Department of Transport

Netherlands 2014 Influentials Study

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The National Delegation

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No Lycra or Helmet

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Places Visited

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Who we Learnt From

- **7** Mayors, Deputy Mayors or Aldermen/Councillors
- **23** regional and city transport executives, planning officials and other government representatives
- **20** transport academics, experts and consultants working with various jurisdictions in the Netherlands
- **49** presentations/guided tours attended

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Investment in all Modes

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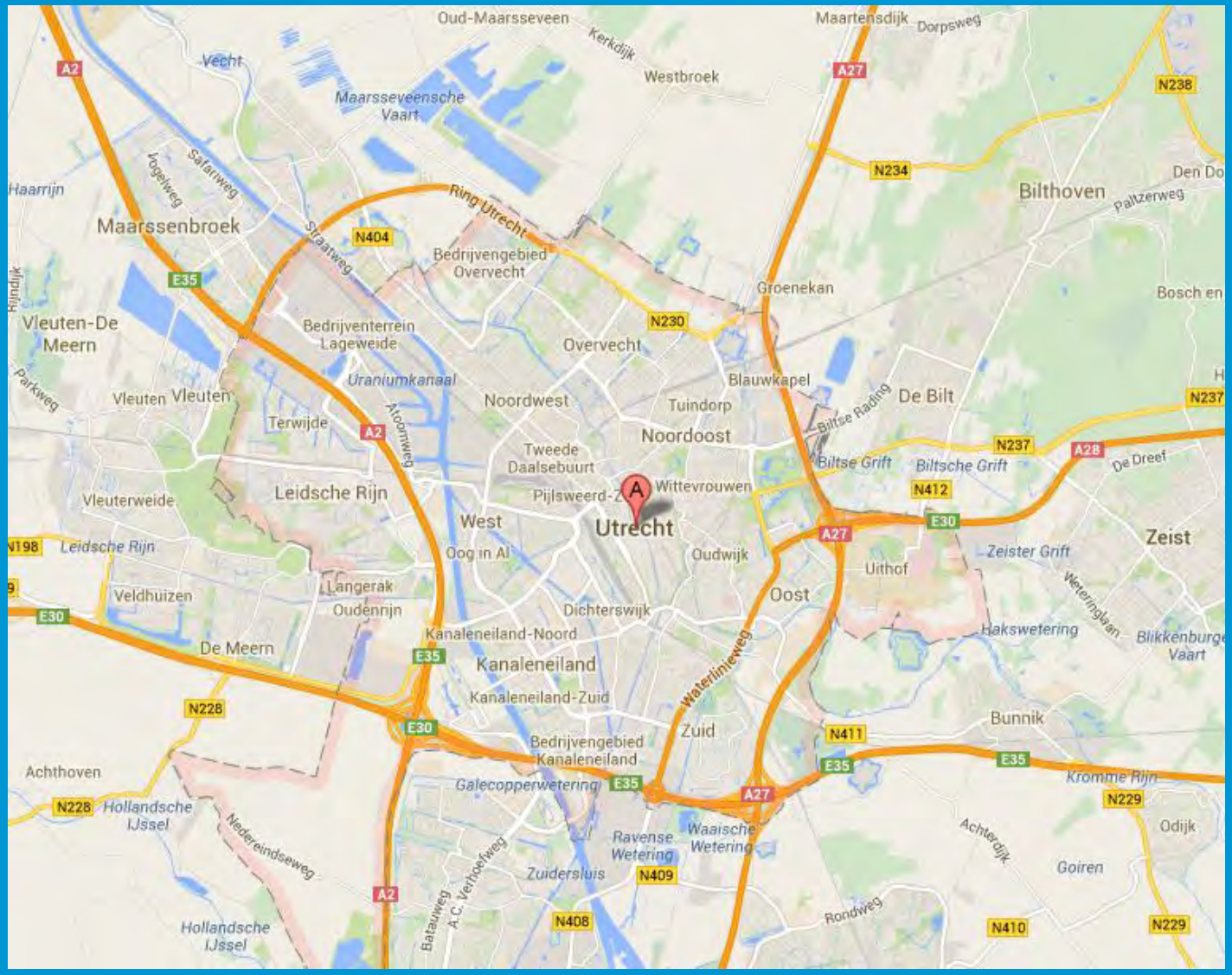
Typical Road Network



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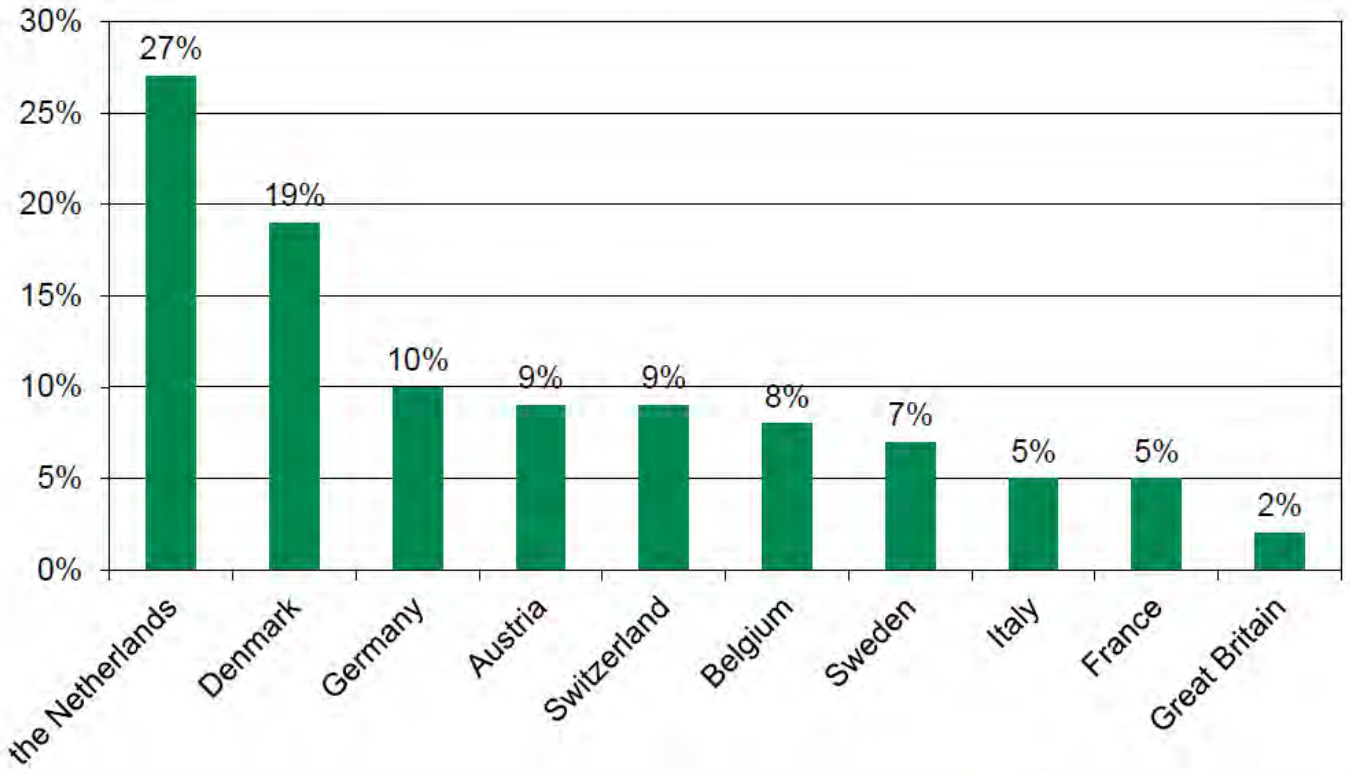
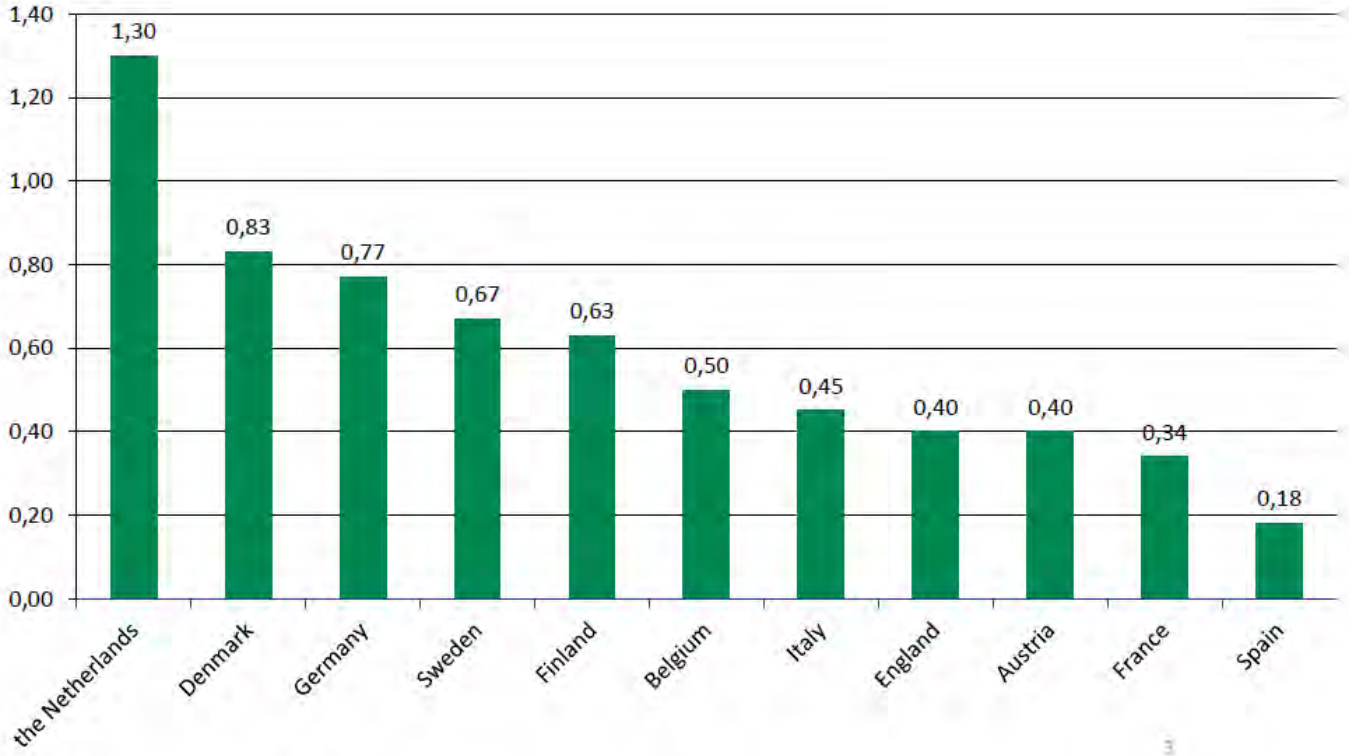
Population v Footprint

	Perth (Greater)	Amsterdam (Greater)
Population	1,972, 358	2,300,000
Footprint	130km x 30km	40km x 40km

Facts – bicycle share

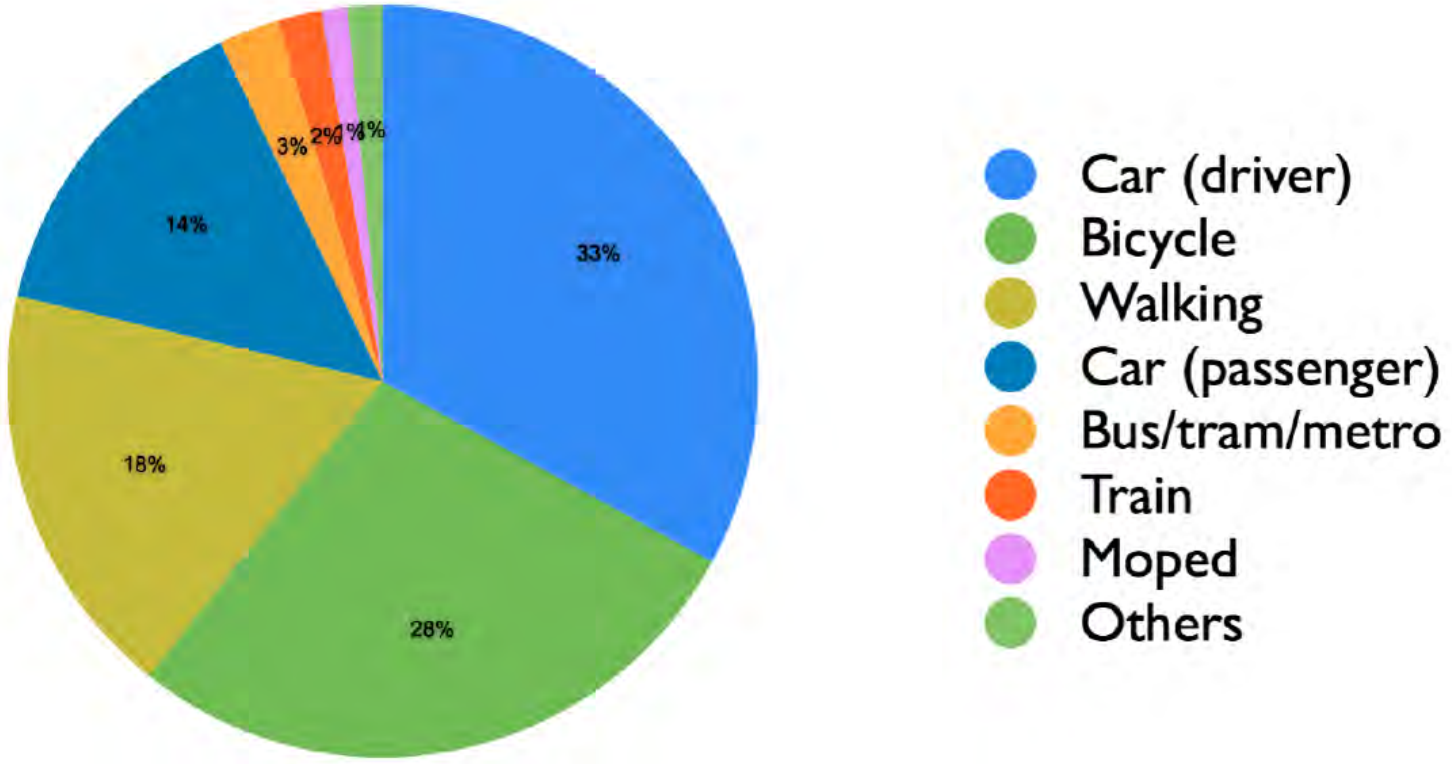


Facts - Bicycle ownership



Mode Splits

Transport mode in Netherlands



Source: OViN 2011

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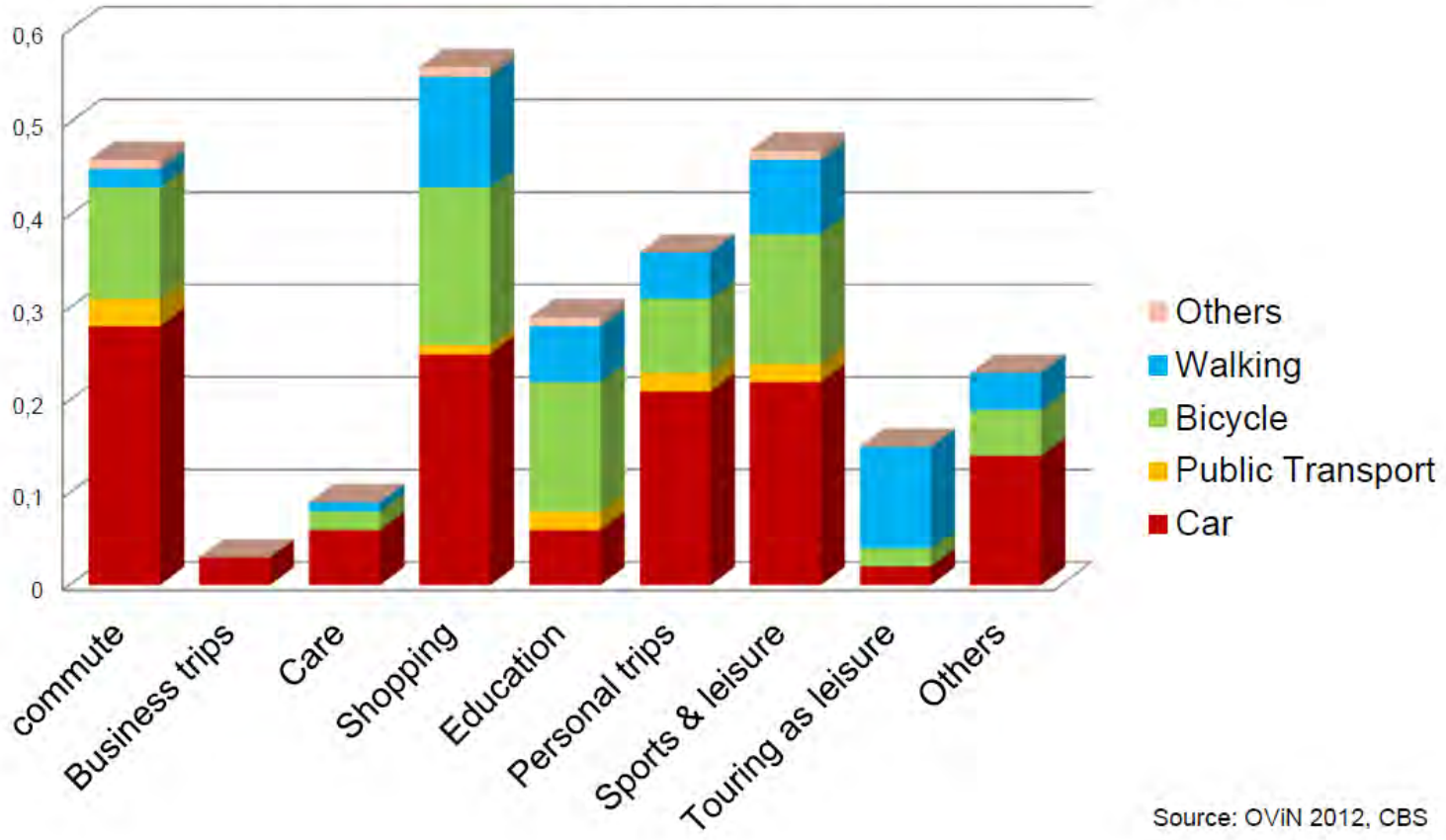
Mode Share in the Large Four Cities

	Rotterdam	Amsterdam	The Hague	Utrecht
Car (as driver)	23%	15%	20%	18%
Car (as passenger)	12%	8%	11%	8%
Train	1%	0%	0%	0%
Bus/tram metro	13%	12%	9%	6%
Moped	1%	1%	1%	0%
Bicycle	**22%**	**32%**	**25%**	**36%**
Walking	28%	31%	33%	31%
Remaining	1%	1%	1%	2%
Total	100%	100%	100%	100%

Cycling Reasons



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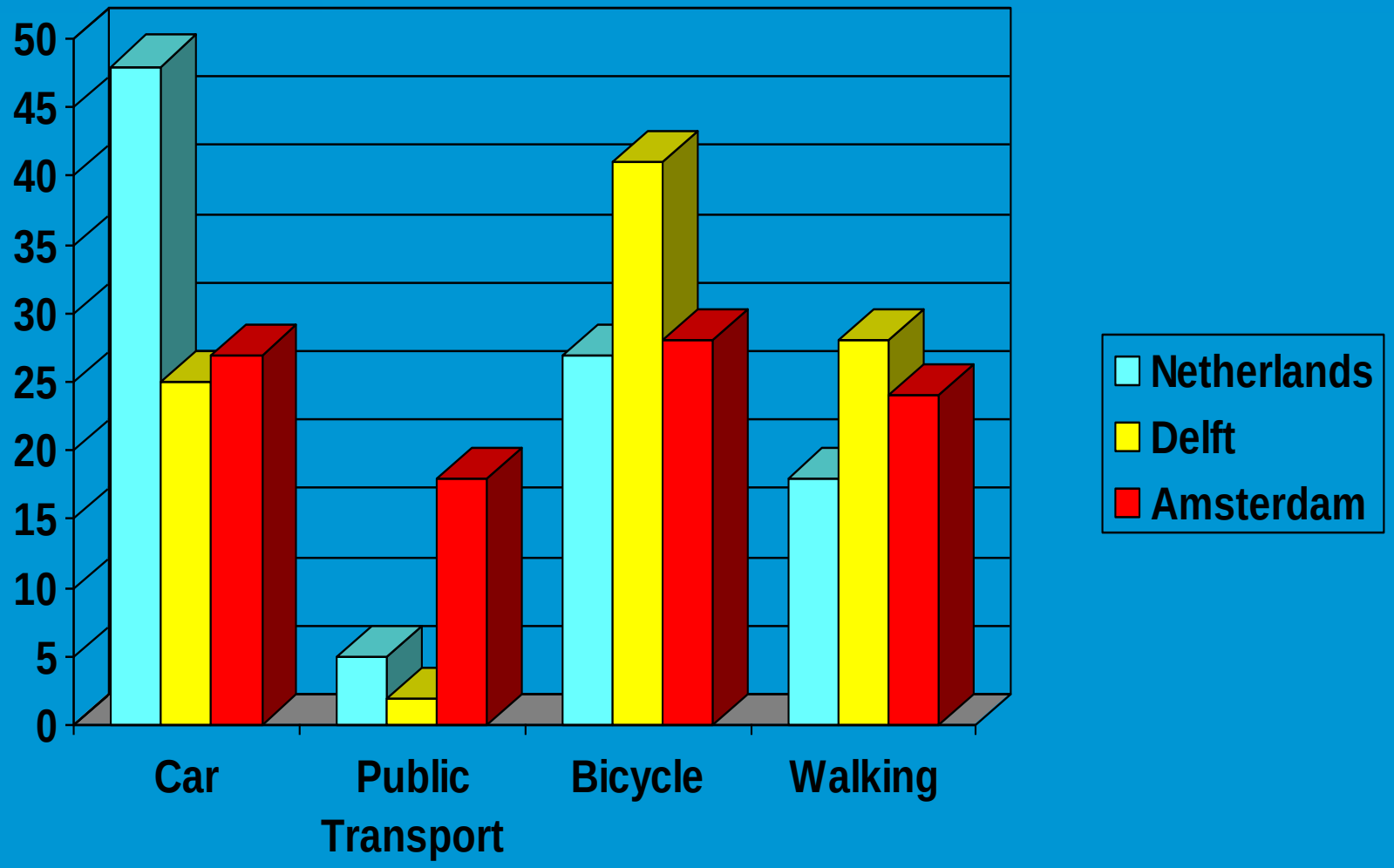
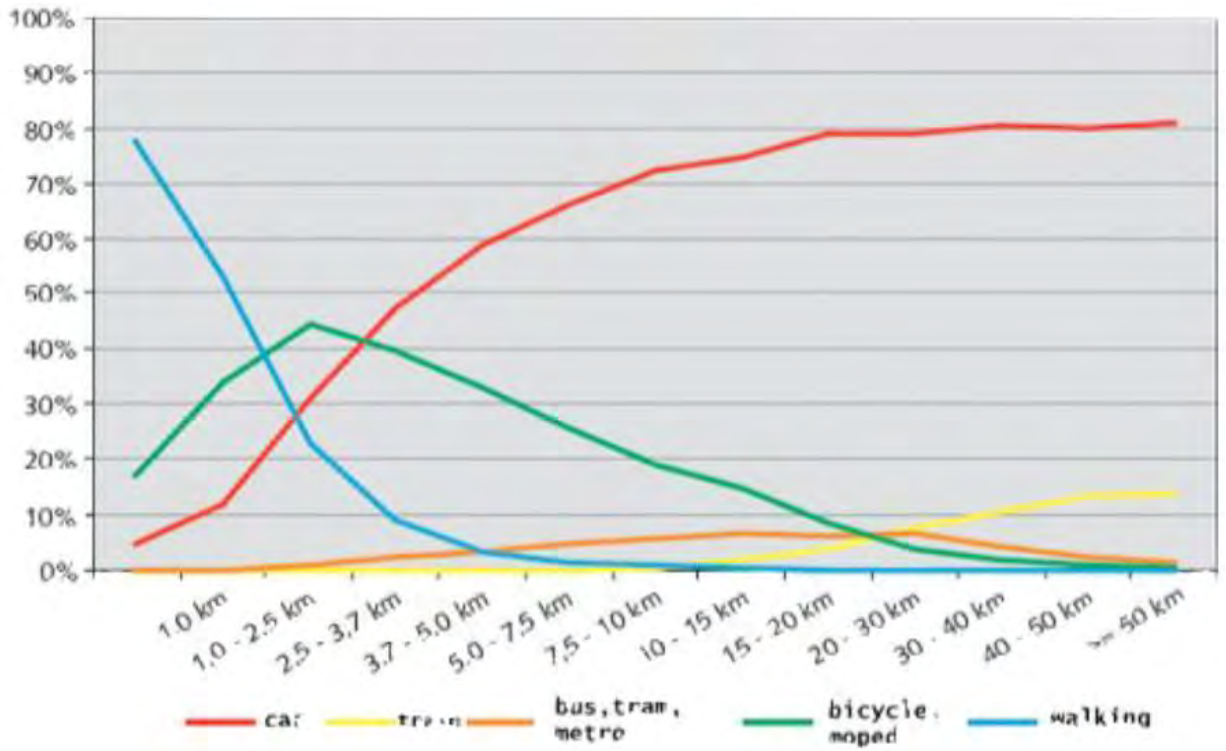
Travel Modes



Reference: Dutch Cycling Embassy

Mode by Distance

Modal split according to distances Netherlands



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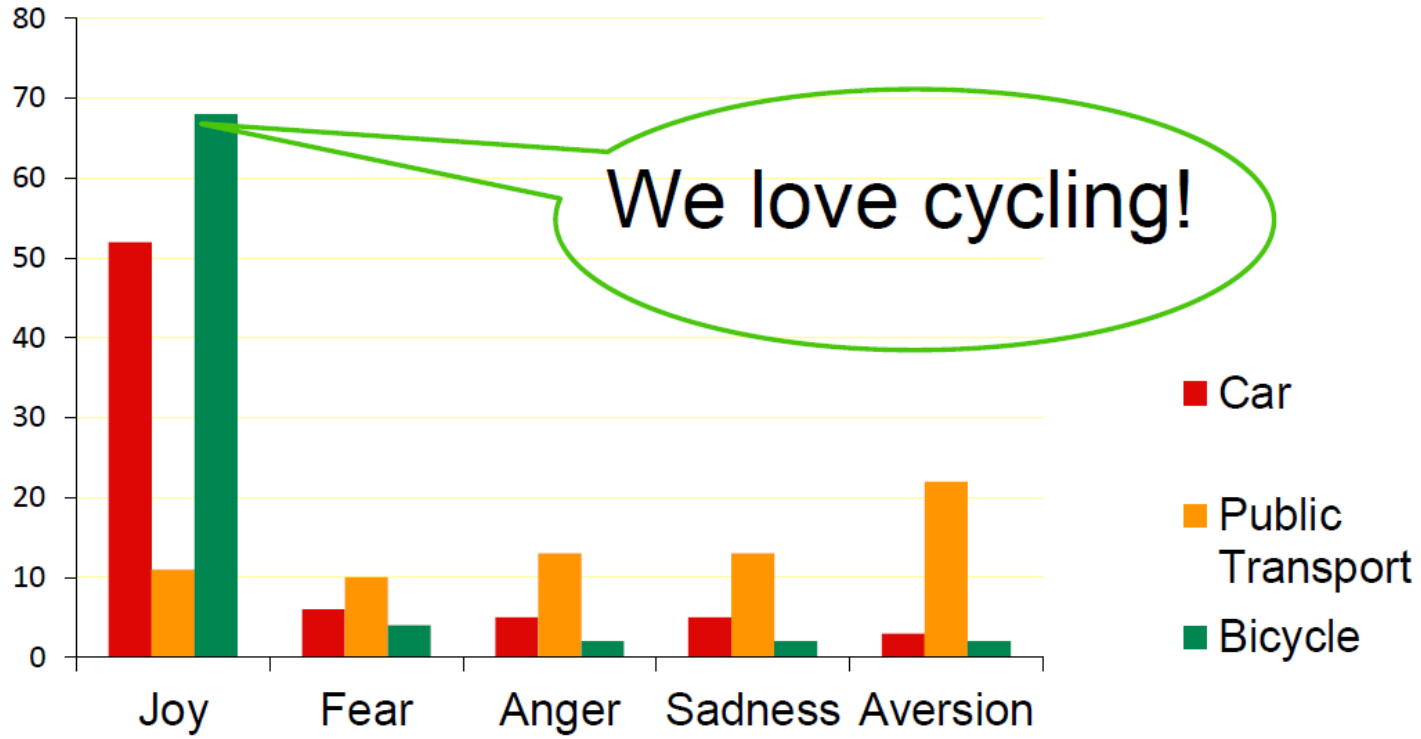
Car Ownership

- In the seventies there was a population of 8m with 4m cars (50% with a car)
- Now there is a population of 16m with 9m cars (56% with a car)
- Bike mode share has remained high
- Car ownership is not overly critical it is how and when you use the different modes

Reference: Dutch Cycling Embassy

Reasons for Mode Choice

Emotions linked to way of transport



Mode Planning

Looking for the optimal mix

Cycling (& walking)
> Short distances
> Inner urban trips
> Limited luggage carrying

Public transport
> Longer trips
> Mass transportation
> Feeder trips required

Car
> Longer trips
> Thinly populated areas
> Less/not suitable for dense urban areas

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Five Planning Principles

1. Safety
2. Coherence
3. Directness
4. Comfort
5. Attractiveness

Reference: Dutch Cycling Embassy

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The Three E's

- Engineering
- Education
- Enforcement

Reference: Dutch Cycling Embassy

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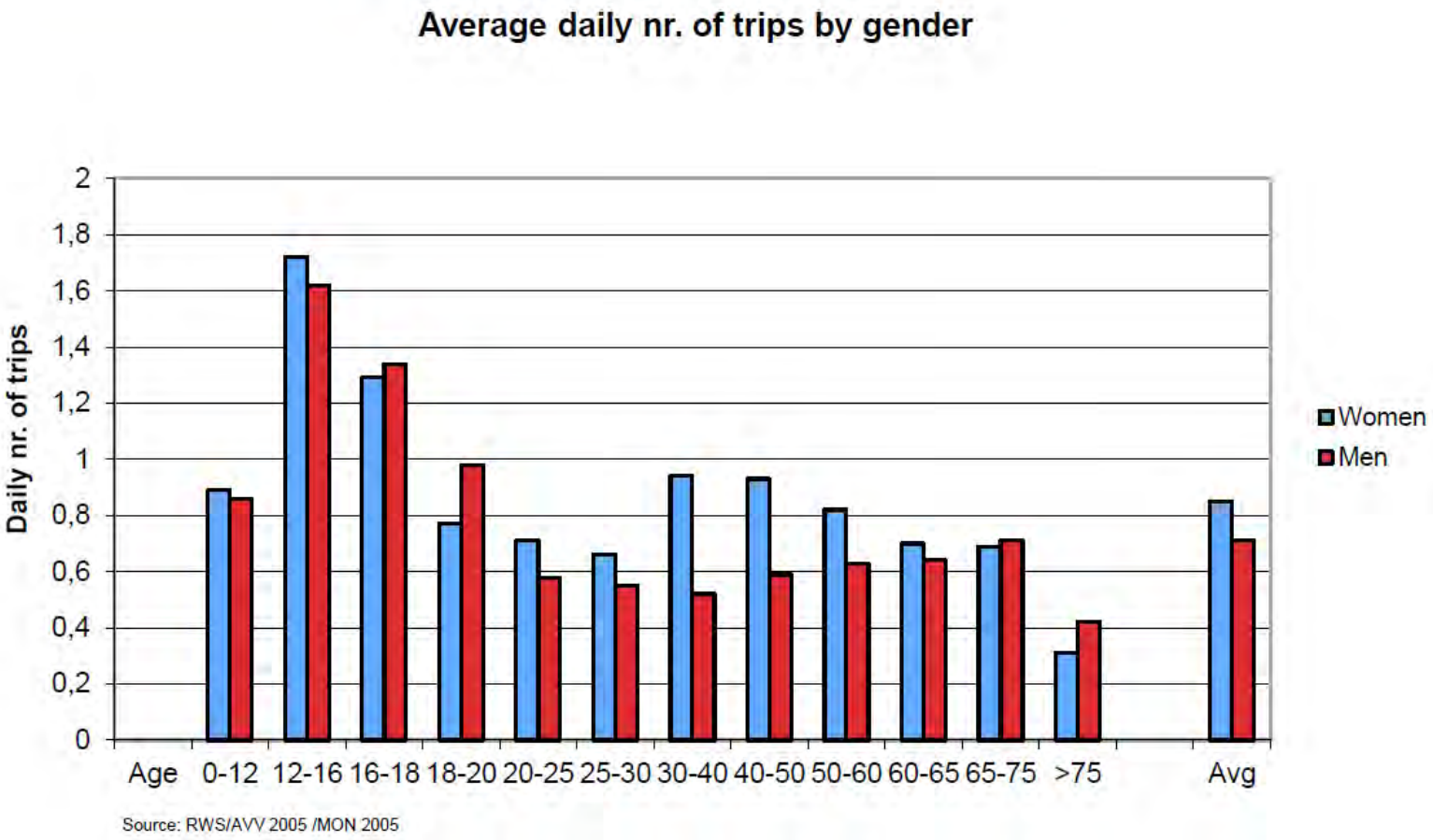
Daily Trips by Bike



Dutch Cycling Embassy

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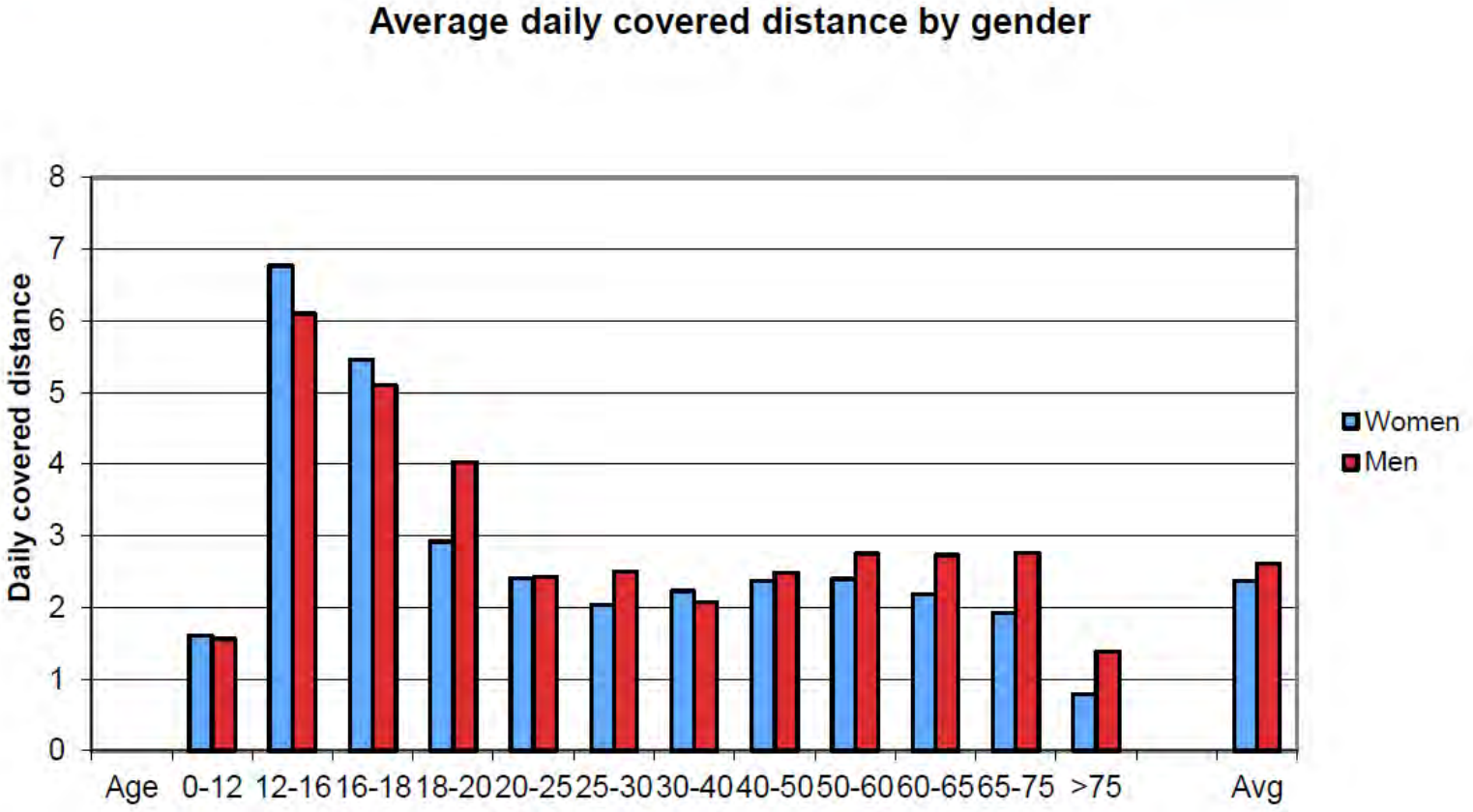
Daily Bike Trip Distances



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Usage and Safety Trends

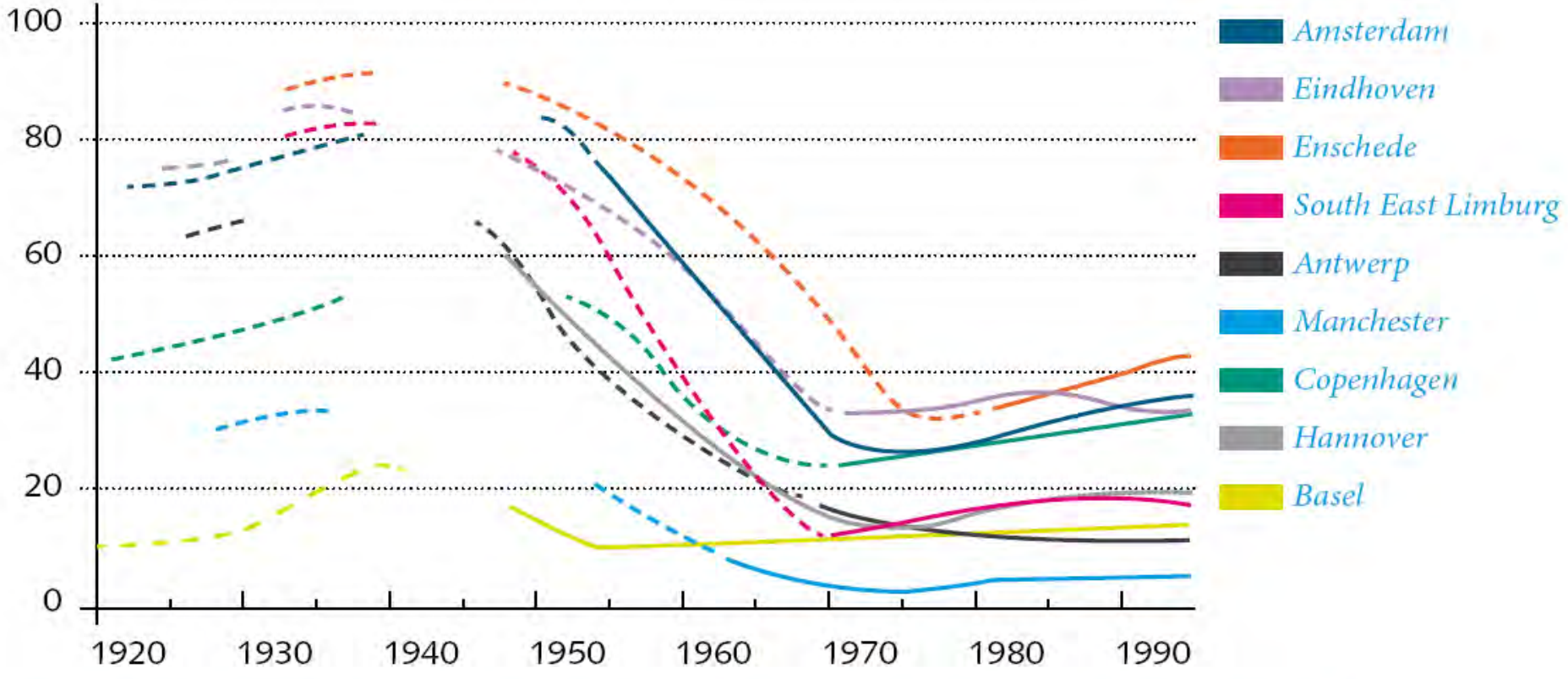

Figure 5: Historical development in bicycle share in 9 European cities Source: A.A.ALbert de la Bruheze and F.C.A. Vervaart. Bicyle traffic in practice and policy in the twentieth century, 1999

Reference: Dutch Cycling Embassy

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1970's Protests

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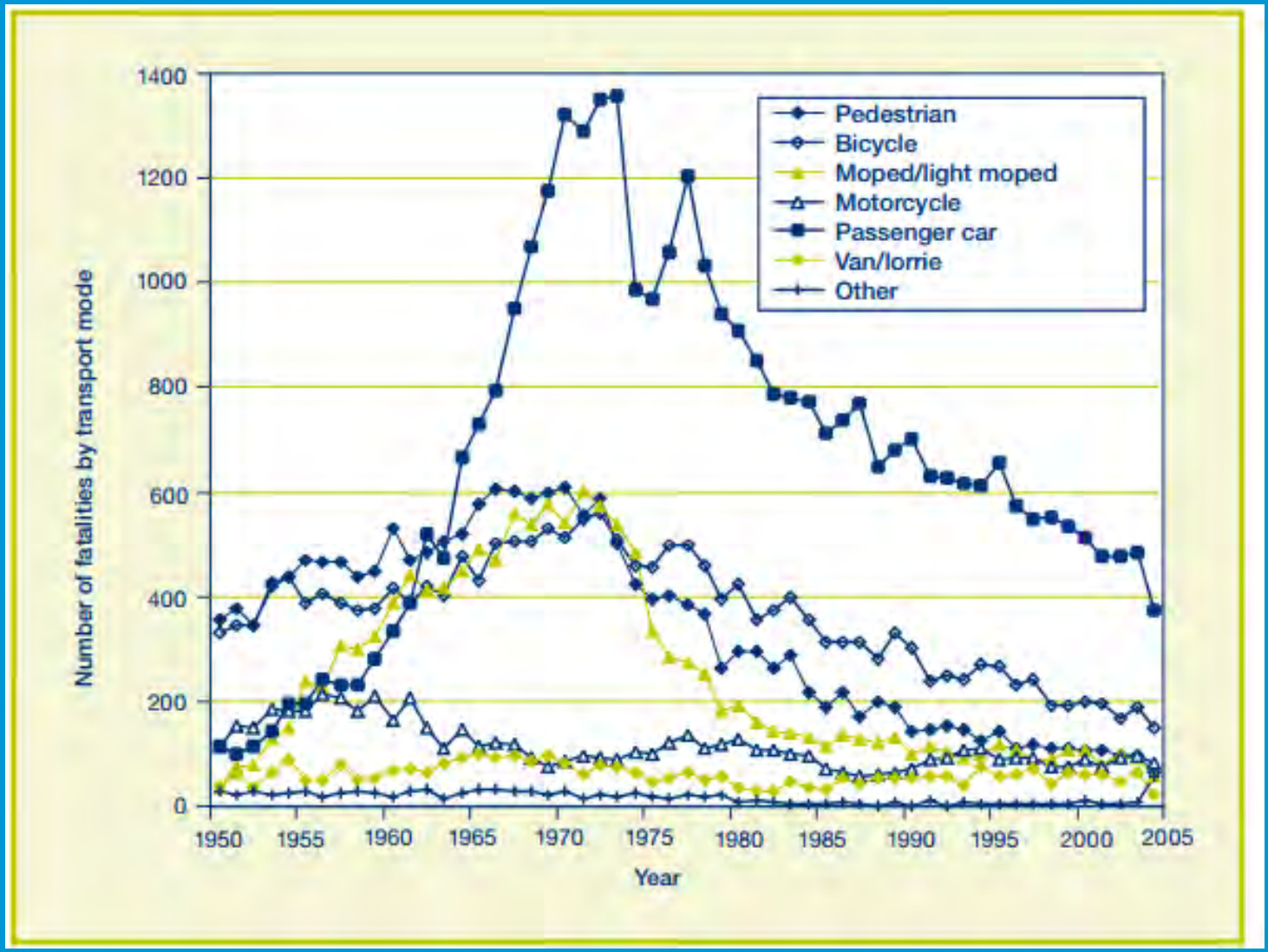
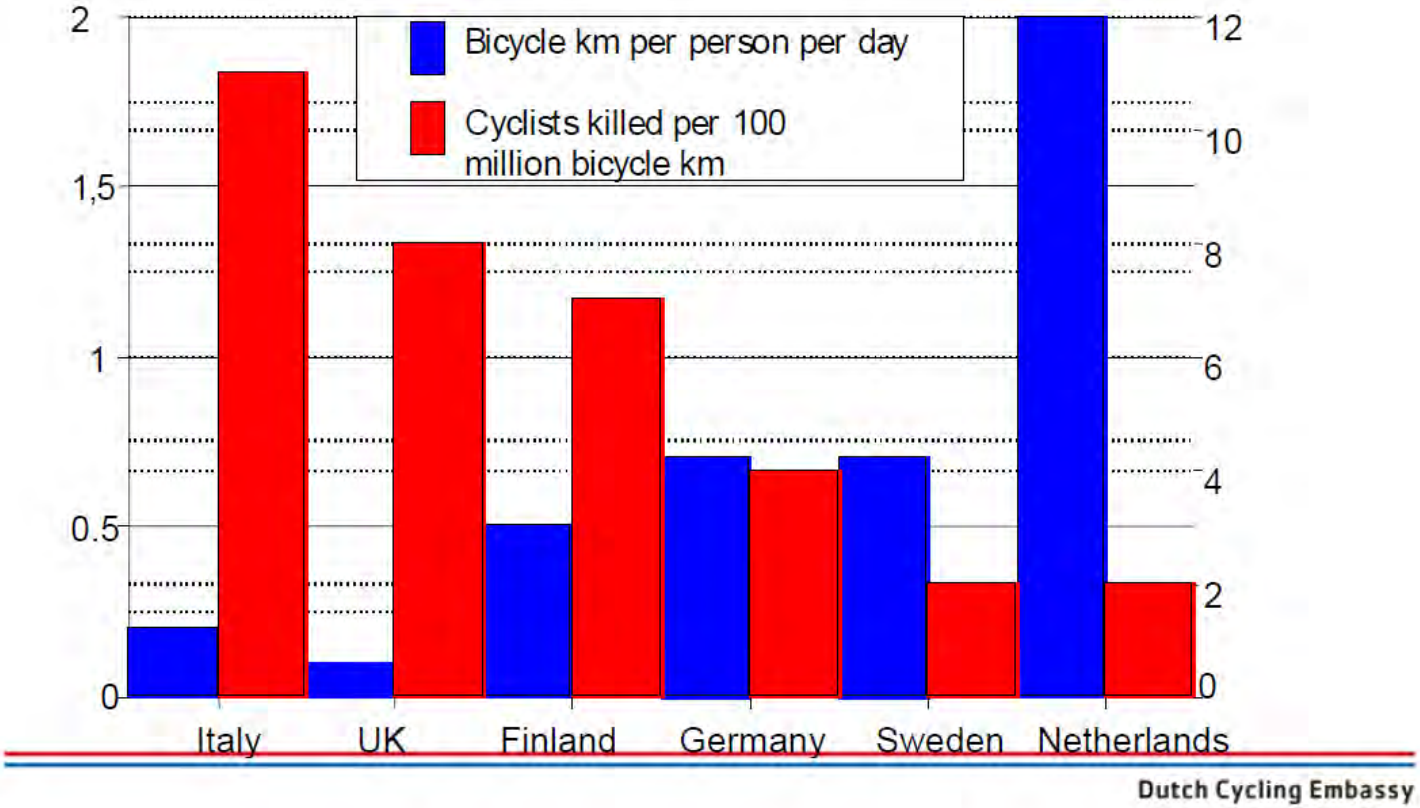
Safety Trends



Reference: Keypoint Consultancy

Trip Distance v Safety

Safety in numbers - Europe



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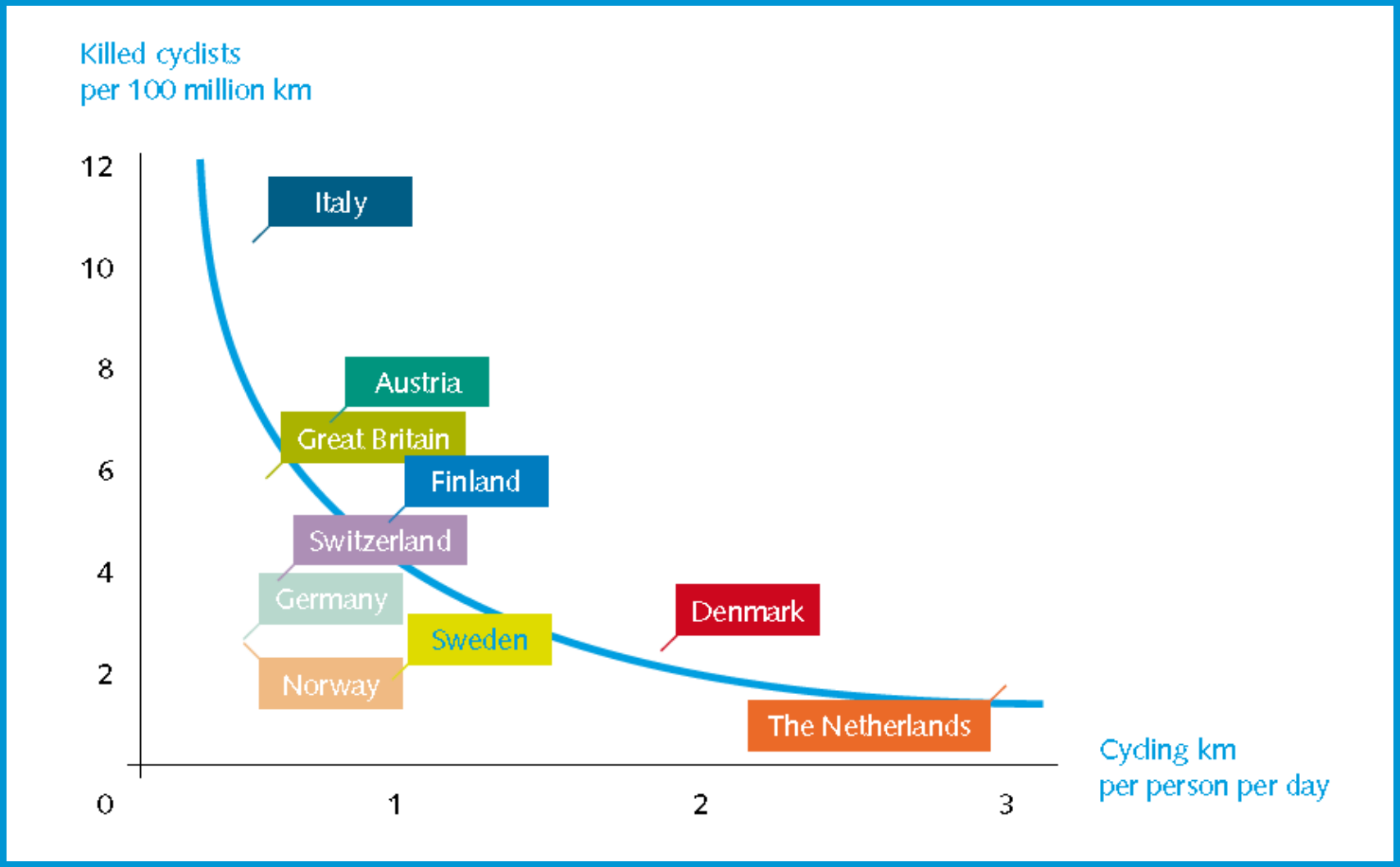
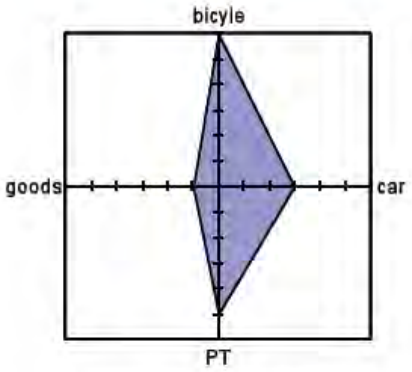
Safety Comparison

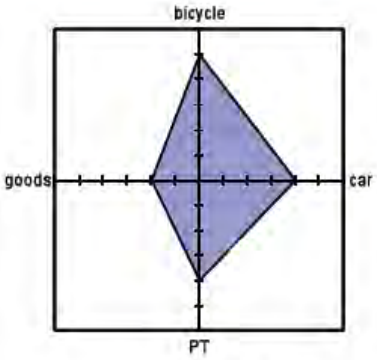


Reference: Keypoint Consultancy

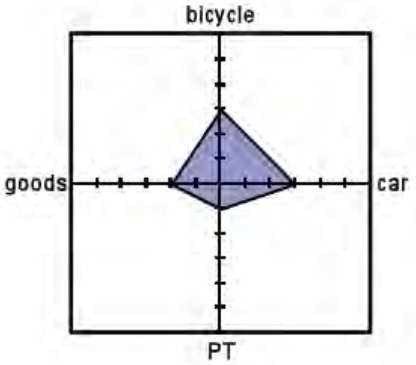
Usage Planning by Location



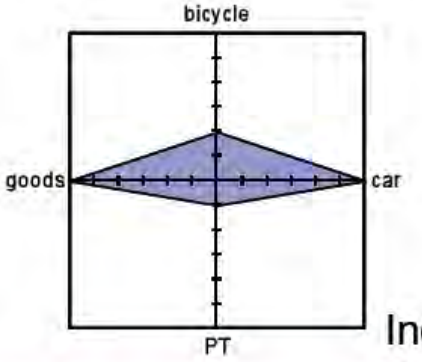
City centres



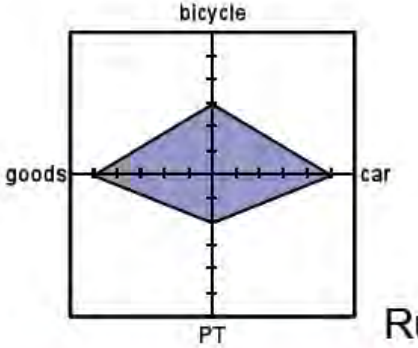
Urban areas



Rural settlements



Industrial zones



Rural areas

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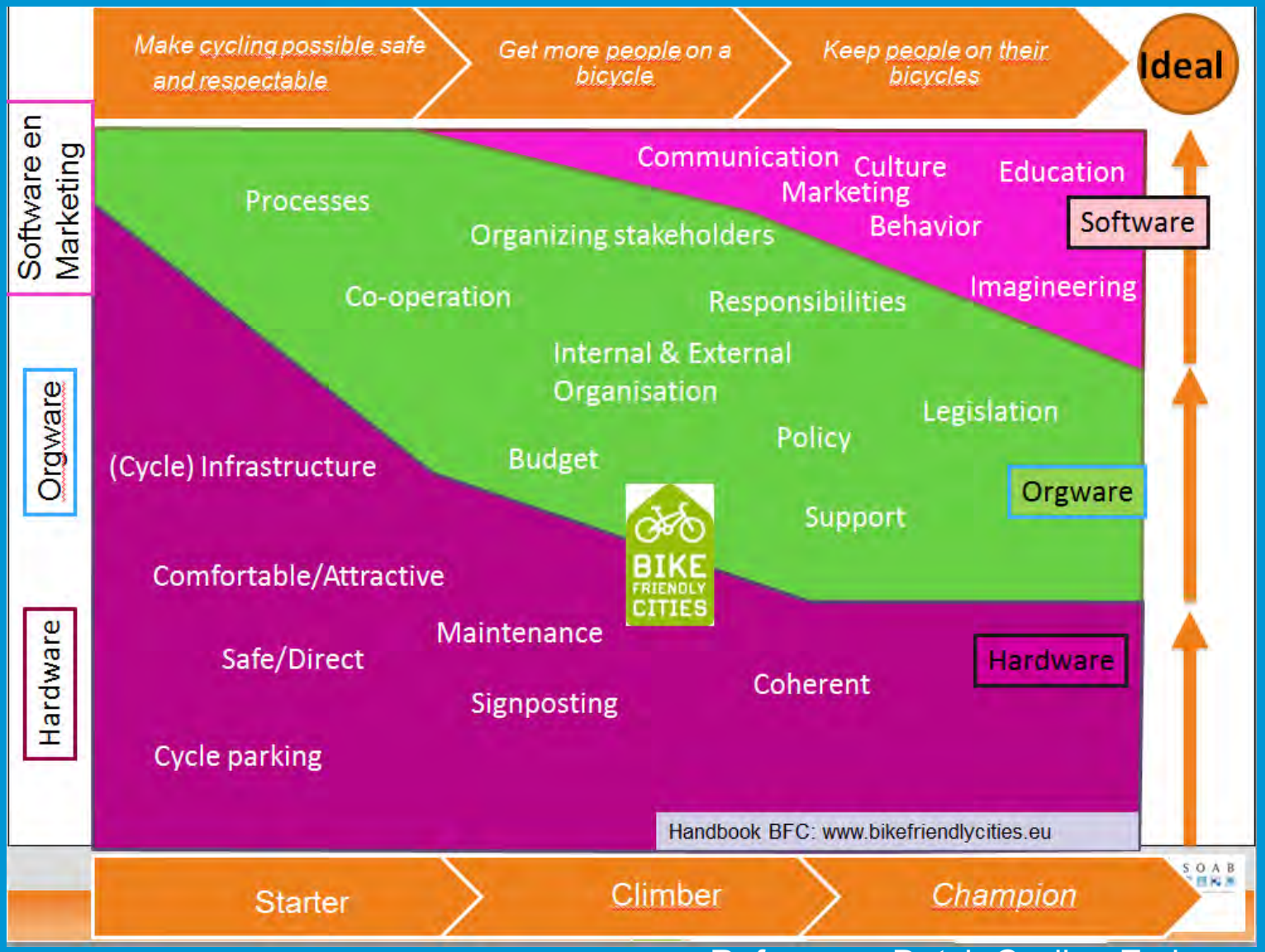
Overall Planning Approach



Reference: Dutch Cycling Embassy

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Investment Level

- Total investment across all levels of government 400m Euro per year
- Put another way 25-28 Euro per capita per year

Reference: Dutch Cycling Embassy

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Hierarchy of Planning and Operation

Reference: Dutch Cycling Embassy

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Local Roads-Cars are Guests

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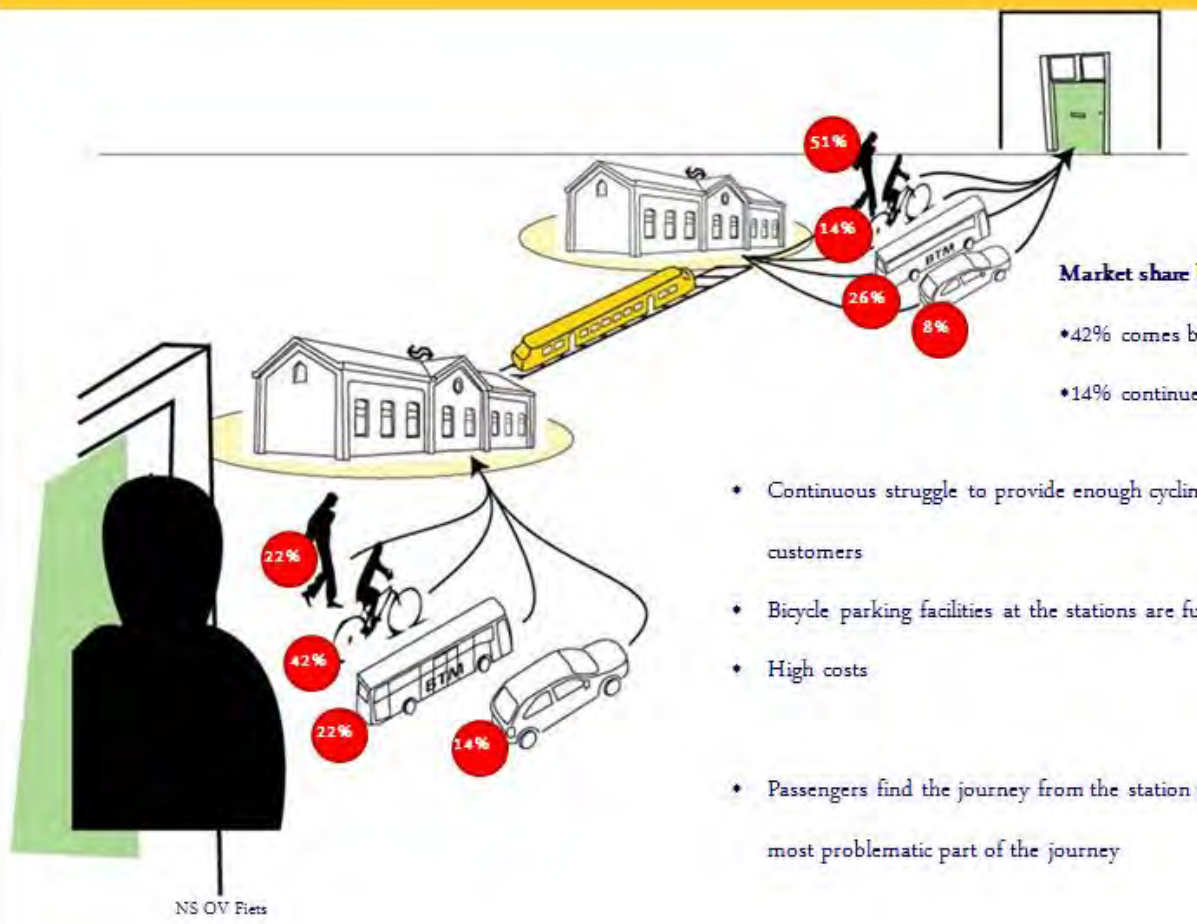
Trip Chaining with Heavy Rail

The market



Market share bike

- 42% comes by bike
- 14% continues by bike

- Continuous struggle to provide enough cycling facilities for our customers
- Bicycle parking facilities at the stations are full
- High costs

- Passengers find the journey from the station to the final destination the most problematic part of the journey

Reference: Dutch Railways

Door to Door PT Service

Aims and objectives

- Our mission: *Making public transport by train more attractive by making travelling from the arrival station to the final destination by bike as fast and easy as possible.*

- Objectives OV-fiets:
  1. Acquisition of new members
  2. Activating our existing members
  3. Enlarging our capacity

NS OV Fiets

Reference: Dutch Railways

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Utrecht

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Utrecht Development

Reference: City of Utrecht

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Utrecht City Centre Road Layout

Reference: City of Utrecht

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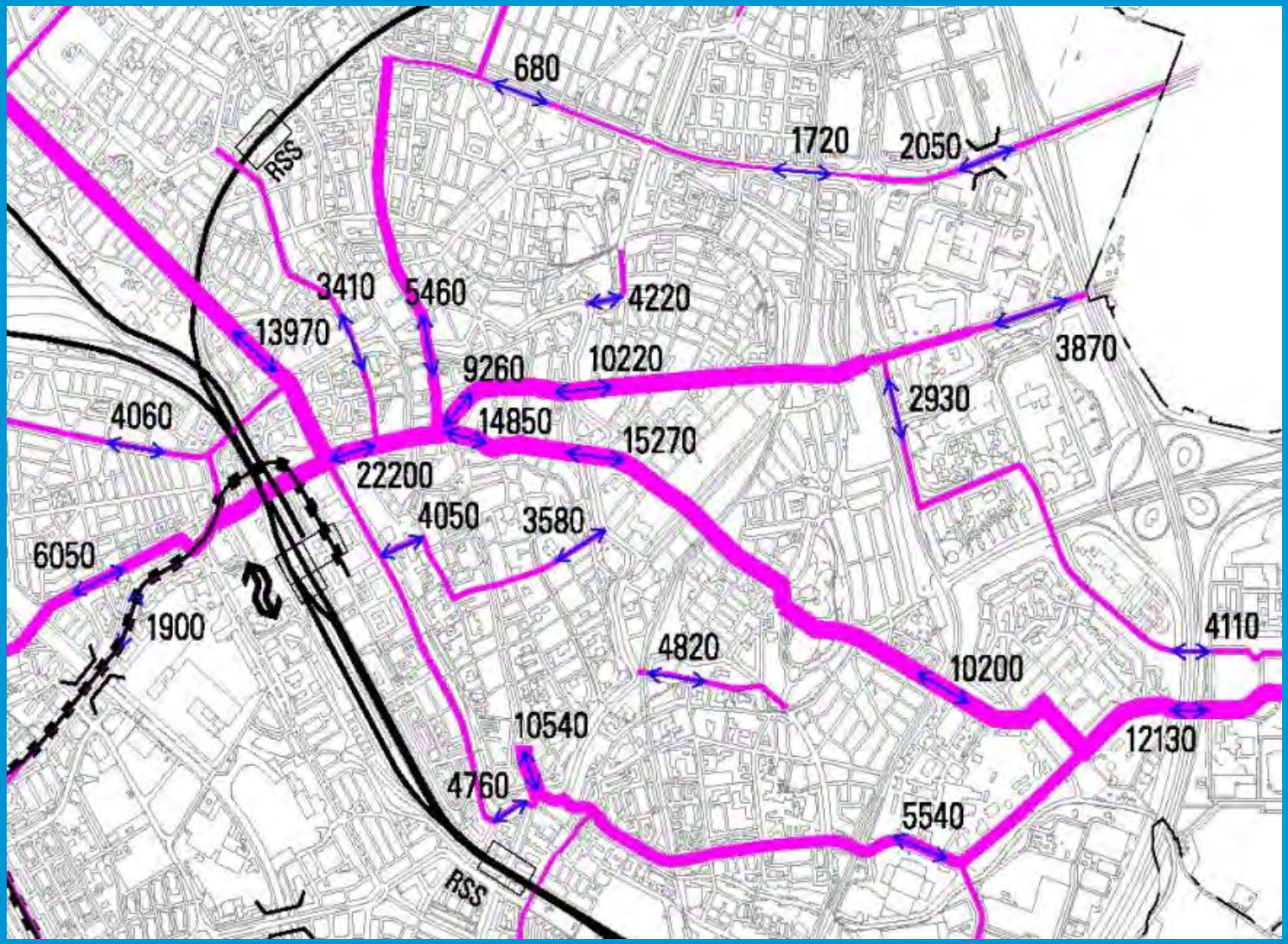
Utrecht Bike Count Numbers



Reference: City of Utrecht

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Houten

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Houten Layout

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Houten Fast Facts

- Population: 50,000
- Urban Area: 820 ha
- Urban Density: 54 persons/ha
- Number of Residential Units: 18,400
- 130 km of bicycle-paths
- 12,500 public transport users (both train stations)
- Cars: 415 cars/1,000 residents
- Model split 7,5 km distance: 40% by bike, 33% by car, 24% by foot
- Distance from Utrecht City Center: 8 km

Reference: Dutch Cycling Embassy

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Houten Main Street

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Schools Adjacent to PSP

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Typical Houten Street

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Typical Houten PSP and Access to Homes

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Utrecht to Houten Regional PSP

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Rotterdam

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Rotterdam Early Days

Reference: City of Rotterdam

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Rotterdam 1930's and 1940's

	15-6-1939 van 0-24 uur Brug	Tunn.	26-6-1947 van 0-24 uur Brug	Tunn.	
Handwagens	292		306		Handcarts
Paardentractie	476		343		Horsecarts
Carriers	1740		425		Carriers
Tramtreinen	832		793		Trains
Vrachtauto's	6881		4732	5174	Trucks
Autobussen	940		103	951	Busses
Personenauto's	7110		2914	6943	Cars
Motorcarriers	—		103	51	Motorcarriers
Motorrijwielen	2791		1062	2326	Motorcycles
Totaal Motorvoertuigen	17722		8914	15445	
Wielrijders	77921		22934	25531	Bicyclists
Voetgangers	17203		10968	8080	Pedestrians
Kinderwagens	—		329	150	Baby buggies

Reference: City of Rotterdam

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Rotterdam 1400 to 2010

De ontwikkeling van de haven door de eeuwen heen

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Rotterdam Bike Lanes Network

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Rotterdam Main Cycle Routes

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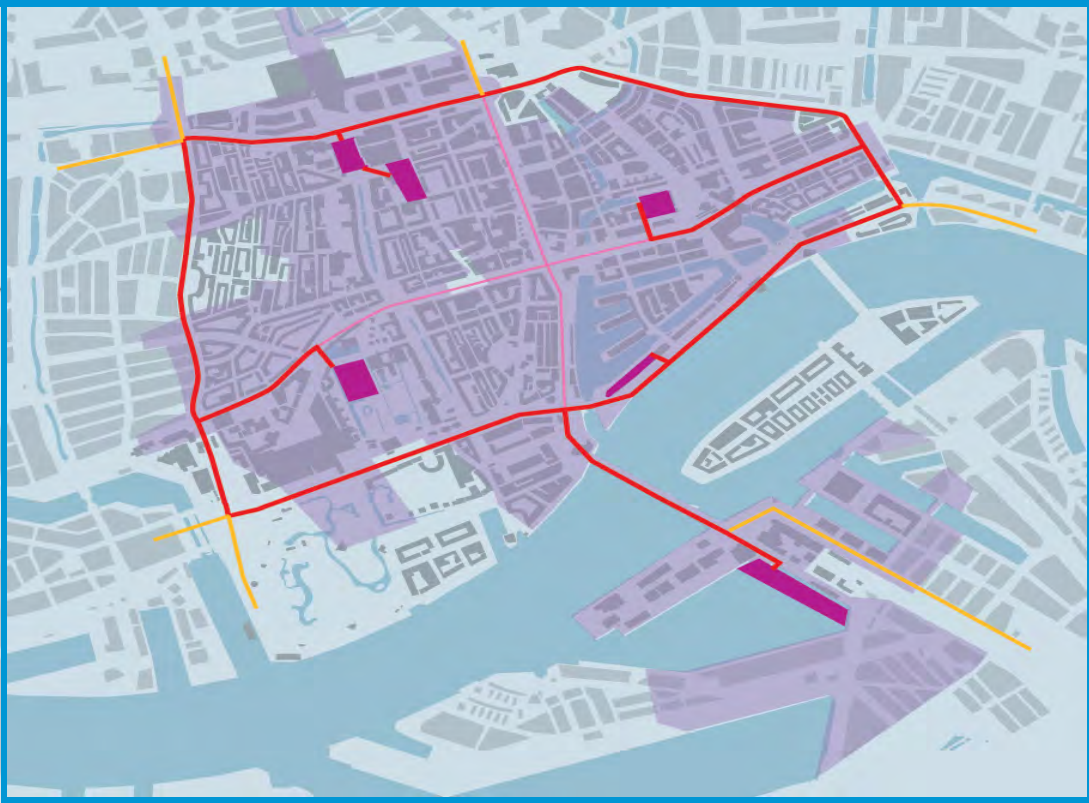
Rotterdam Park and Ride, walk, cycle

Car park and ride



Ride and walk/cycle

Reference: City of Rotterdam

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Rotterdam Arterial Road with LRT

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Rotterdam Crossing at a Wide CBD Street

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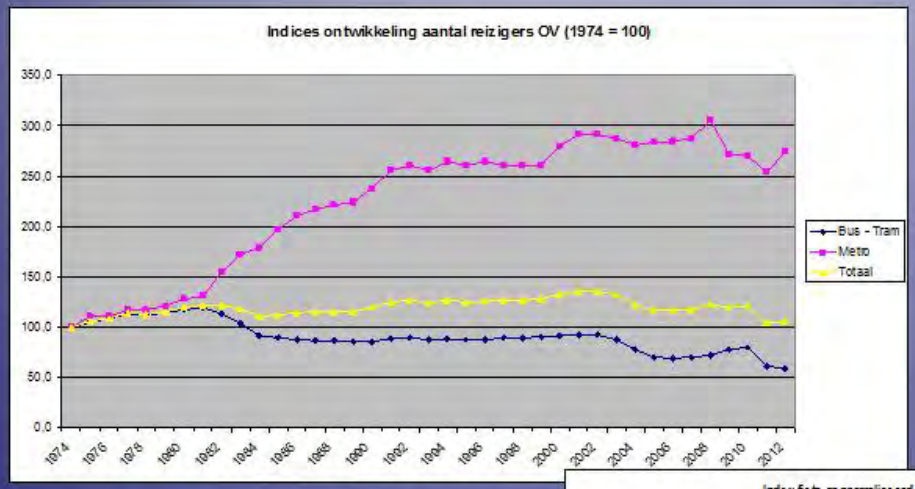
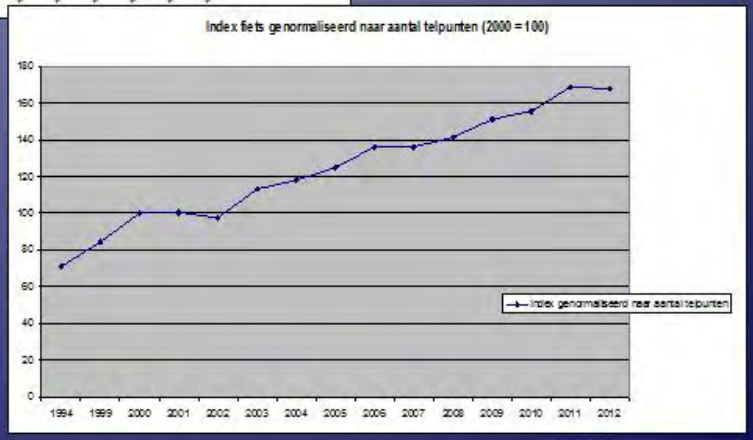
Rotterdam Statistics

Growth of Public transport and bikes





Reference: City of Rotterdam

End of Trip Needs

- **The bicycle parking user needs**
  - At the right spot
  - Easy to use: better ergonomics
  - Not hurting the user, or damaging the bicycle
  - Protection against theft
  - Protection against vandalism
  - Weather protection
  - Durable
  - Preferably for free or at low cost

Reference: Dutch Cycling Embassy

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The Measuring Bike

Reference: Dutch Cycling Union

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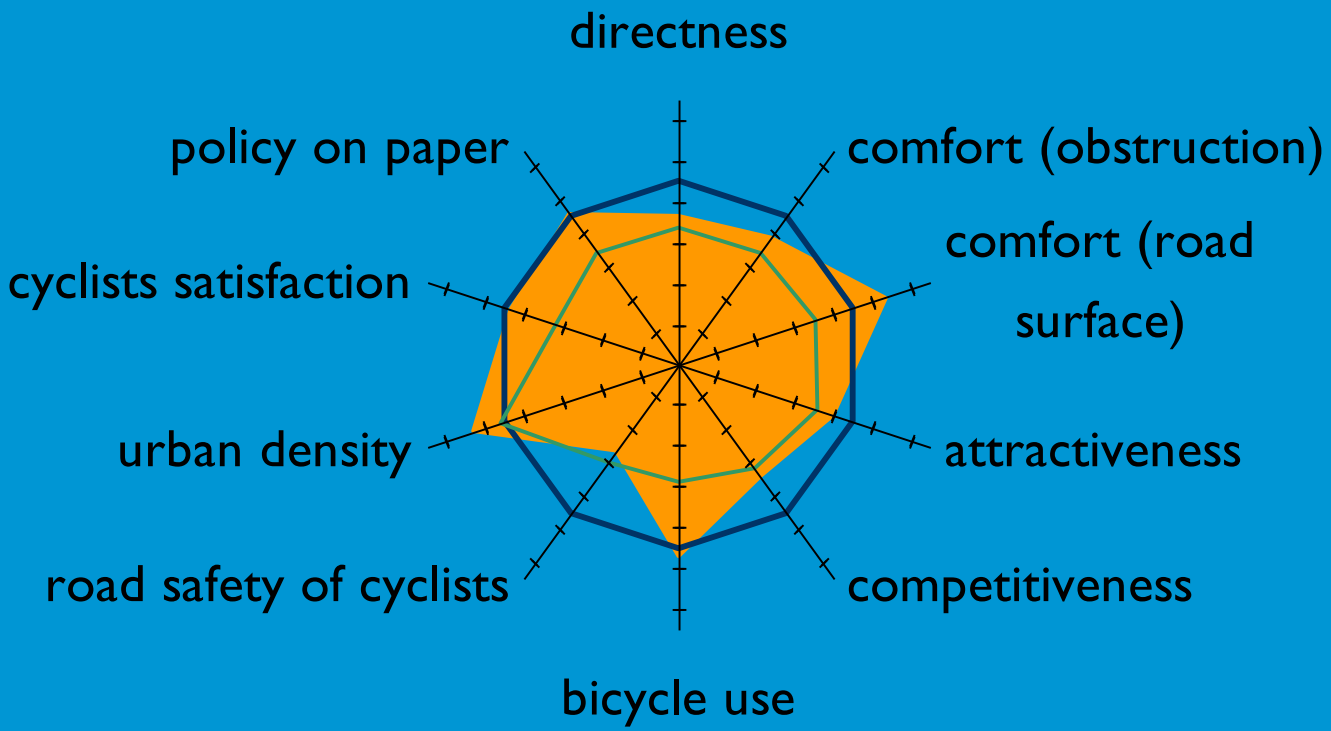
Measuring Bike Output



Reference: Dutch Cycling Union

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Red Lights Don't Apply to Cyclists

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Narrow Streets

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Medieval Street

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Separated Path Example

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Cycling and Pedestrian Path

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Street Pre-treatment

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Street Post-treatment

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Sealed Shoulder Example

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Sealed Shoulder with Pedestrian Crossing

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Replacement of Separated Path

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Sealed Shoulder and Narrow Car Bays

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Two Way to One Way Conversion

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Typical inner CBD Distributor Road in Amsterdam

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Glass Panel Protection

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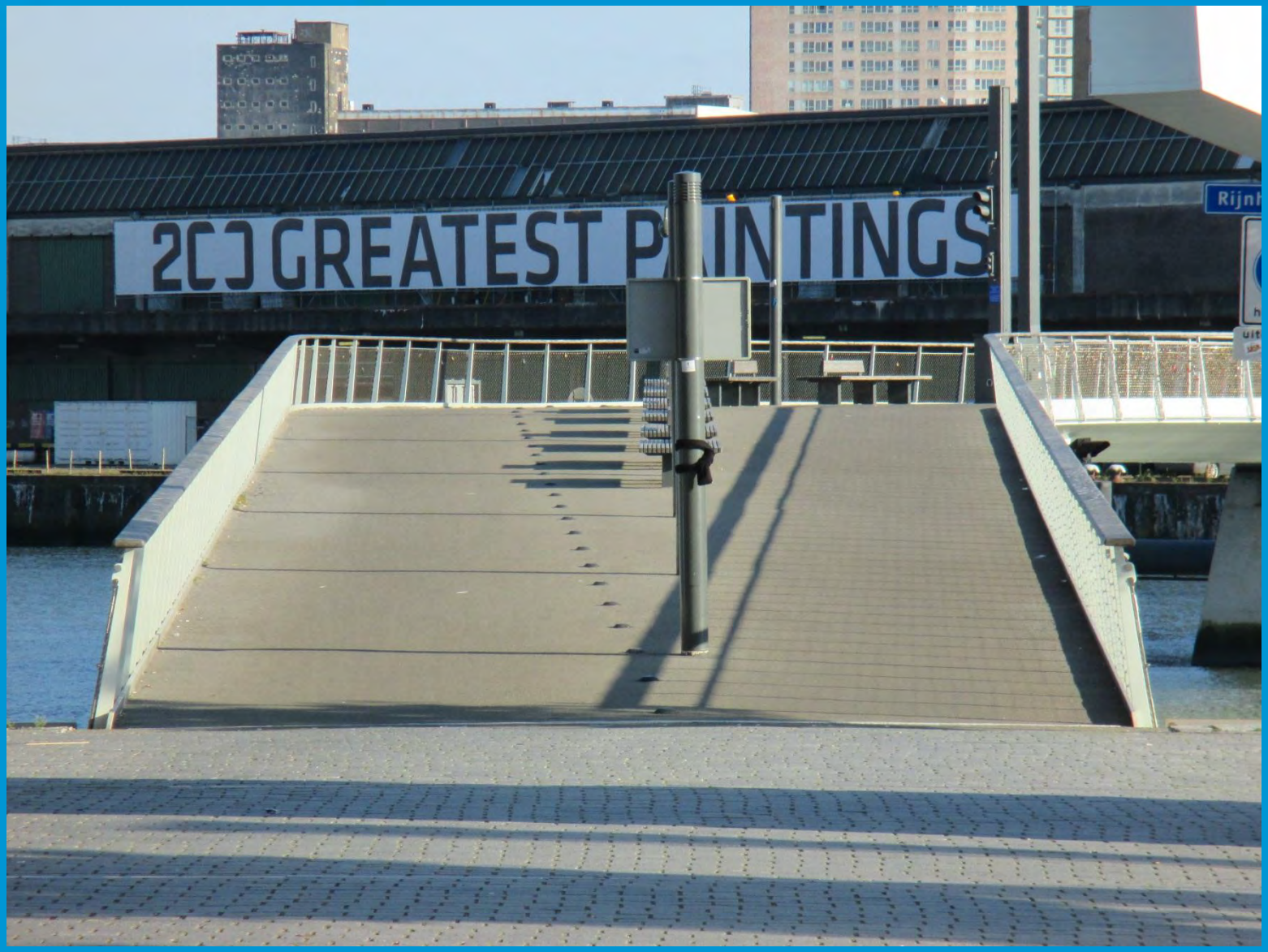
Shared bridge



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Cycle and Pedestrian Path Attached to Rail Bridge

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Speed Advice

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Universal Access

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Narrow Bus Route Road

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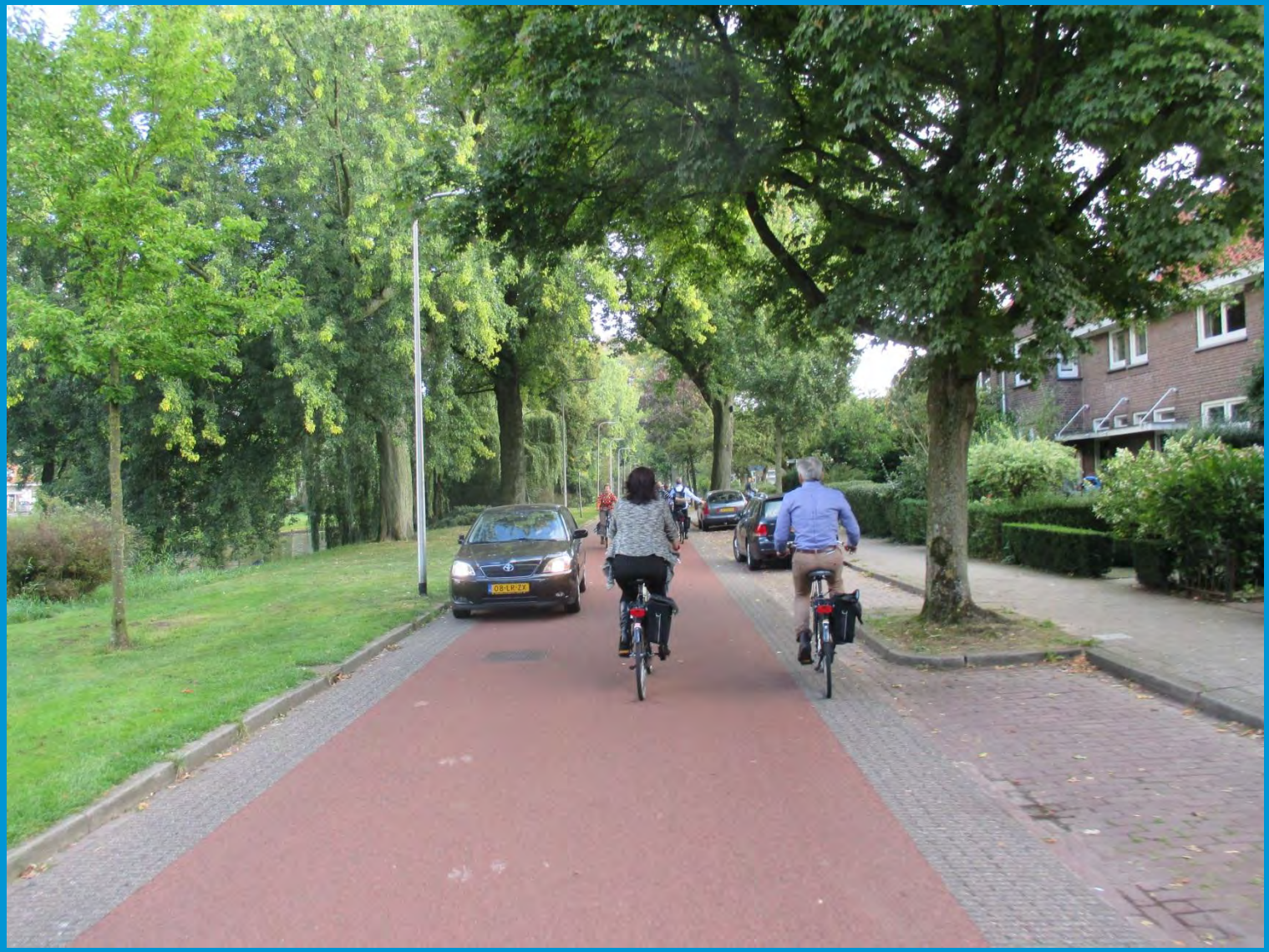
Narrow Street



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One Way Contraflow

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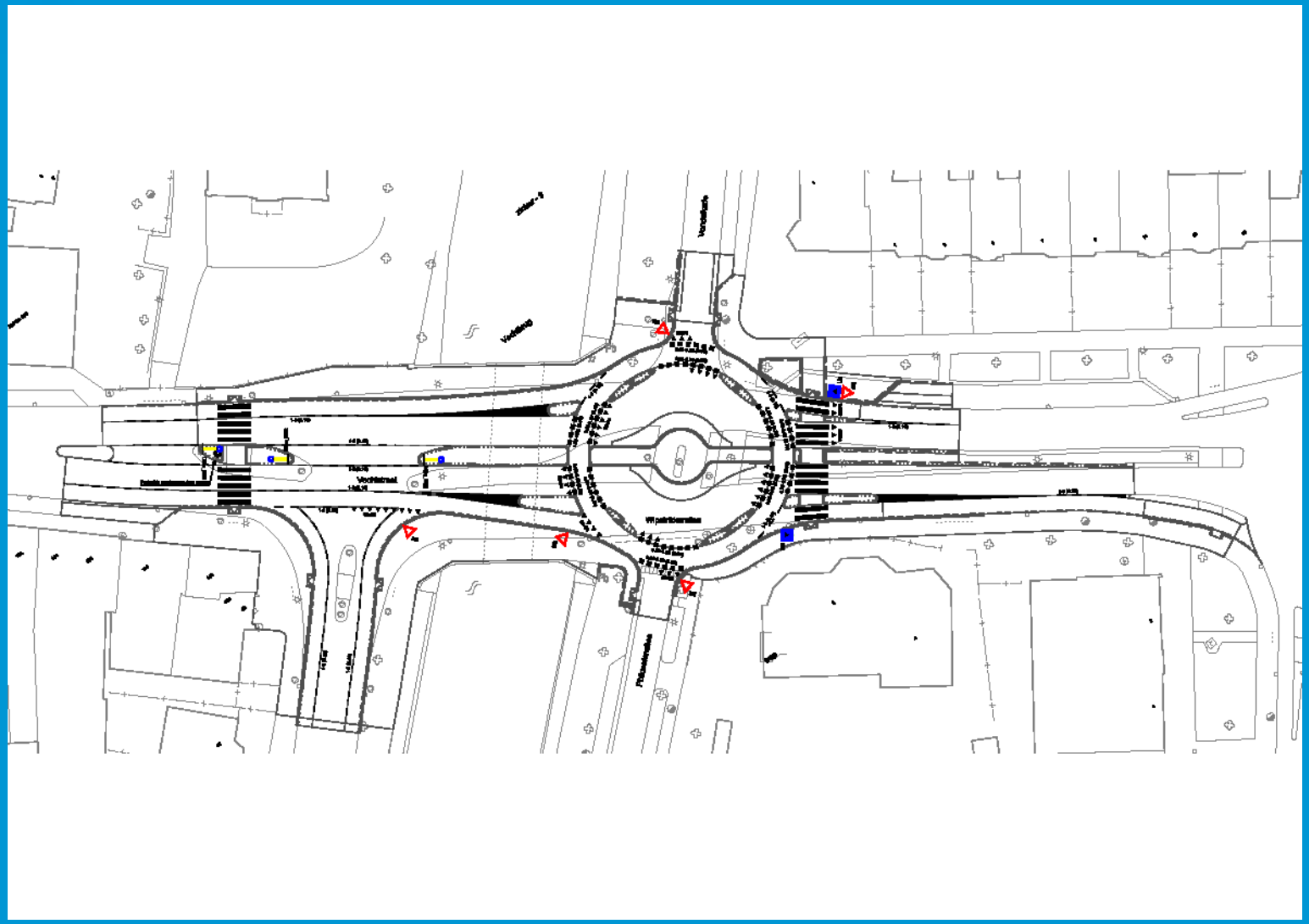
Cycle Roundabout Priority



Reference: Dutch Cycling Embassy

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Cycle Roundabout Priority

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Day Time Motorised Traffic Closure

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Day Time Motorised Traffic Closure

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Some Things are the Same

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In Shop Parking

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Busy Crossings Grade Separated

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Industrial Area Path

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Motivation

Motivation

Reference: Dutch Cycling Embassy

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Motivation

Reference: Dutch Cycling Embassy

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Motivation

Reference: Dutch Cycling Embassy

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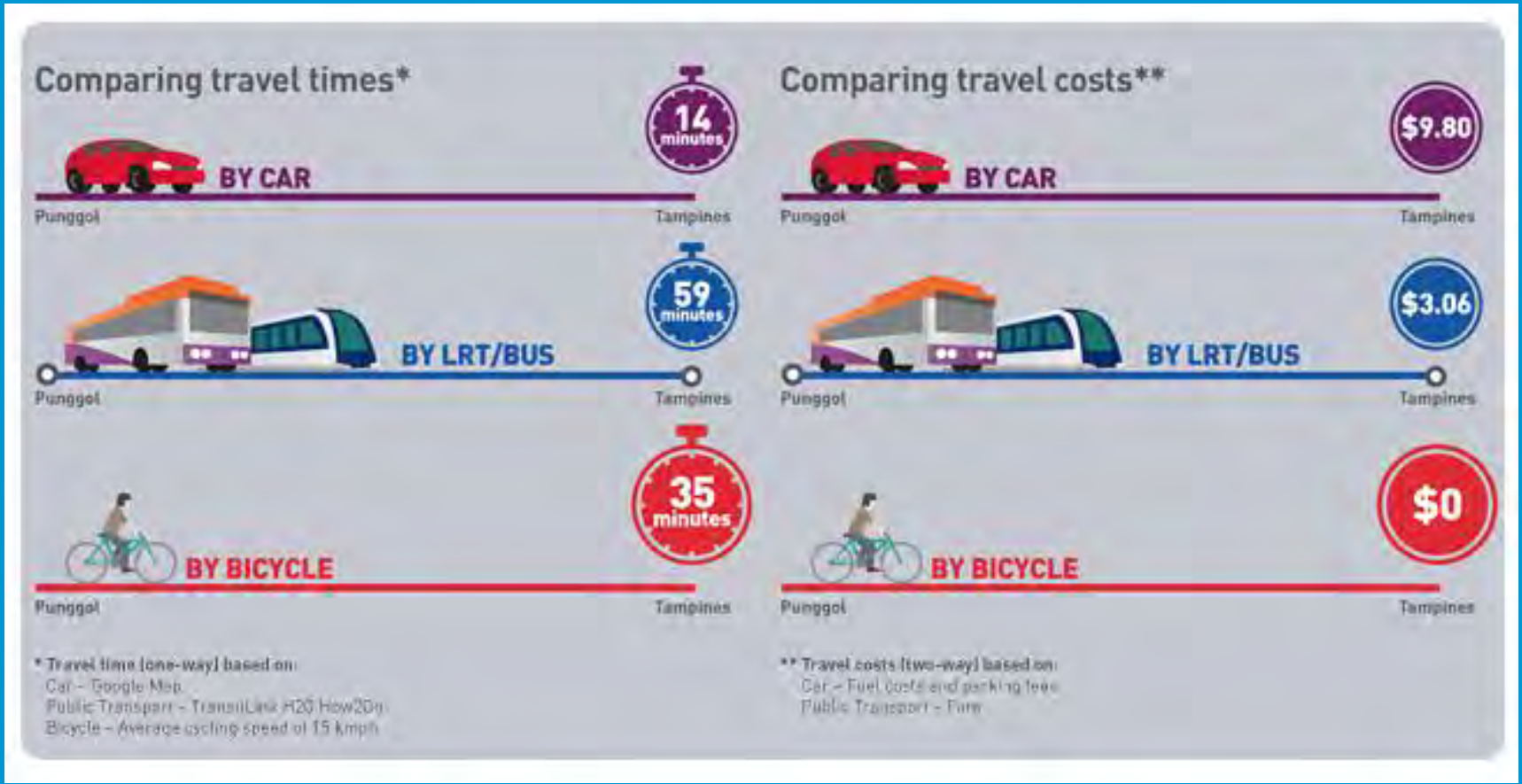
Comparison Between Modes



Reference: Dutch Cycling Embassy

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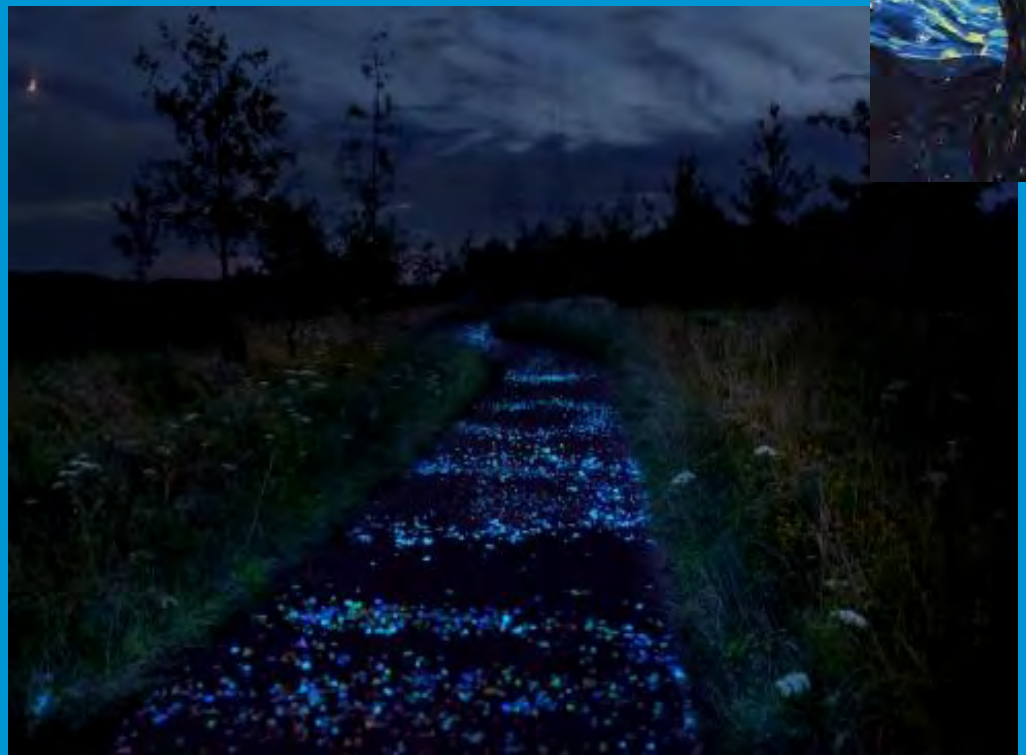
Van Gough Innovation



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Hovenring-Innovation

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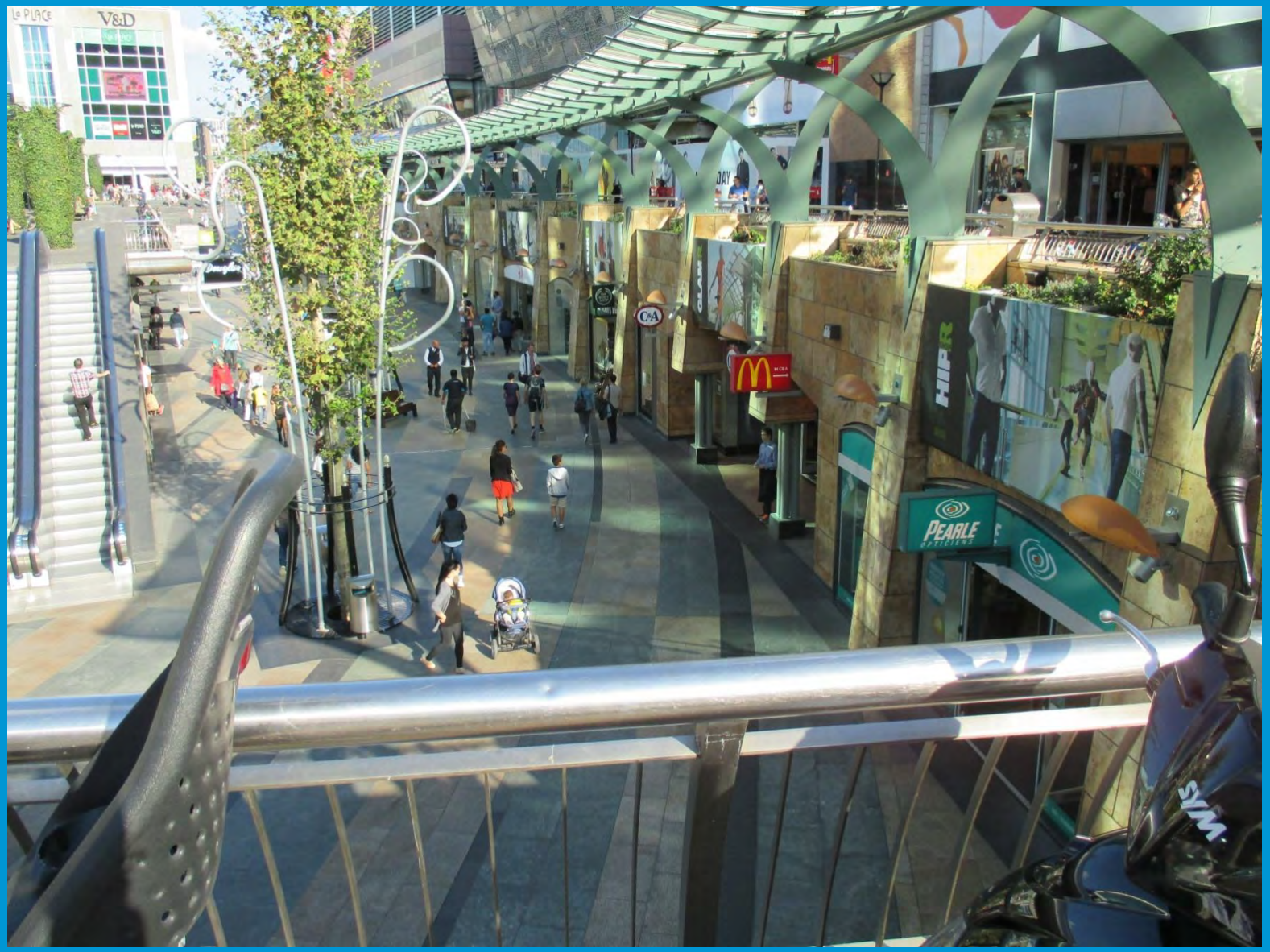
Underpass Activation



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Family Transport

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Family Transport

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All Ages Cycle

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People Focus

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Interaction

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2015 Tour de France Time Trial

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Dutch Challenges

- The speed of ebikes in congested cycling/pedestrian networks
- The need for regional paths to cater for the longer distances that ebikes can cover
- Funding for missing cycle path links
- Cycling congestion during peak periods
- The shortage of bike parking that does not dominate public space
- What is a 30km/h road and what is a 50km/h road

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Interesting Side Conversations

- WA had the largest bike network in the world in the 1890's in the goldfields
- First street directory in Australia was for cyclists
- Every colony had a cycling magazine
- The City of Sydney uses weekly intercept surveys to gather information with inducement via free coffee or bike repairs
- Bus drivers in the UK must undertake a week of bike training/education
- Truck drivers in the UK must undertake a day of bike training/education each year

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National Outcomes

- High level lunch for 150 in Sydney was held on 13 October
- Full day strategy meeting in first half of 2015
- RACQ to present at the AITPM 2015 National Conference
- Maintain network for sharing information
- Future delegations to be arranged

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WA Outcomes

- Report on findings released
- A few Dutch cycling books to review
  - CROW Design Manual for Bicycle Traffic
  - In the City of Bikes-Amsterdam Bike History
  - The Dutch and Their Bikes-Pictorial
- An innovations workshop will be held in March 2015

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Innovations Workshop in 2015

- To be run on 18 March
- Two Dutch experts will be flown in
- Approximately 100 attendees as follows:
  - State Government
  - Local Government
  - Advocacy Groups
  - Consultants
  - Interstate Practitioners
- Four key topics to be explored as per the following slides
- Pre workshop presentation on March 17

Review of Local Bike Routes

This will involve working up options for cycling facilities on local access roads of varying widths for brownfield and greenfield locations

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Facilities on Multi Lane High Volume Arterial Roads

This will involve the development of options that provide a greater degree of separation than the current sealed shoulder approach

Connections to Stations

This will focus a couple of sample stations with a 3 km radius of feed in routes and also facilities at the stations

Connections to Schools

This will focus on a reasonable catchment surrounding a couple of sample schools (probably 2-3 km's) with attention to what can be improved to increase cycling numbers on approach and also facilities within the schools

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Questions