DUTCH CYCLING EMBASSY

Integration of Cycling & Public Transport in The Netherlands

Tom Godefrooij > Kopenhagen, 1 October 2012

What I am going to tell

- Bicycle and public transport as a system
- Concept of ‘trip chain’
- Strengthening the links of the chain
- Bicycle parking facilities: a vital link

System weakness public transport

Brings you from a place where you are not
to a place where you don't need to be
(at a time that doesn't suit you)

+ Spatial efficiency
- Lacking door-to-door connectivity

Classification of transport modes	public	private
collective	Tra Bus Tram BRT Metro …	Charter transport –Company bus –Touring car –Charter plane Carpool …
individual	Taxi Rickshaw Public bicycle …	Walking Bicycle Moped Motorcycle Car …

+ Door-to-door
+ Individual needs
- Several, depending on vehicle characteristics

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

Cycling system characterisics

- Flexible
- High penetration ability (access to individual addresses)
- Fast on short distances
- Uses little space for parking
- Limited radius of action

Public Transport system characterisics

- High people carrying capacity
- Proper for longer trips
- Space efficient
- Inflexible
- Low penetration ability
- Requires feeder systems

Bicycle & Public Transport

> Complementary modes
> Only ***combined strengths*** can compete with private motorised traffic

Ideal Combinations

> Bicycle + Train
> Bicycle + Metro
> Bicycle + BRT (Bus Rapid Transit)

...on longer distances!!!

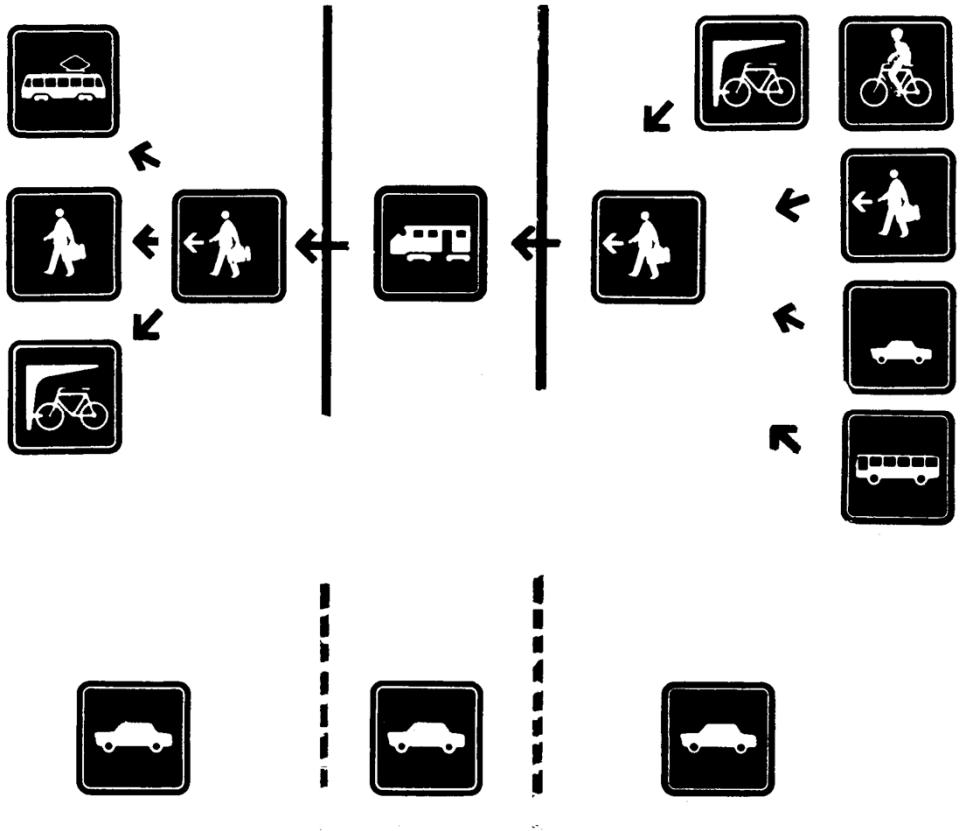
Why?

> Ratio feeder trip time / PT trip time
> Larger stop distances > faster speeds.

Concept of 'trip chain'

People travel door-to-door

- Each PT trip is a chain…
- …with at least three links

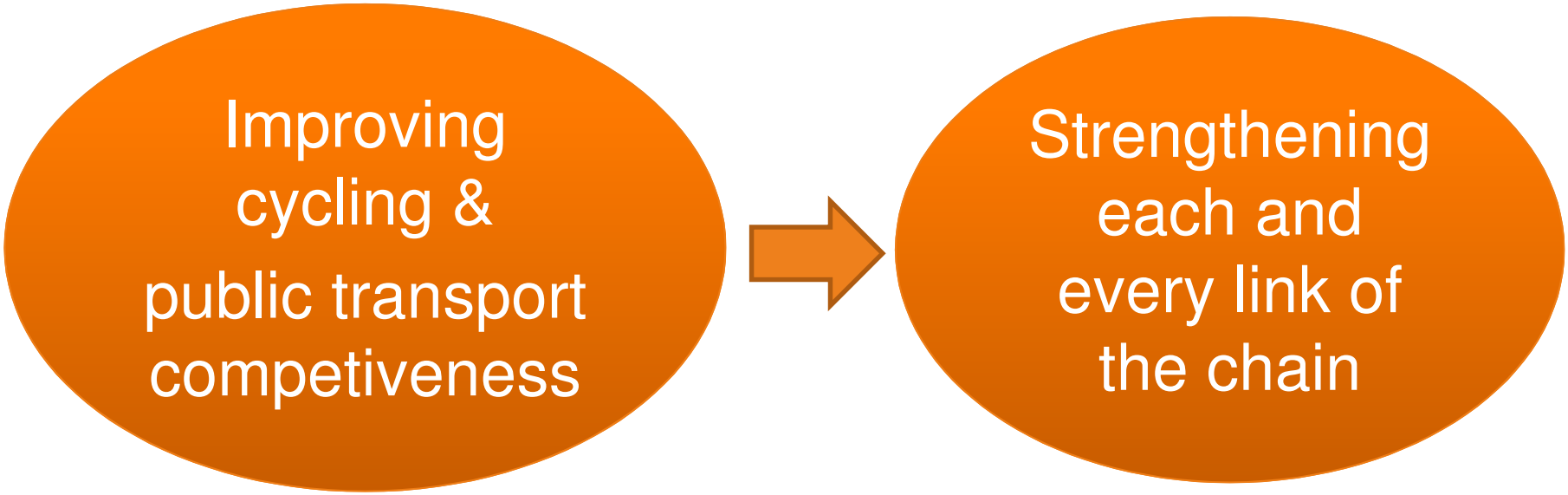


Feeder trip railway stations Modal Split NL

	Access trip (home – station)	**Egress trip (station-destination)**
Walking	24,2 %	47,7 %
Bicycle	38,9 %	12 %
Bus	23,2 %	26 %
Passenger of Car	5,9 %	7,7 %
Car Motorist	7,2 %	2,3 %
Others	0,4 %	3,4 %
Taxi	0,5 %	1 %
total	**100 %**	**100 %**

> 60%

A chain is as strong as its weakest link!!



Links to look at

access	> Access trip
transfer	> Transfer bicycle > public transport > Parking > 'Roll on roll off'
public transport ride	> Public transport ride
transfer	> Transfer public transport > bicycle
egress	> Egress trip

Access trip

access

transfer

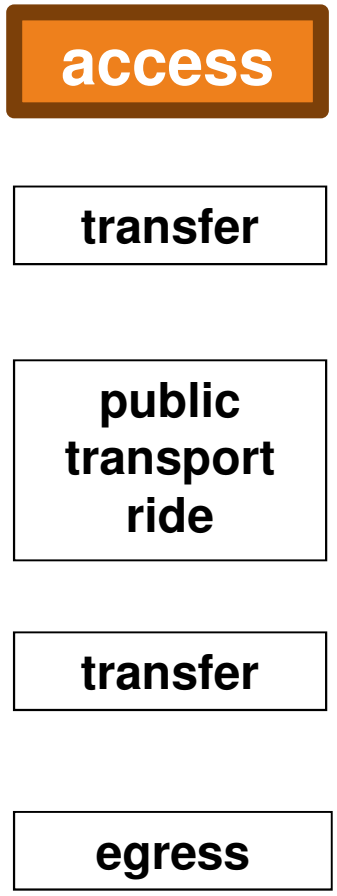
public transport ride

transfer

egress

- Public transport well connected with bicycle route network
- Minimise detours
- Minimise delays
  - Especially when coming near
- Faster cycling > larger catchment area

Access trip



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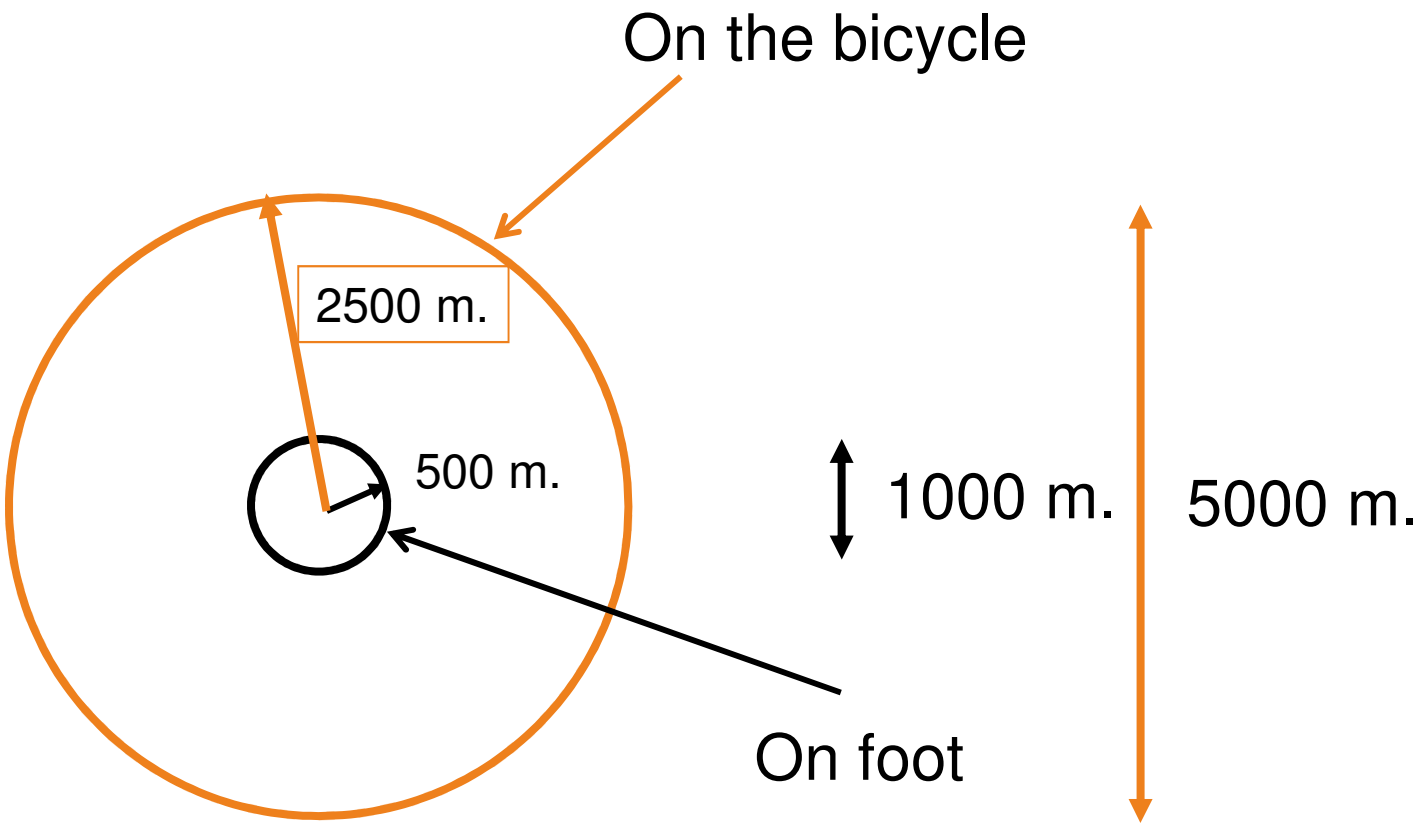
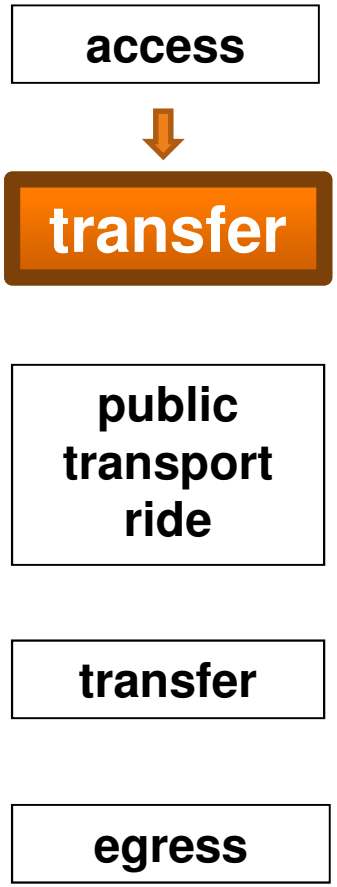
Enlargement of catchment area



Transfer bicycle > public transport (1)



Bicycle parking

> Location

  > Well connected to network

  > Short walking distance to platform

> Easy and safe to use

> Cheap

> Sometimes it is a trade off

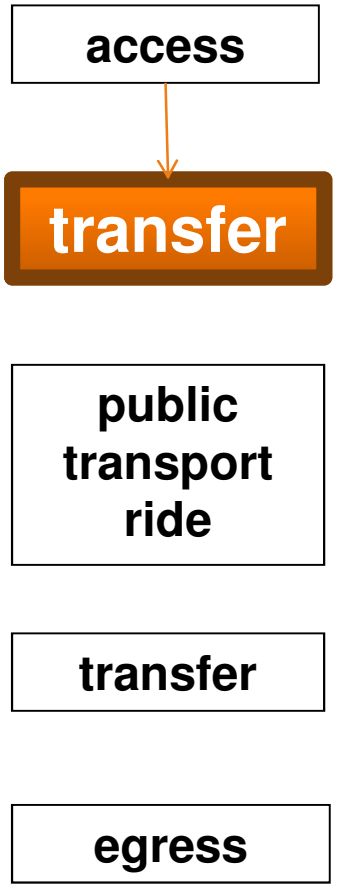
Station square lay out

- Joining of all routes and feeder modes
- Venue for services
- Competition for space

- Priority based on:
  - Numbers of mode users (ratio)
  - Occupation of space per individual (inversed ratio)


s-Hertogenbosch
fietsverhuur
bewaakt
parkeren
P
halen en brengen

Transfer bicycle > public transport (2)

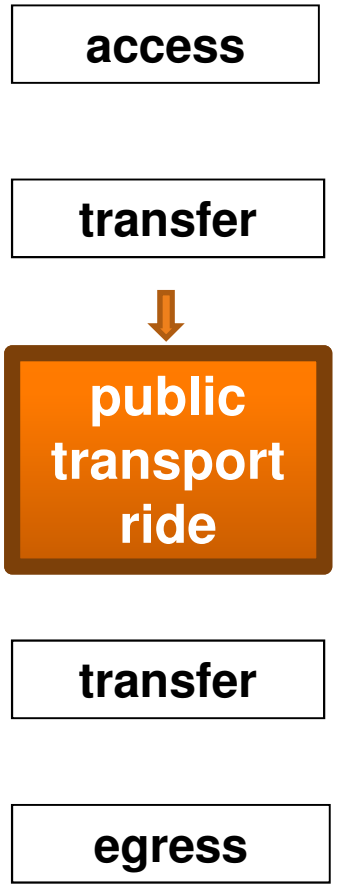


Roll on roll off

> Suitable public transport vehicles (compartments, racks)

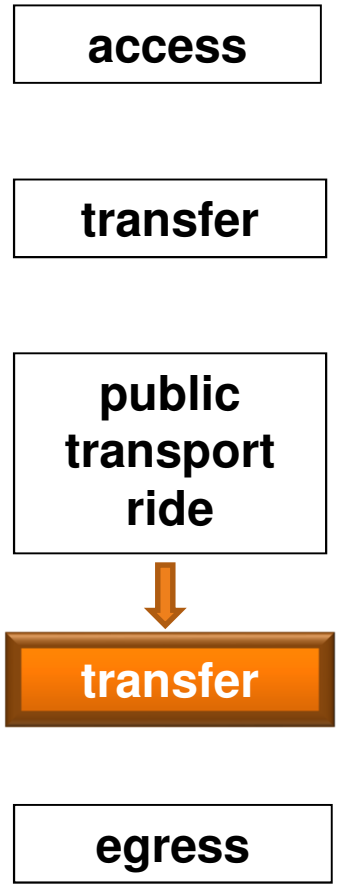
> Ramps, elevators, escalators (when appropriate)

Public transport ride



- A subject on its own…
- …in this context:
  - Stretching lines
  - Enlarging stop distances
- to optimise ratio feeder trip time and PT trip time
- thus enlarging speed of total trip

Transfer public transport > bicycle

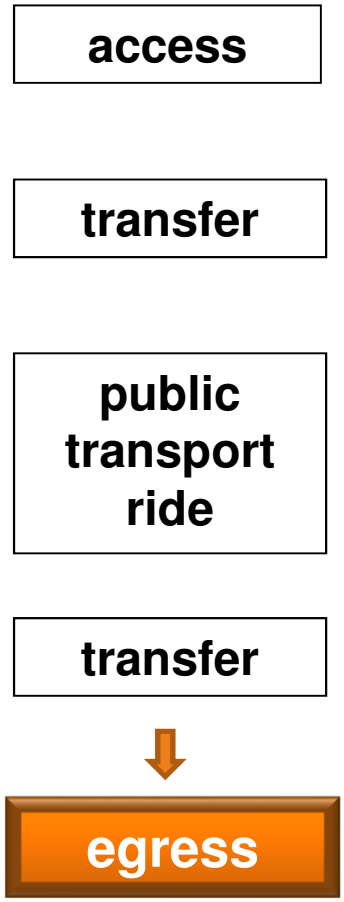


How to organise bicycle availability for egress trips?

- Bring own bicycle (‘roll on roll off’)
- Second bicycle (regular commuters)
- Bicycle hire services
- Public bicycles

Each option has its own market!!

Egress trips



- Similar approach as for access trips
  - Direct and fast bicycle connections to important destinations

OV-fiets (PT-bicycle)

- National public bicycles system
- More than 100,000 subscribers
- More than 1,000,000 trips
- Improved availabilty bicycles for egress trips

A vital link: bicycle parking

In many cases ***the*** missing link

Why a bicycle parking policy?

- No cycling without parking
  - Provide service to *existing* cyclistst
- Good facilities on the right spot
- Quality of public space
- Prevention of theft and vandalism
- Modal shift
  - Good facilities: more people cycling

Quality requirements

User needs

- At the right spot (close to home or destination)
- Easy to use (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

Offer various options

- Secured bicycle parking
  - Guarded
  - Lockers
  - Automatic systems
- Free parking

- Covered (weather protection)
- Open air

Users can trade off pros and cons

- Costs, walking distance, protection

Quality requirements

Managerial considerations

> Efficient use of space

> Easy maintenance

> Esthetics of public domain

Space efficiency can be an issue!

Secured bicycle parking

Indoor
guarded

Secured bicycle parking

Renovated facilities: Better ergonomics

Secured bicycle parking

Automatic entrance controll

Security

Lockers and boxes

Free bicycle parking

Typical facilities at smaller stations

Weather protection

Quality mark bicycle parking systems






Some examples of approved systems




Recent developments

- Huge investment programme
  - 400.000 increase of parking capacity
- Decreasing distinction between secured and free parking
  - Similar facilities
  - Guarded bicycle parking for free
- Also quality mark for two tier bicycle parking
- Tackling 'orphan bicycle' problems


Fiets weg?
Check eerst de AFAC!
024 - 6 499 599
afac-nijmegen.nl
AFAC


BIA KOSMAN

Summarizing

How to improve the bicycle - public transport system?

- High quality routes to and from the stations (cyclists and pedestrians)
- Transfer: good & well located bicycle parking
- Optimize public transport lines & stops
- Increase the availability of bicycles for egress trips (station → destination)
- Integration of the PT fare and parking with guard for the bicycle
- Allow to carry the bicycle in the train, metro or bus
- Continued investments required

Dutch Cycling Embassy

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