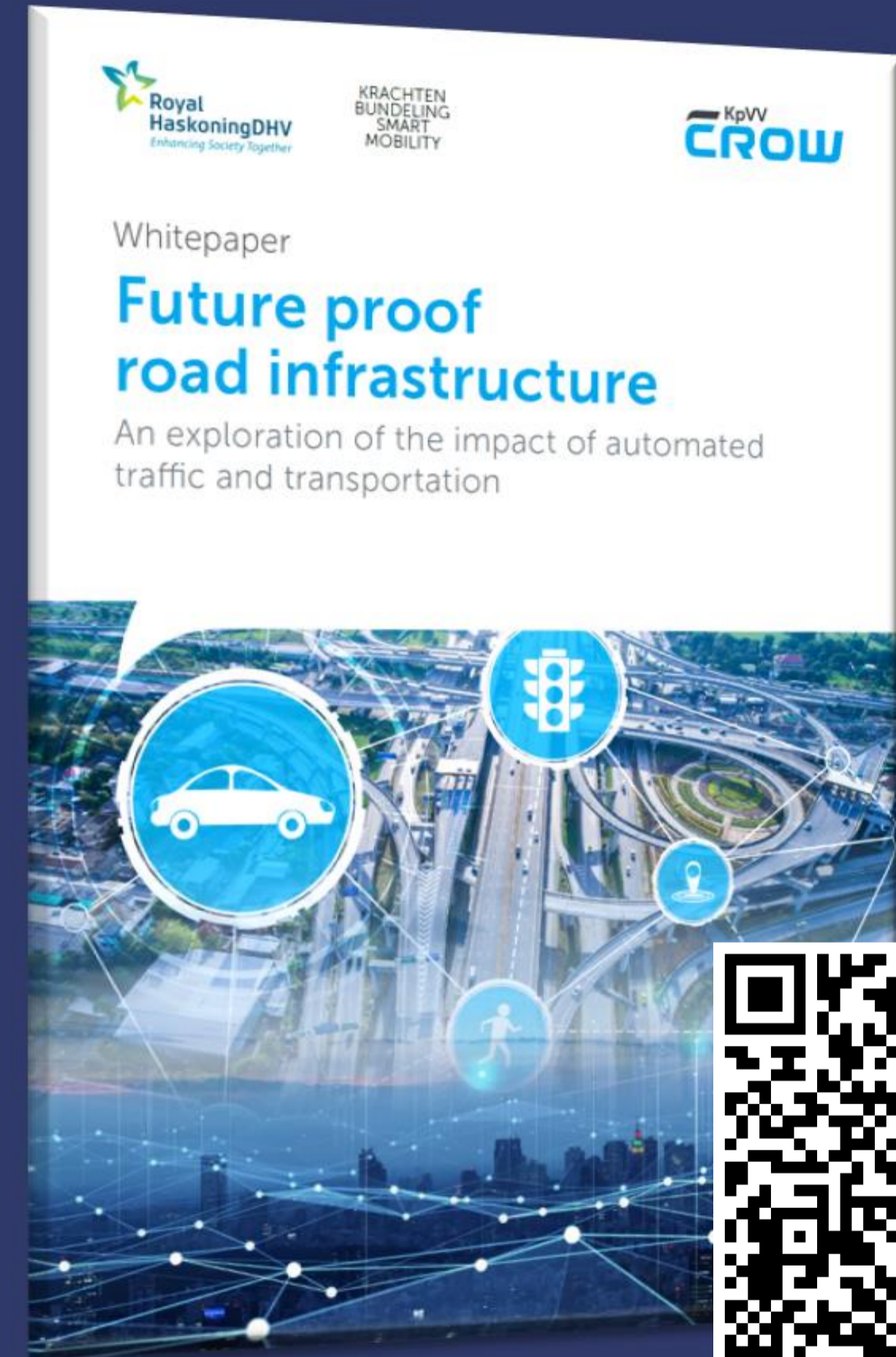
Whitepaper: Future road infrastructure



Gerard van Dijck
Project manager CROW



Peter Morsink
Project manager RHDHV



Download the whitepaper https://www.royalhaskoningdhv.com/en/services/transport-services?utm_source=social&utm_medium=linkedin&utm_campaign=sprint+1+2024&utm_id=mobiliteitstransitie#whitepaper

Policy HORIZON



Road safety

Accessibility



Climate

Livability

Spatial Development



Inclusivity

Human centered approach



Cost reduction

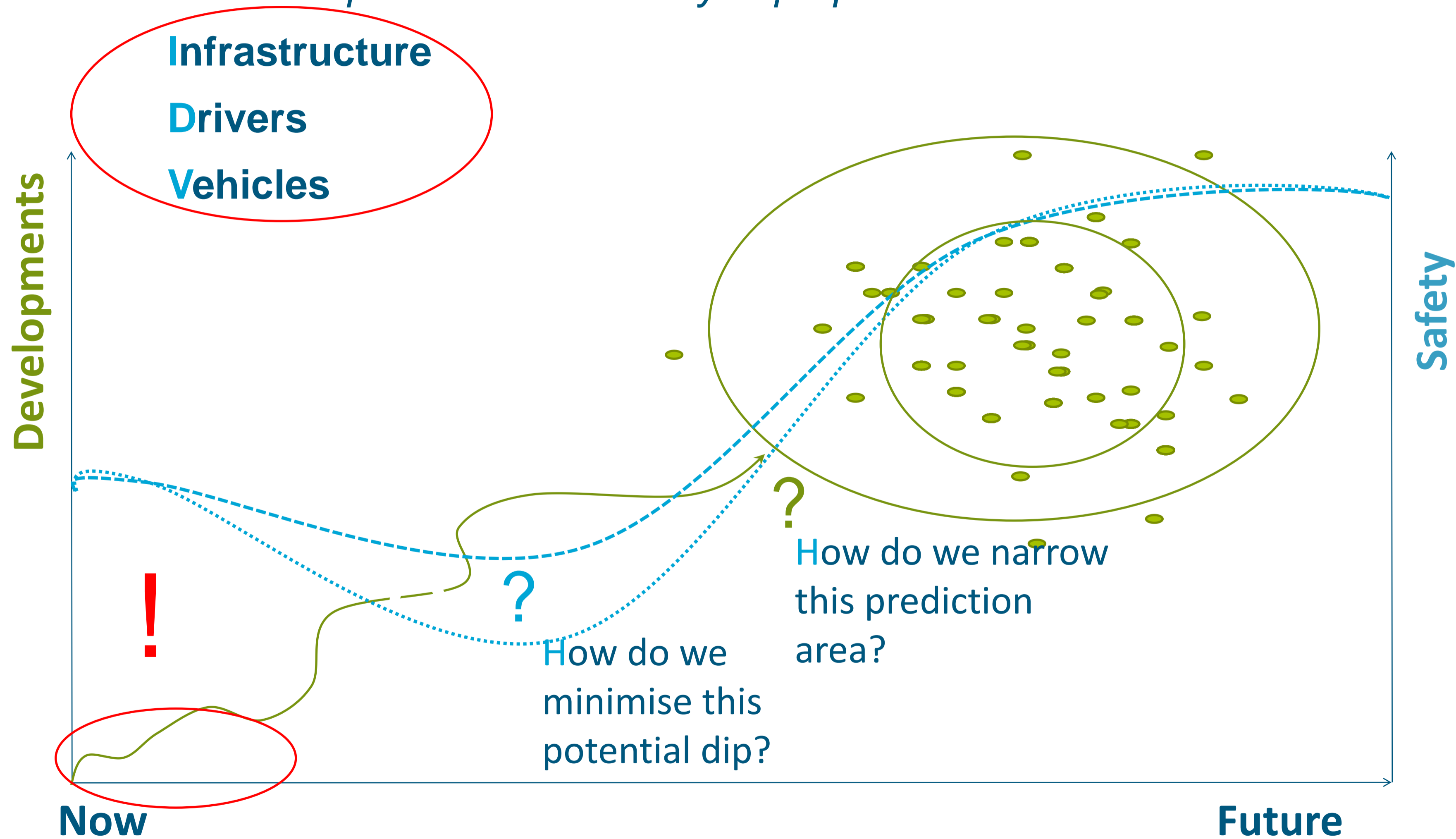
Employment

Spot on the horizon



Vision and first steps

Which steps are needed today to prepare for the future?



TAKING AN INTEGRATED SAFE SYSTEM APPROACH



HUMAN



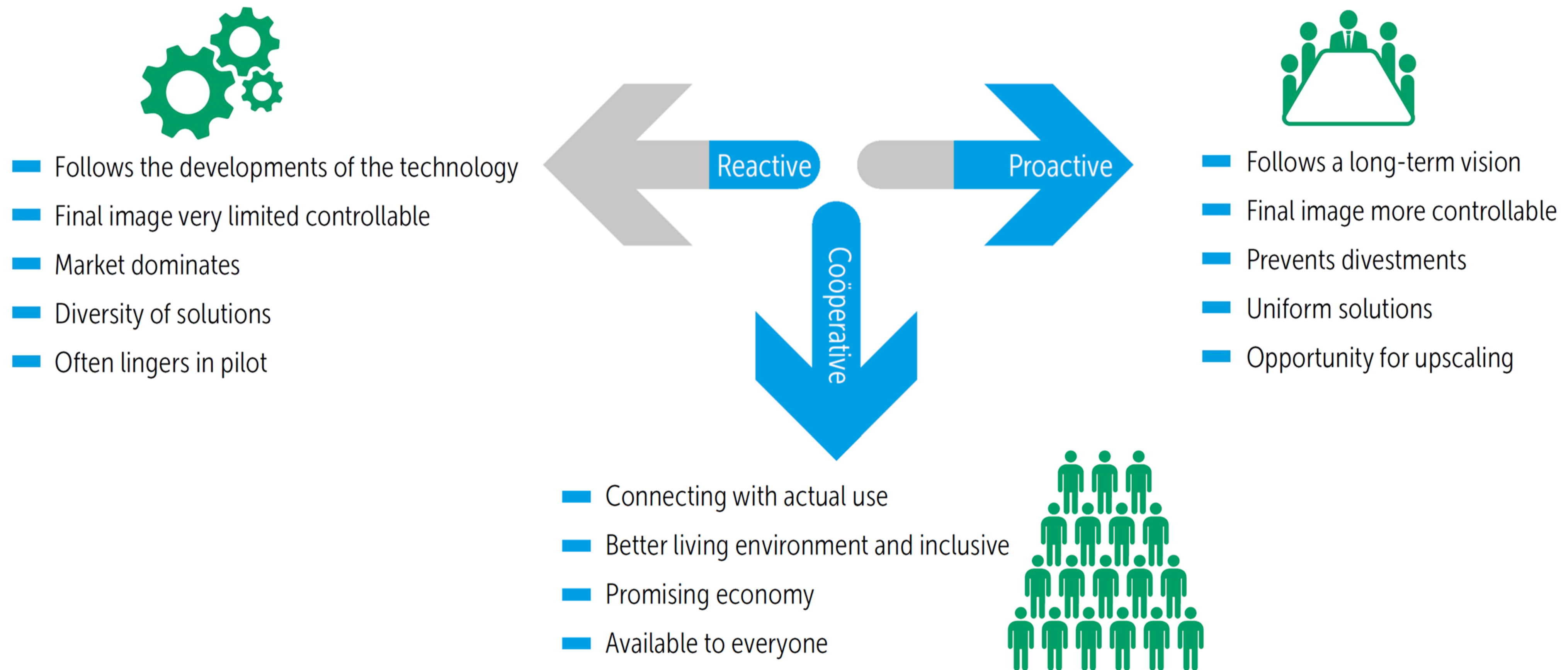
VEHICLE



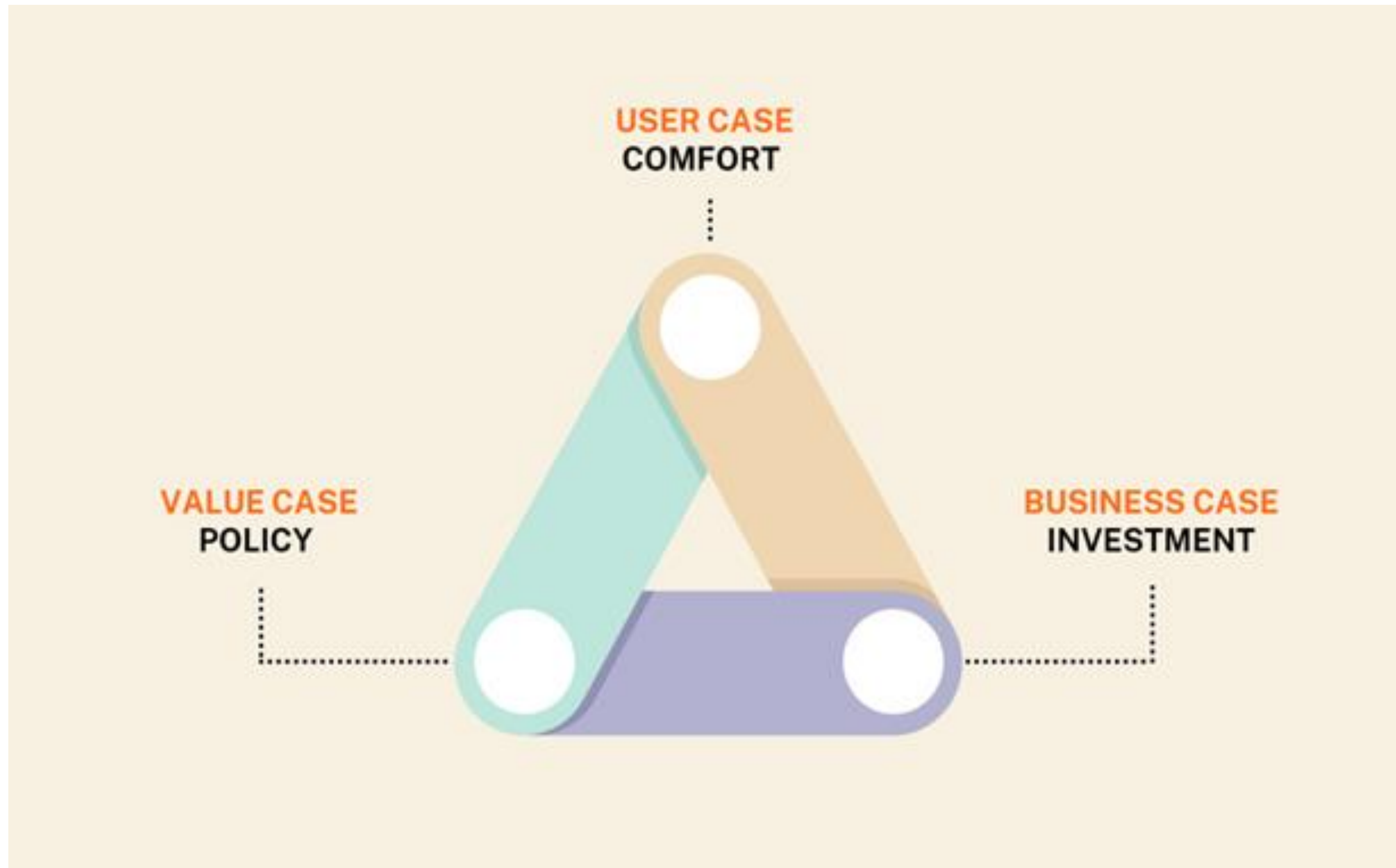
INFRASTRUCTURE

*A three-pronged **integrated safe systems approach** will ensure the sustainable development of smart vehicles in current and future traffic systems.*

From a reactive approach to a proactive social objective

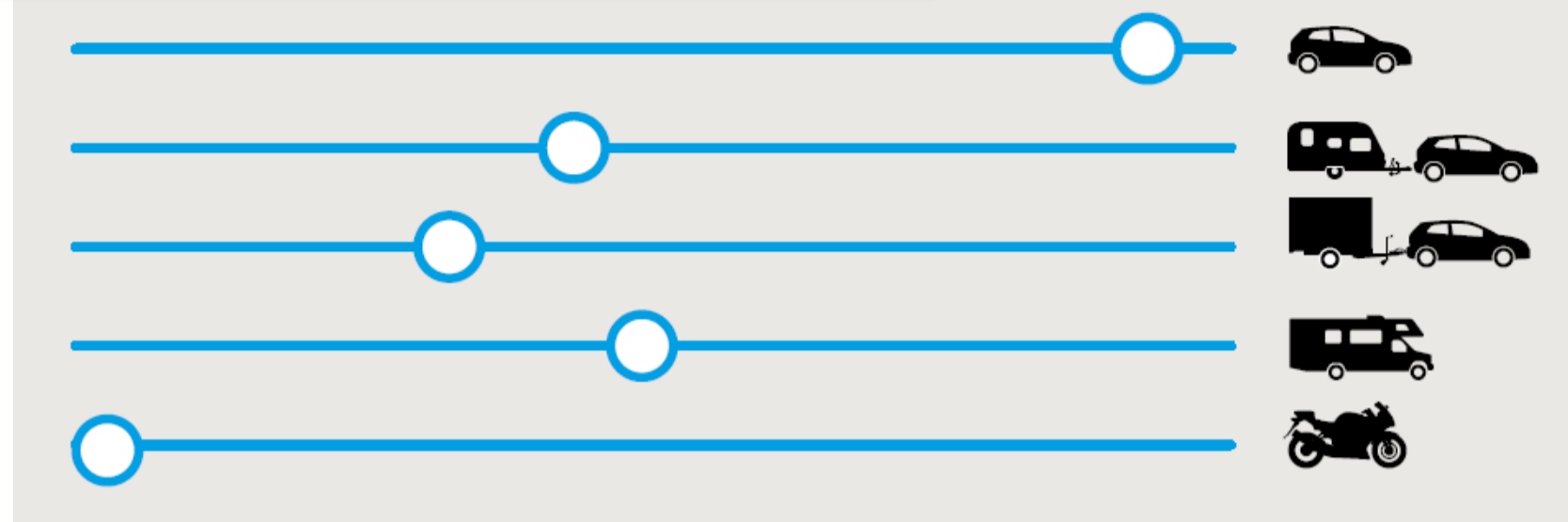


Balance between business case and value case for society





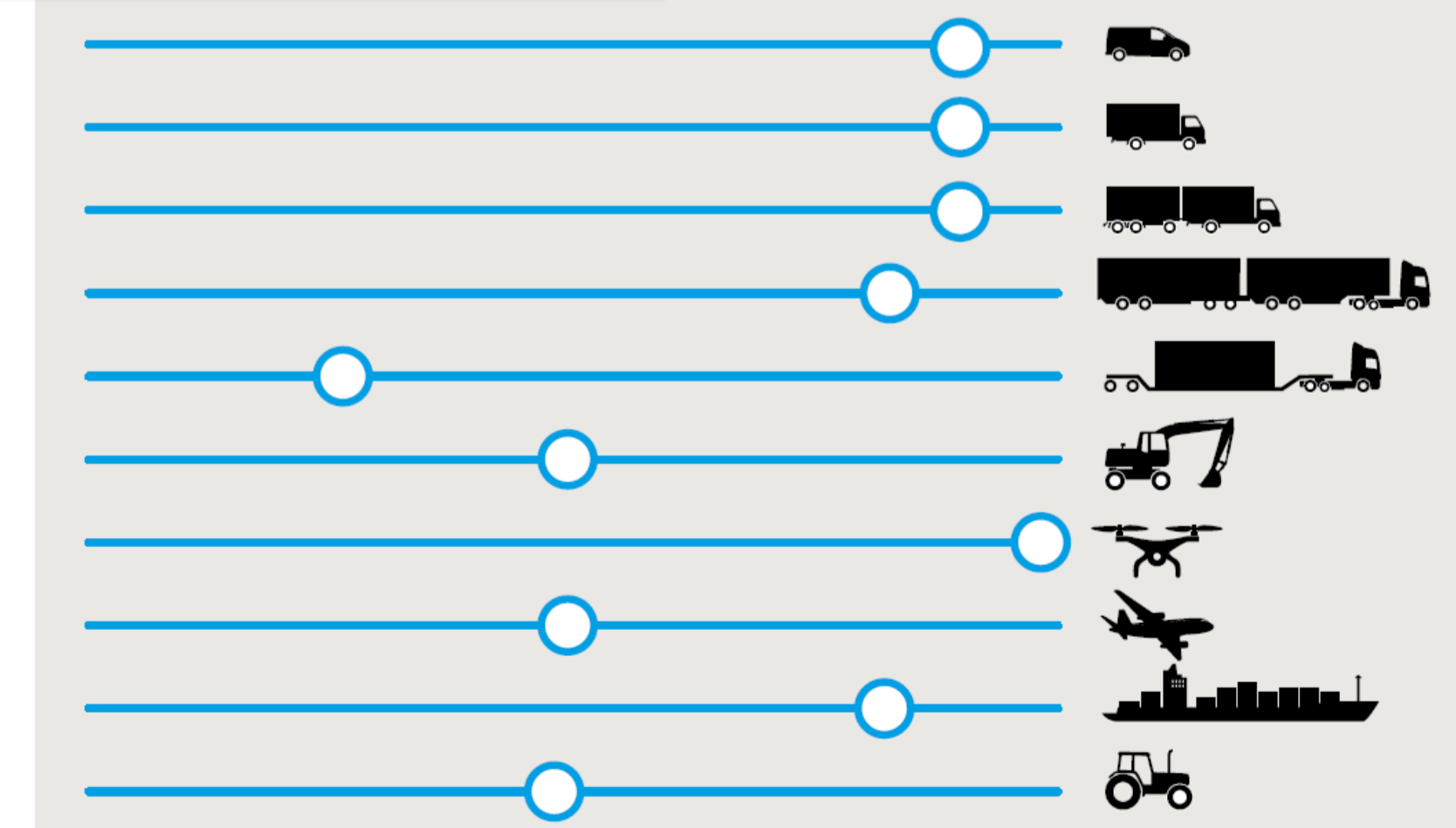
Individual motorized mobility



Public transport



Transport & logistics



Public transport and private mobility
may somehow merge

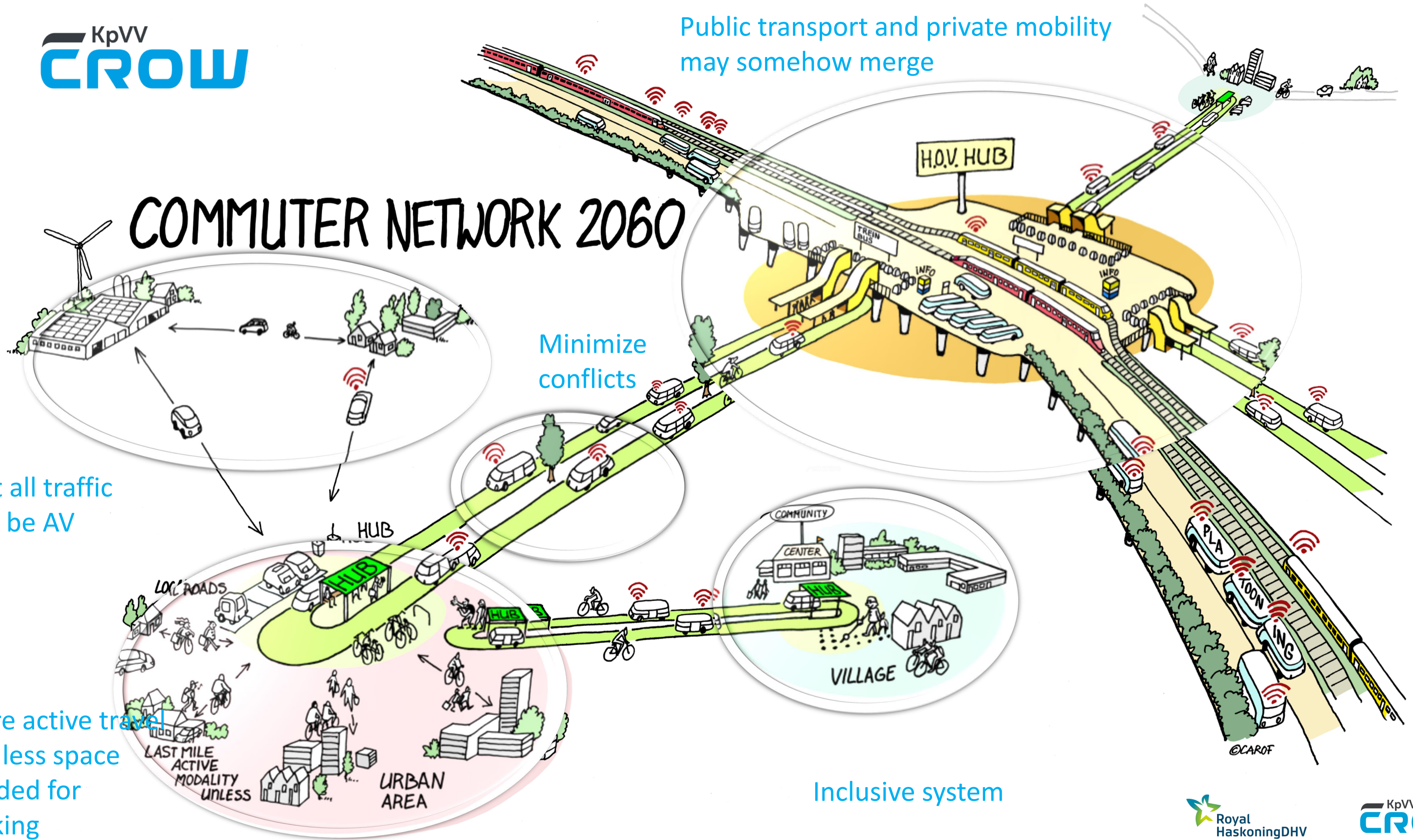
COMMUTER NETWORK 2060

Minimize
conflicts

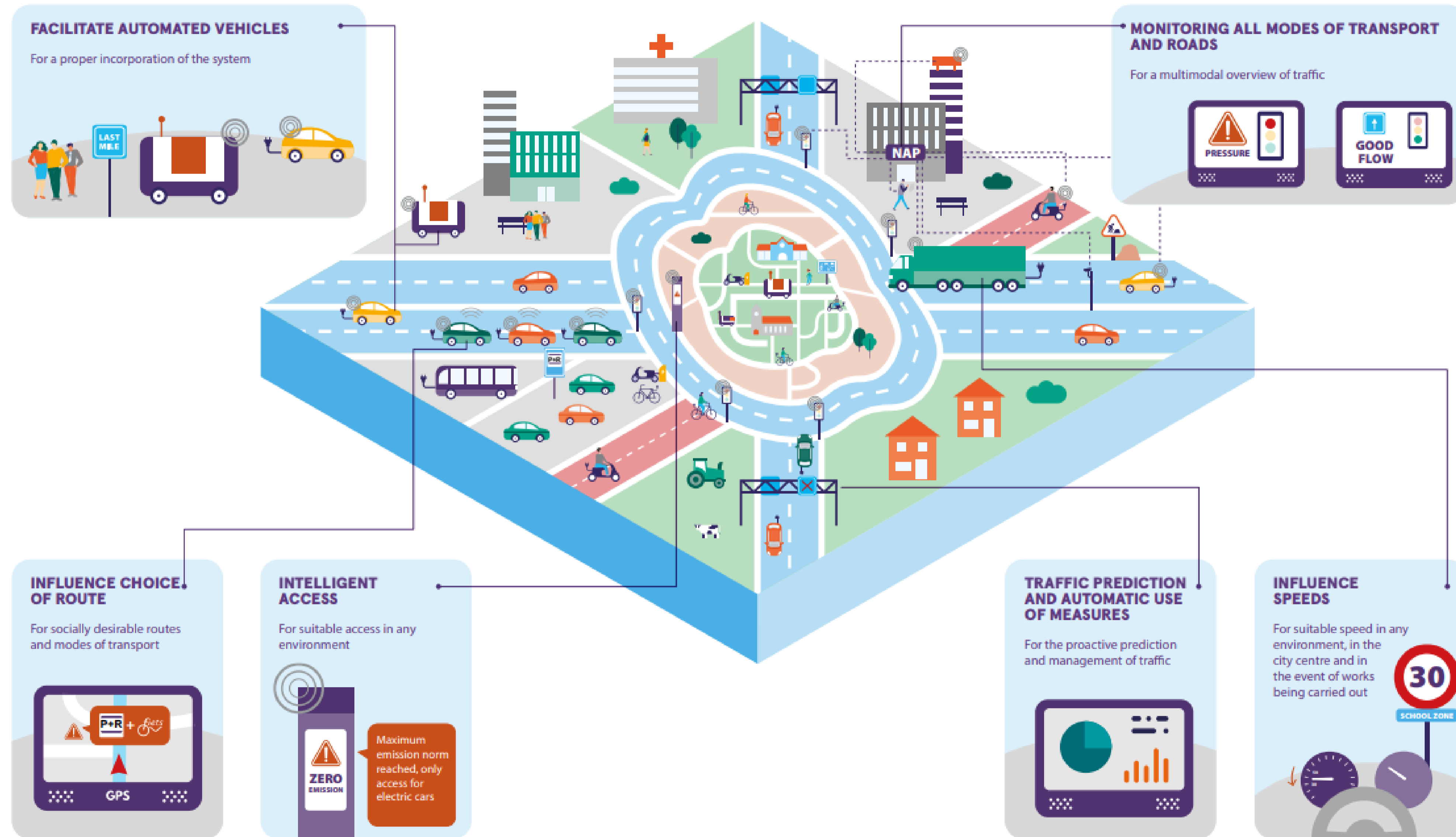
Not all traffic
will be AV

Inclusive system

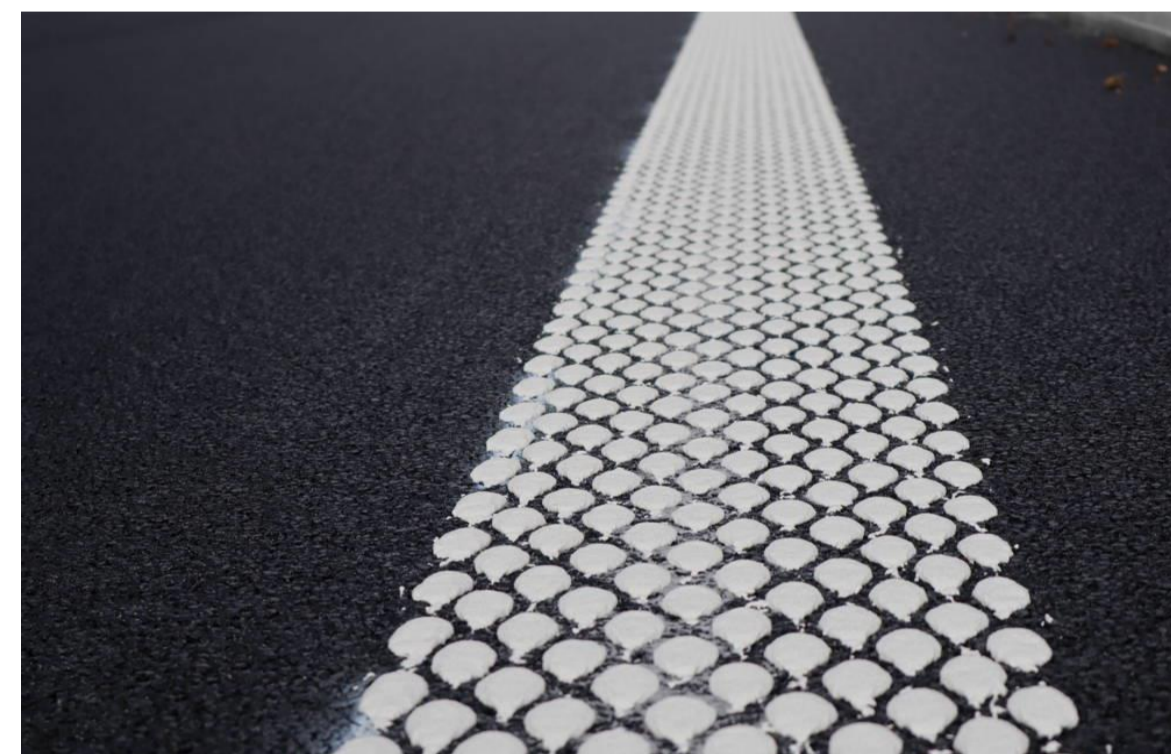
More active travel
and less space
needed for
parking



Development lines for Innovative Traffic Management



Keep the good elements of European road design



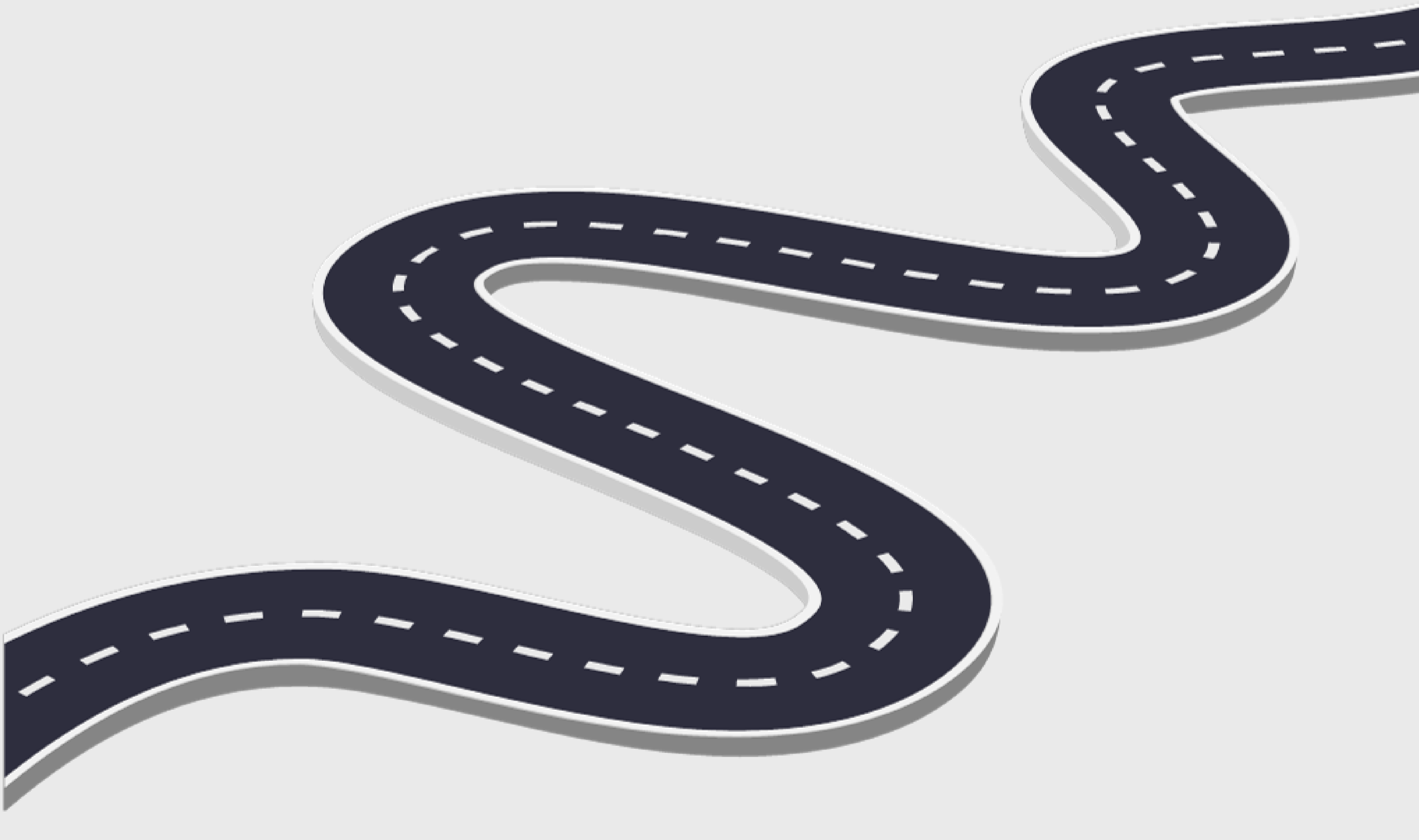
...on the road to more uniformity

Guiding principles

1. reducing complexity
2. increasing uniformity and consistency
3. further developing digitalisation and connectivity

Reduction of complexity

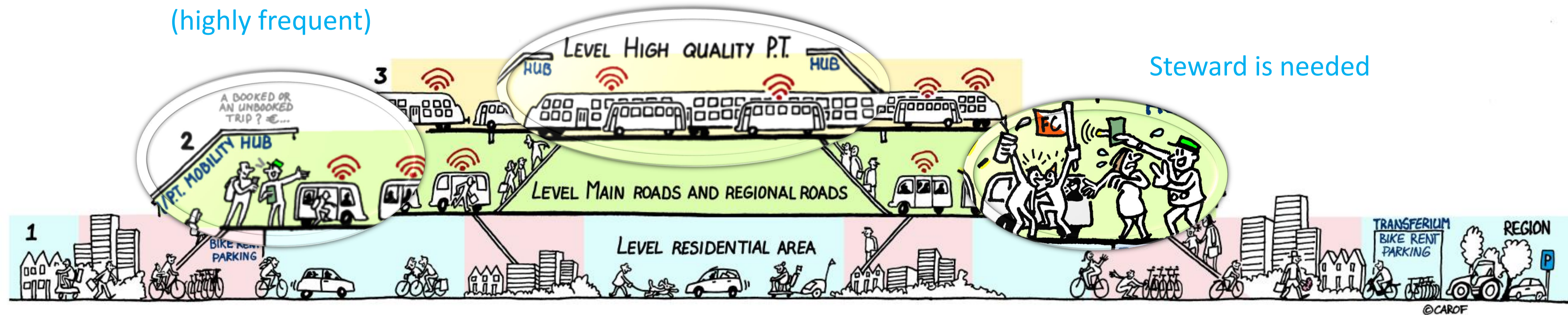
Steps towards infrastructure simplification



FROM DOOR TO DOOR ON 3 LEVELS

It's not about automation
but high quality of service
(highly frequent)

Steward is needed



Policy opportunities for
capacity by pricing

Use cases – beleidsvisie CAV (kamerbrief, febr 2024)

■ Automated trucks/logistics:

Buiten de piekuren om zo corridors met capaciteitsproblemen te ontlasten (bijvoorbeeld in de nachten) en waar chauffeurstekorten ontwrichtend kunnen zijn. Nederland heeft hierin een groot belang, sterke concurrentiepositie en biedt goede condities. Het Rijk, provincies en havenbedrijven werken samen aan een verkenning van deze toepassing met de sector.

■ Automated Public Transport:

Hoogfrequent en kleinschalige verbindingen, als alternatief voor lijnen met een toenemend tekort aan beroepschauffeurs of die niet rendabel zijn. Het ministerie van IenW werkt samen met medeoverheden en OV-aanbieders aan een gezamenlijk programmaplan voor geautomatiseerd openbaar vervoer.

■ Automated private vehicles (motorways / main roads):

Op doorgaande trajecten waar de auto de leidende modaliteit is, om de reis voor mensen aangenamer maken.

■ Automated parking:

Als deeloplossing voor (nieuwe) woonwijken met schaarse ruimte voor parkeren en voor aantrekkelijke mobiliteitshubs die onderdeel zijn van de mobiliteitsvisie.





Thanks for your attention!

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