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How Dutch cities made the turnaround in NMT & urban transport planning

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The Netherlands: small and densely populated



16.5 million inhabitants
483 inh./km²
18 million bicycles
26% bicycle use



*In 1940s and
1950s:
Bicycle most
important mode
of transport*

The 1960's (1945 – 1970: economic boom)

- Rapid growth of car ownership and car-use
1965: 600 km. highways.
- Plan: 5300 km. in 2000 (reality now: 2200 km!)

Local Policies: make room for the car

- > More roads, road expansion, demolishing houses, fill canals (ducts) for new roads **(India today!)**
- > More parking spaces in the cities and city-centres
- Close railway and tram lines
- No policies for cycling

1960s:

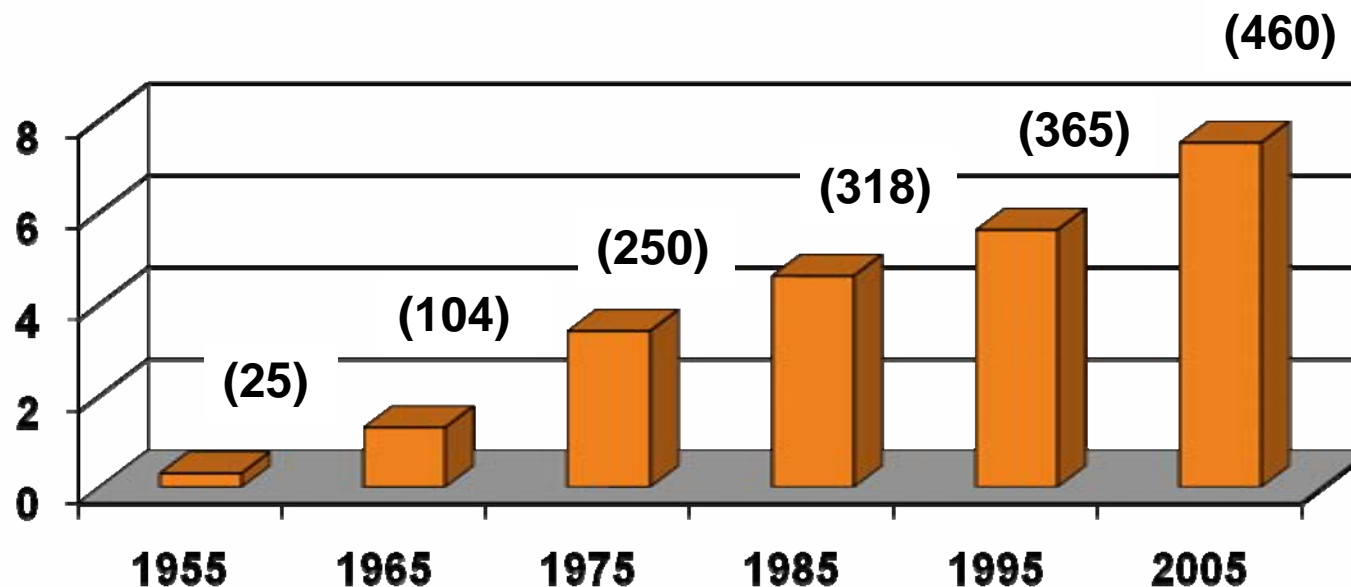
Wide one-way roads in city-centres



1960's and 1970's: mass motorisation

■ Millions of cars
(cars per 1000
inhabitants)

2011:
One car for every two people



**India now: \pm 70 cars / 1000 inh.
→ Netherlands in 1961!**

The 1970's

- Car-use and car-ownership keeps increasing
 - Increasing congestion on highways and in cities,
 - Parking problems in cities
 - Economic loss because of inaccessibility of cities
 - High accident rate (top 1972: 3200 killed)
 - The quality of life in cities deteriorates.
- Citizens and politicians start to become aware of these problems

Rise of Civil Society Organisations

- > Pedestrians association (1950's)
- > Stop the Child Murder (1970's)
 - > 1972: 400 children (<14 yrs.) killed (2011: 20 (<12))
- > Dutch Cycling Organisation (Fietzersbond - 1975)
 - > Started as an activists' movement
 - > National merging of local groups
 - > Opposing and challenging existing traffic and transport system

Public Policies in 1980's (and after)

National Policies:

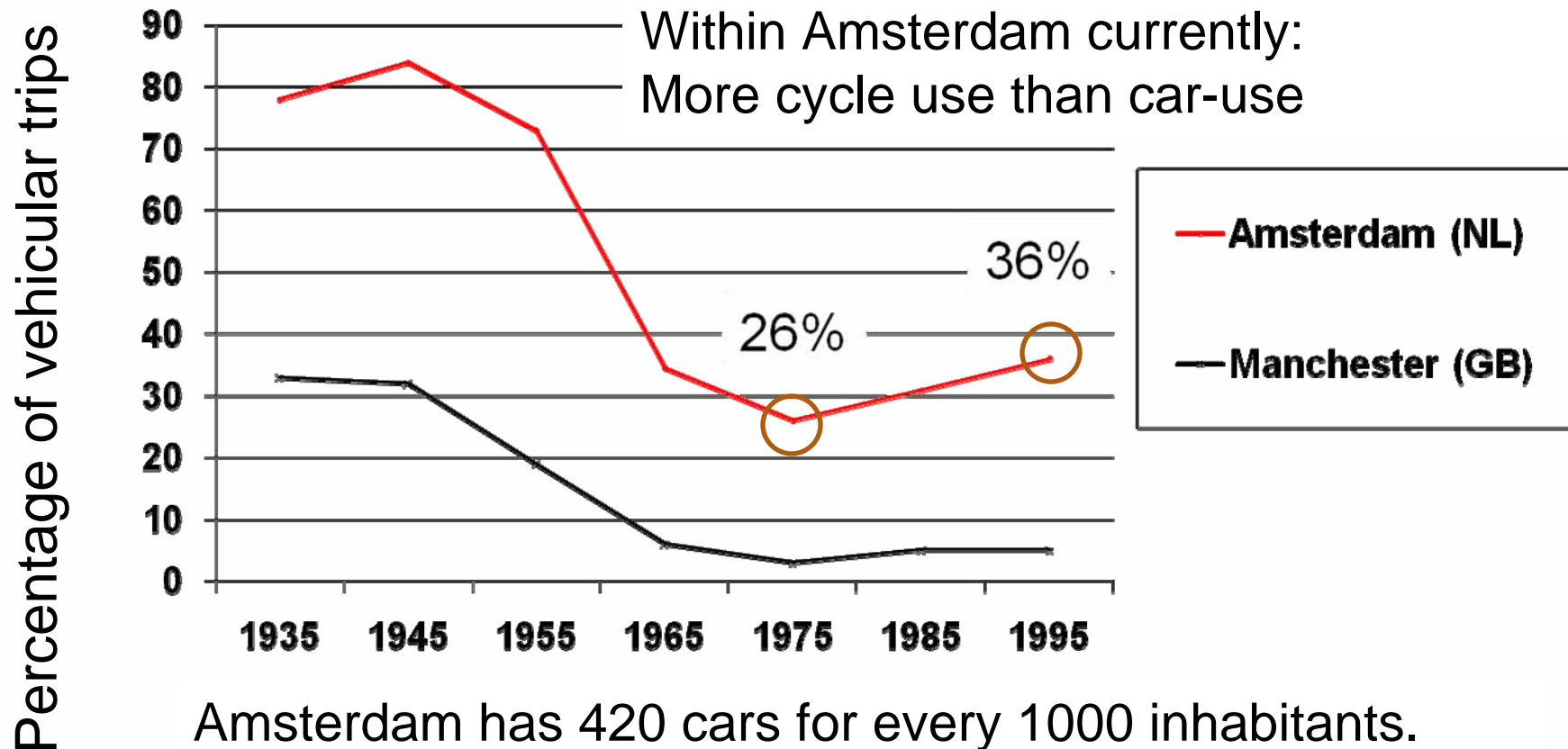
- Double the distance travelled by public transport between 1986 and 2012. Expand the network of railways. Curb the growth of car-use

Local Policies :

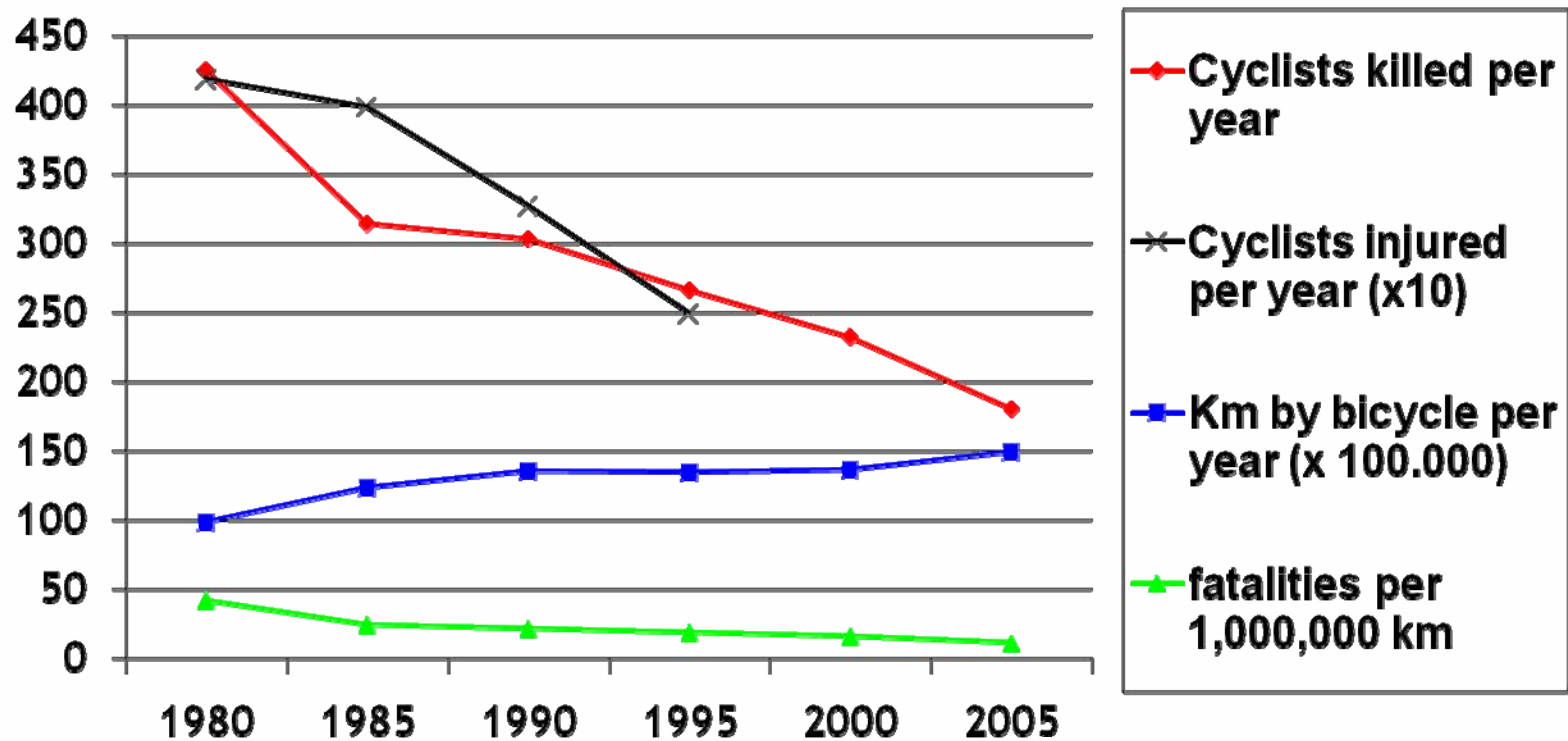
- Restrict car use, car accessibility and car parking in the cities; promote cycling and public transport.

→ Policies are officially no longer following the demand of car-traffic! **(e.g India: extrapolating growth)**

Since 1970's cycle use in cities increased!

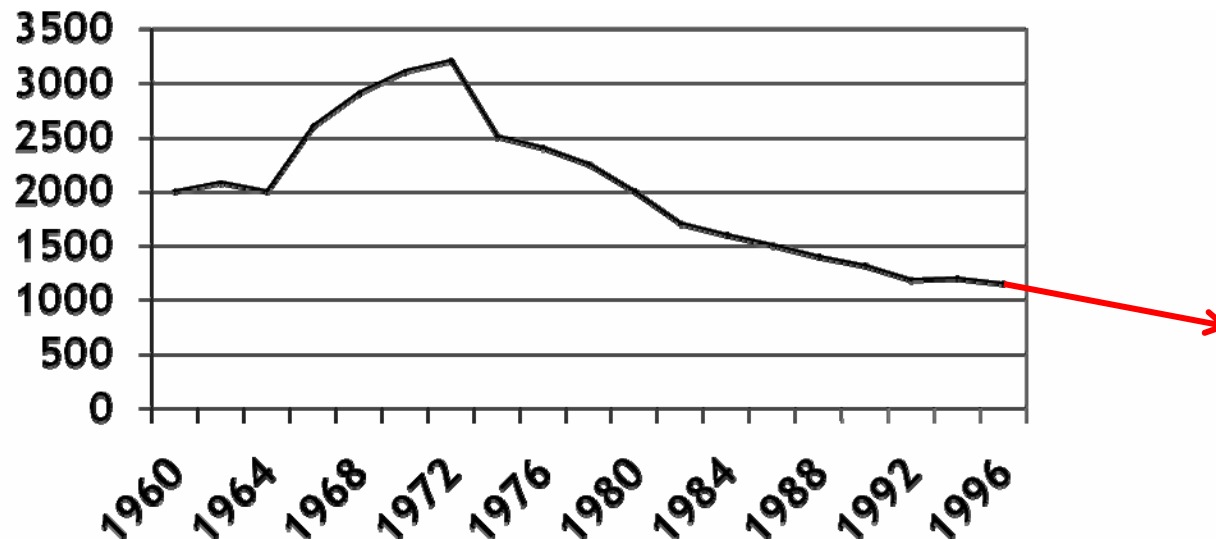


And while cycle use went up: accident rates fell



Less and less people killed in traffic since 1972

(While total traffic volume (kms) keeps increasing)



1972: 3200 people killed in traffic

2007: 791 people killed in traffic (8,9 per 100,000 MV – India: 121)

Amsterdam (750,000 inh.) 2009: 12 people killed in traffic.



2. How did 'we' do it?

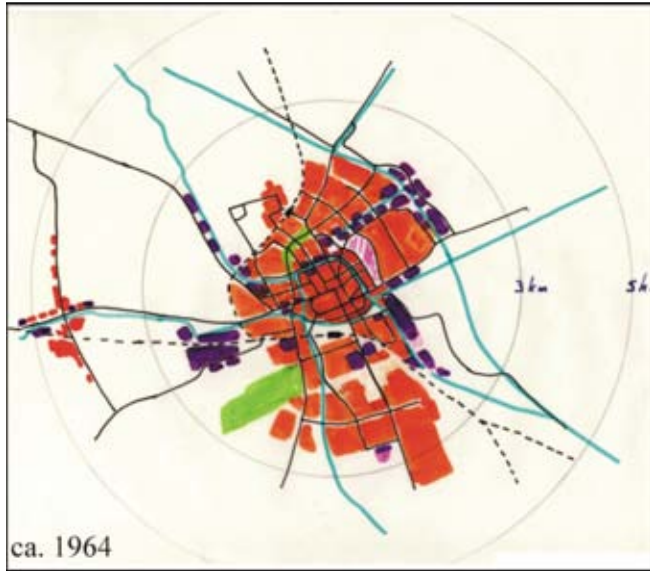
9 success factors for the turnaround

Success factors for the turnaround (1-3)

1. Plans and policies: Integrated and continuous pro-bicycle policies (year after year)
 - > Vision, objectives, specific targets (e.g. “max 20 % car-use in 2015”), studies (**India: issue**)
2. Stakeholders played their roles
 - > Citizens/users, politicians, experts/planners
3. Good land-use planning
 - > Mixed-use, compact city, no suburban shopping malls, integrating land-use and transport planning

The compact city: Groningen

1964



1980

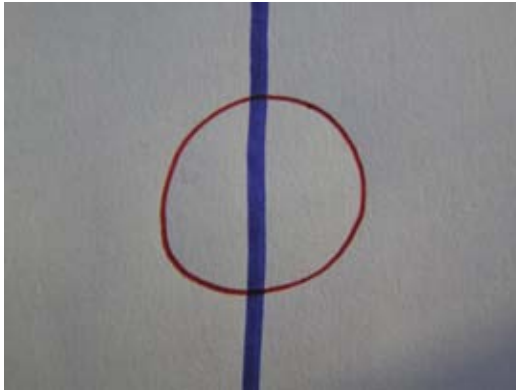


2000



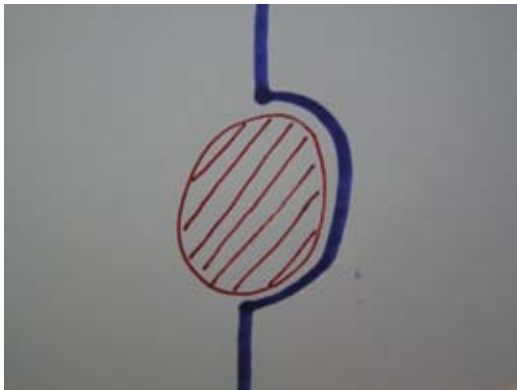
Success factors for the turn around (4)

- 4. Limited car-access into city-centres
 - > Restrictive parking policies
 - > No through-traffic
 - > Car-free streets and squares
 - > Limited and expensive car-parking
 - > Good public transport and NMT-facilities



Santiago

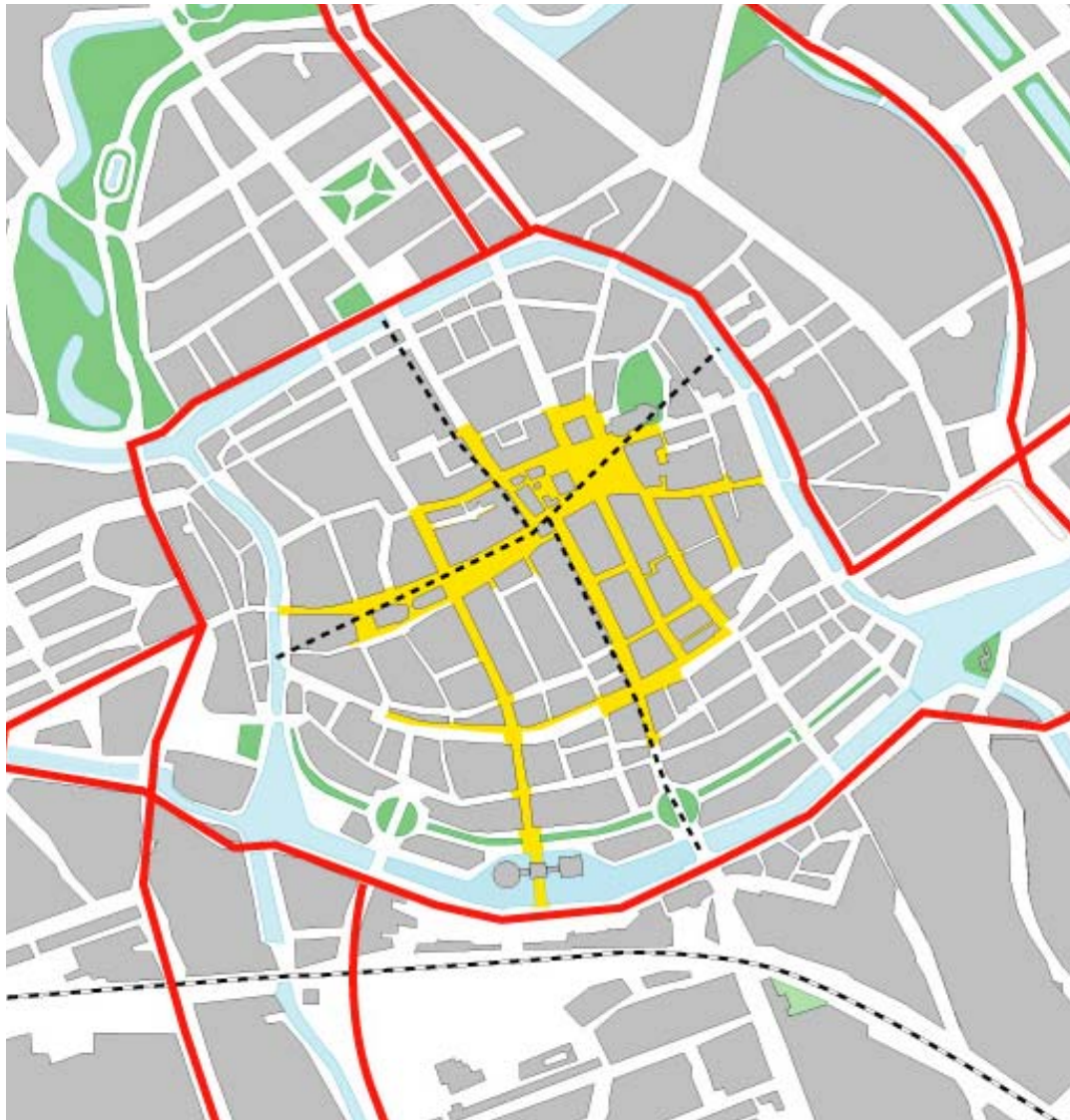
1. Private motorised traffic through city-centre



Utrecht (NL)

2. Through-traffic around the city-centre

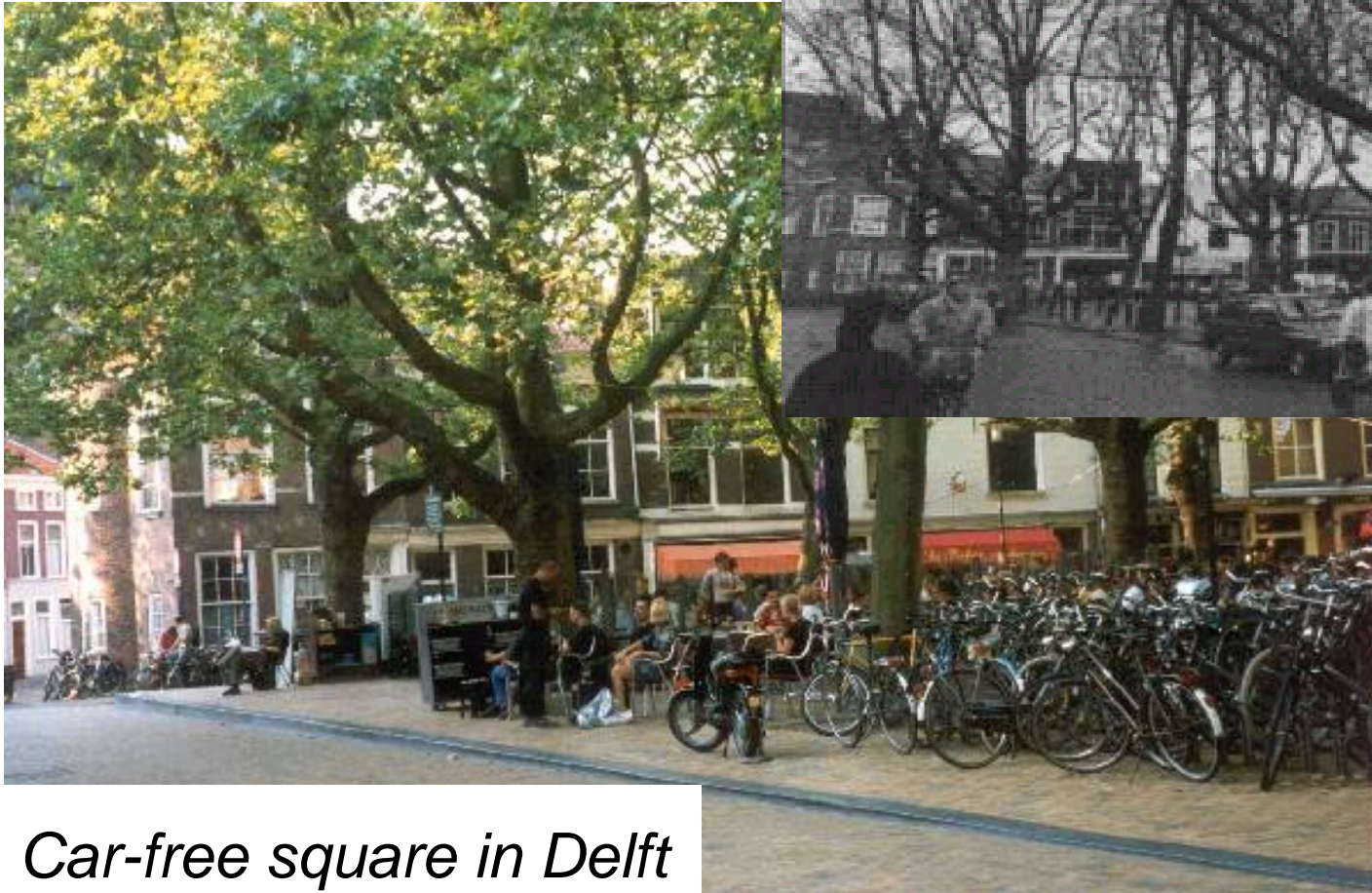
Car-free city-centre



Groningen, 1977

- > No through-traffic through city-centre
- > Later: More car-free streets added

Cycle parking replaces car parking



Car-free square in Delft

Groningen: City-centre



Busses allowed: cars not





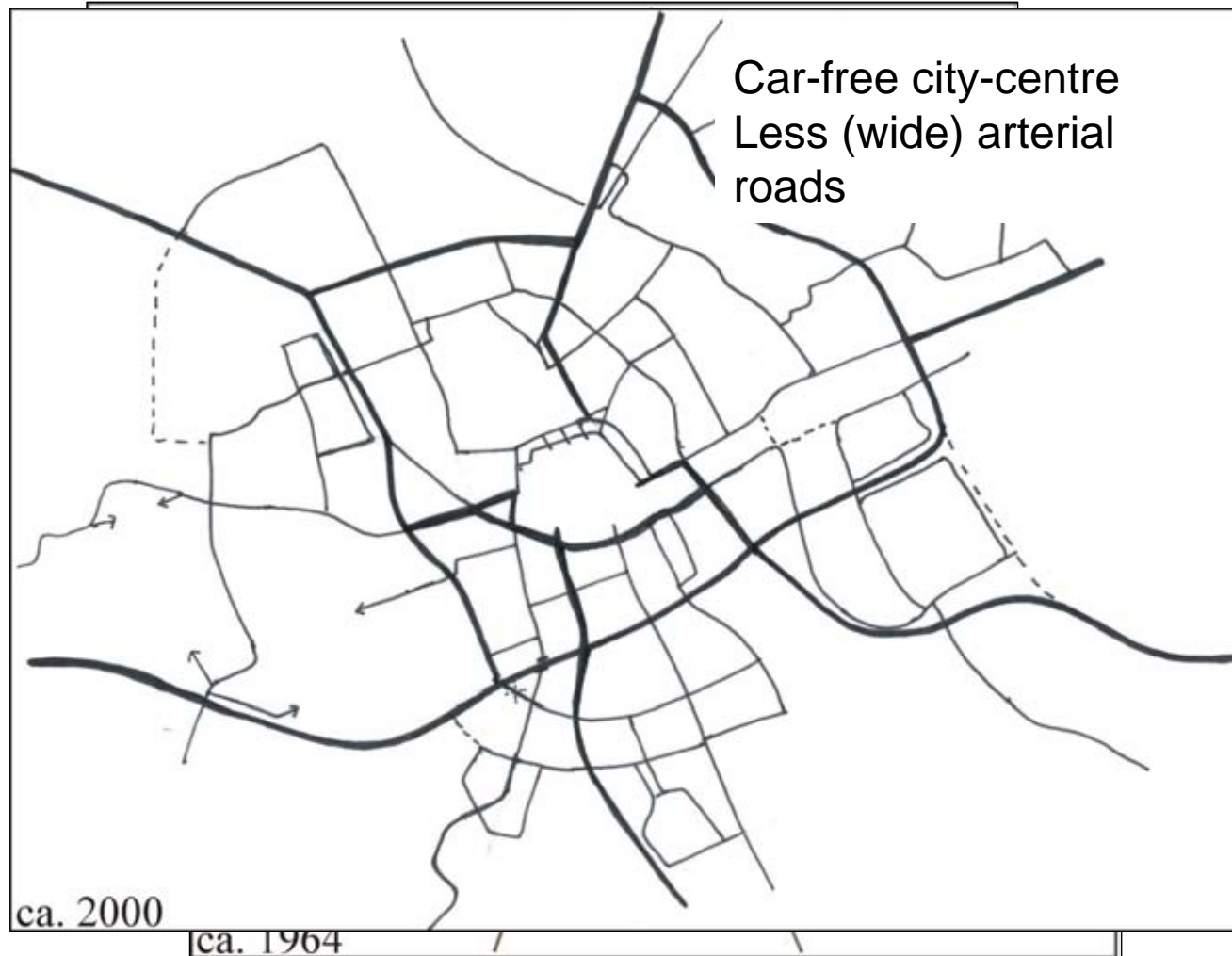
Now

Same location in city-
centre

Groningen is a success

- > 38% of all journeys by bicycle
- > 57% of all internal journeys is done by bicycle

Create areas with few cars



Arterial roads in Groningen

Groningen, now
only 2 PMV-lanes
(+ bus lane)





1984

Also: Completely removing roads from 60's and 70's

City of Utrecht: The canal comes back



2012

Success factors for the turn around (5)

5. ROADS: Limited road widths and lane widths,
reduced capacity of roads,
safe and NMT-friendly road-designs
- > Attracting less car-traffic
 - > Easier crossing
 - > Safer for cyclists and pedestrians
 - > Lower speeds
 - > Acquiring space for cycle infrastructure

A brand new road in Pune



- > Attracting more motorised traffic
- > High speeds
- > Difficult to cross → Discourage walking and cycling

Amsterdam

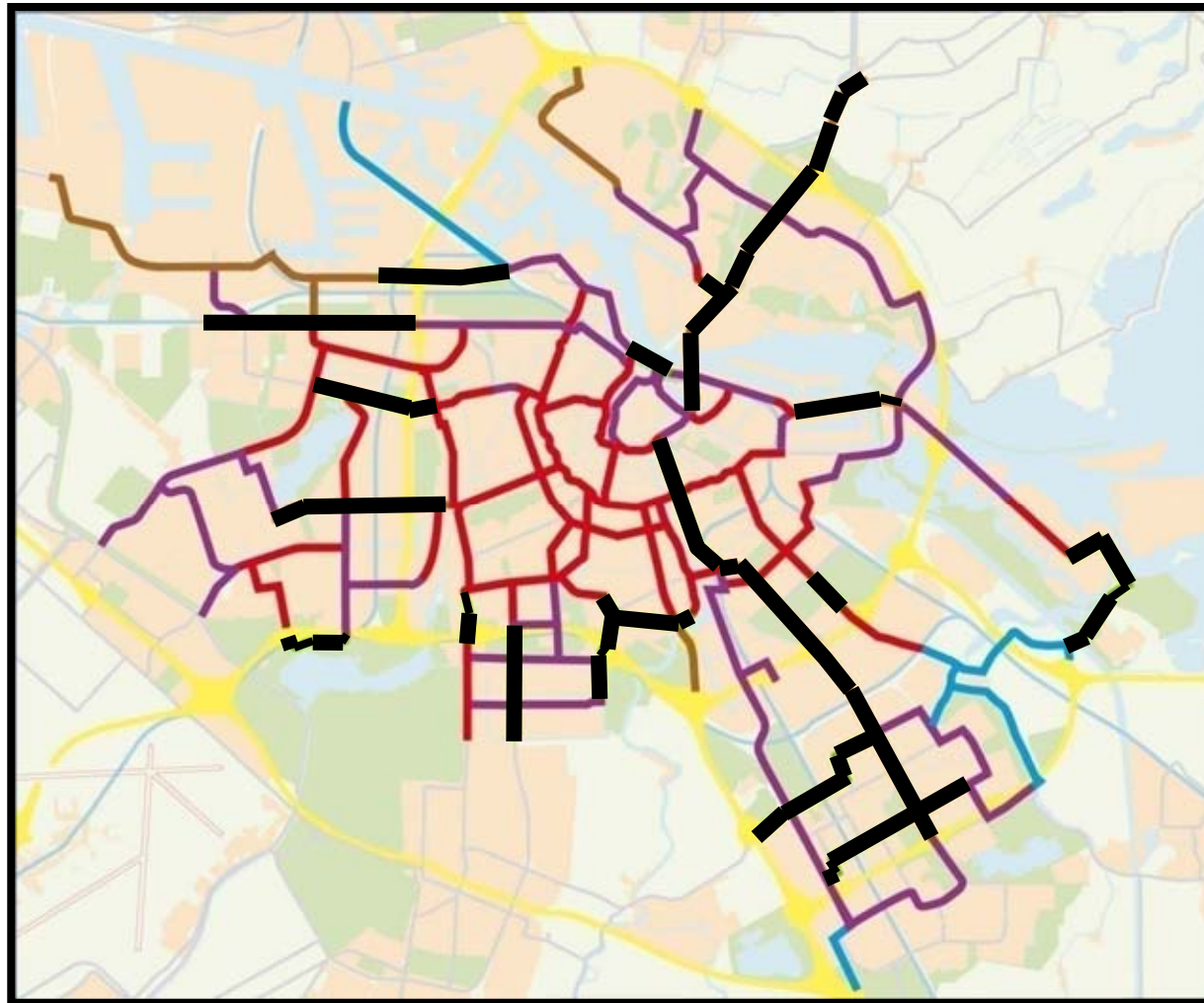


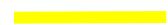

From 4 lanes for cars to 2!

- > Space where lanes were still there
- > Now traffic moves better!



Road widths in Amsterdam (2005)



	Highway (ring road):	2 x 4 lanes
	Urban Arterial:	2 x 2 lanes
	All other roads:	2 x 1 lanes

- > No 6-lane roads inside the city
- > Very few 4-lane roads
- > No flyovers inside ring road

From 2 MV-lanes to 1 MV-lane



Safe road design (1 lane + median)



Success factors for the turn around (6)

6. ROADS: Dismantled multi-lane one-way systems and remove slip roads
- > Less detours (for cyclists)
 - > Lower MV-speeds
 - > Safer for cyclists (dangerous weaving and free-turns for cars)
 - > Every intersection is different

Dangerous multi-lane (2-3) one-way systems with free turns



**In India still
made now!**

Success factors for the turn around (7)

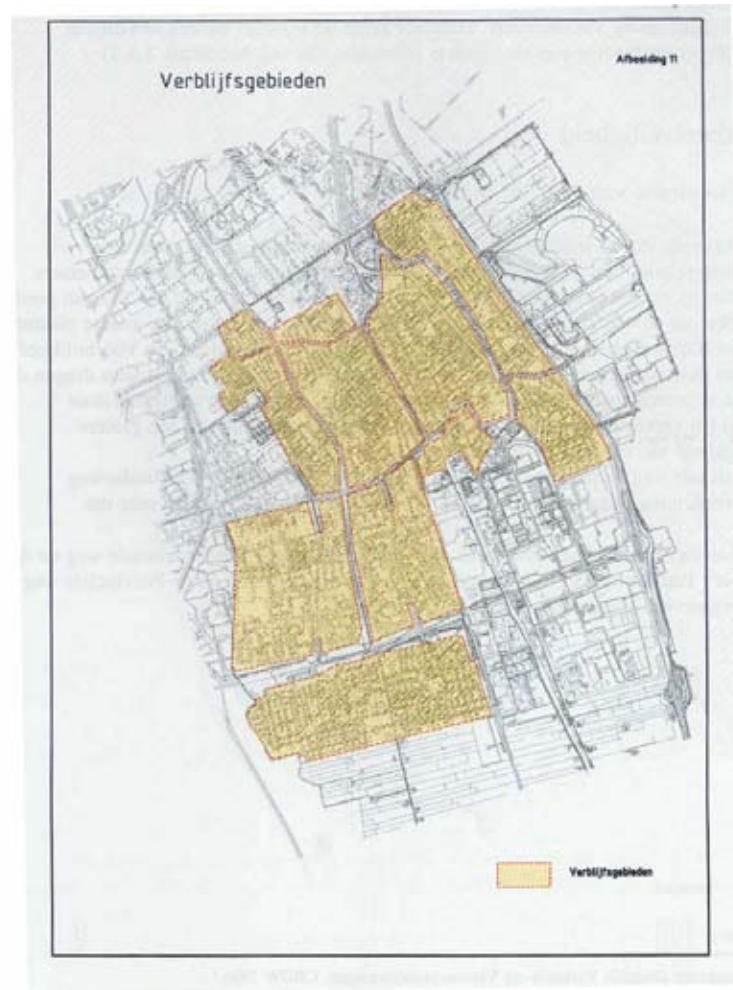
7. Reduction of traffic speeds

- > Narrower roads
- > Lower speed limits in cities
- > 30 km/h areas
(50% of streets)



30 km/h zones

Delft



More than 50%
of the city!



*30 km/h
with ramps*

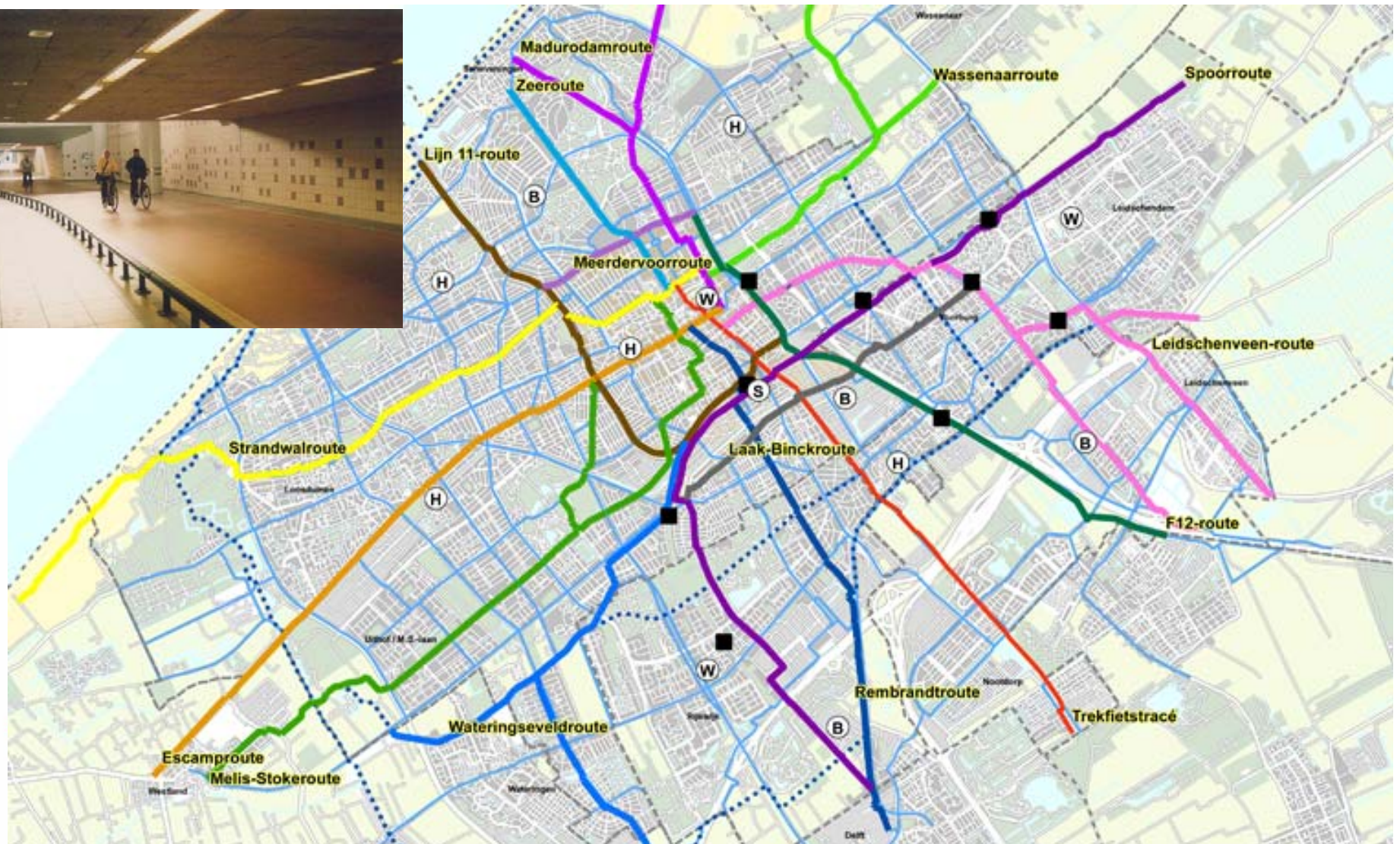


Success factors for the turn around (8)

8. Networks of high-quality cycling (and walking!) infrastructure (**problematic in India**)

- > Continuous and coherent networks
 - > Direct routes
 - > Safe
 - > Comfortable
 - > Attractive
-
- > Routes, not just cycle tracks
 - > Cycle parking facilities

Bicycle network The Hague



Cycle tracks in Groningen



One-way cycle track



One-way cycle track

Low curb



Nijmegen

One-way cycle tracks ("Copenhagen" design)



Where there
is no parking

Two-way cycle track and BRT



Nijmegen

University area Nijmegen

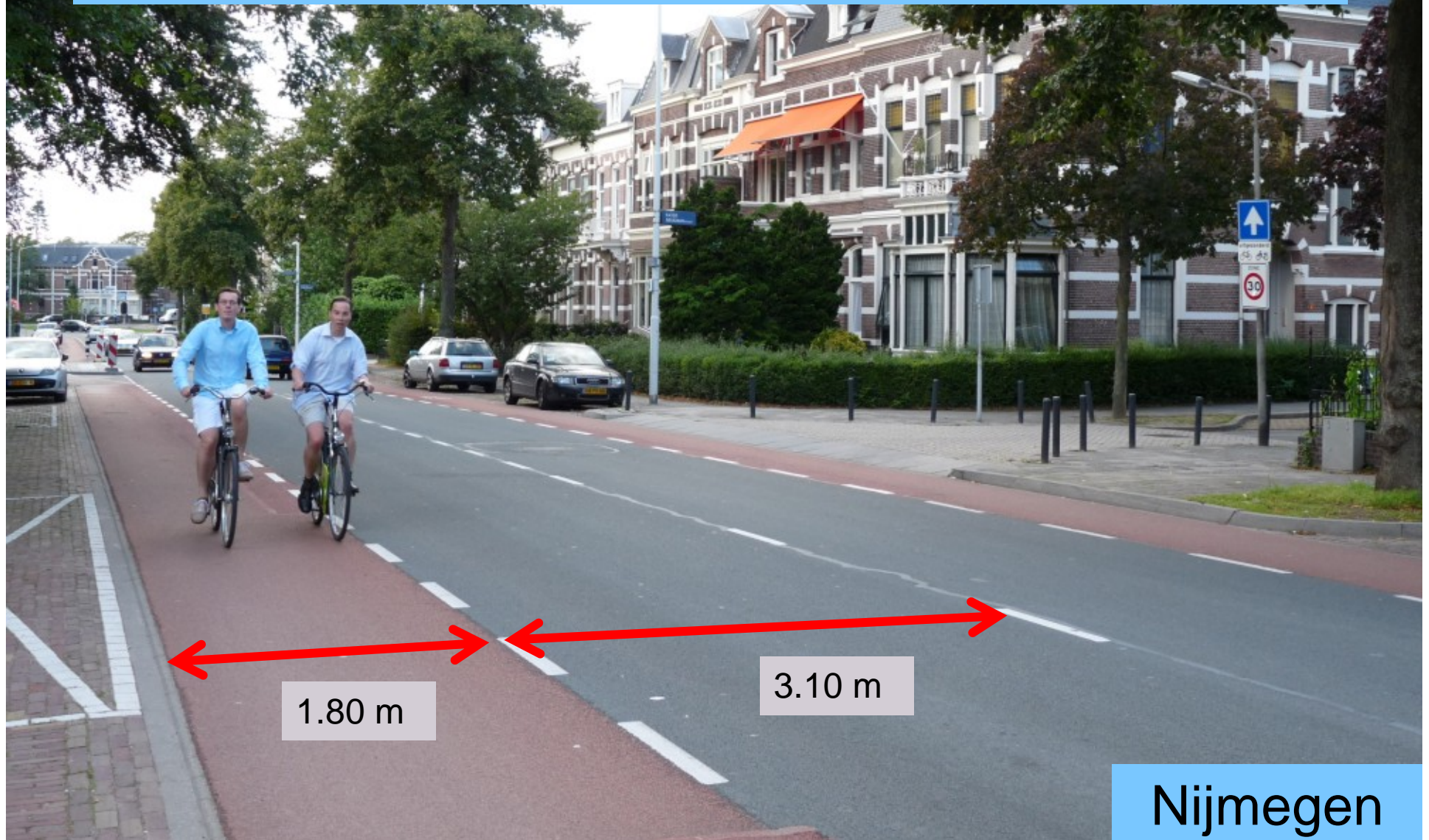


*Bridge for
cyclists and
trains only*



Nijmegen

Cycle lanes (50 km/h collector road)



*Cycle street:
shared use with priority for cyclists*

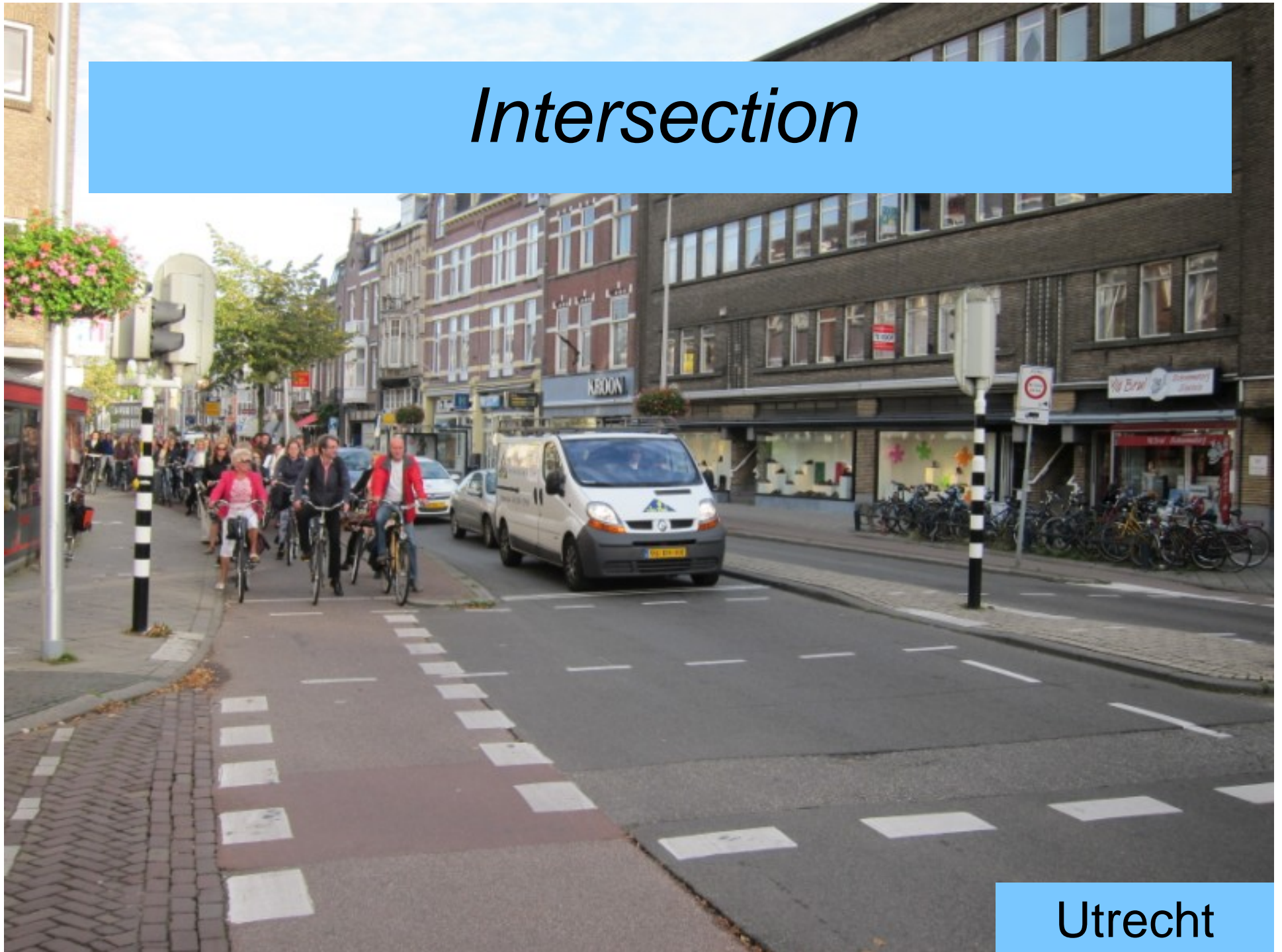


Houten

Traffic lights for cyclists



Intersection



Utrecht

A well designed intersection



Nijmegen

Roundabout: priority for cyclists



Nijmegen

Bicycle parking



Groningen station now



4500 bicycles

Another station



Double layer



Utrecht

Success factors for the turn around (9-10)

- 9. Education, promotion, legislation and enforcement
- 10. Providing budget for NMT-planning
 - > City of Zwolle: 20 years: 10% of infrastructure budget for cycling!

In short

1. Decide where you want to go and plan for that
2. Citizens – experts – decision makers are all needed
3. Make car-free city-centres and restrictive car-parking policies
4. Design narrow(er) roads and dismantle one-way systems to discourage car-use and make NMT safer
5. Plan and design quality for the bicycle
6. Take care of promotion, legislation, enforcement and budget.

Everyone cycles in The Netherlands



Prime Minister Mark Rutte leaving the Royal Palace
(The Hague, March 2012)

Finally

India does now what we did in the 1960's

We changed course

So can India!



Thank you for your attention!

Contact: buis_j@yahoo.com for questions or further cooperation