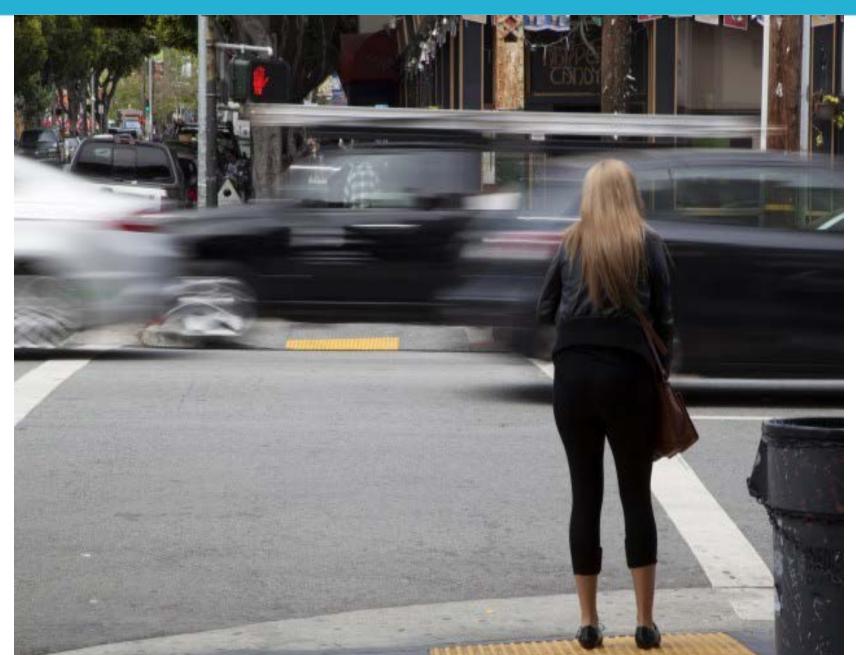


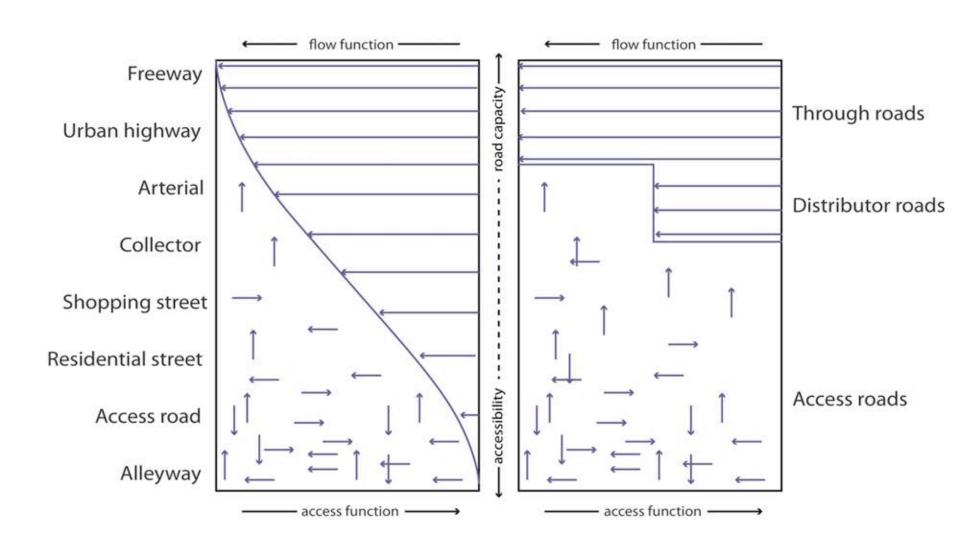


TRAFFIC TRANSPORT MOBILITY WWW.MOBYCON.COM





## Not all roads have the same function MOBYCON



# Classification in the Netherlandsobycon







SPEED LIMIT 80

Rural arterial road



80

SPEED LIMIT 55

Rural road





**Urban highway** 





SPEED LIMIT 55

**Arterial road** 



SPEED LIMIT 30

**Local street** 



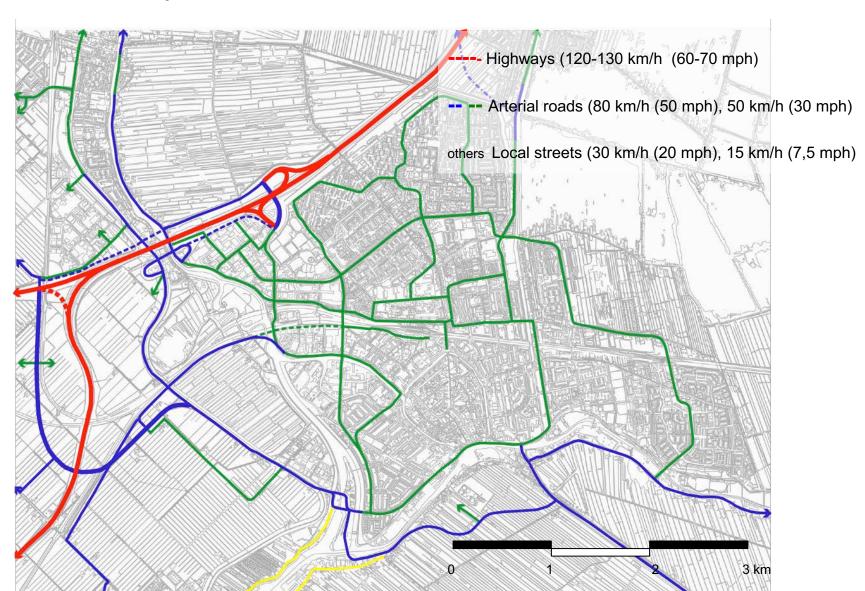


SPEED LIMIT 20

### Classification in the Netherlands

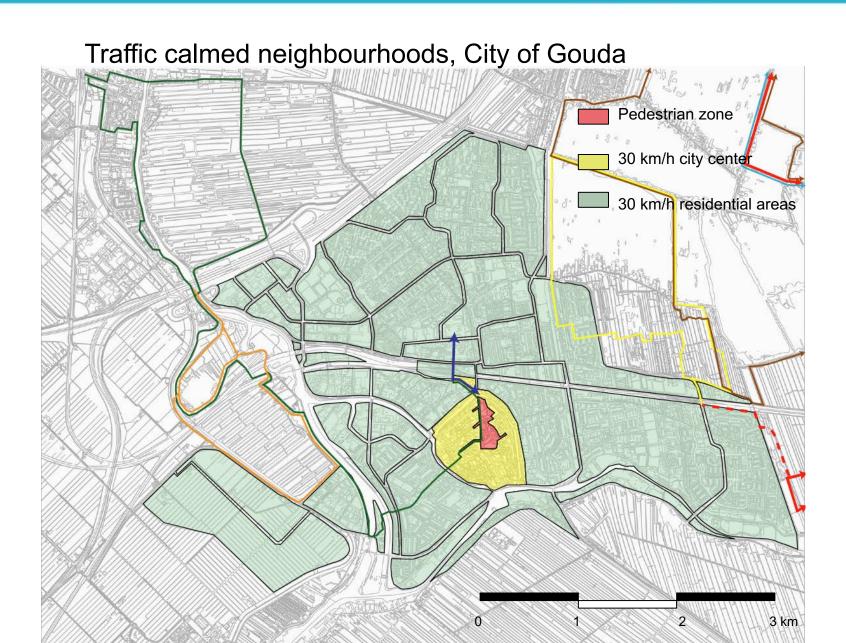


#### city of Gouda, the Netherlands



#### Classification in the Netherlands





#### Different kind of behaviour



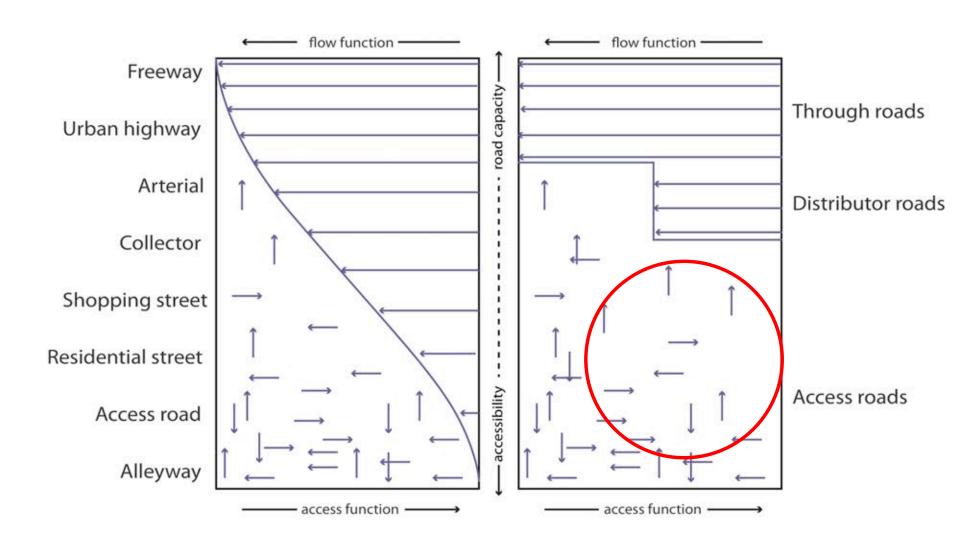
#### Traffic behaviour:

- Uniform
- Predictable
- Mandatory
- Anonymous
- (Car) Vehicle oriented
- Technocratic
- Top down governance

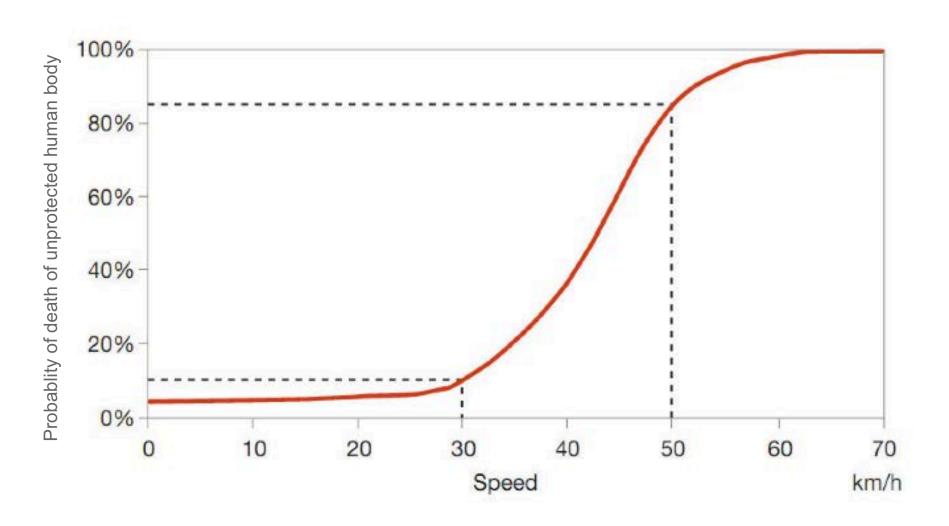
#### Social behaviour:

- Non uniform
- Unpredictable
- Freedom
- Eye contact
- Human oriented
- Community based
- Society norms

## Dutch traffic system: easy classification BYCON



# Mixing? Design for vulnerable road users CON



Source: OECD/ECMT (2006)

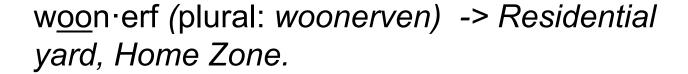
### The first woonerf in the world





#### The first woonerf in the world





1 a street for children in which car- and bicycle traffic is less prioritized and where the driving speed is 'walking pace'.



### The engineers toolbox



Road network	
Traffic calming measure	Example
Speed reduction	

Narrowing



Road narrowing

Use of obstacles



Different pavement type



Uncomfortable surfaces

Rumble strips





Speed cushions



Vertical deflections

Horizontal deflections

Raised pavement areas



Chicanes



Shared space





Cut through-traffic

Cul-de-sac



Closures

Diagonal diverters



### The first woonerf in the world





# The first woonerf - today





# The first woonerf - today



#### **Essential elements for woonerfs**



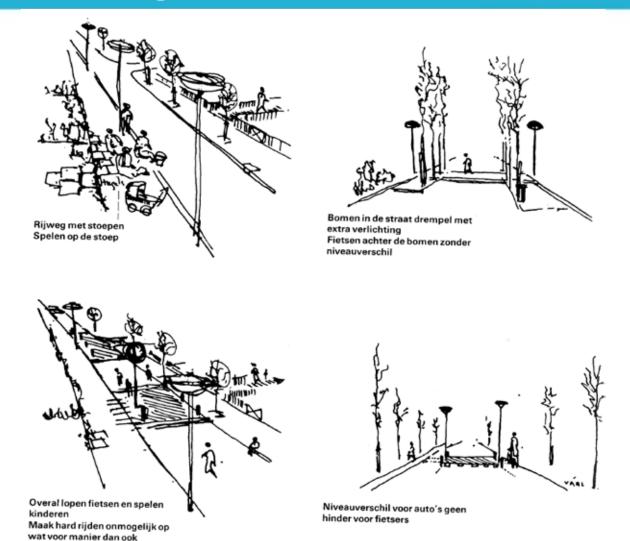
Traffic calming: Guarantee low travel speeds within the zone

Prevent through traffic: Create a network which accommodates local traffic but is unattractive for through traffic.

Gateways: Create a clear transition points between to road of different categories

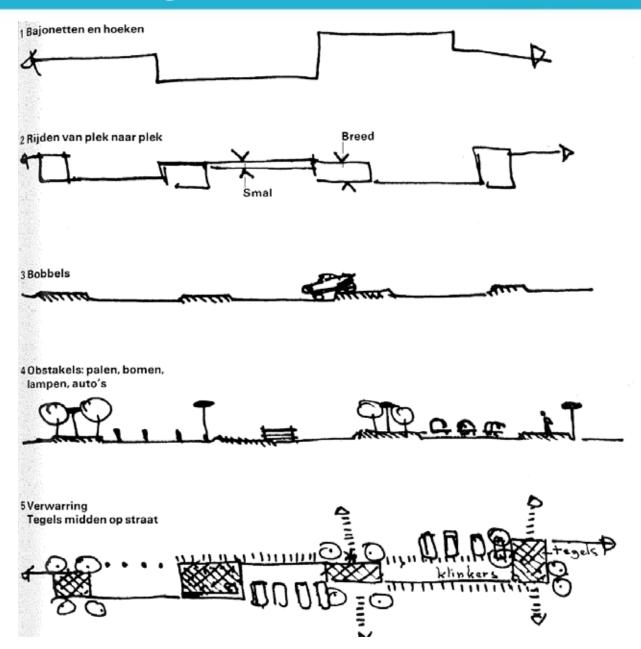
 Humanize rules o/t road: Adding human conflicts to raise alertness, discourage the feeling of 'road' and enhance the feeling of 'street



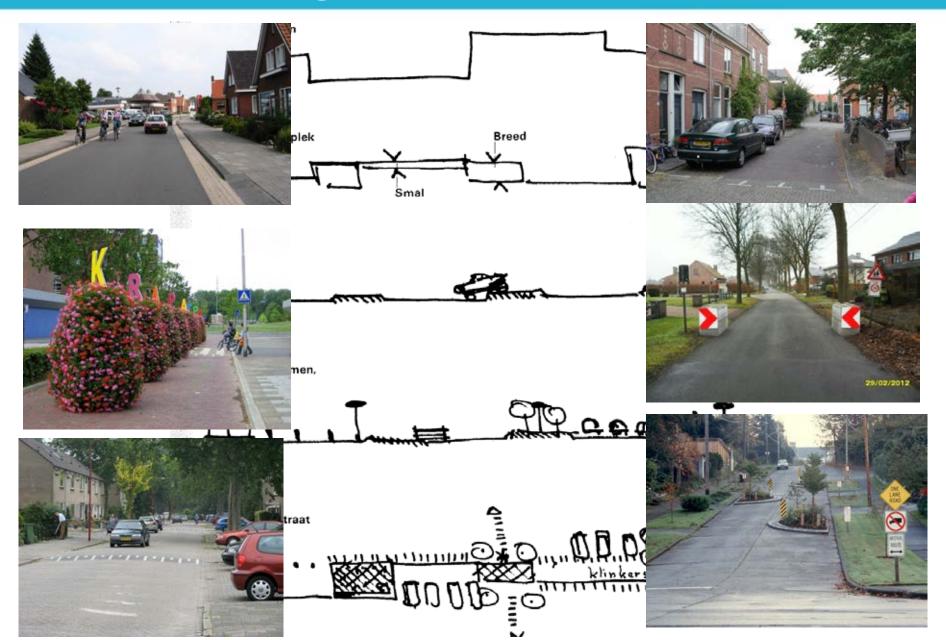


Make fast driving just physically impossible (Joost Vahl, City of Delft, the Netherlands)

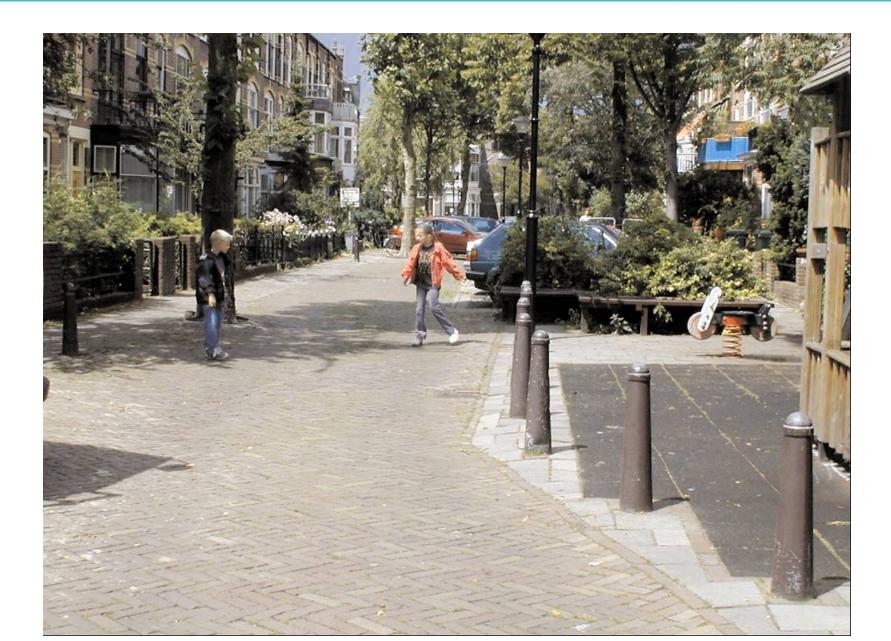








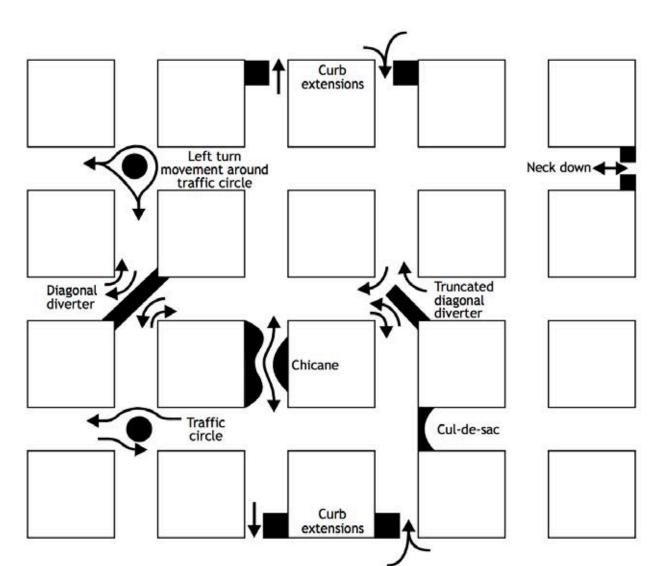




### Prevent through traffic



Discourage through traffic, design for local traffic



## Prevent through traffic



#### Discourage through traffic, design for local traffic





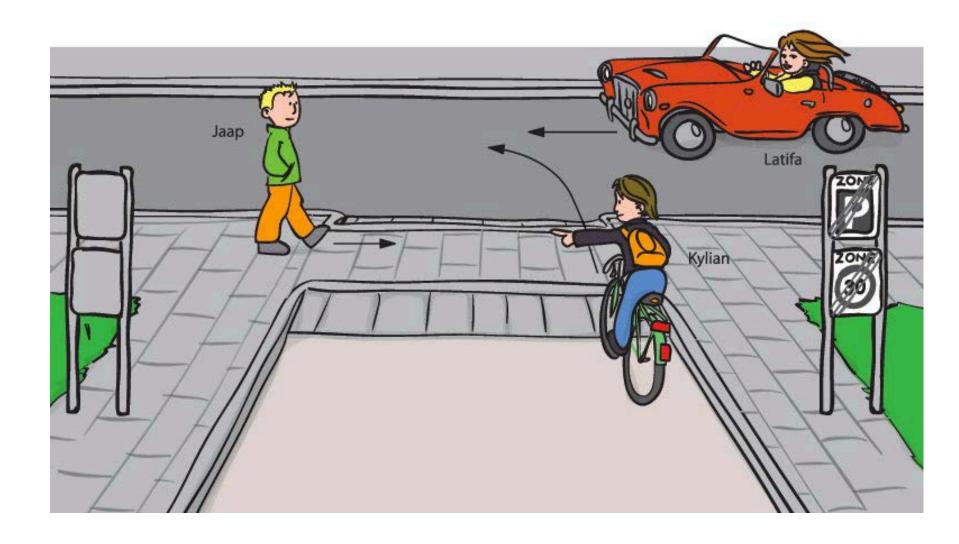




## Gateways



Experiencing a transition when driving is crucial



## **Gateways**



Experiencing a transition when driving is crucial



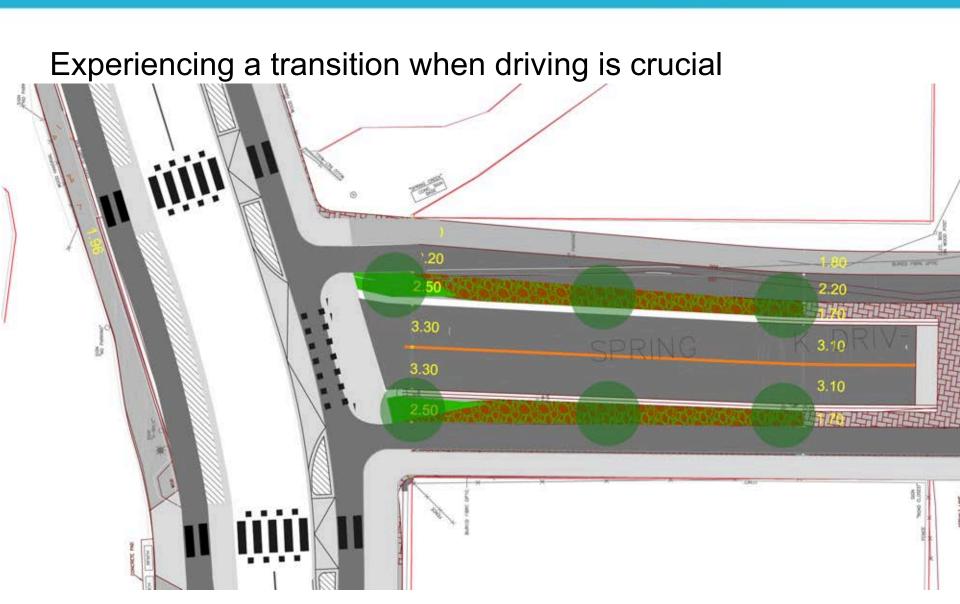






### **Gateways**





#### Humanize rules o/t road



 Human interaction along the streets: mixing with bikes and even pedestrians





#### Humanize rules o/t road



Human interaction at intersections: right goes first









### Allocation of measures (minimal)





Gateways at transferpoint 50 30 km/h; yielding conditions

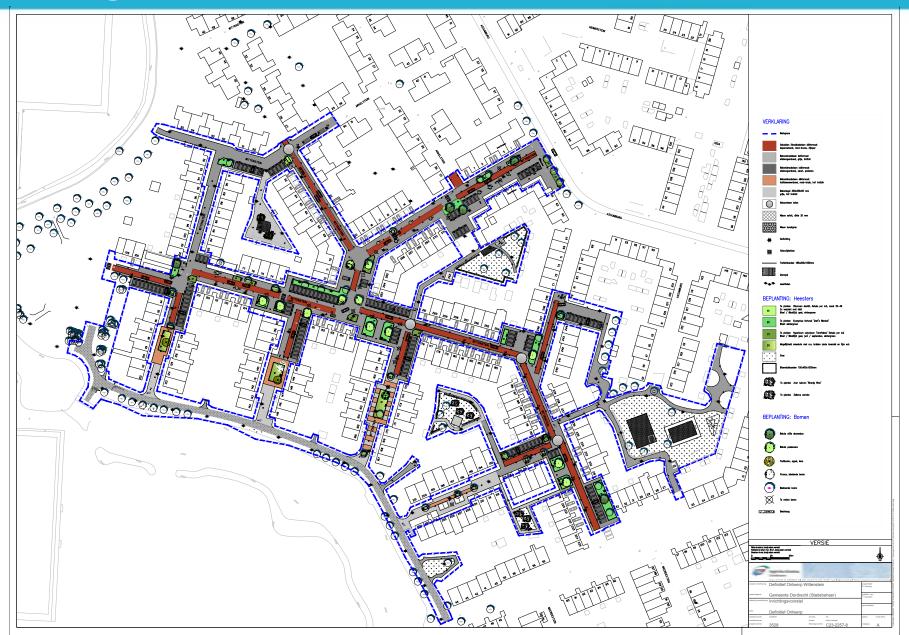
Tables at larger intersections, unsignalized so right goes first

Speed bumps every 60-80 meters of straight road

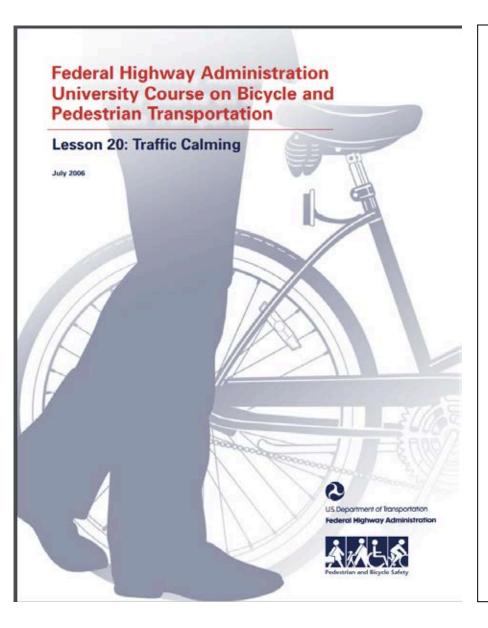
Extra measures if needed (zebra crossing, road block, etcetera)

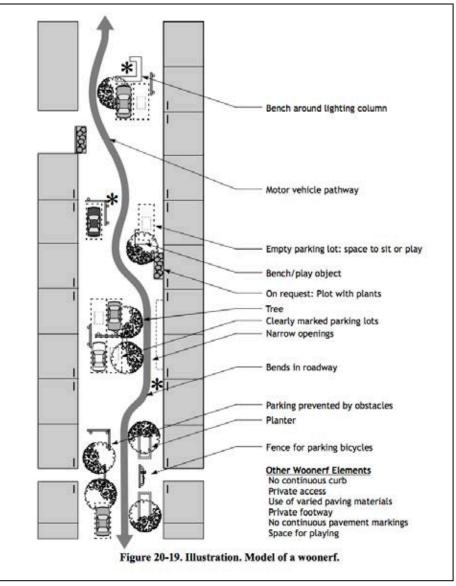
## Design of measures: example





# European inspired design in the US? MOBYCON







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