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

2011:
One car for every two people

India now: ± 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 (Fietsersbond - 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!

Within Amsterdam currently:
More cycle use than car-use

Amsterdam has 420 cars for every 1000 inhabitants.
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
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
1. Private motorised traffic through city-centre

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

Car-free city-centre
Less (wide) arterial roads

Arterial roads in Groningen

Dutch Cycling Embassy
Groningen, now only 2 PMV-lanes (+ bus lane)
Also: Completely removing roads from 60’s and 70’s

1984

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)

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

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

Nijmegen

Low curb
One-way cycle tracks
(“Copenhagen” design)

Where there is no parking
Two-way cycle track and BRT
University area Nijmegen
Bridge for cyclists and trains only
Cycle lanes
(50 km/h collector road)

Nijmegen
Cycle street: shared use with priority for cyclists

Houten
Traffic lights for cyclists
A well designed intersection

Nijmegen
Roundabout: priority for cyclists

Nijmegen
Bicycle parking
Groningen station now

4500 bicycles
Another station

Amersfoort
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

dia 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