

# MIXED USE OF BUSLANES

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# MIXED USE OF BUSLANES IN BRUSSELS



## **Ministry of Brussels Capital Region**

### **Mobility Department**

- **Safety Audits Infrastructure**
- **Design cycle infrastructure on main capital roads**

## **Société des Transports Intercommunaux de Bruxelles (STIB)**

- **Design of infrastructure for Public Transport**
- **Possibilities multimodal busstops (park&ride, bike&ride)**



# MIXED USE OF BUSLANES IN BRUSSELS



- **HISTORY & PROBLEM**
- **LEGISLATION**
- **SOLUTIONS**
- **IMPORTANT ISSUES**
- **CYCLISTS & BUSES, MUTUAL RESPECT**

# MIXED USE OF BUSLANES IN BRUSSELS



## HISTORY & PROBLEM

In dense urban city centres public space is **LIMITED**

### Demand is high

pedestrians need sidewalks, cyclists need cyclelanes, public transport needs buslanes, car traffic is still growing and 'demands' more lanes and parking space

Main roads are to concentrate the main car flows  
(hierarchy of roads)



### Offer is low

The width of most of the *main* roads is insufficient to accommodate the requirements of all these users

Public transport is blocked by traffic

General decrease of commercial speeds of the buses (25km/h → 12km/h)

Lack of cycle infrastructure

Reduced width of pavement

...



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## HISTORY & PROBLEM

### Space is scarce = 'Offer is low'

The width of most of the *main* roads is insufficient to accommodate the requirements of all users

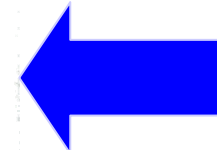
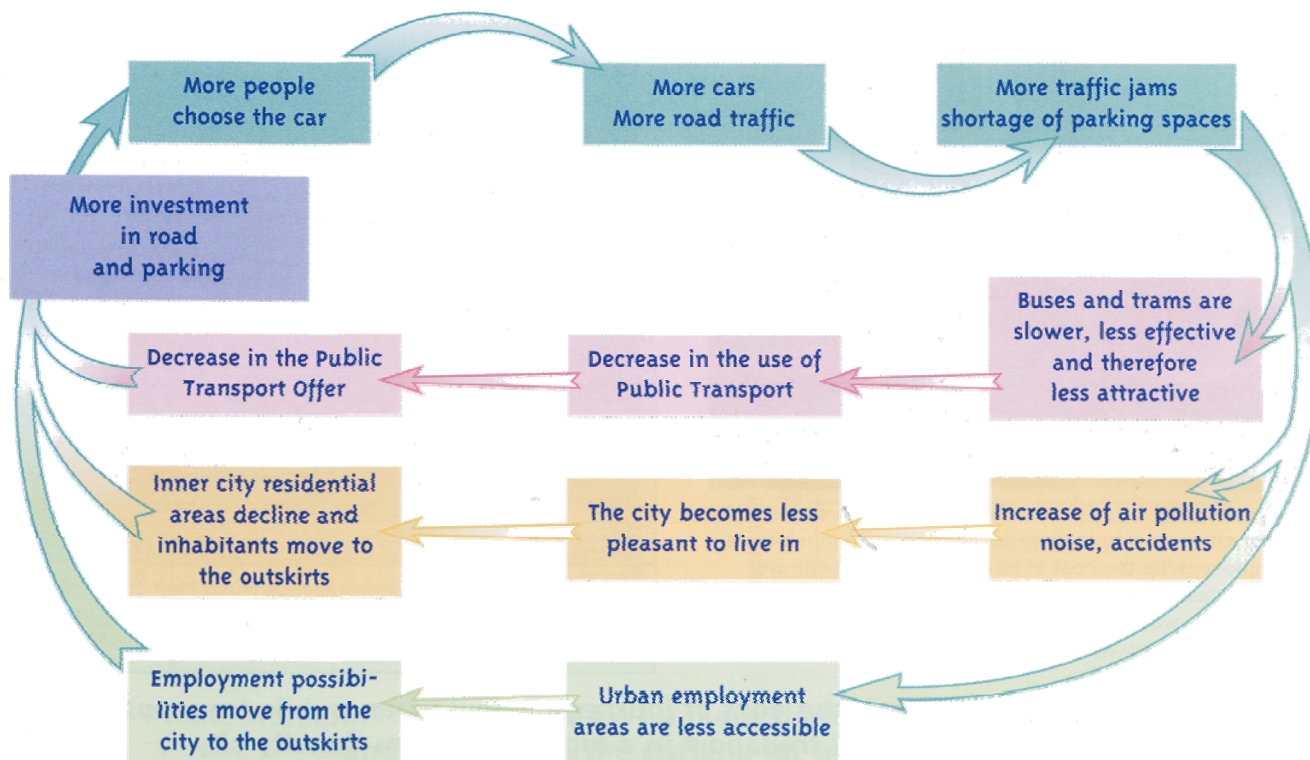
- Brussels only has a couple of very large 'avenues' where there is enough space for all users
- Very dense historic network of narrow streets
- Most other roads are relatively narrow (15-20m)
- Parking is omnipresent (and takes in a lot of space)
- Technical difficulties to reduce width for motorised traffic (exceptional transport, bus lines,...)
- High car capacity on main roads is said to be necessary in order to reduce traffic on local road network

# MIXED USE OF BUSLANES IN BRUSSELS



## HISTORY & PROBLEM

### The vicious cycle of urban decline

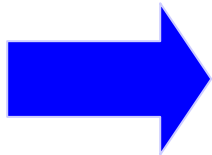


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## HISTORY & PROBLEM

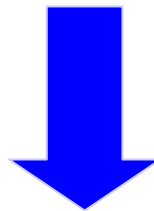
In order to respond to these problems:



Use of (central) bus lanes

Use of intelligent traffic lights that give priority to public transport

Widening of pavements



Cyclists?



# MIXED USE OF BUSLANES IN BRUSSELS



## LEGISLATION

- Bus lanes are only for buses (no other road users) - Width 3.00m
- Authorisation for taxis under conditions – Width 3.00m
- Cyclists can be authorised on bus lanes under conditions – Width 3.50m (**until april 2006**)

Two types of buslanes

F17



Road signs & Road marks

To allow  
cyclists

F18



Cyclists are not admitted

Because of trams  
or central lane

MIVB  
STIB

# MIXED USE OF BUSLANES IN BRUSSELS



## LEGISLATION

From **april 2006** more flexible

No more restrictions for width (3.50 abolished)



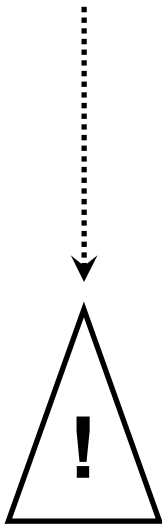
Cyclists can be admitted on bus lanes 3.00m

Non compulsory ; cyclists **CAN** use the bus lanes but they are not **OBLIGED** to use the lanes.

(The same principle for buses.)



A lot of possibilities in city centre where available width is limited



# MIXED USE OF BUSLANES IN BRUSSELS



## SOLUTIONS

### 'Infrastructural' types of mixed bus lanes

1. *Bus lanes width  $\geq 4.30\text{m}$  (4.50m) ('wide profile')*

Buses can take over cyclists in a legal and safe way

Bus 2.55m + safety 1.00m (legal) + cyclist 0.75m



Cyclists are always admitted

Speed of buses max 50km/h

If more than 4.30m available



separate infrastructure



# MIXED USE OF BUSLANES IN BRUSSELS



## SOLUTIONS

### 'Infrastructural' types of mixed bus lanes

2. *Bus lanes width = 3.00m **WITH** physical separation between bus lane and other traffic ('closed profile')*

Buses can **NOT** take over cyclists.

- + buses not blocked in traffic
  - commercial speed = cyclist speed (20km/h)
  - no need for police enforcement (self controlled)
- Sometimes stress situation for cyclist
  - Limited manoeuvres for cyclists (difficult left turn)

# MIXED USE OF BUSLANES IN BRUSSELS



## SOLUTIONS

### ‘Infrastructural’ types of mixed bus lanes

3. *Bus lanes width = 3.00m **WITHOUT** physical separation between buslane and other traffic (open profile)*

Buses can take over cyclists by leaving the buslane

- + Flexible
  - Freedom for cyclists
  - commercial speed = cyclist speed 20km/h or higher
- More need for enforcement (car encroachment or illegal parking)
  - Risk of dangerous overtaking (bus not respecting 1,00m safety distance)

# MIXED USE OF BUSLANES IN BRUSSELS



## IMPORTANT ISSUES

### • *BUS STOPS*

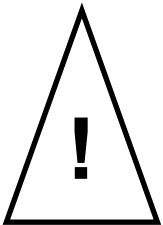
In 'closed profile' and 'open profile': recommendation : cyclists stay behind the bus

In 'wide' profile : cyclists can take over but must yield priority to bus



### • *SLOPES*

When the terrain is very steep: cyclists may not be admitted if there is a safe and 'short' alternative (very rare)



# MIXED USE OF BUSLANES IN BRUSSELS



## IMPORTANT ISSUES

- *TRAFFIC LIGHTS*



Cyclists must respect traffic lights for public transport

If detection of buses : detailed study for cyclists is needed

- *BUS FREQUENCY*



High frequency is not a reason for not admitting cyclists

Only a small number of interactions even with high bus frequency and a lot of cyclists (Münster)

# MIXED USE OF BUSLANES IN BRUSSELS



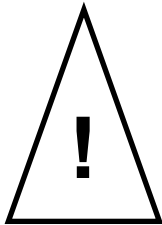
## **IMPORTANT ISSUES**

***SPRING 2007***

*Inventory of existing bus lanes*

*How many have mixed use?*

*How many can be opened to cyclists?*



***User consultation***

*cyclists*

*public transport company*



# MIXED USE OF BUSLANES IN BRUSSELS



## **CYCLISTS & BUSES, MUTUAL RESPECT**

Awareness raising is an absolute must to both bus drivers and cyclists

Information on cyclists' needs in training programme for bus drivers

Informing cyclists on the technical aspects of buses and bus driving  
(braking distance, visibility, turning circles,...)

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## **CYCLISTS & BUSES, MUTUAL RESPECT**