

SYSTEM NIEDERLANDE, INTEGRIERTE STRATEGIEN FÜR RAUMENTWICKLUNG, VERKEHRSDREHSCHIEBEN UND VELO SYSTÈME NÉERLANDAIS, STRATÉGIES INTÉGRÉES POUR LE DÉVELOPPEMENT TERRITORIAL, LES INTERFACES ET LE VÉLO

Roland KAGER
studio bereikbaar (Rotterdam, NL)

Alle Teilnehmenden der Tagung sind berechtigt, die Präsentationsfolien herunterzuladen und intern zu verwenden. Jegliche Weitergabe erfordert die Zustimmung der jeweiligen Referenten bzw. Referentin.

Tous les participants de la conférence sont autorisés à télécharger les diapositives de présentation et à les utiliser en interne. Toute diffusion nécessite l'accord de l'intervenant(e) concerné(e).



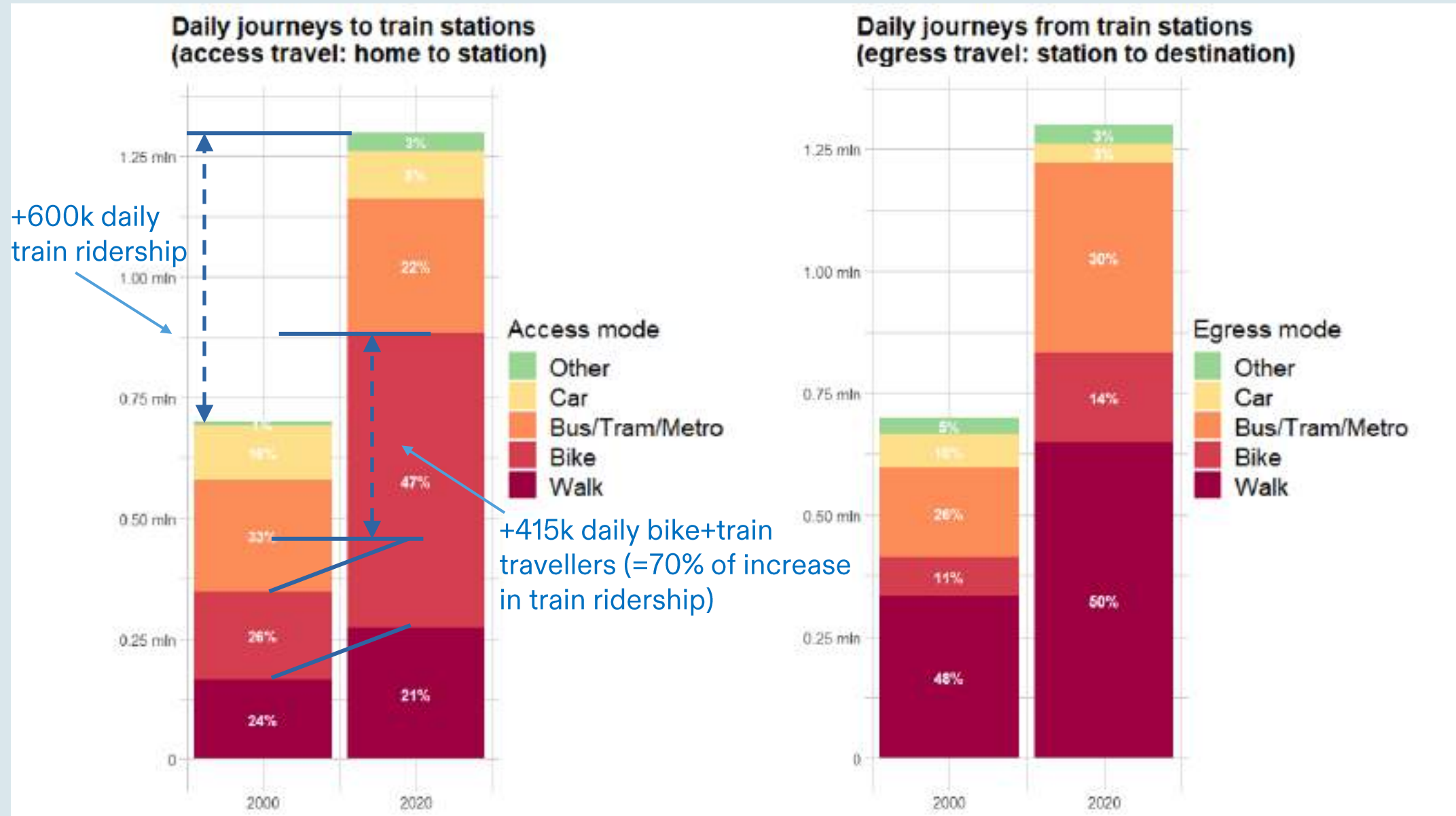
System Niederlande

Integrierte Strategien für Raumentwicklung,
Verkehrsdrehscheiben und Velo

STUDIO — BEREIKBAAR

Doubling of daily train travellers in the Netherlands 2000-2020

Including share per mode of access/egress travel to/from train station



Rail & Urbanity



Rail & Urbanity

Rail & Urbanity

Legend:

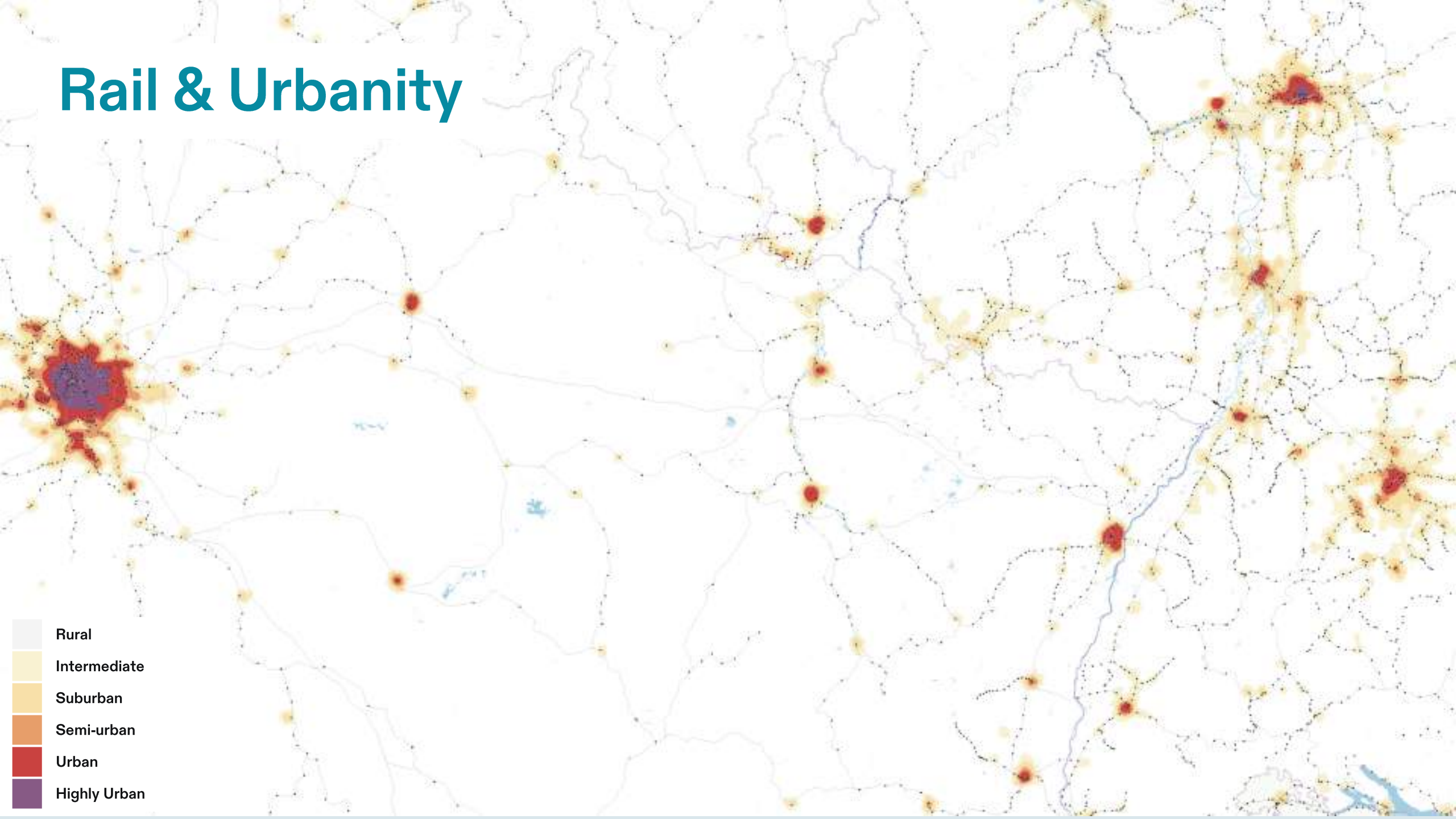
- Rural
- Intermediate
- Suburban
- Semi-urban
- Urban
- Highly Urban

Dashboard Verstedelijking

Bar chart showing various categories (likely related to urbanization or rail usage) represented by colored bars.



Rail & Urbanity



Frequency x speed
Mon-Fri 7:00 – 8:00

- Trein > 120 km/hr
- Trein - 100,0 - 120,0
- Trein - 85,0 - 100,0
- Trein - 70,0 - 85,0
- Trein - 55,0 - 70,0
- Trein - 40,0 - 55,0
- Trein - < 40 km/hr
- LightRail / Metro / Tram
- Bus
- Belbus / Scholierenlijn



Frequency x speed
Mon-Fri 7:00 - 8:00



Frequency x speed
Mon-Fri 7:00 – 8:00



Frequency x speed
Mon-Fri 22:00 – 23:00





Station squares – Trends

- + It's a space! (not a node)
- + People first! (not vehicles first)
- + Doubling/quadrupling of flows
- + % people arriving on bike from ~20% towards ~55%



Rotterdam Central - 1978



Rotterdam Central - 2026

Ministries



Rijksoverheid

Railinfra

ProRail

Transport
companies



Provinces



provincie
Zuid-Holland



PROVINCIE UTRECHT

Municipalities



✗ Gemeente
✗ Amsterdam
✗



Bureau
Spoorbouwmeester

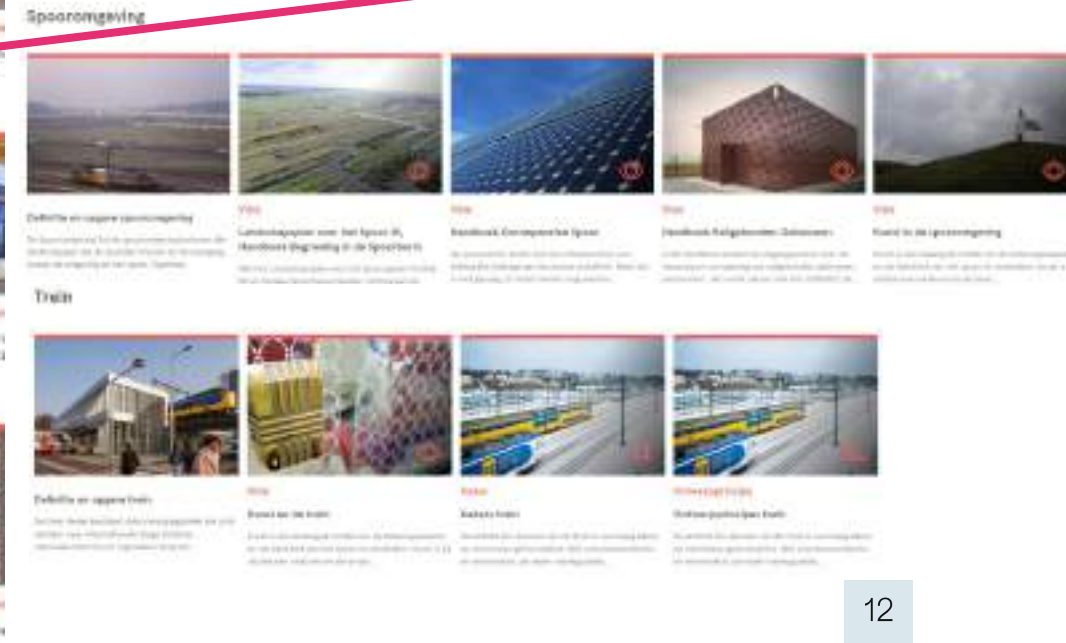
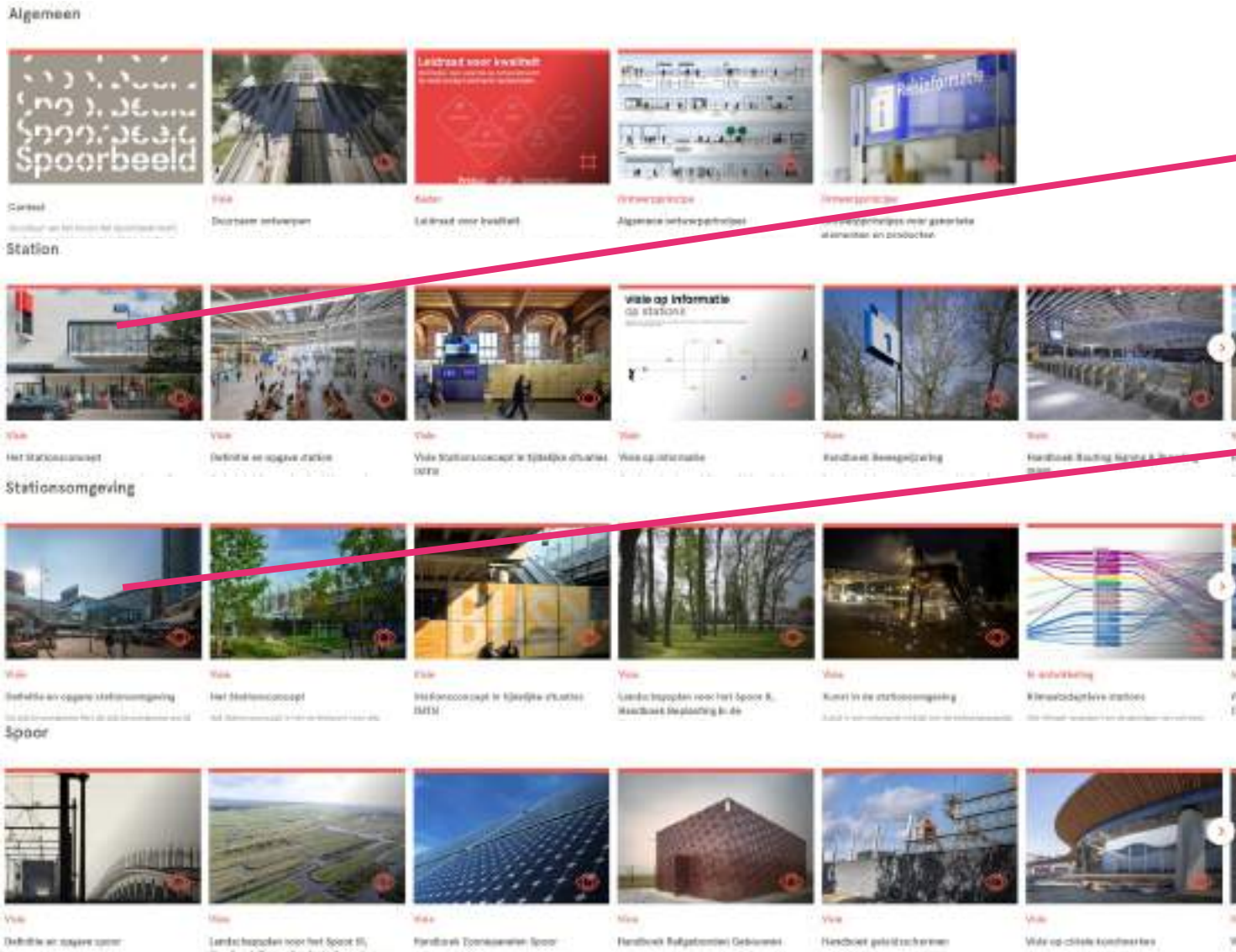
Bureau Spoorbouwmeester

Spoorbeeld
Alles wat het spoorbeeld vormt

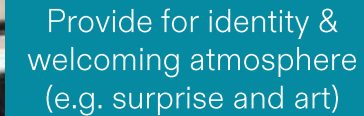
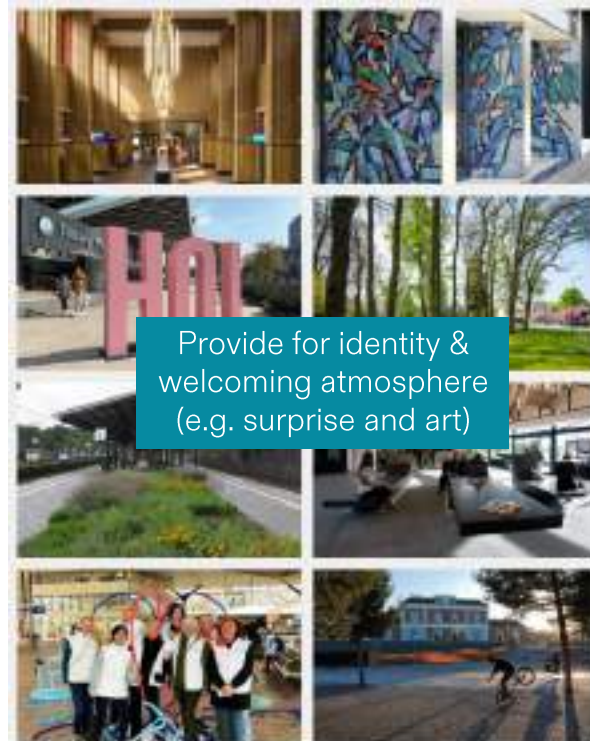
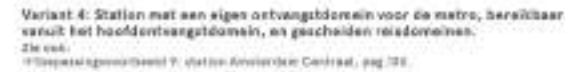


25 years work on design standards

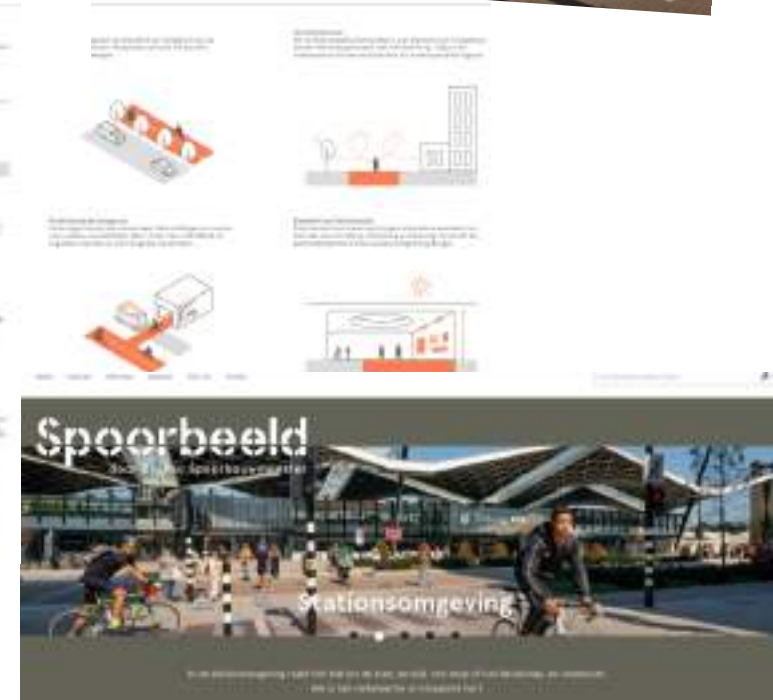
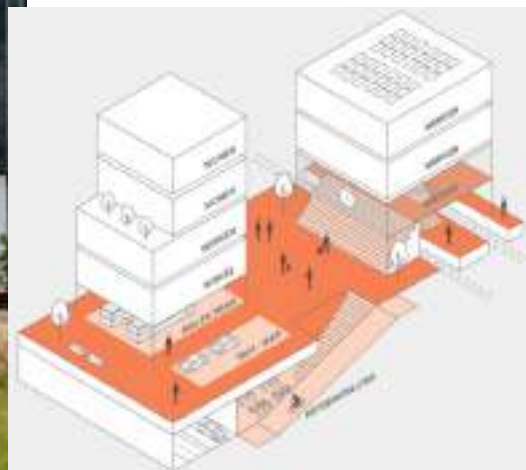
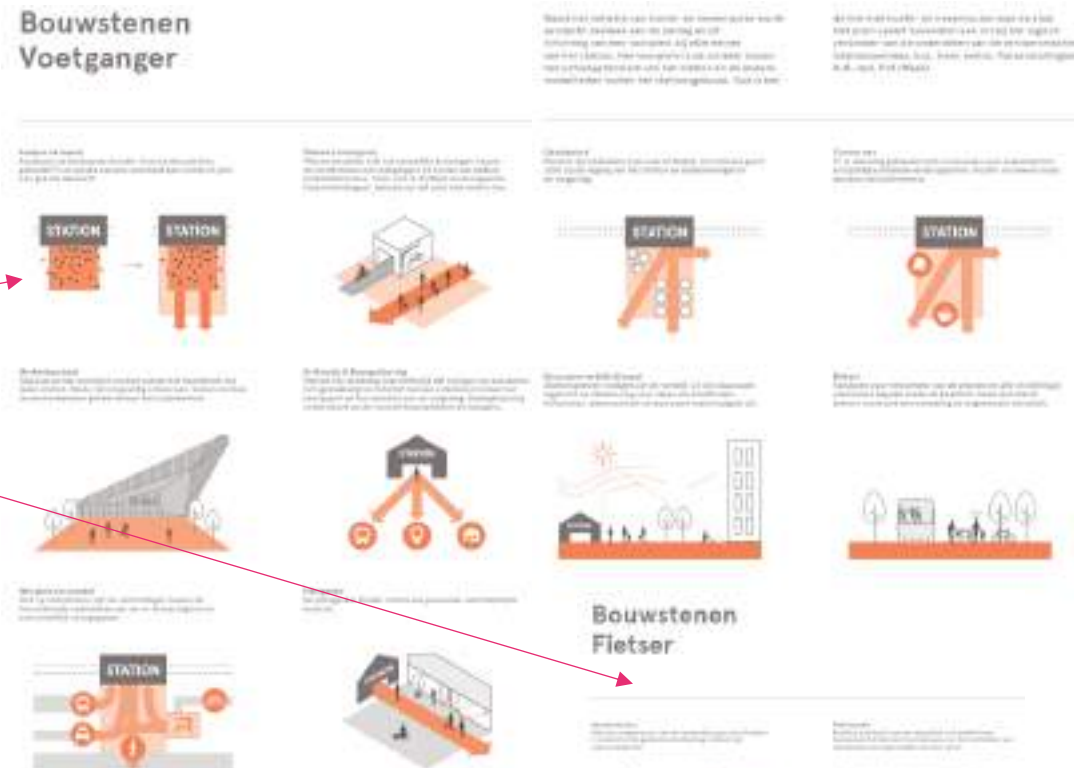
www.spoorbeeld.nl/beleid



Provide for orientation and security (e.g. by standardisation)

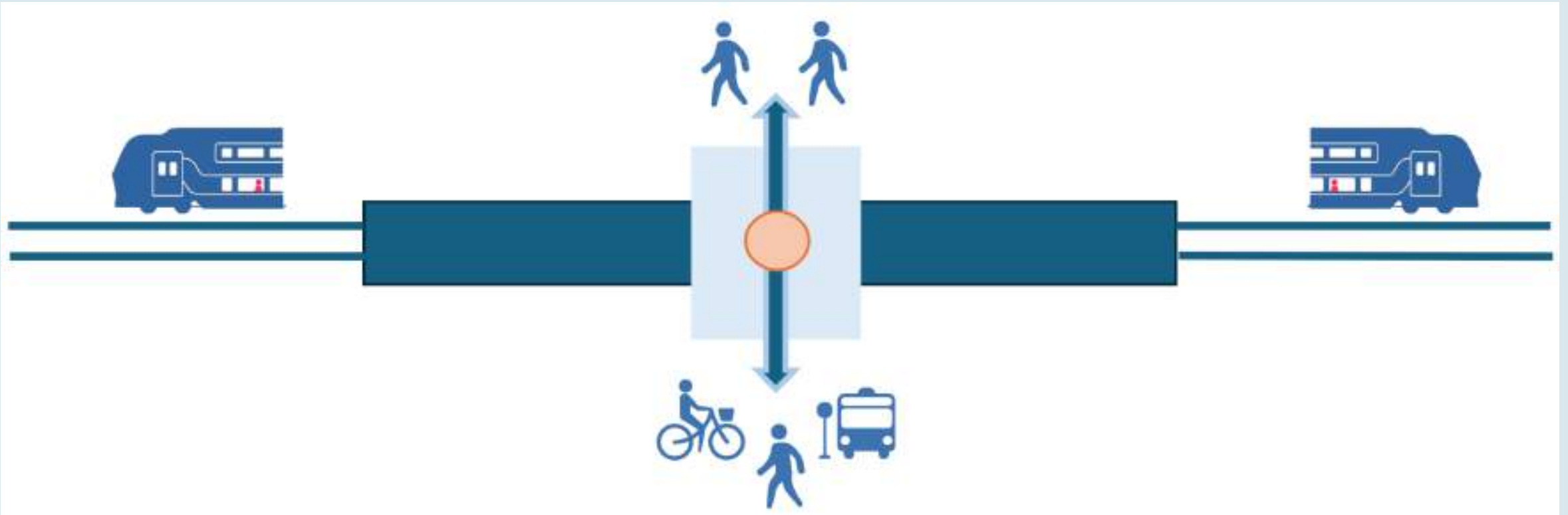


Design Principles Station Areas



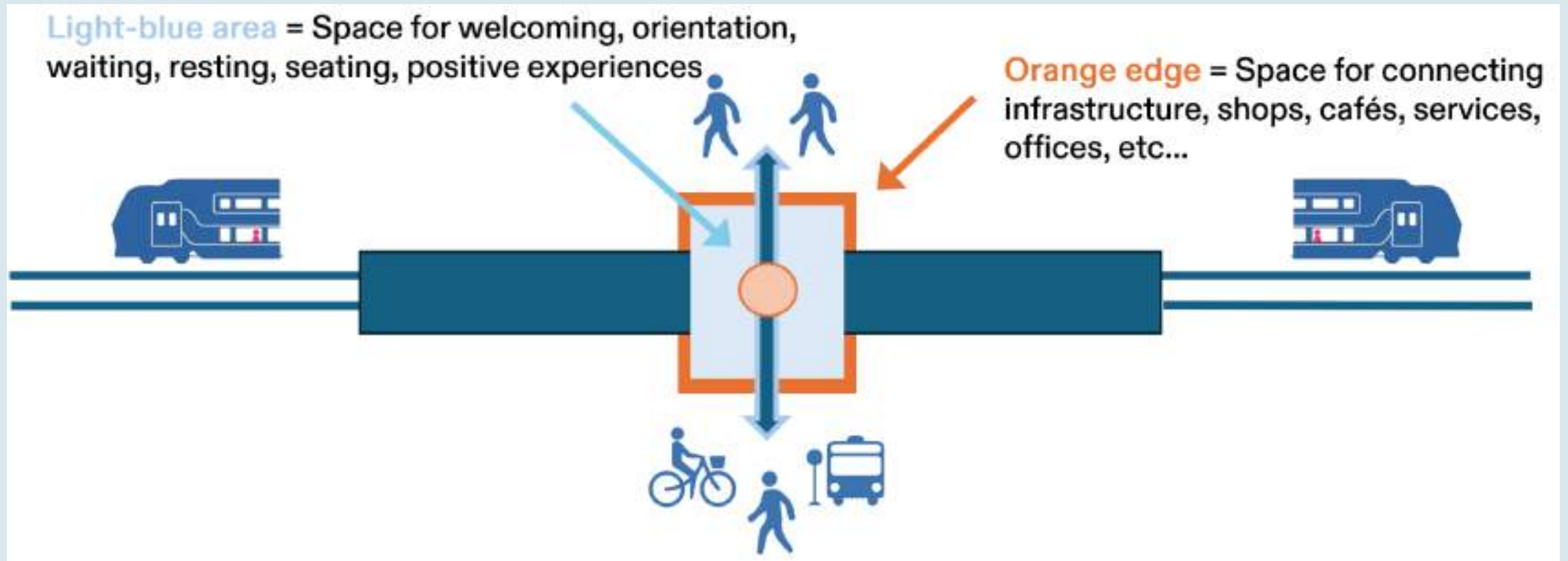
How it started...

Station as a point, focus on change of travel modes, primary focus on compact area and small walk distances



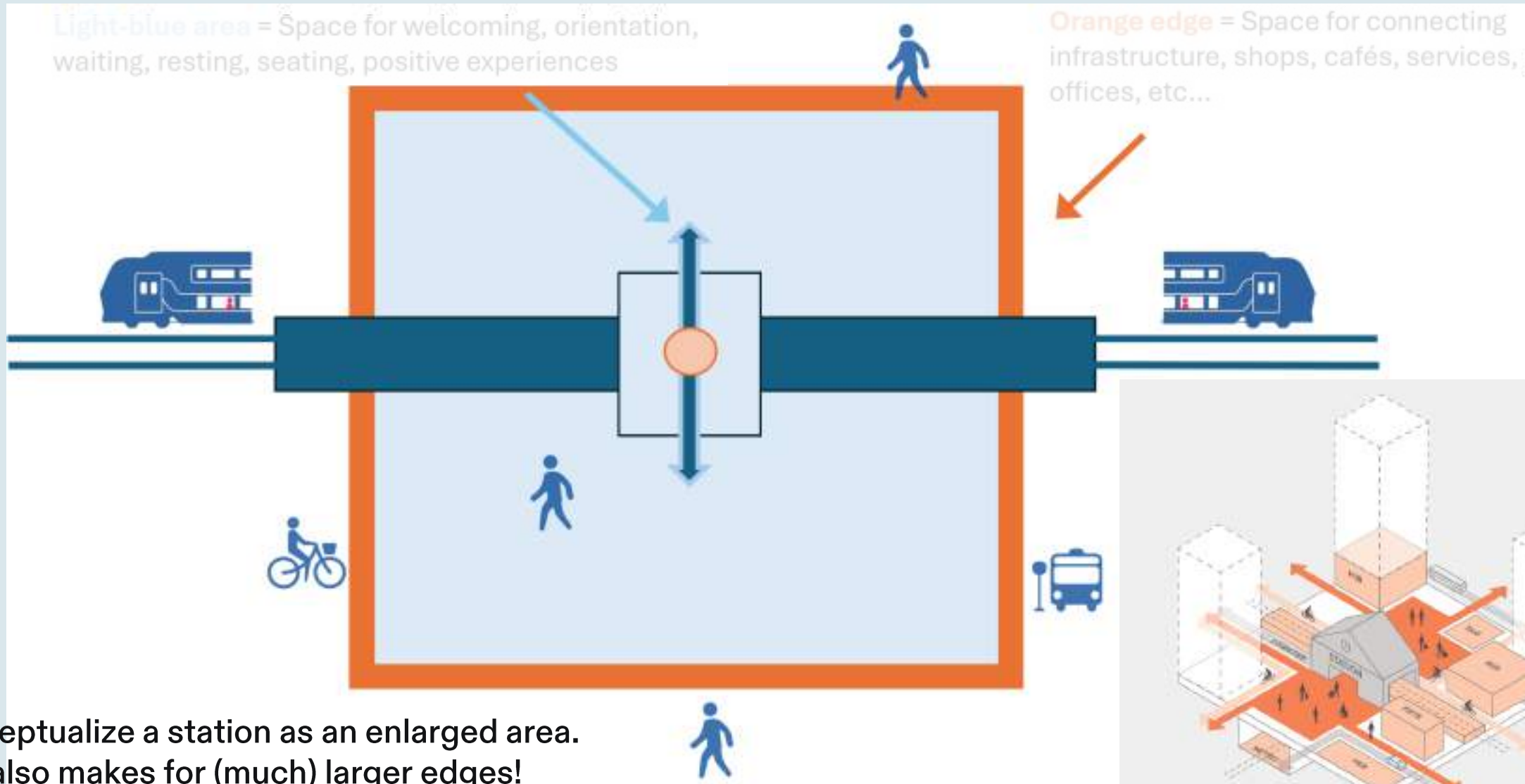
How it started...

Station as a point, focus on change of travel modes, primary focus on compact area and small walk distances



A point-based concept makes for a very small area and a very small edge...

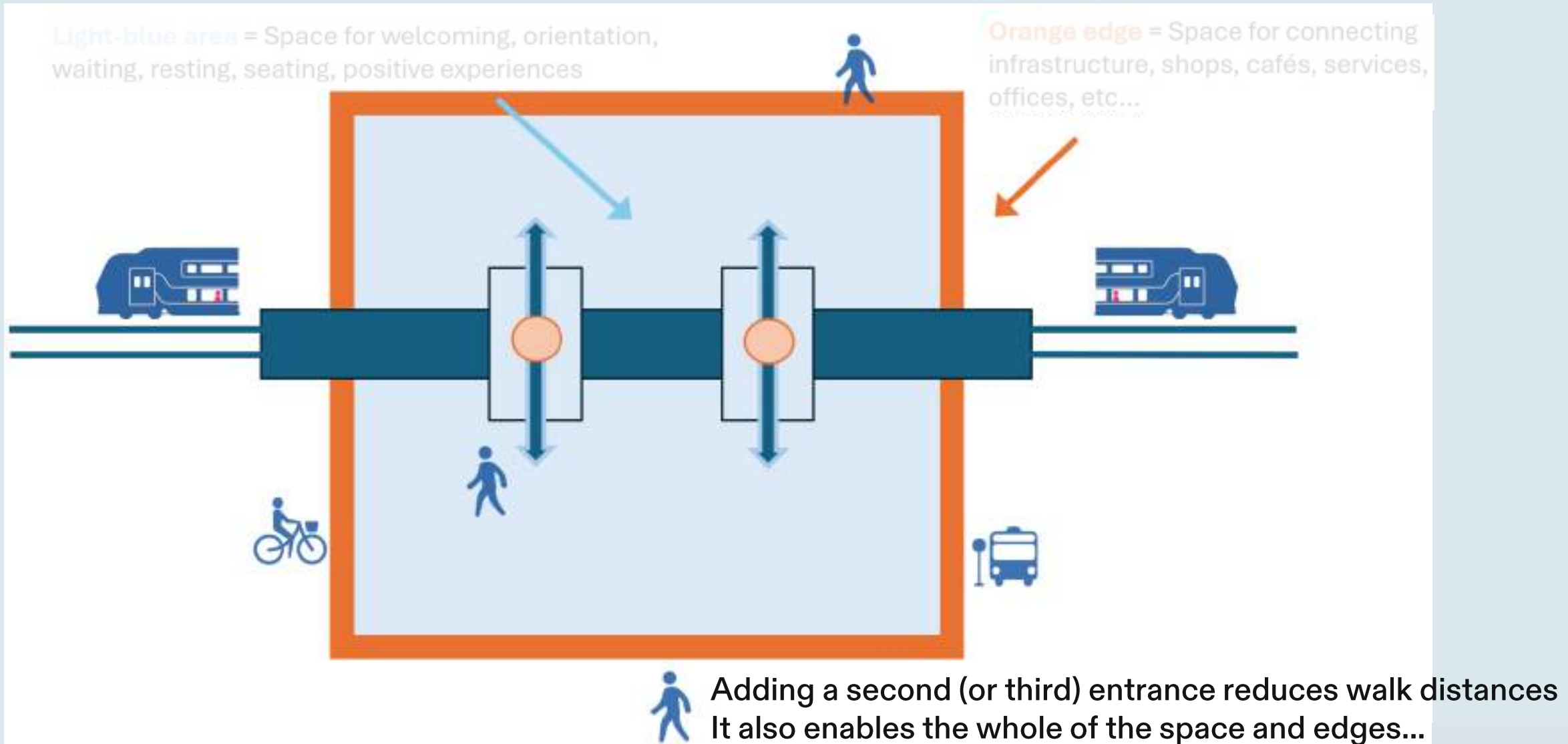
How it evolved...



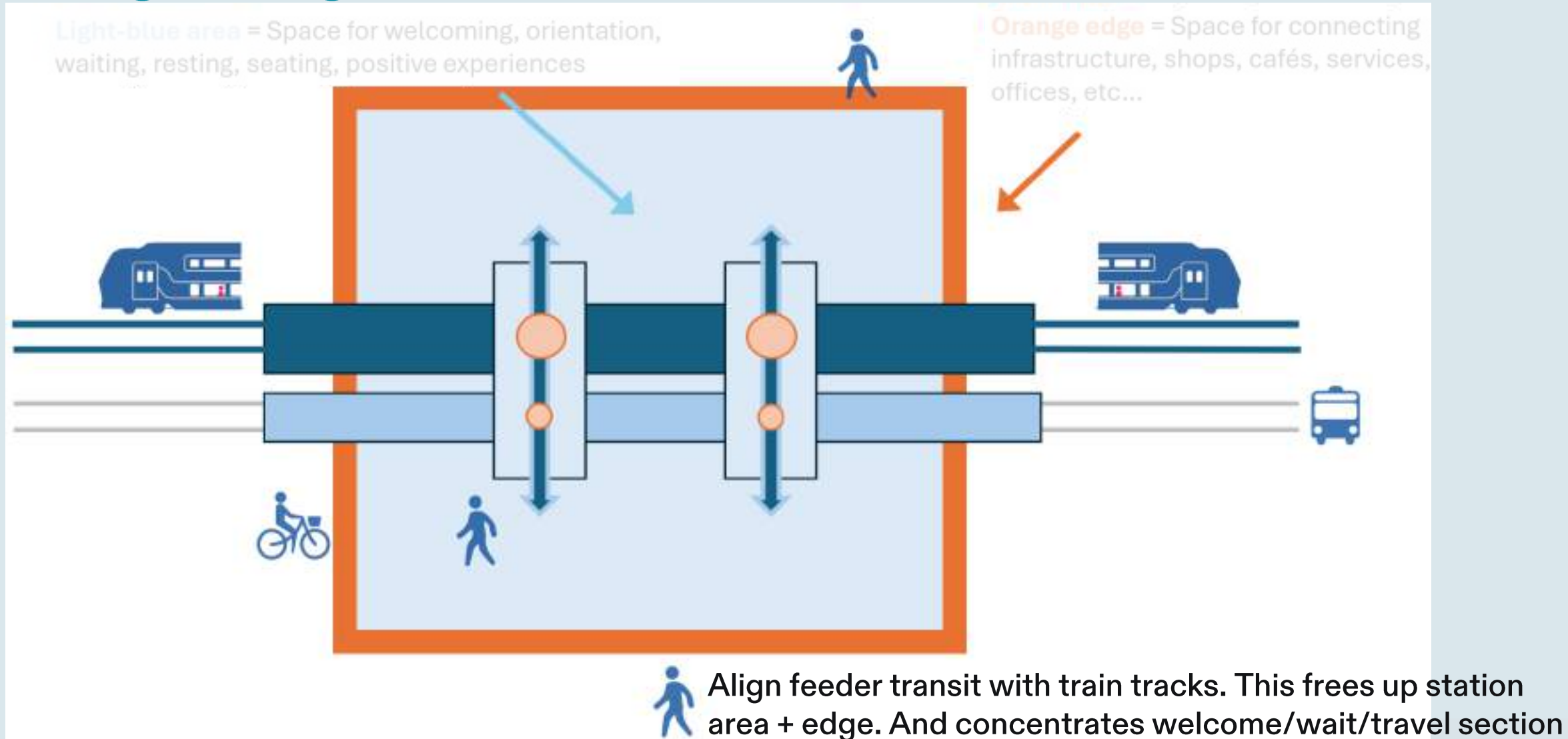


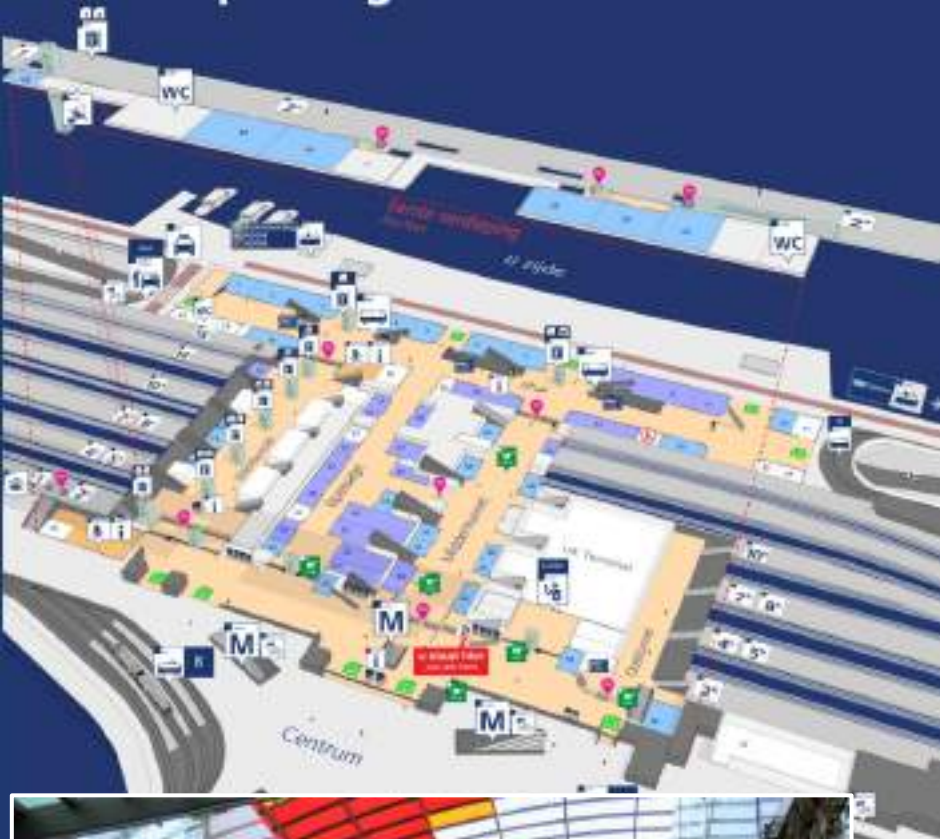
Walking distances...

How it evolved...



Integrating feeder services...





Amsterdam Centraal



Utrecht Centraal





Zwolle

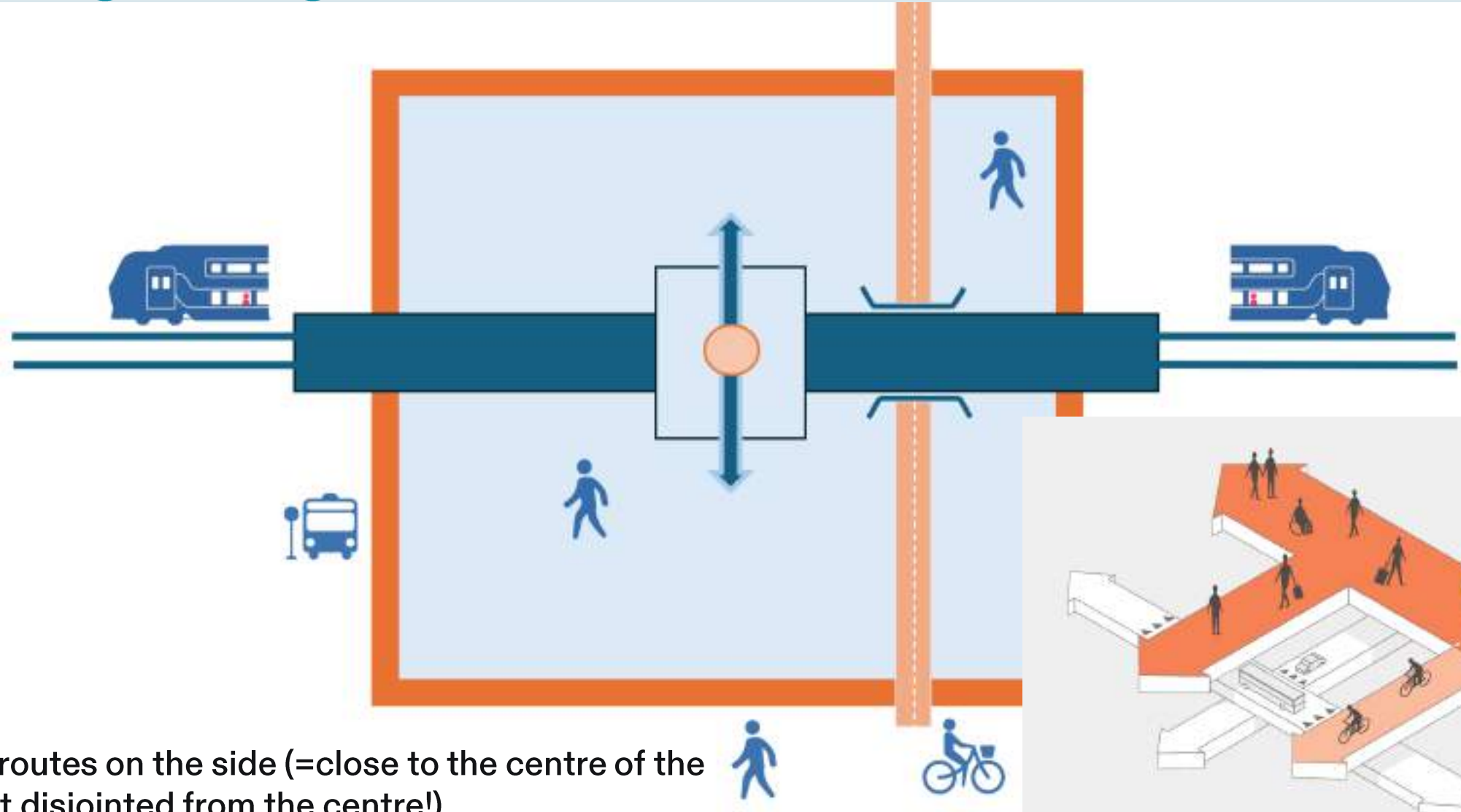


Breda



Dieren

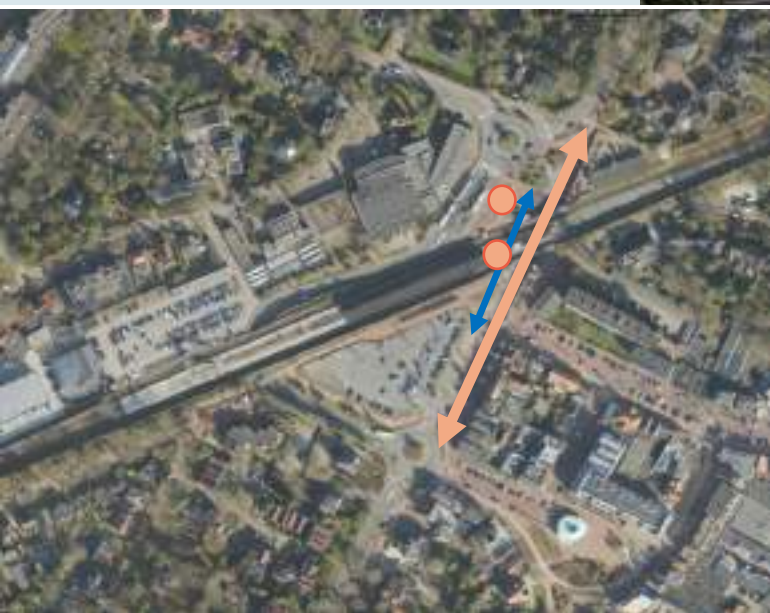
Integrating bike routes (small stations)



Keep bike routes on the side (=close to the centre of the station, but disjointed from the centre!)



Raalte



Bilthoven



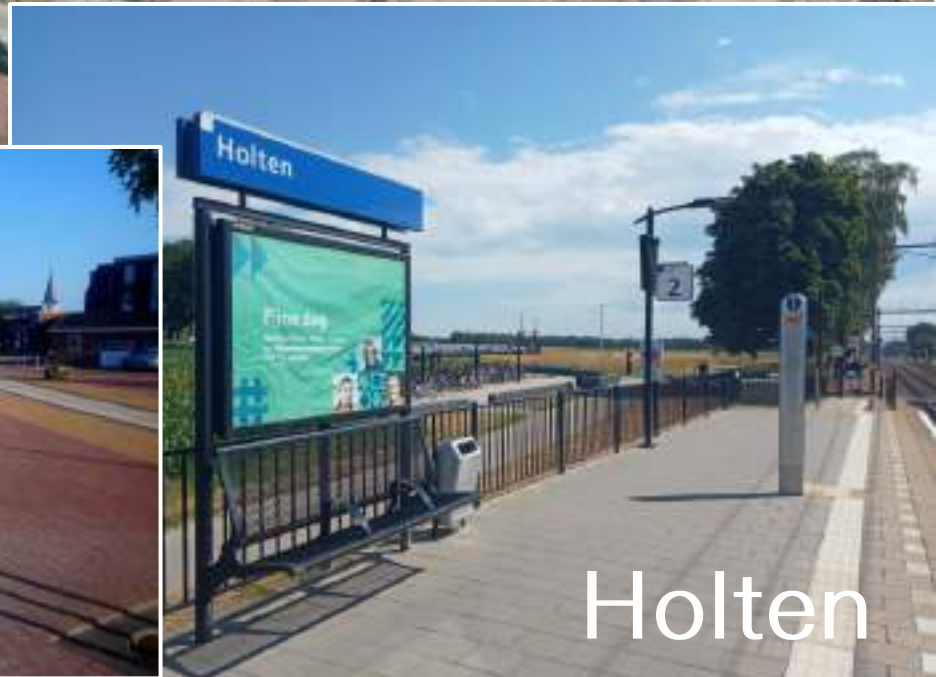
Nijmegen-Lent



Sassenheim



Eindhoven (2005)



Holten





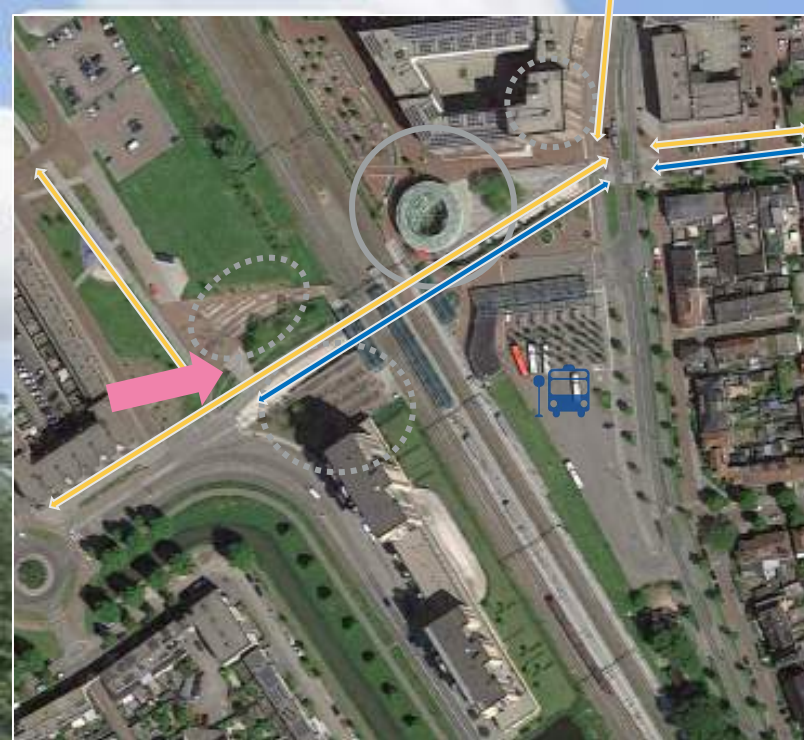
Harderwijk

Source: Spoorbeeld / Ossip van Duivenbode

The diagram shows a station layout with two tracks and a central platform. The top track has a bicycle icon in a red circle on the left and a red square signal box with a white bicycle icon on the right. The bottom track has a red square signal box with a white bicycle icon on the left and a bicycle icon in a red circle on the right. A central platform area is labeled "STATION" in white text on a dark gray background. Dashed lines indicate the platform boundaries. Arrows show the flow of traffic: from the left towards the top signal box, from the right towards the top signal box, from the left towards the bottom signal box, and from the right towards the bottom signal box. A red dashed arrow points from the left signal box to the right signal box, indicating a crossing or connection.



Alphen aan den Rijn



Alphen aan den Rijn



Deventer



Deventer (temporary)



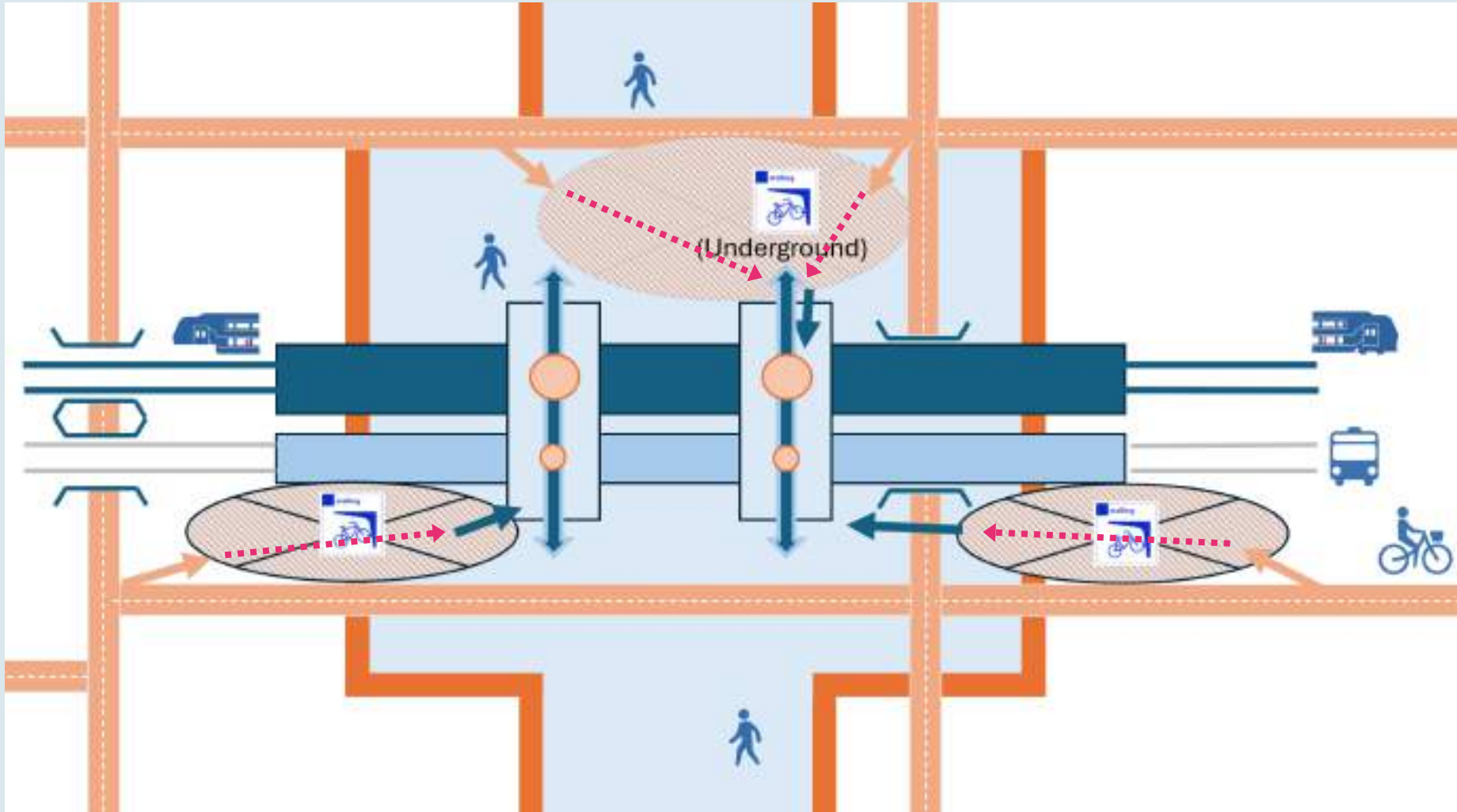
Hengelo (temporary)



Nieuw Vennep

Integrating the bike - large stations

but also: the larger scale
for small stations



Connect the bike network around the station in all directions,
'Catch' bikes into bike parks from far away corners



Rotterdam Centraal



Rotterdam Centraal



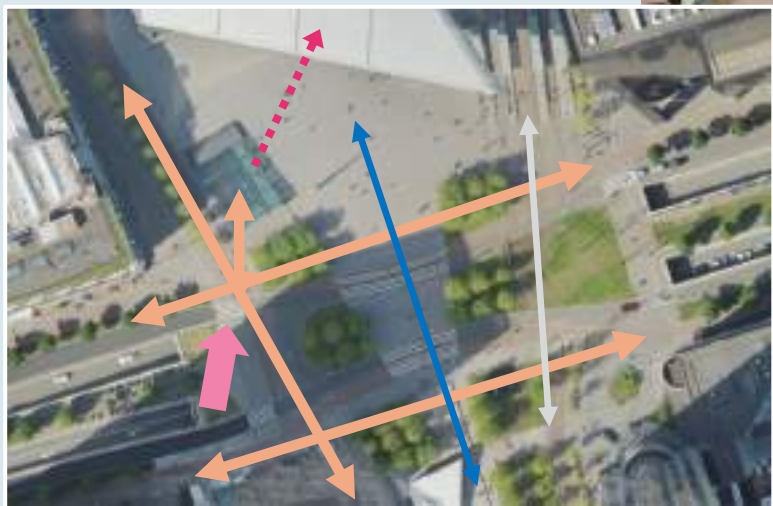
Rotterdam Centraal



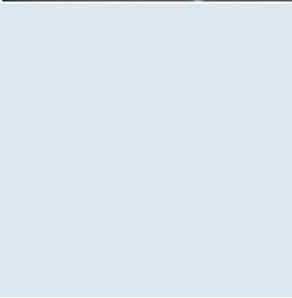
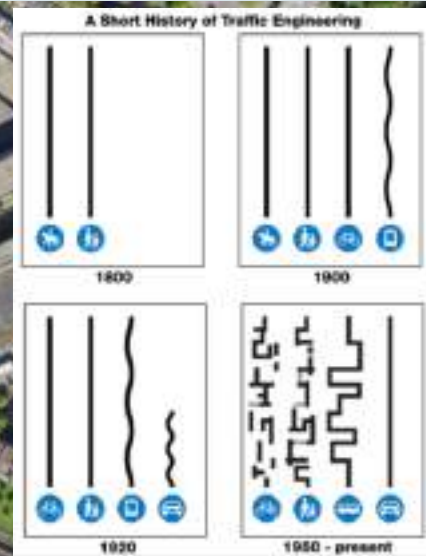
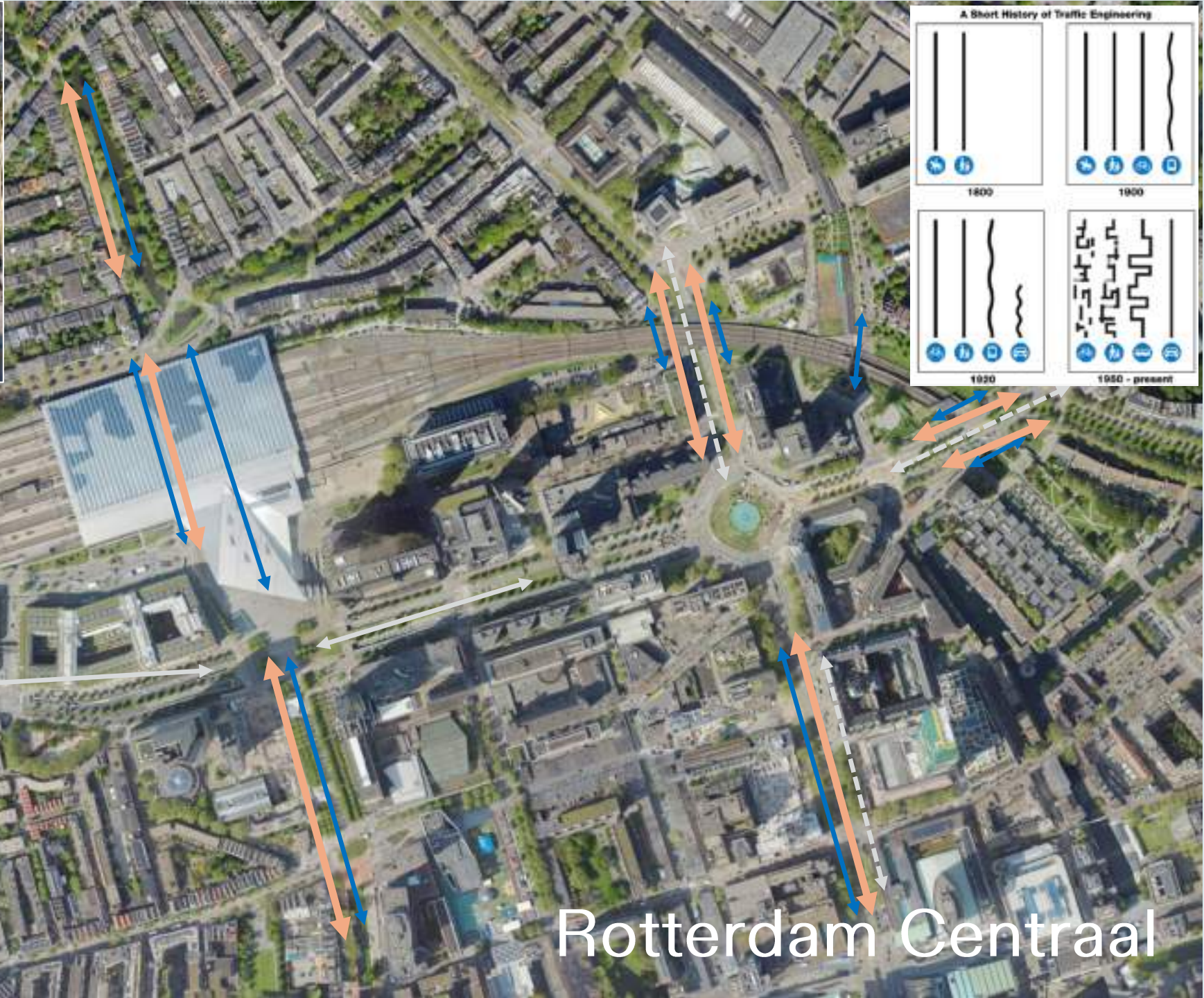
Rotterdam Centraal



Rotterdam Centraal



Rotterdam Centraal





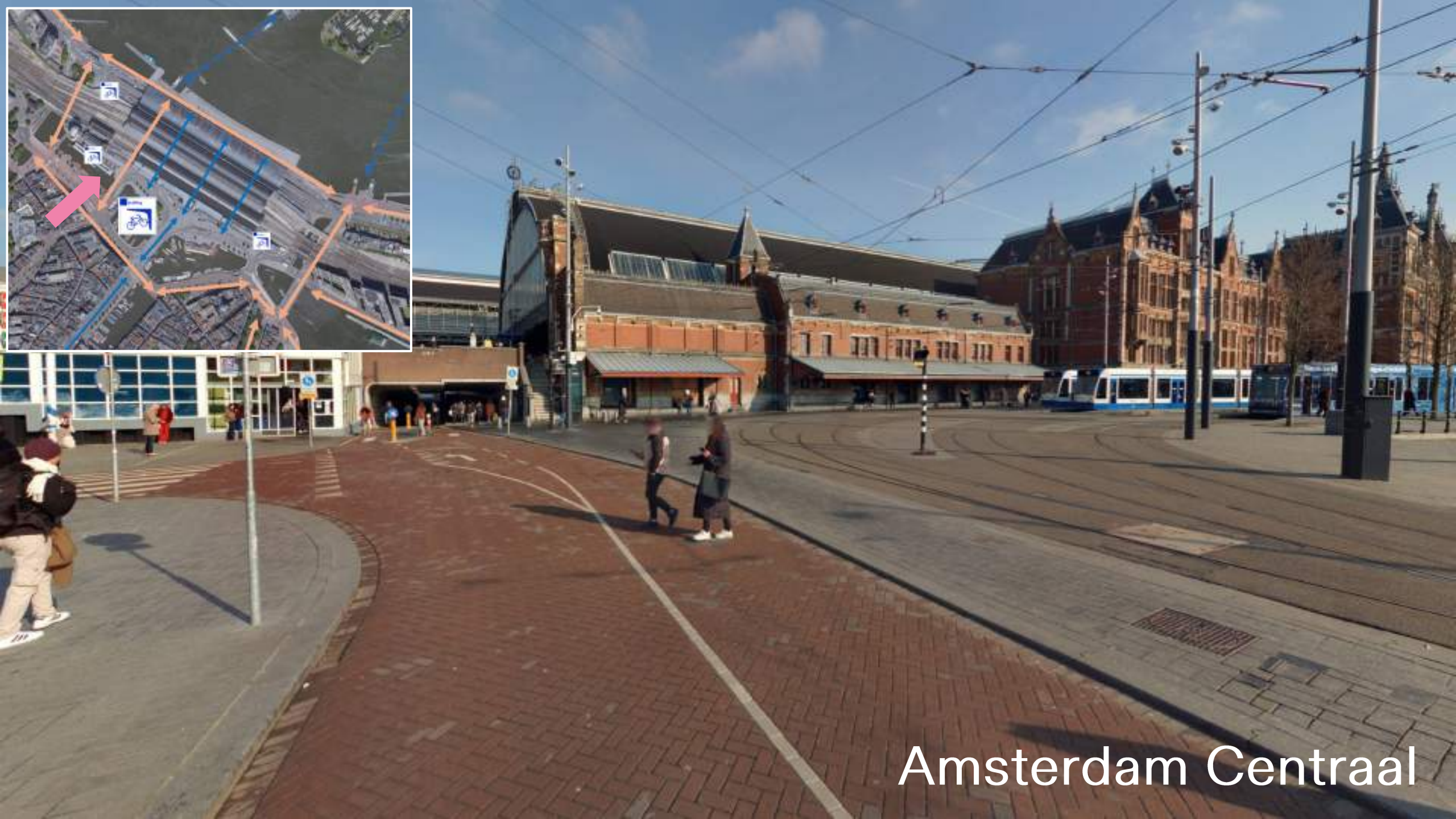
Amsterdam Centraal



Amsterdam Centraal



Amsterdam Centraal



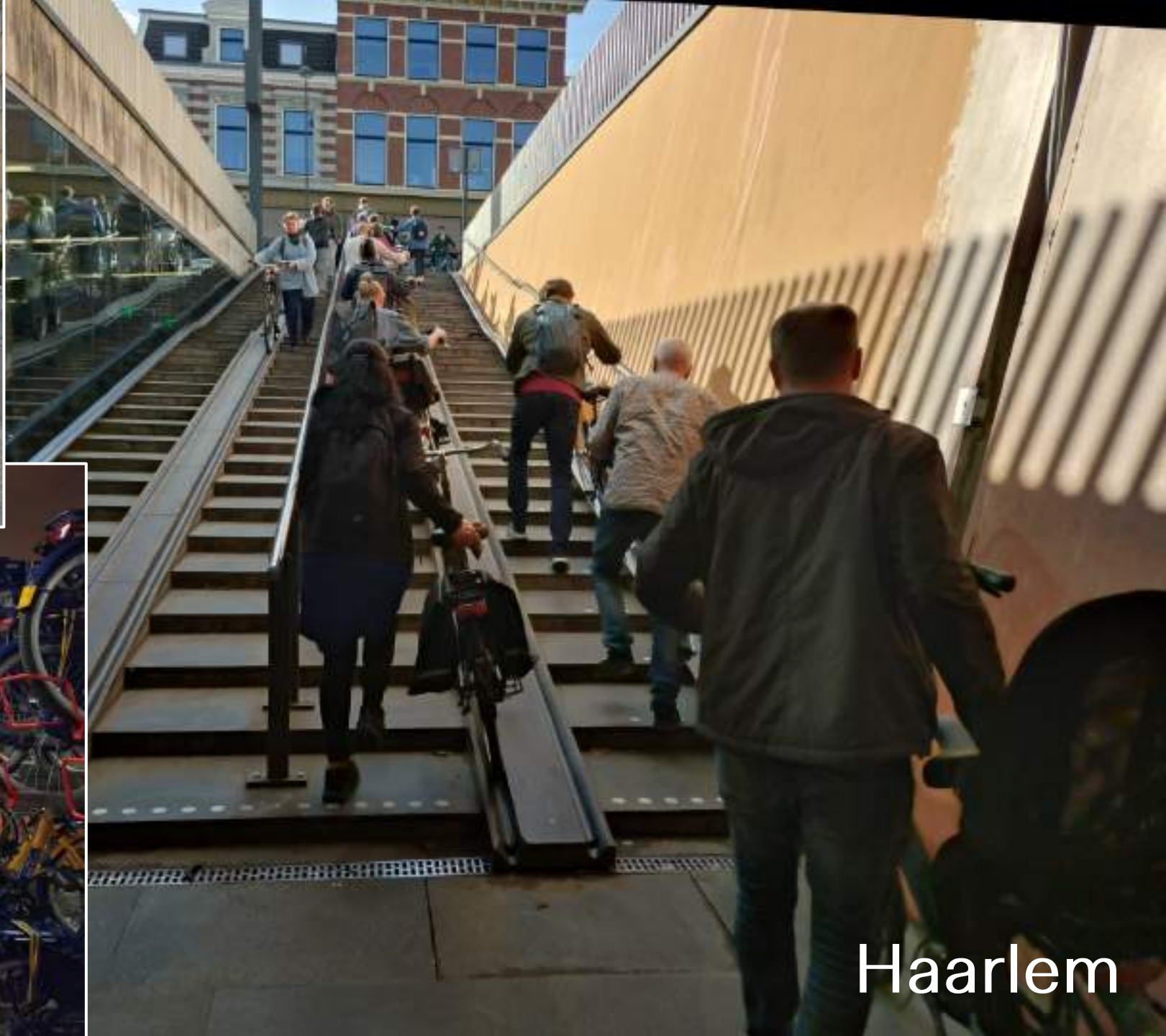
Amsterdam Centraal

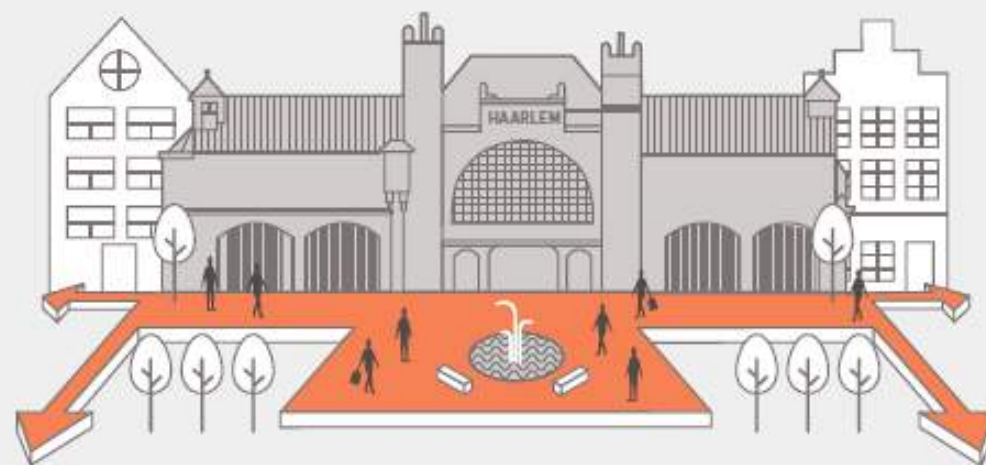
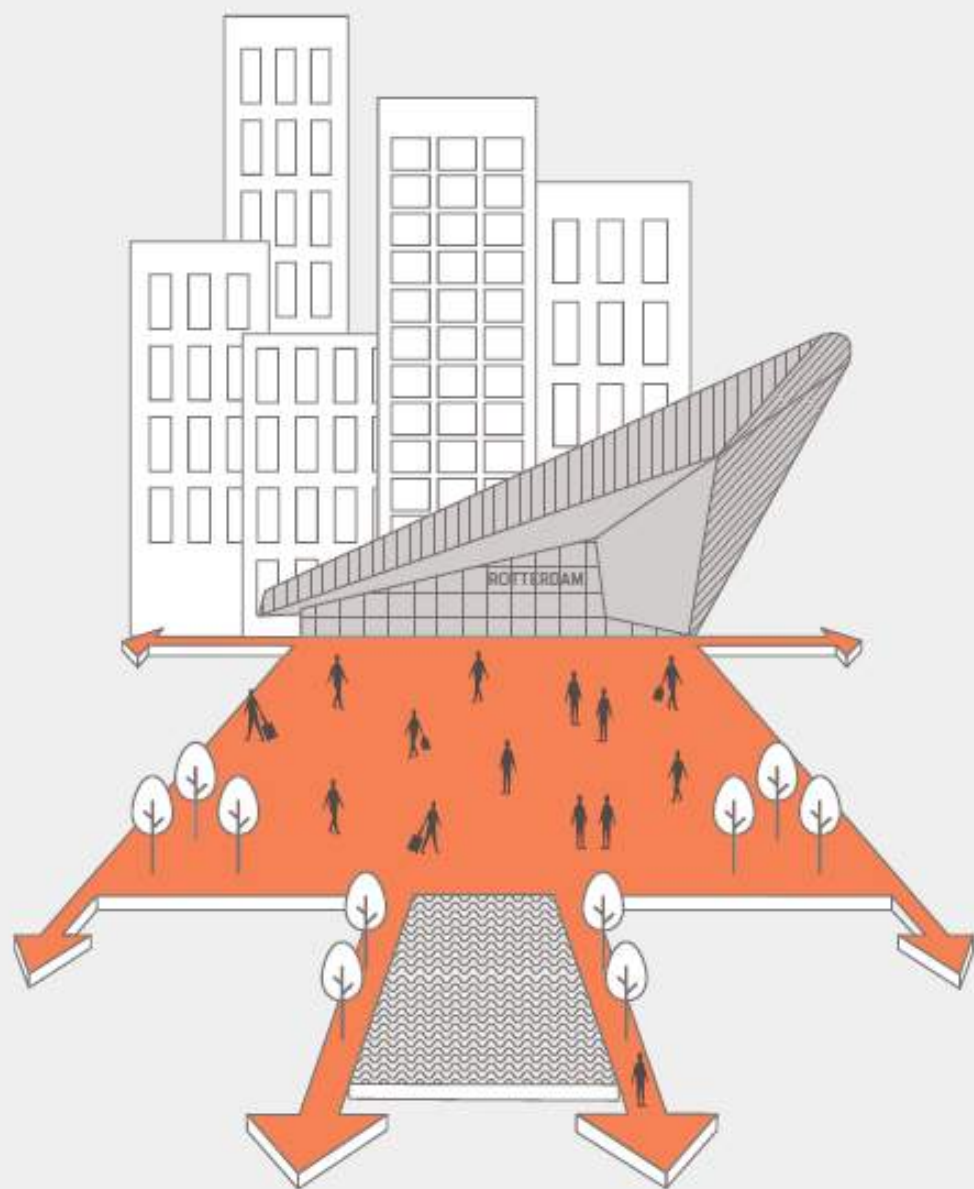


Amsterdam Centraal



Amsterdam Zuid





Train travel 4D

Compared to other travel modes; train travel is **extremely** influenced by:

1. Distance of travel
2. Urbanity of origin and/or destination
3. Distance home to 'home'station (+type station)
4. Distance 'destination'station to final destination
 - + 4a. Frequently-visited locations (work / study / partner / family / 2nd home)
 - + 4b. Incidentally-visited locations

Extra:

5. *Motive* + 6. *Time of day* + 7. *Specific travel*
→ in high part explained by above 4 dimensions





1. Distance

- + 77% of all journeys <7.5km
- + Only 5% of train journeys <7.5km
- + 40% of all train journeys >25km
- + But only 8% of all journeys >25km

Modal share of train:

- + 0.2% share <7.5km
- + 6.2% share 7.5 - 25km
- + 19.0% share >25km

2004 - 2009

<7.5km

7.5-12.5km

12.5-25km

25-50km

>50km



2016 - 2023





2. Urbanity



Trips >7.5km

23% of non-train trips (blue), but 95% of all train trips (yellow)

Hi-Urban <>
Hi-Urban

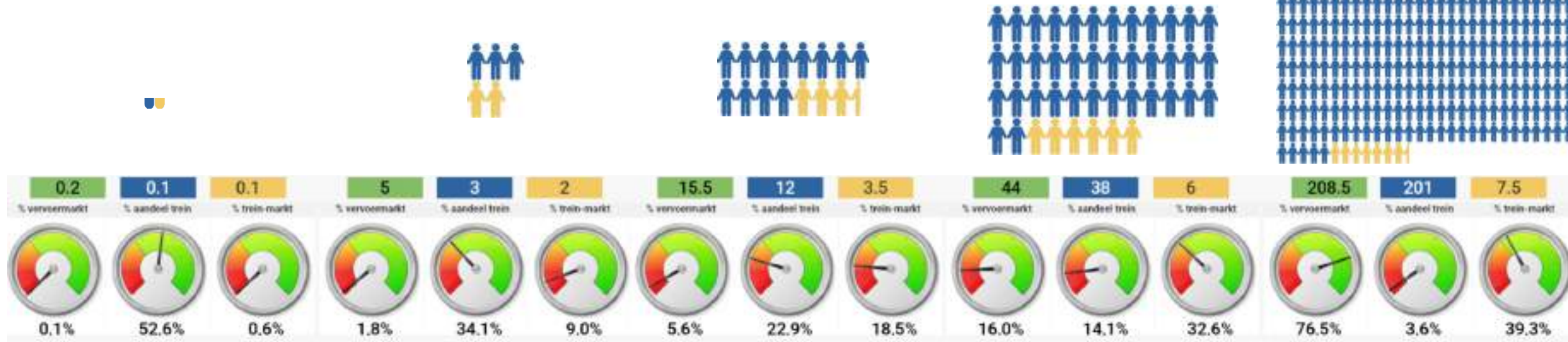
Urban <>
(Hi-)Urban

Hi-Urban <>
Non-Urban

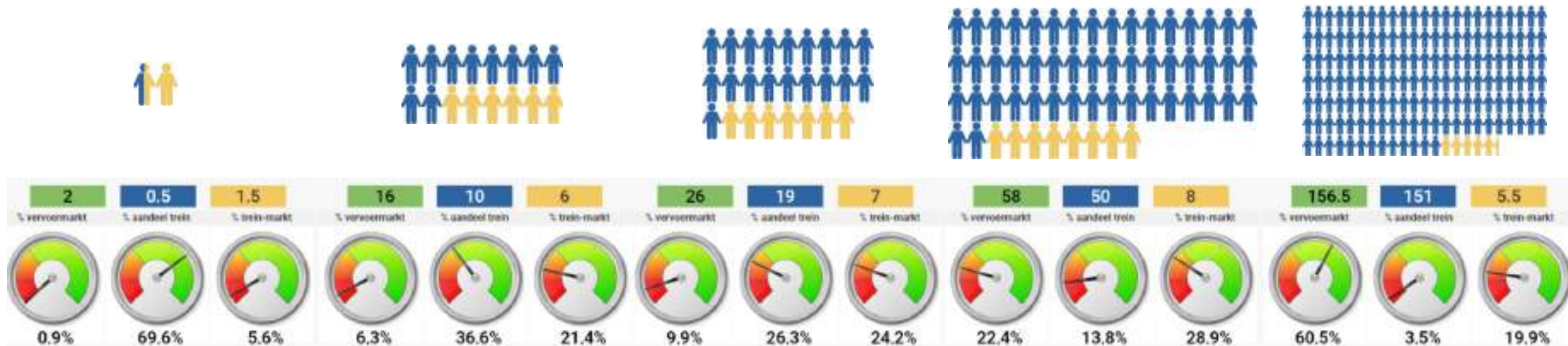
Urban <>
Non-Urban

Non-Urban <>
Non-Urban

2004 - 2009



2016 - 2023





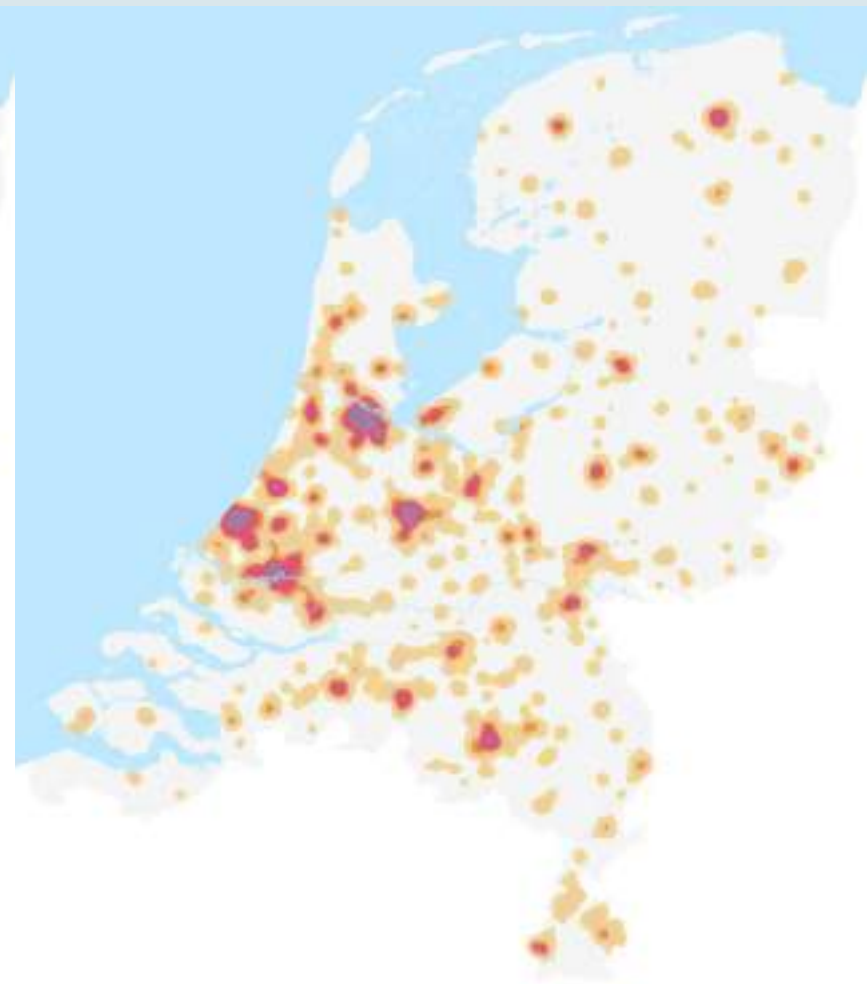
Population+jobs 2006

- High-Urban : 5.0 %
- Urban : 14.6 %
- Total Urban: 19.6%



Population+jobs 2022

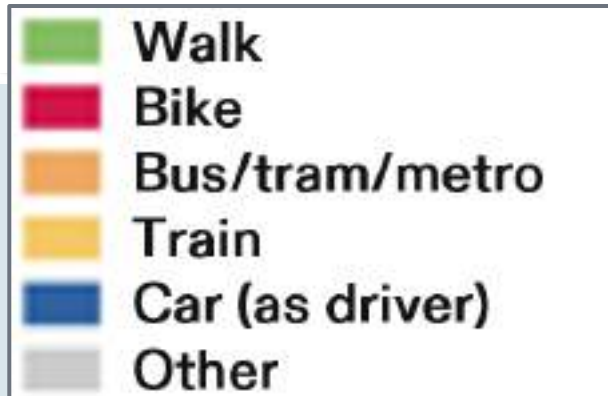
- High-Urban : 6.7 %
- Urban : 15.9 %
- Total Urban : 22.6 %



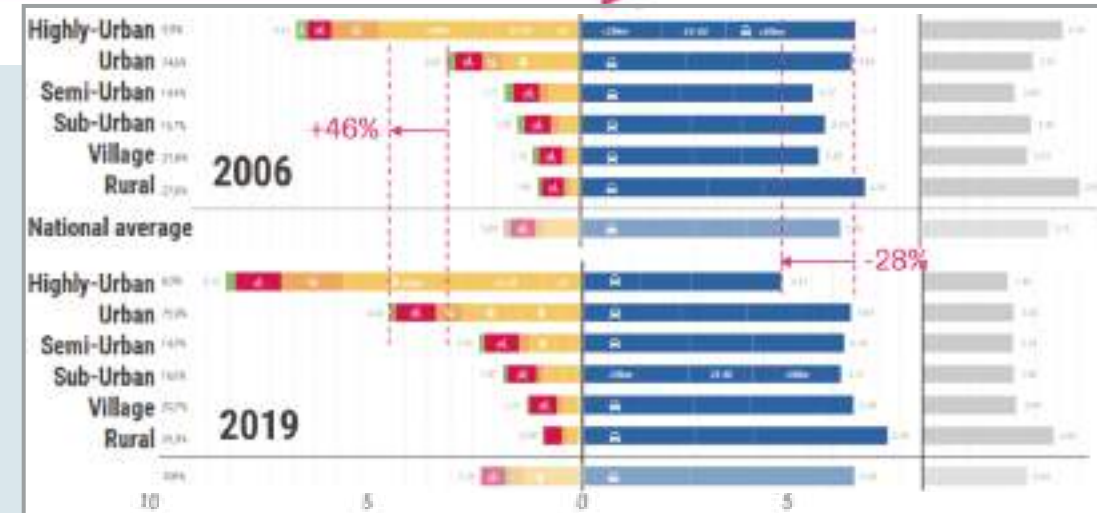
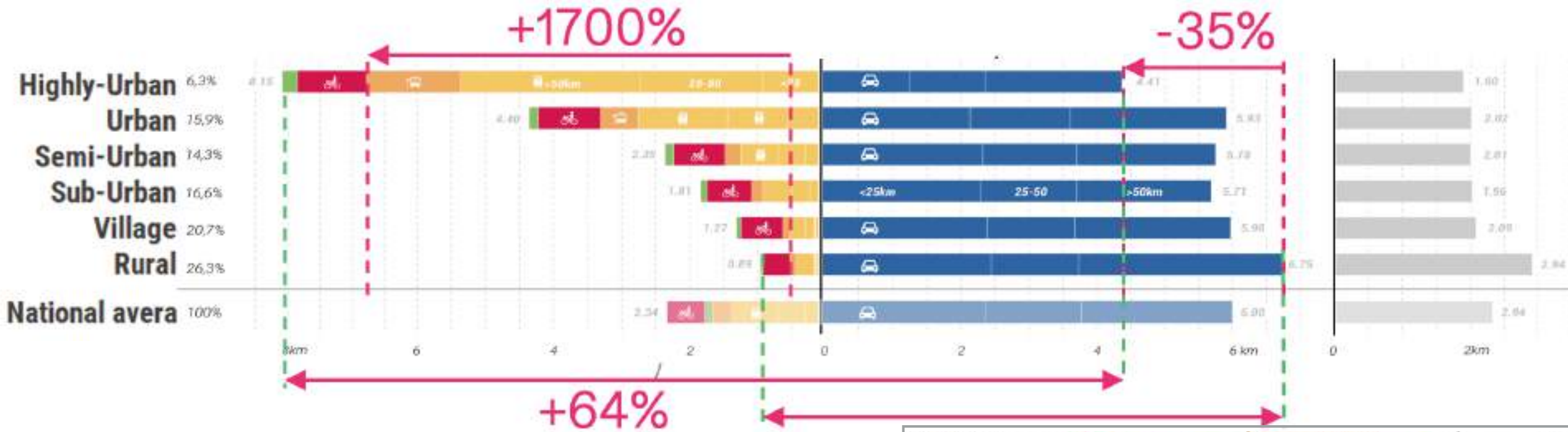
Population+jobs 2040

- High-Urban : 11.4 %
- Urban : 19.0 %
- Total Urban : 30.4 %

Daily trips generated per resident per mode + distance, controlled by urbanity



Daily trips attracted per resident or job per mode + distance, controlled by urbanity



Travel segments for train travel

	market share 2004	%train market 2004	%train market 2020	%train market 2040/50(H)	train 2004	train 2020	train 2040/50(H)
A. Short (<7.5 km)	77%	0.13% 1x	0.17% 0.9x	0.2% 0.9x	36 k (5%)	45 k (4%)	60 k (2½ %)
B. Hi-Urban <> Hi-Urban (>7.5km)	0.02%	53% 1x	70% 10x	75% 50x	4 k (½ %)	60 k (5 %)	345 k (14%)
C. Urban <> (Hi-)Urban (>7.5km)	0.4%	34% 1x	37% 3x	40% 10x	80 k (10%)	246 k (21%)	950 k (38%)
D. Non-Urban <> Hi-Urban (>7.5km)	1.3%	23% 1x	26% 2x	29% 3x	133 k (17%)	287 k (24%)	515 k (21%)
E. Non-Urban <> Urban (>7.5km)	3.7%	14% 1x	14% 1.35x	14% 1.7x	228 k (30%)	328 k (28%)	444 k (18%)
F. Non-Urban <> Non-Urban (>7.5km)	18%	3.6% 1x	3.5% 0.75x	3.4% 0.5x	285 k (37%)	226 k (19%)	157 k (6½ %)
Totaal	100%		+7.5% pop	+7.5% pop	766 k (100%)	1192k (+56%)	2471k (+107%)

Travel segments for train travel



	market share 2004	%train market 2004	%train market 2020	%train market 2040/50(H)	train 2004	train 2020	train 2040/50(H)
A. Short (<7.5 km)	77%	60% S	40% REG	0.9x	36 k (5%)	45 k (4%)	60 k (2½ %)
B. Hi-Urban <> Hi-Urban (>7.5km)	5% S	70% IC	25% IC+		4 k (½ %)	60 k (5 %)	345 k (14%)
C. Urban <> (Hi-)Urban (>7.5km)	5% S	70% IC	25% IC+		80 k (10%)	246 k (21%)	950 k (38%)
D. Non-Urban <> Hi-Urban (>7.5km)	7.5% S	12.5% REG	50% IC	30% IC+	133 k (17%)	287 k (24%)	515 k (21%)
E. Non-Urban <> Urban (>7.5km)	5% S	25% REG	50% IC	20% IC+	228 k (30%)	328 k (28%)	444 k (18%)
F. Non-Urban <> Non-Urban (>7.5km)		60% REG	20% IC	10% IC+ / 0.5x	285 k (37%)	226 k (19%)	157 k (6½ %)
Totaal	100%		+7.5% pop	+7.5% pop	766 k (100%)	1192k (+56%)	2471k (+107%)

‘A bike and an apple’



ANALYSE

Nooit meer op de fiets met een appeltje: Rutte wacht bij de Navo een heel andere tijd



Oud-premier Mark Rutte zwaait naar premier Dick Schoof terwijl hij wegfietst. Beeld
David van Dam / De Volkskrant

willem alexander fiets

AI Mode All Images Video

Images



Wereldfietsdag: de leukste fot...

Blauw Bloed - EO



Koning aanwezig bij start Giro d'Italia | ...

AD



Koning Willem-Alexa...

Omroep Gelderland



Dutch King shines on wheelchair bi...

Van Raam bikes



Willem-Alexander op...

Omroep Gelderland



Willem-Alexander stapt op f...

Ditjes en Datjes



Koning Willem-Alexander maakt rond...

NU



Koning Willem-Alexa...

The World of R...



Willem-Alexander en Máxima op...

Linda



Koning fietst rondje op Gazelle...

De Gelderlander



Best countries for driving

1. Netherlands: 7.14/10

Taking out top spot on our list is the Netherlands. The Netherlands had the highest overall score at 7.14/10. The Dutch homeland ranks so well thanks to having the second-smallest motoring expenses to income ratio at 8% (tying with the USA and Switzerland).

The Netherlands also had the smallest average annual hours spent in rush hour at 96 hours a year, the highest road quality score of 6.4, and very high vehicle standards. All these high scores for different metrics are the perfect ingredients for a pleasant drive through the beautiful and historic Dutch countryside.





Ministerie van Infrastructuur
en Waterbouw

Fietsfeiten

Kenmerken van een Mobiliteitsland 100%

Ludo Martens en Mounir Karsen



American Fietser @AmericanFietser · Jun 2

Dutch 🇳🇱 children are ranked as being the happiest in the world.

A lot of this is likely due to the freedom of mobility they experience at a young age, enabled by a safe and equitable infrastructure design.

Wouldn't you want the same freedom and happiness for your family? 🇳🇱



Cars are the biggest killer of children and young adults worldwide but efforts to save lives have struggled to attract public or political attention. Even in **Europe**, where fatality rates are low by global standards, five times more people are killed in car crashes than murdered. The EU is on track to miss its target of halving road deaths by 2030.

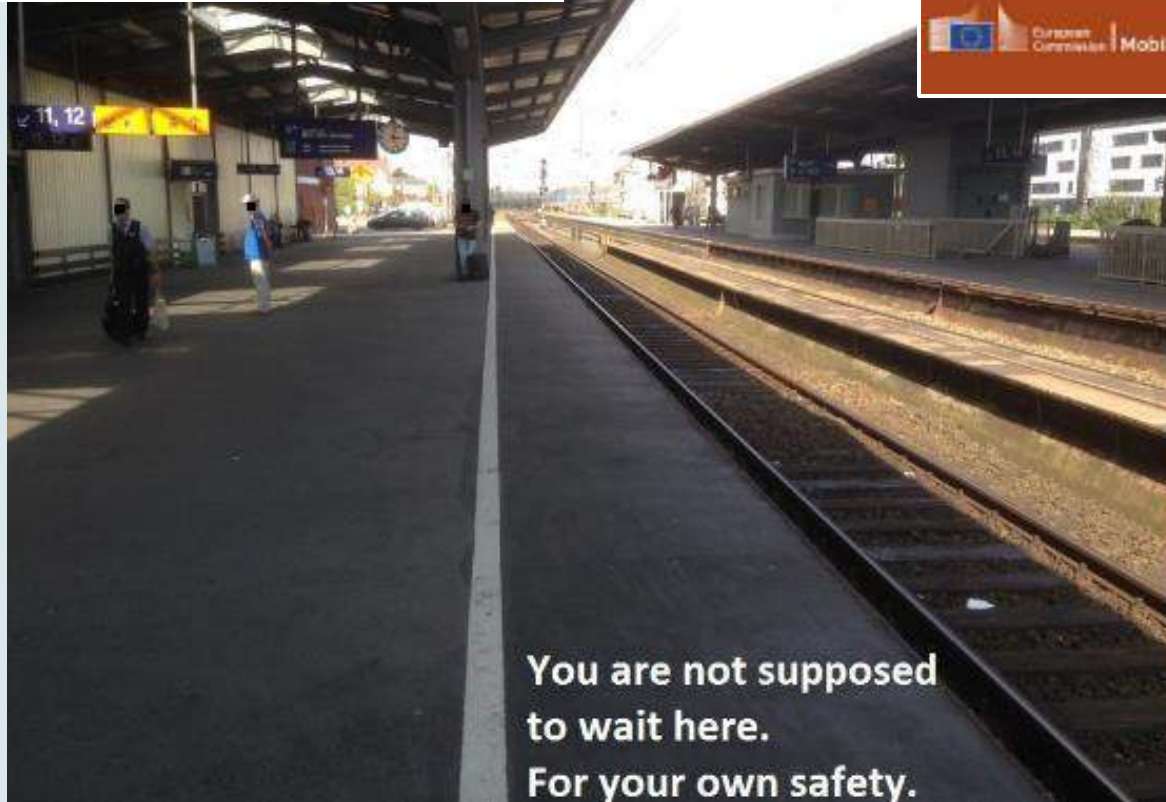
ROAD TRAFFIC FATALITIES IN THE EU IN 2021

by road user and (other) 'main vehicle' involved in the crash

IN A COLLISION WITH...



European Commission | Mobility and Transport



You are not supposed to wait here.
For your own safety.



But you are forced to cycle here...



<https://www.youtube.com/watch?v=pqQSwQLDIK8>



Marco Te Brömmelstroet • 1st
Professor in Urban Mobility Futures, Academic director of Lab of Tho...
1d •

Our car-dependent status quo is the result of political choices that have steered decades of financial-, spatial- and design decisions. Let's repoliticize these decisions and reshape our public spaces.

(via [Nicolas Blume](#))



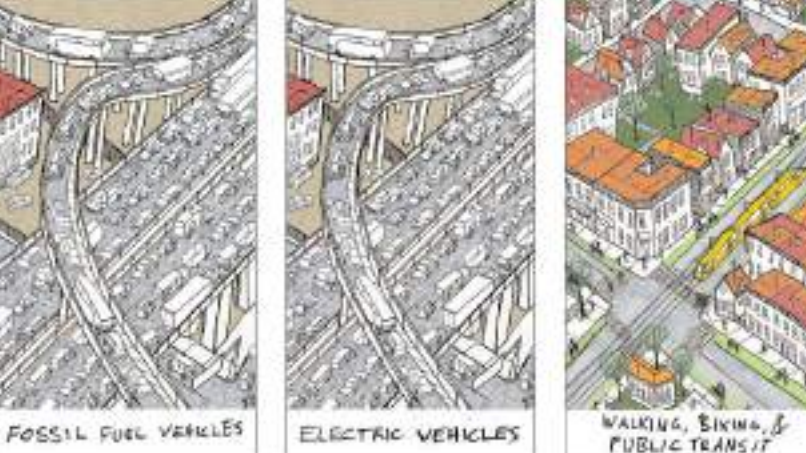
You and 1,198 others 29 comments • 108 reposts

Marco Te Brömmelstroet • 1st
Professor in Urban Mobility Futures, Academic director of Lab of Tho...
3d •

A car driver, a pedestrian and a cyclist walk into a bar. They sit on a table with 10 beers. The car driver immediately takes 8, then says to the pedestrian: 'Look out for that cyclist; he wants to steal your beer!'

* The less funny part 2 of this joke:
The car driver rants about the dangers of rental scooters while drinking those 8 beers and then tries to drive home, killing both the pedestrian and the cyclist in the process.

The next day he starts a bike helmet campaign and gets all ears.



Pascal Fuhr • Following
Digital Community Engagement for Planning Firms shaping Better Cities
Visit my website
5d •

Somewhere along the way, buying a car became a right to public storage.

Nobody voted on it. It just became the default. You purchase a private vehicle, the city provides the space to leave it. On public land. For free. As a matter of course.

Miguel Anxo Fernández Lores, Mayor of Pontevedra, said it differently: buying a car is like buying a refrigerator. Where you put it is your problem, not the city's.

And then he acted on it. Pontevedra removed cars from 1990s. No bypass. No demolition. Just a decision to parking lots.

Pedestrian deaths fell to nearly zero. Air quality improved. It filled up.

The harder part was what came before it. A politician city doesn't owe you a parking spot.

That's still the rarest thing in urban planning.



Isabel Liedtke and 944 others 37 comments • 93 reposts