



Ministry of Infrastructure and the  
Environment

# Recent mobility trends in The Netherlands

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KiM  
Netherlands Institute for  
Transport Policy Analysis



## Contents

- Some info about our institute
- Recent developments in mobility in The Netherlands
  - Mobiliteitsbalans 2012 and 2013
    - Focus on levelling of of the growth in car use





## KiM Netherlands Institute for Transport Policy Analysis

- **Research institute** within the Netherlands Ministry of Infrastructure and Environment
- **Established in 2006** to support evidence-based transport policymaking





## Products en services

- **Demand-driven** research on strategic policy questions

[www.kimnet.nl](http://www.kimnet.nl)

- Knowledge transfer in policy processes  
**'Knowledge-at-the table'**

- Internal **"signaling"** at our initiative





## KiM is part of the Ministry, but...

- Research content is **independent** of policy or politics



- All research studies are **peer-reviewed**
- All publications are **public**



# Organisation characteristics KiM

- Around 25 persons
- Many different research disciplines





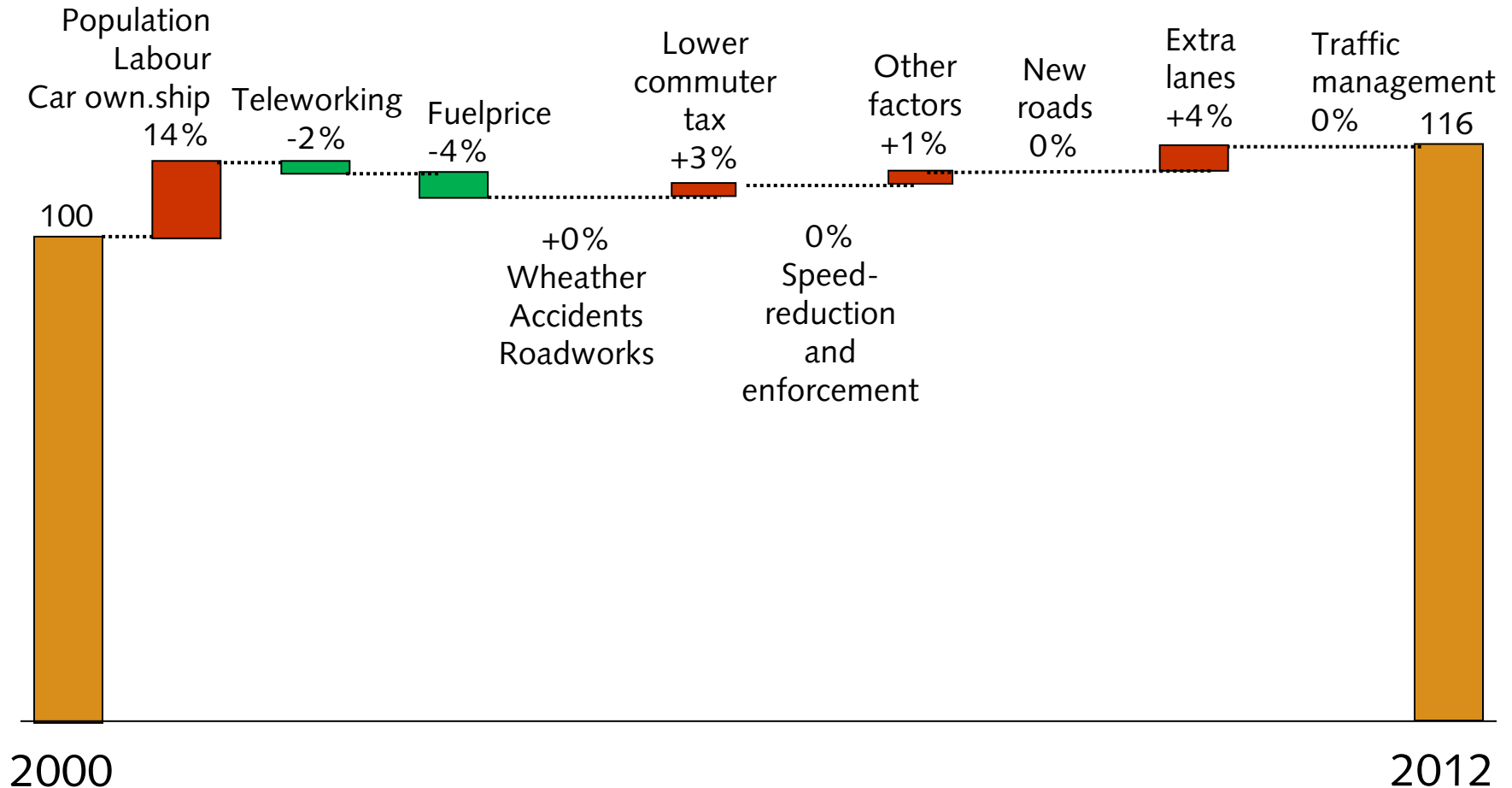
# Annual Mobility Report

- “Mobiliteitsbalans”
- Published every year in October
- Broad view on mobility
- Describes and analyses developments
- Themes:
  - Personal travel
  - Freight movements
  - Accessibility
  - Safety
  - Environmental impact
  - Social importance





# Traffic on the highway network 2000-2012





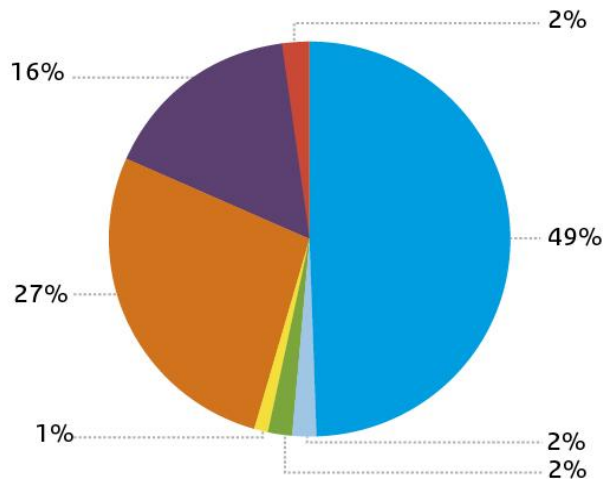
# Mobility

- Total number of kilometres people travel (by transportmode)
- Defined by:
  - Number of persons  
x
  - Number of trips per person  
x
  - Number of kilometres per trip

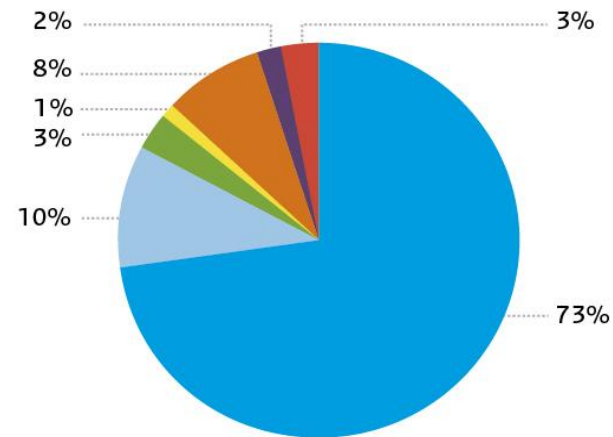


# # trips ....and.....# kilometres travelled

## Trips



## Kilometres

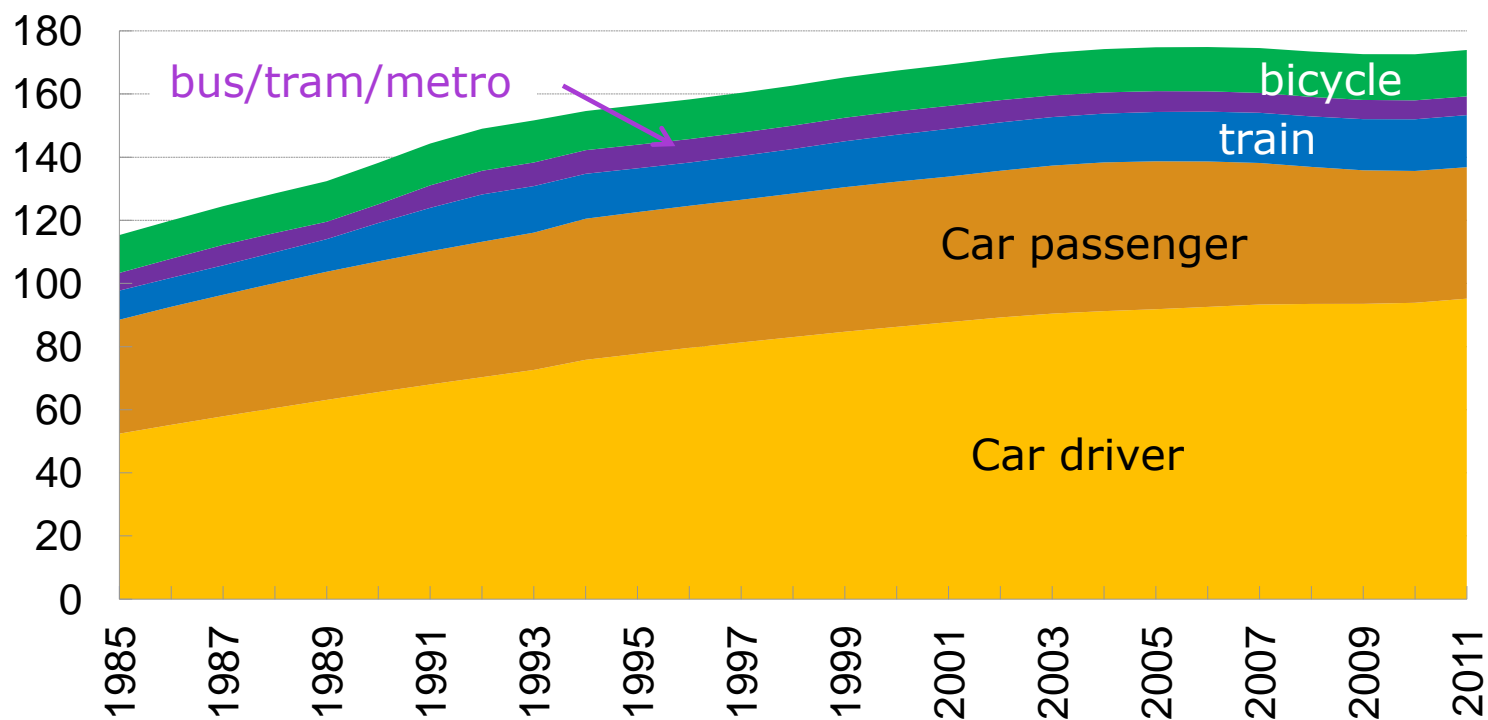


- Car
- Train
- Other PT
- Moped
- Bicycle
- Walking
- Other



# Total mobility

Personkilometres by Dutch population in NL; in bln. km

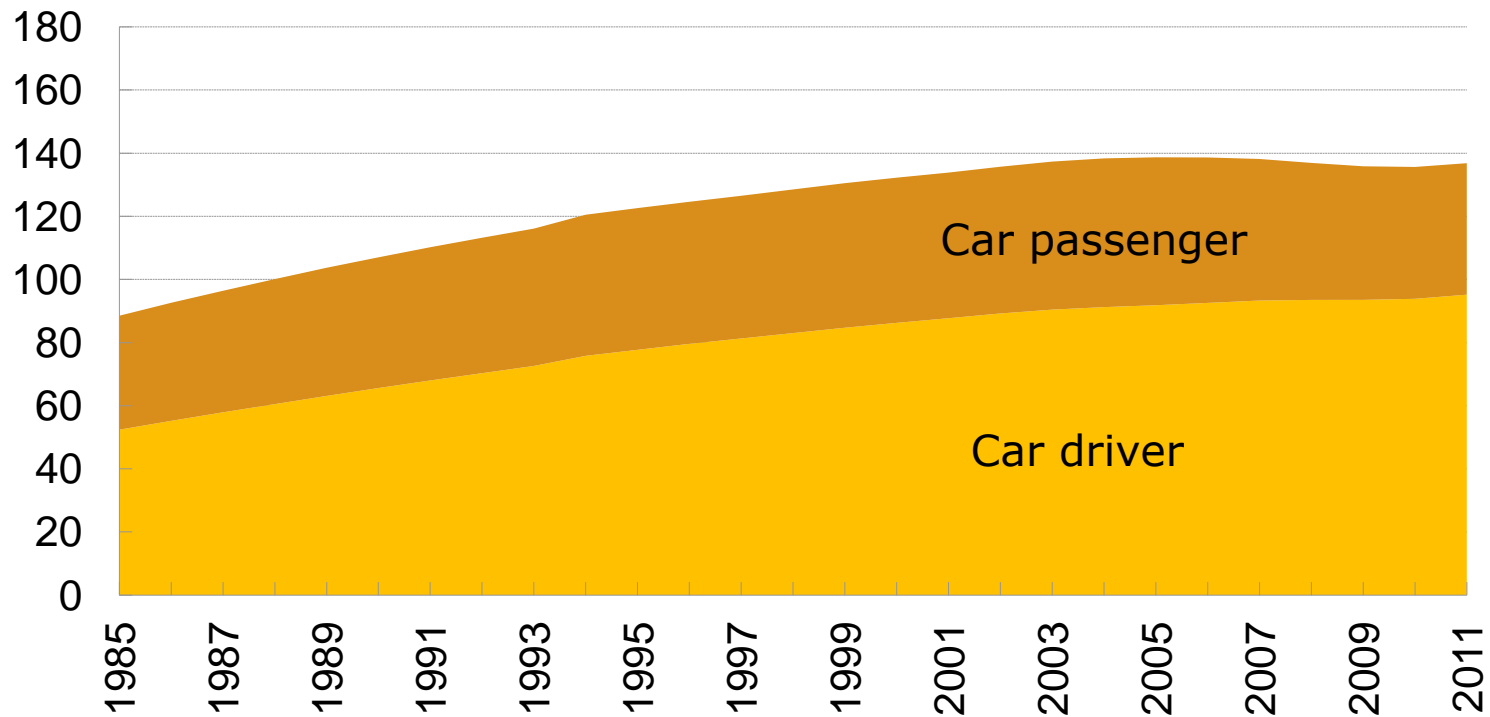


Source: OVG/MON/OVIN (KiM)



# Car mobility

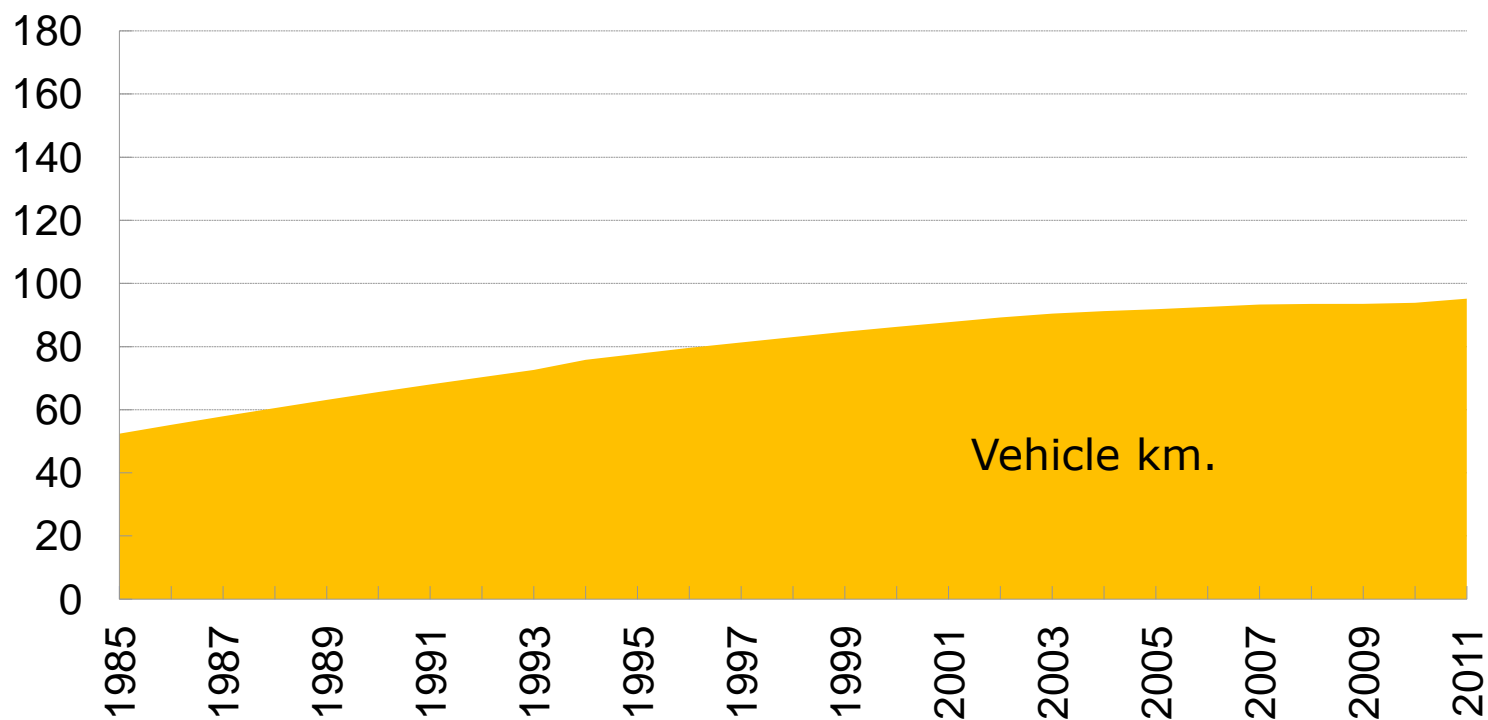
By Dutch population in The Netherlands in bln. km.





# Vehicle kilometres (cars)

By Dutch population in The Netherlands in bln. km.



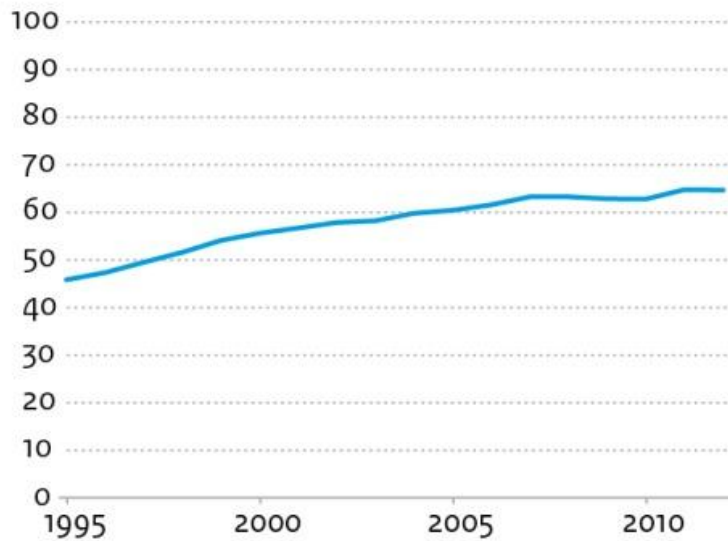
Source: OVG/MON/OVIN, (KiM)



# Traffic on the highway network 1985-2030

Vehiclekilometres in bln. km

- = NL private cars
- + Trucks/vans
- + foreign cars
- + shifts from underlying network



— Realisation

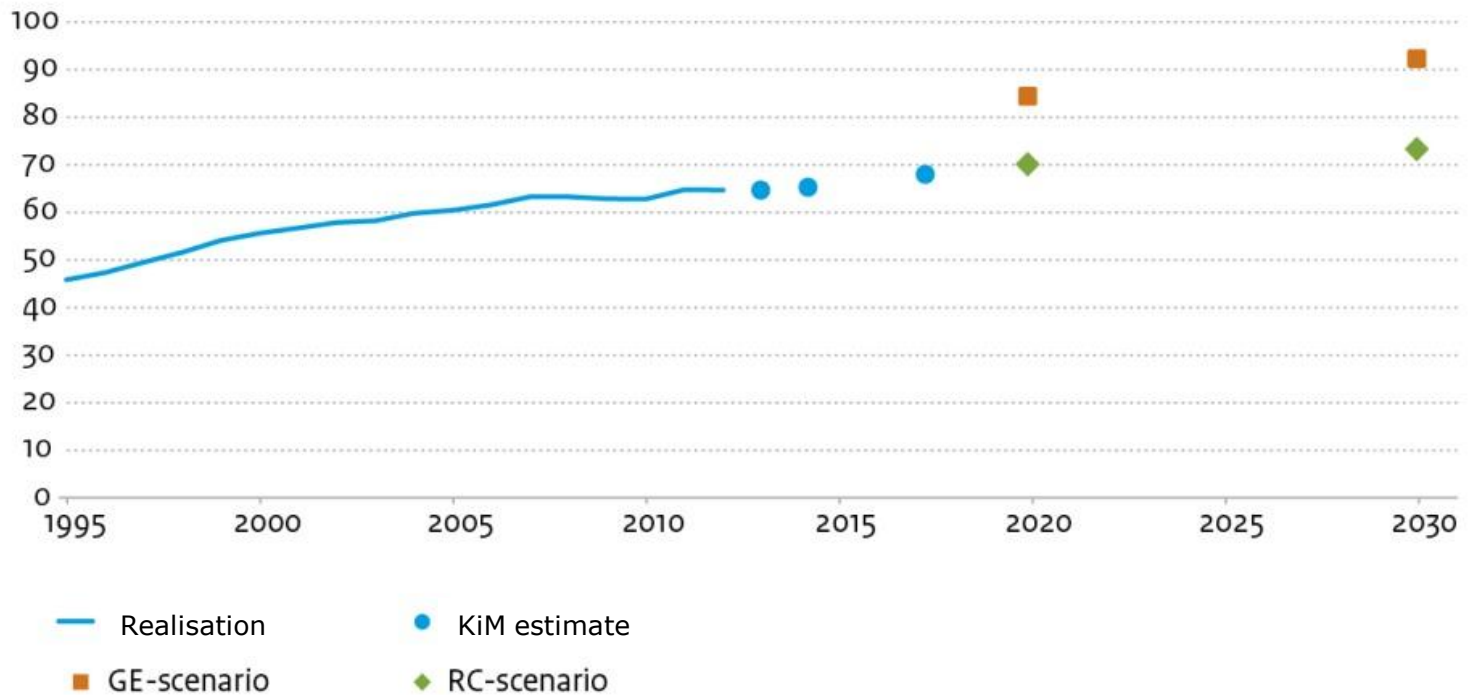




# Traffic on the highway network 1985-2030

Vehiclekilometres in bln. km

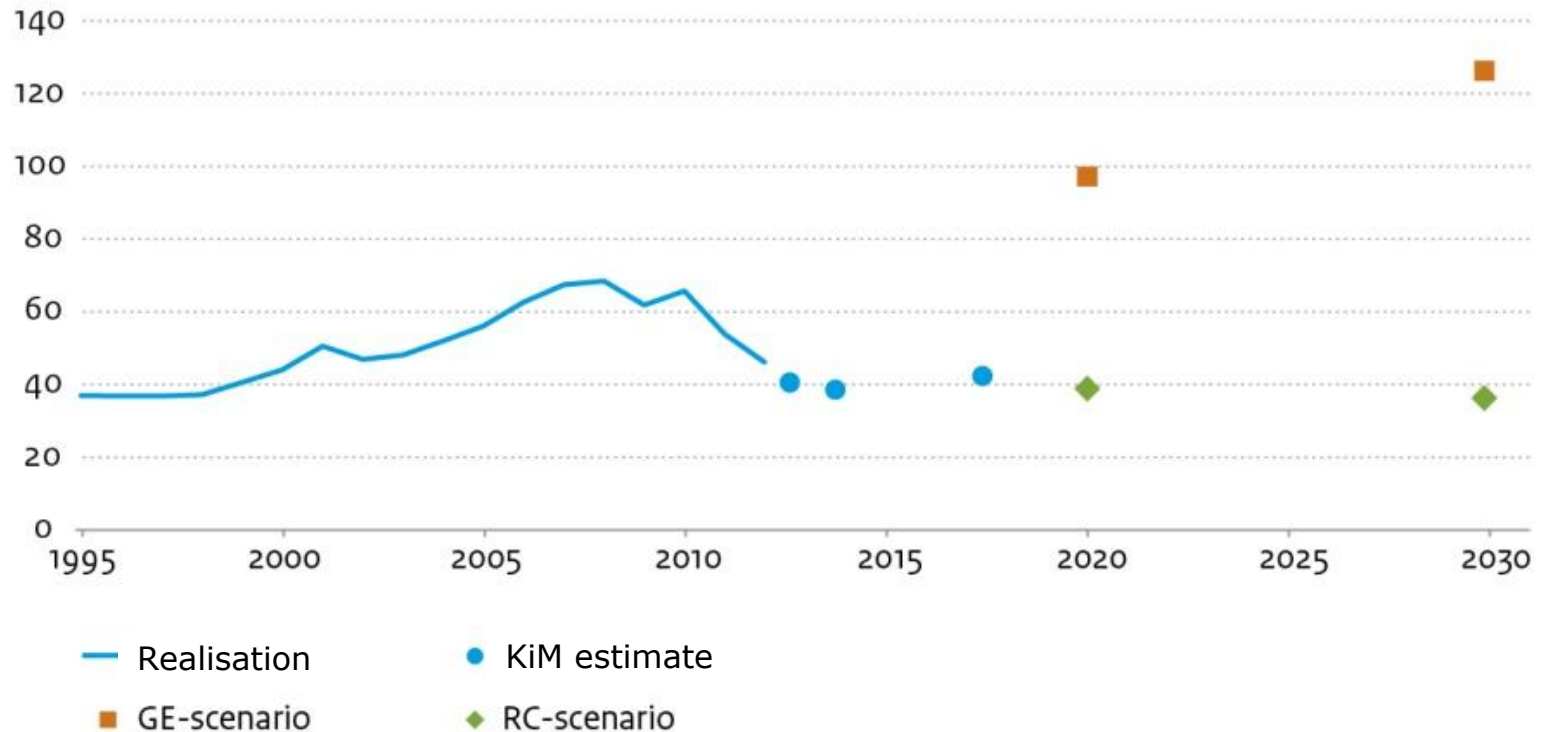
= NL private cars  
+ Trucks/vans  
+ foreign cars  
+ shifts from underlying network





# Congestion on highway network 1995-2030

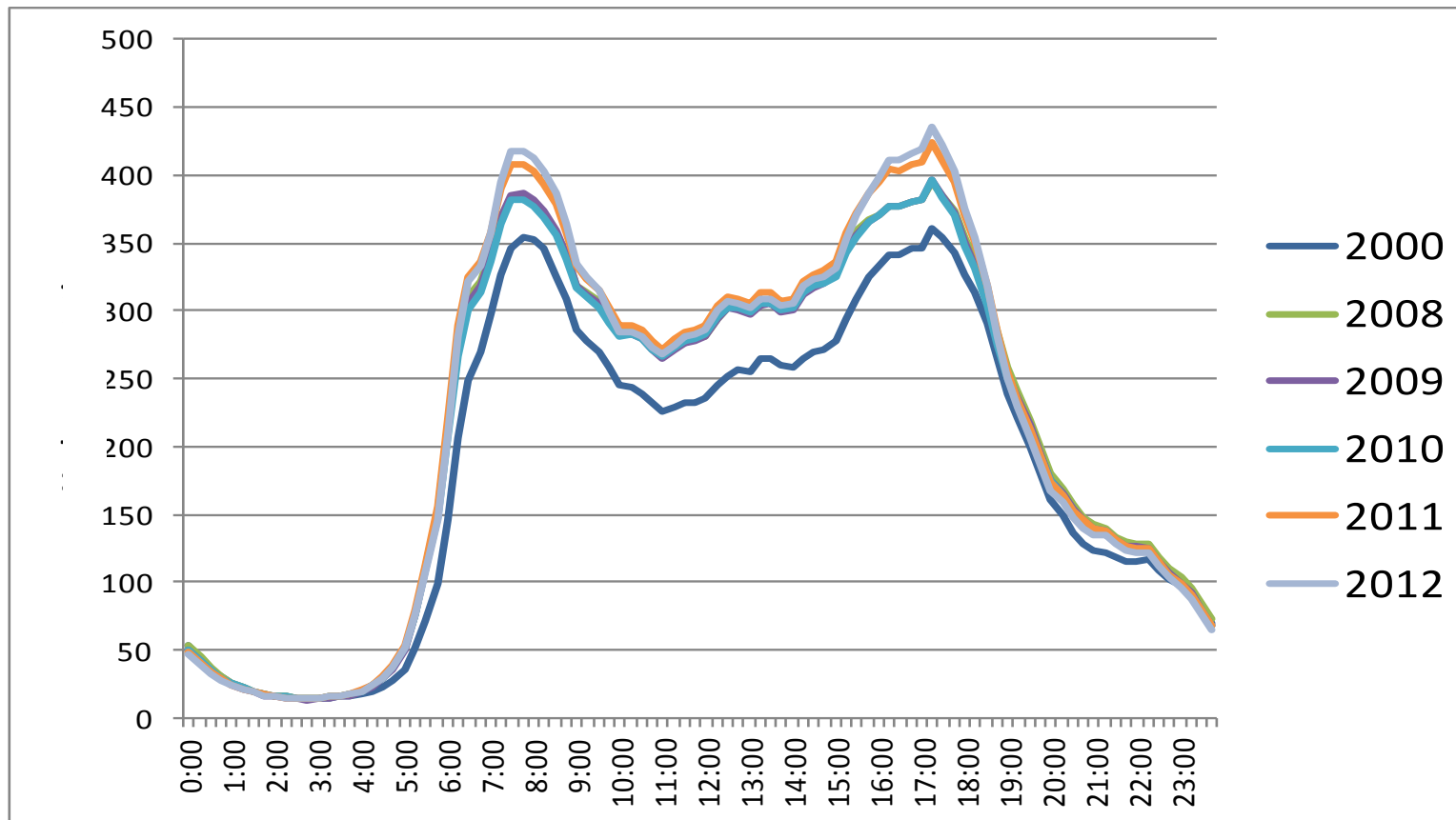
Vehiclehours in congestion (in mln. hours)





# Traffic on highway network 2000, 2008-2012

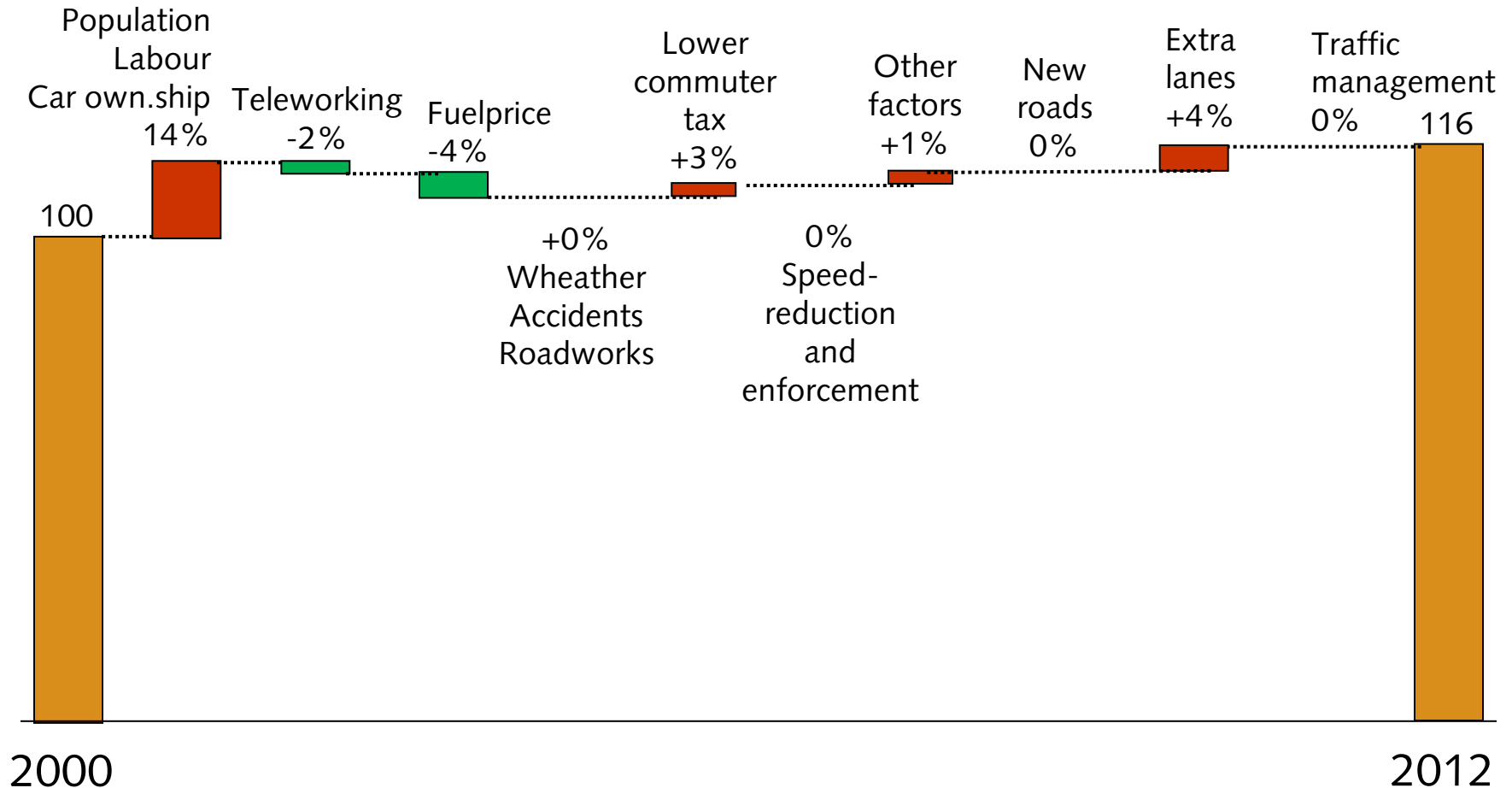
Kilometres / ¼ hour period



Source: RWS

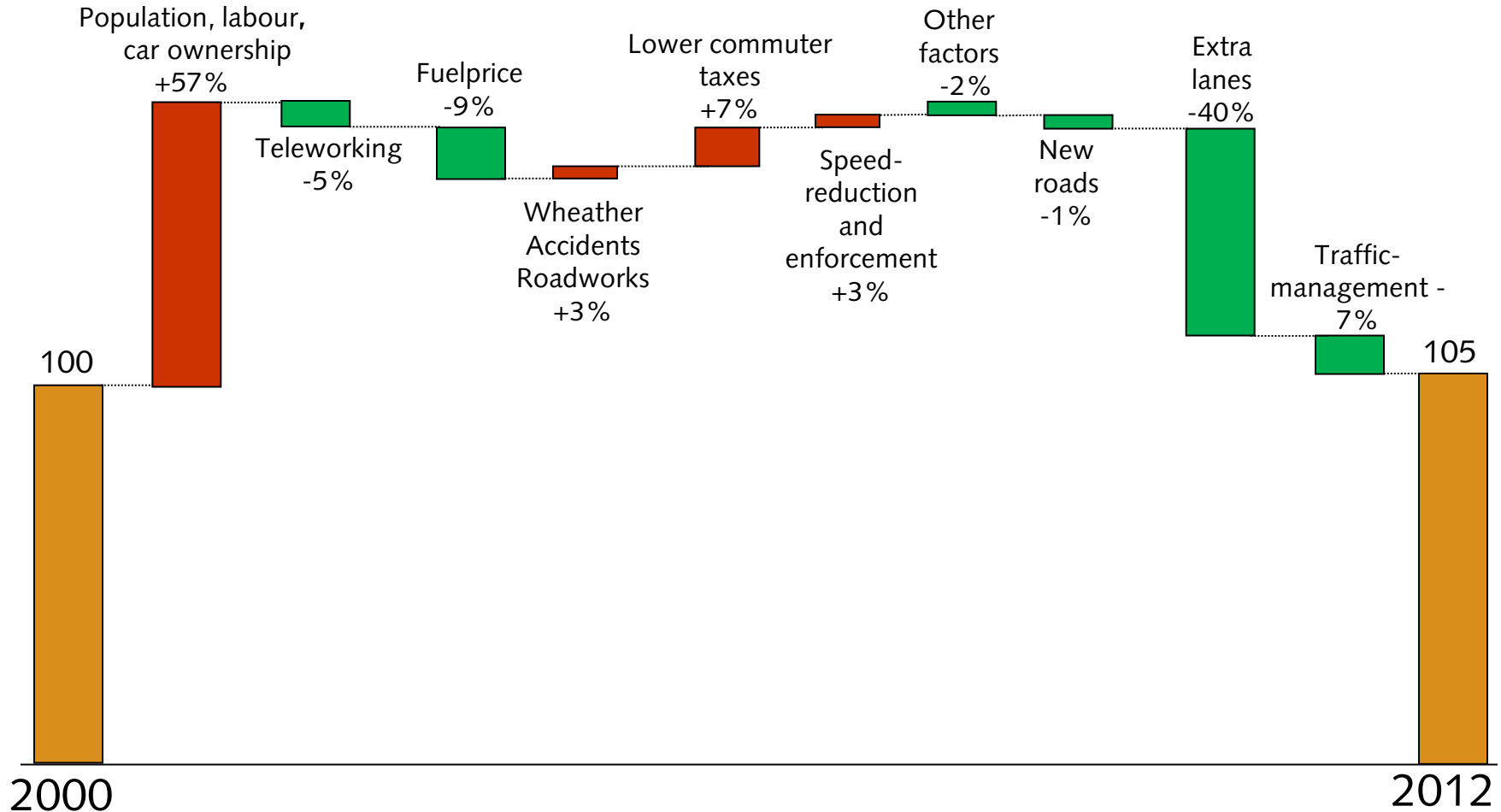


# Traffic on the highway network 2000-2012





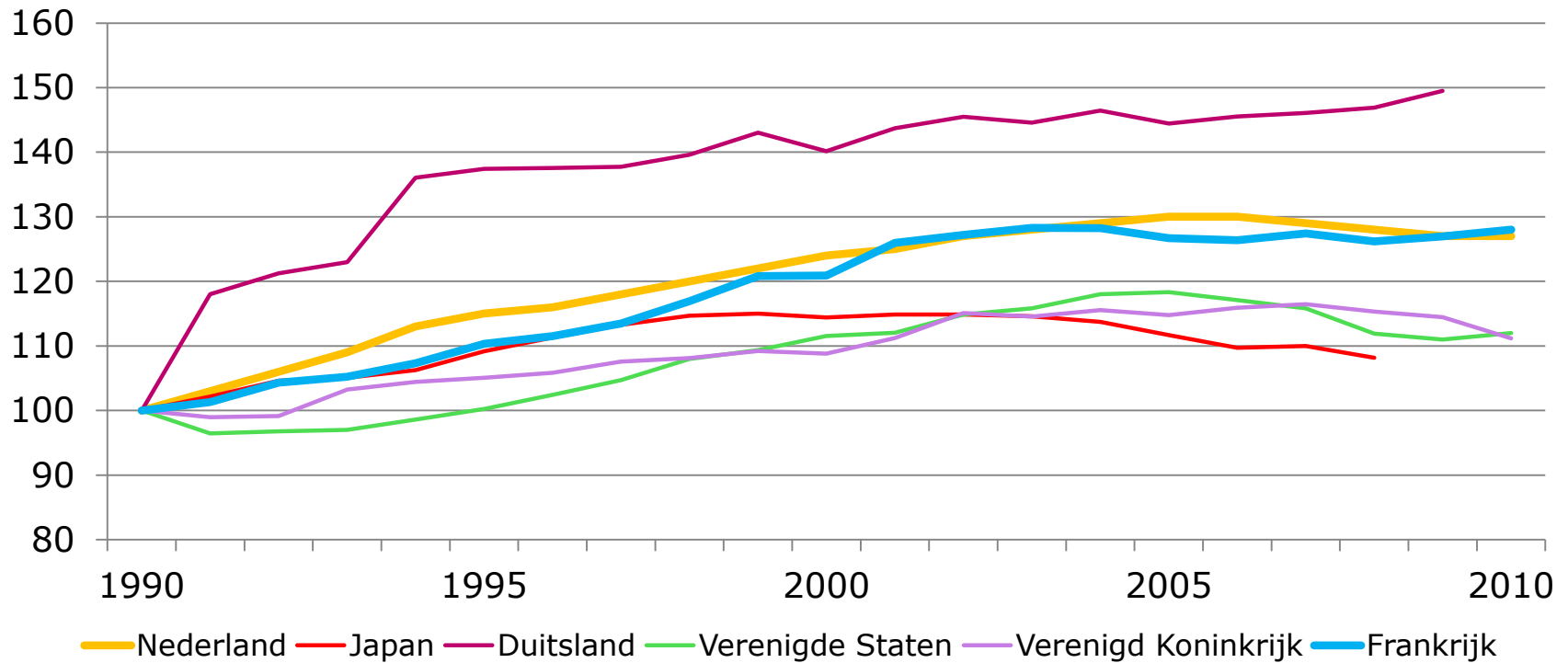
# Congestion on the highway network 2000-2012





## Car use (driver and pass.) in other western countries

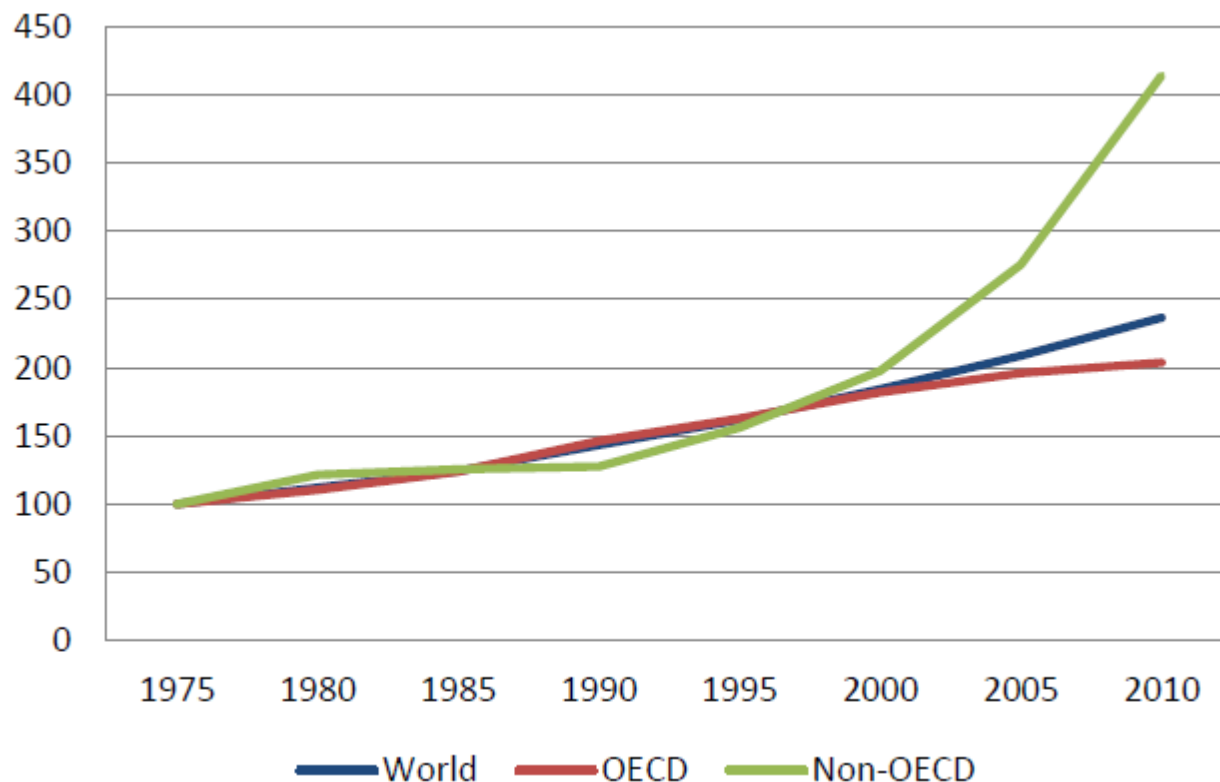
Personkilometres car and light trucks (Index: 1990=100)



Source: KiM en International Transport Forum 2012.



## Growth in car use levelling off elsewhere in the world

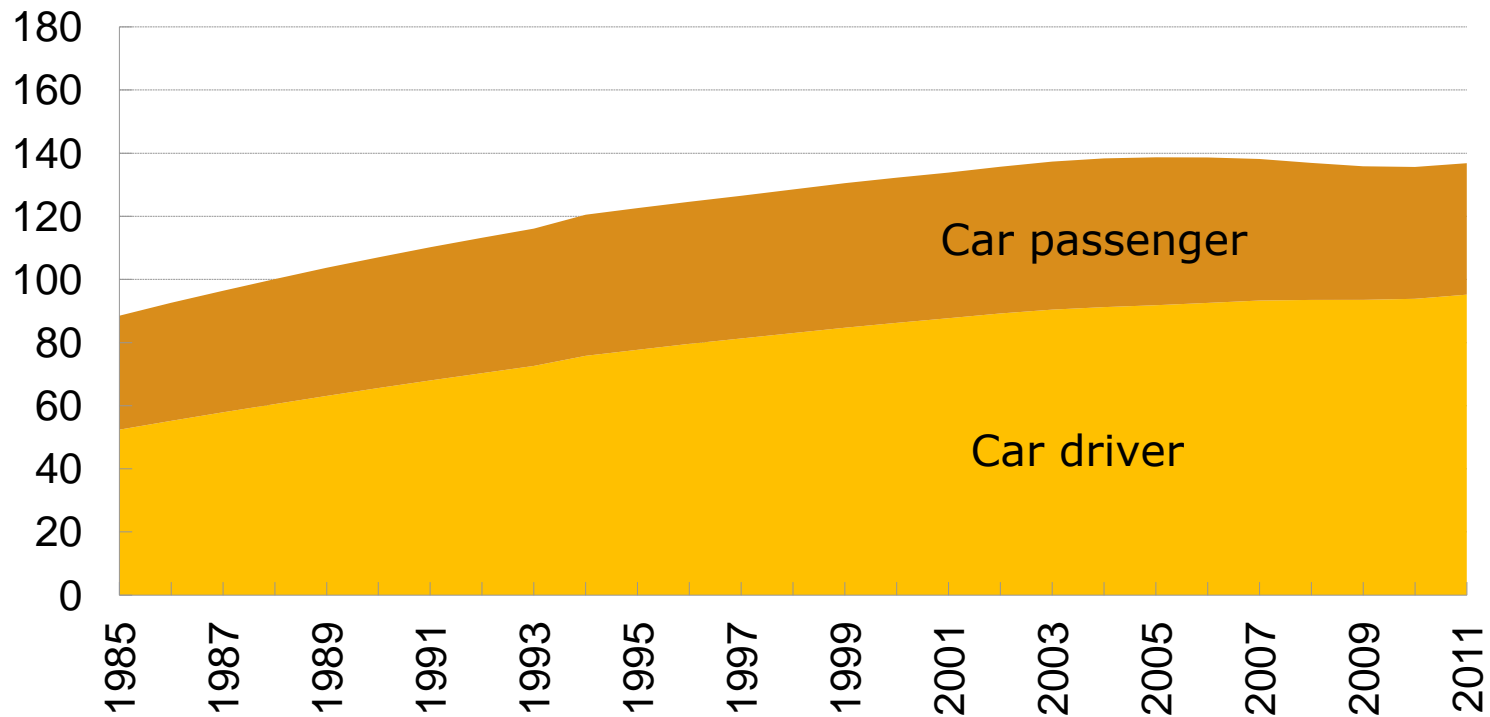


Personkilometres car and light trucks, Source: International Transport Forum 2012.



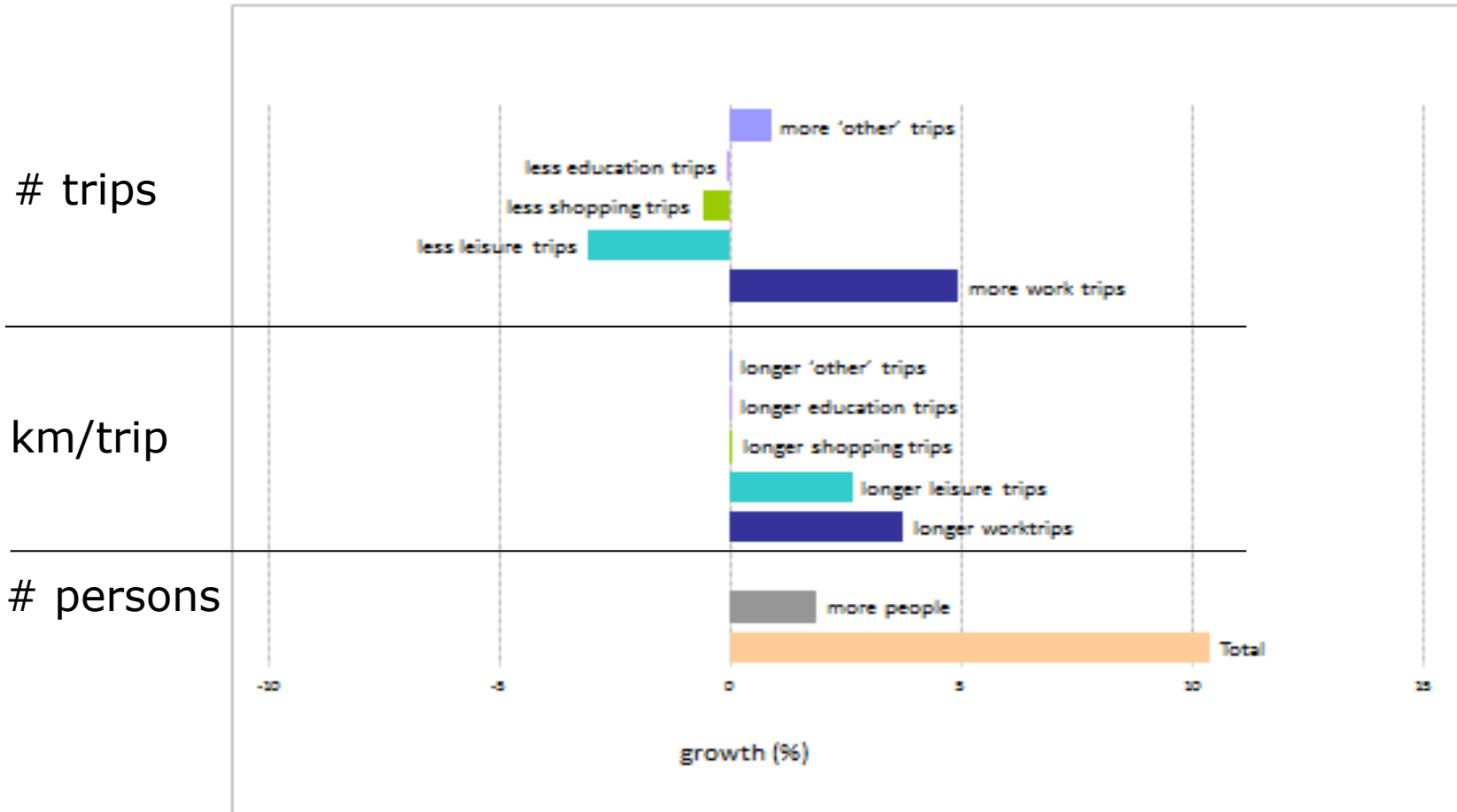
# Car mobility

By Dutch population in The Netherlands in bln. km.





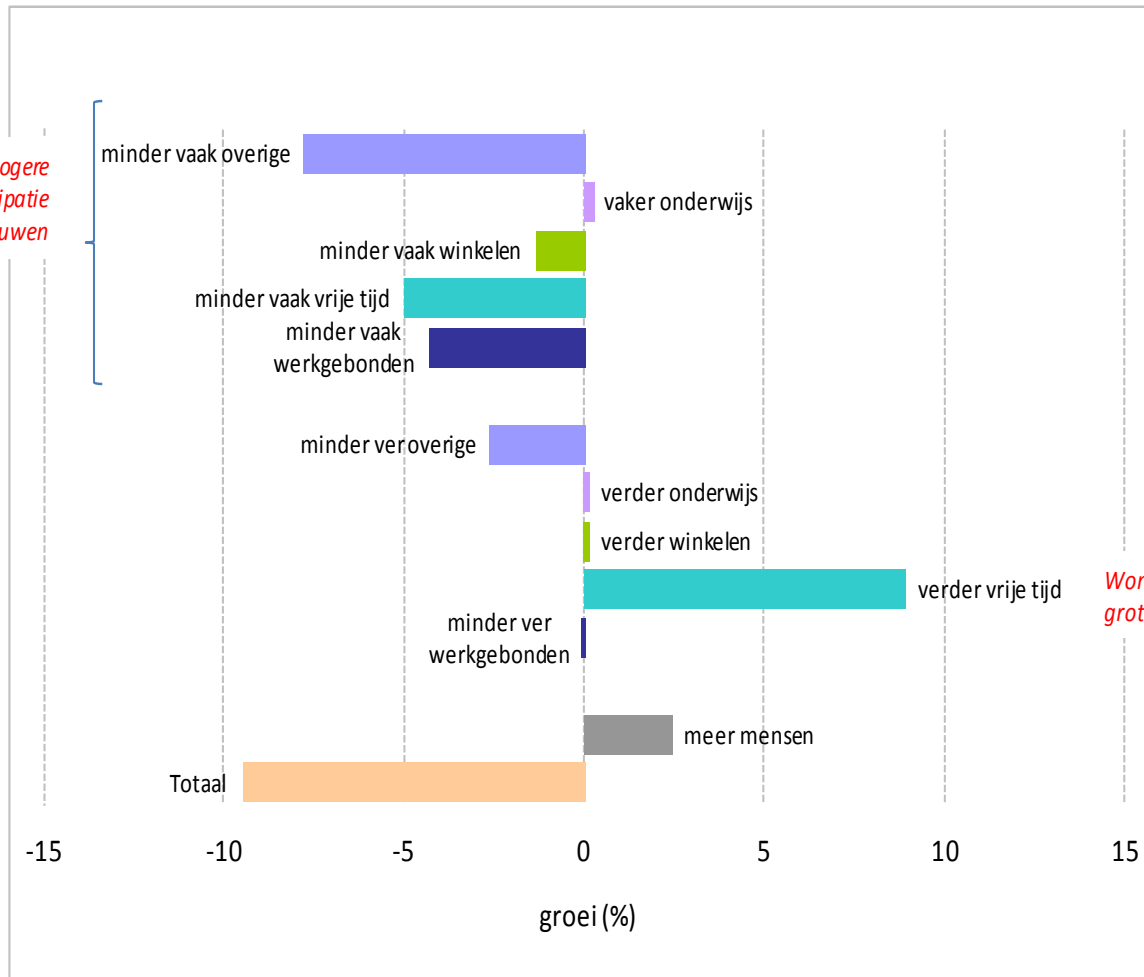
# Decomposition development car use (driver) 2000-2011





# Decomposition development car use (passenger) 2000-2011

*Meer autosolisme door hogere inkomens en meer arbeidsparticipatie vrouwen*



*Wonen en vrije tijd ruimtelijk verder uit elkaar, groter en diverser aanbod*



## Four search directions:

- Influence 1: Signs of saturation?
- Influence 2: Mobility of young adults
- Influence 3: Impacts of e-society
- Influence 4: Is growth moving abroad?



# Signs of saturation – driver license holding



- ✓ Increase  
    < 25 yrs. en 50+
- ✓ Limited decrease  
    25-29 yrs
- ✓ 18-29 yrs:  
    74% in 1995  
    71% in 2009

Decrease among young and increase among elderly	Increase among young and elderly
USA Sweden Norway UK Canada Japan Germany	Spain Finland Poland Israel Latvia Switzerland <b>The Netherlands</b>
In red: countries with stabilising car use	



## Signs of saturation – car ownership

- ✓ Increase in NL
- ✓ Small decrease among young adults
  - ✓ 32% in 1995
  - ✓ 30% in 2009



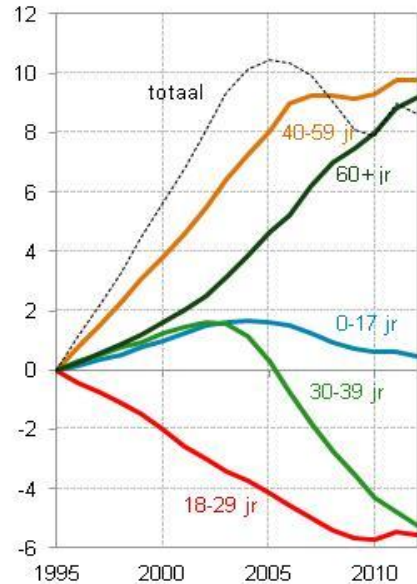
Number of cars / 1000 inhabitants	
The Netherlands	420-500
UK	500
France, Japan, Germany	600
Australia	700
USA	800



# Changing car mobility young adults

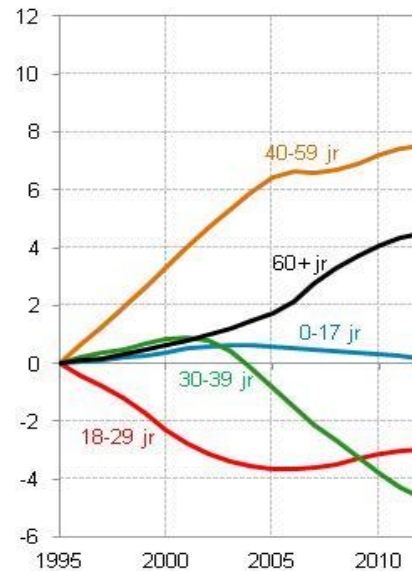
Differences between age groups

- as a result of changes in group size + changed behaviour in the group



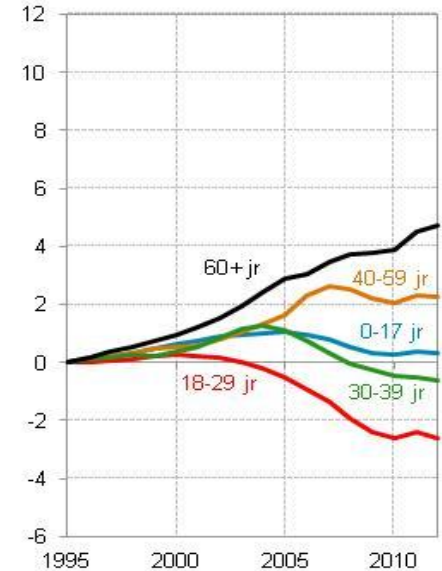
Annual contribution to growth (%) by different age groups

=



As a result of changes in group size

+

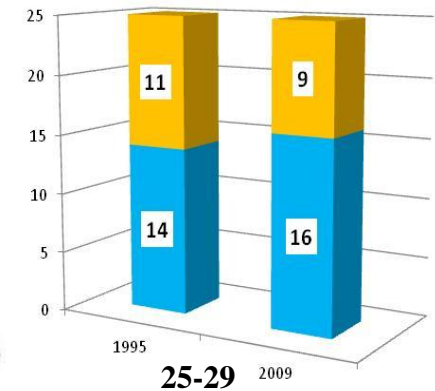
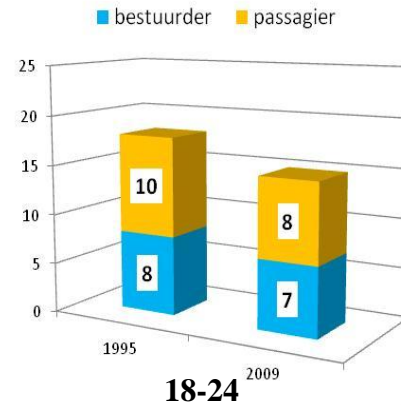
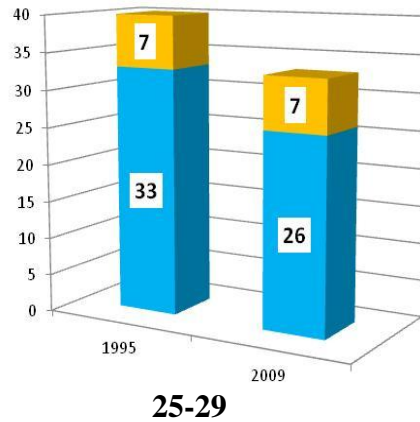
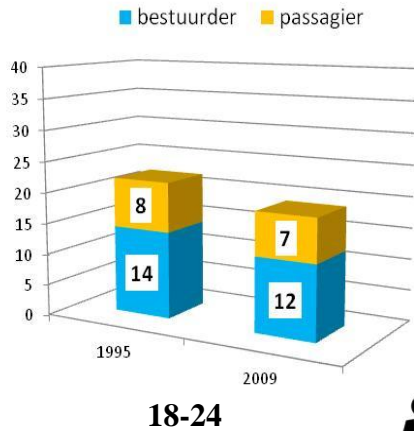


As a result of changed behaviour in the group



# Changing car mobility young adults (in group)





Km/pers./day





## Changed car mobility young adults

- In rural areas: absolute reduction of total mobility
- In high density urban areas: shift to public transport and bicycle

	18-24		25-29	
	1995	2009	1995	2009
	45%	→ 38%	68%	→ 58%
	40%	→ 46%	21%	→ 28%
	9%	→ 11%	7%	→ 9%
	3%	→ 2%	2%	→ 2%



## Changing car mobility young adults

- Less use because of decreased group size
- Also as a result of changed behaviour
- Small drop in license holding
- Small drop in car ownership

How about:

- Changes in situational factors (working, living, education)
- Changes in attitude towards cars



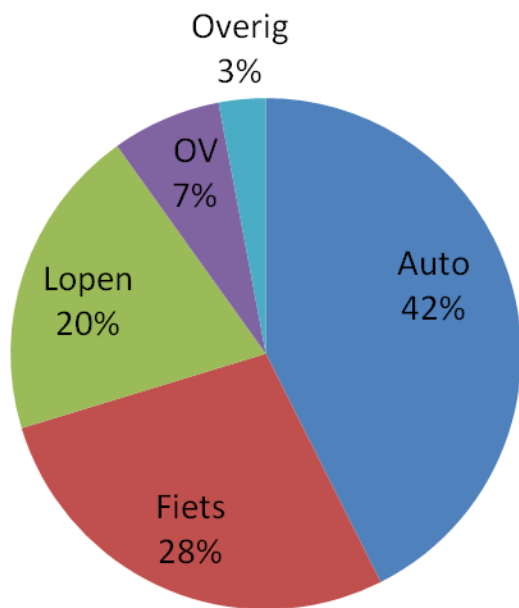
# Changing car mobility young adults

- More students
  - 610.000 in 1995 => 880.000 in 2009
- Less workers
  - 1,7 mln. in 1995 => 1,3 mln. in 2009
- Increase in number of young adults living in (high) urbanised areas

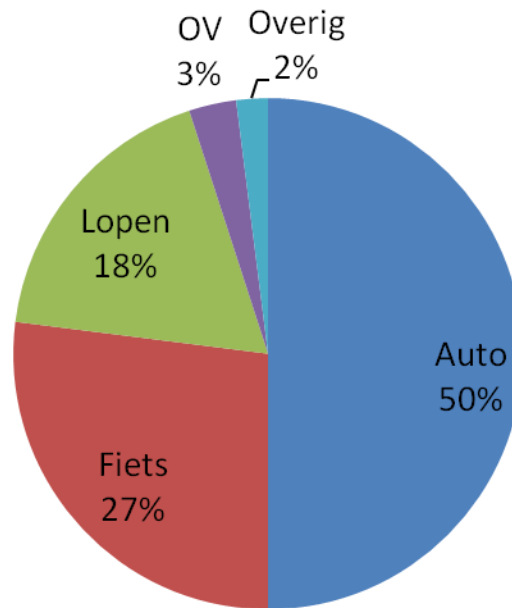




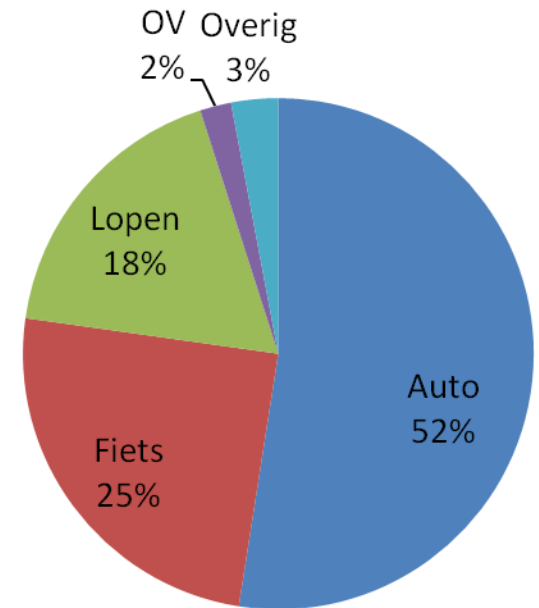
## Modal split in 2009 (# trips) (little change from 1995)



Urban  
high density



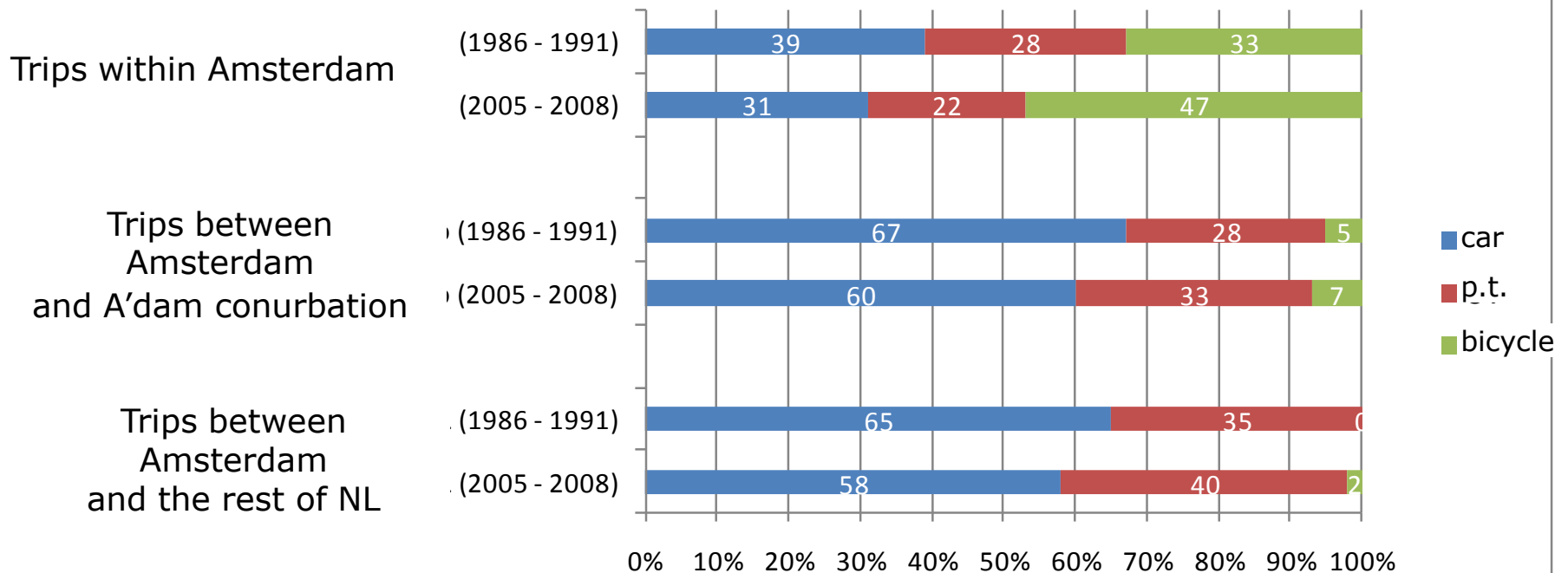
Urban  
medium density



Rural



## Example: modal split Amsterdam relations



- Bicycle more and more important in the city
- Public transport for longer distances
- Car is losing its mode share



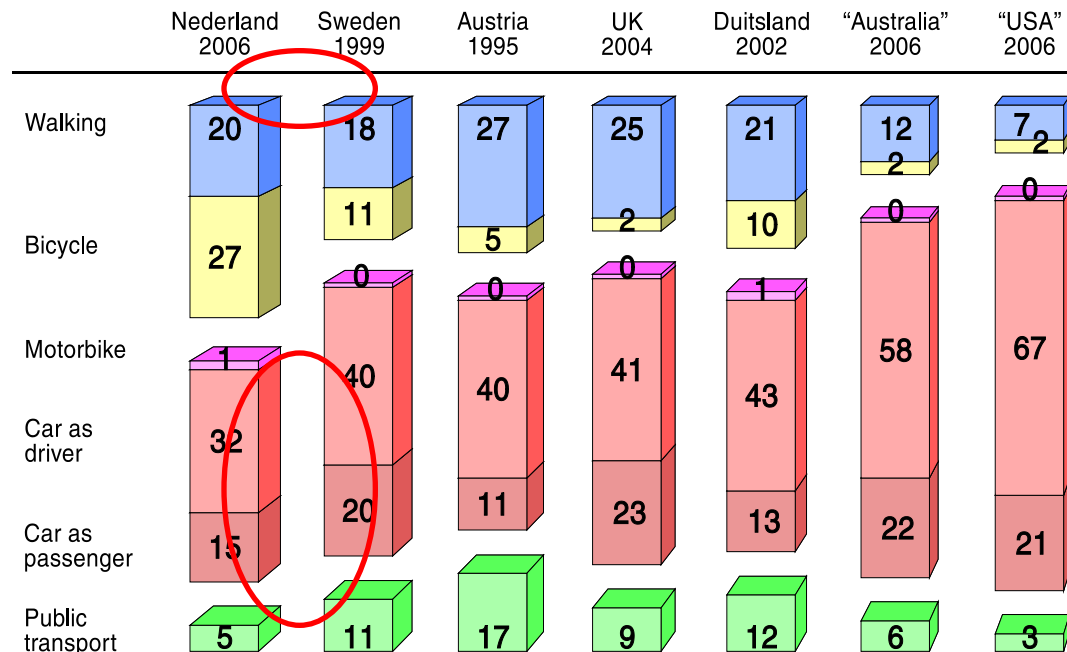
## Example: modal split Amsterdam relations





# Cycling and P.T. in international perspective

- PT-share is relatively low in The Netherlands
- But total share of sustainable modes (non car) is relatively high

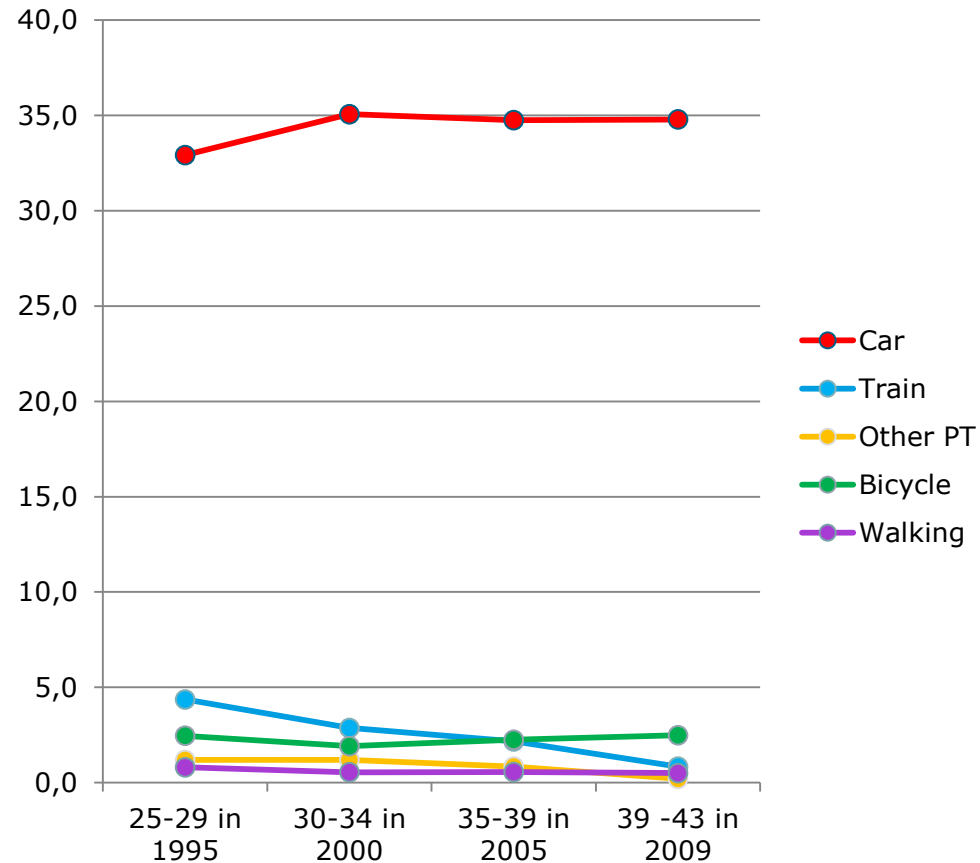
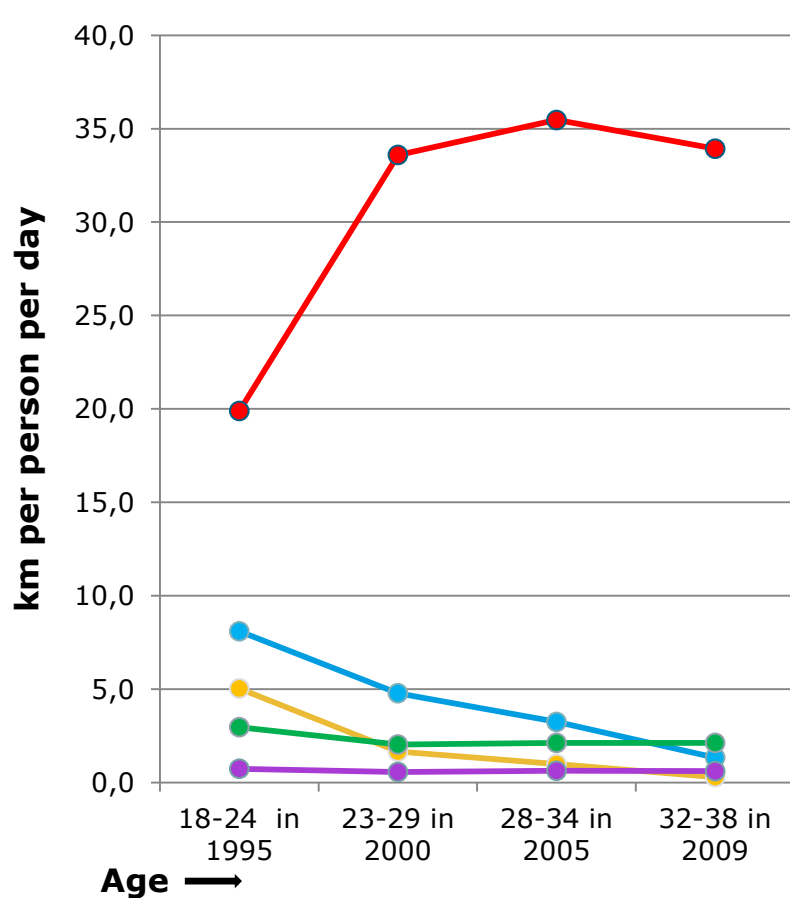






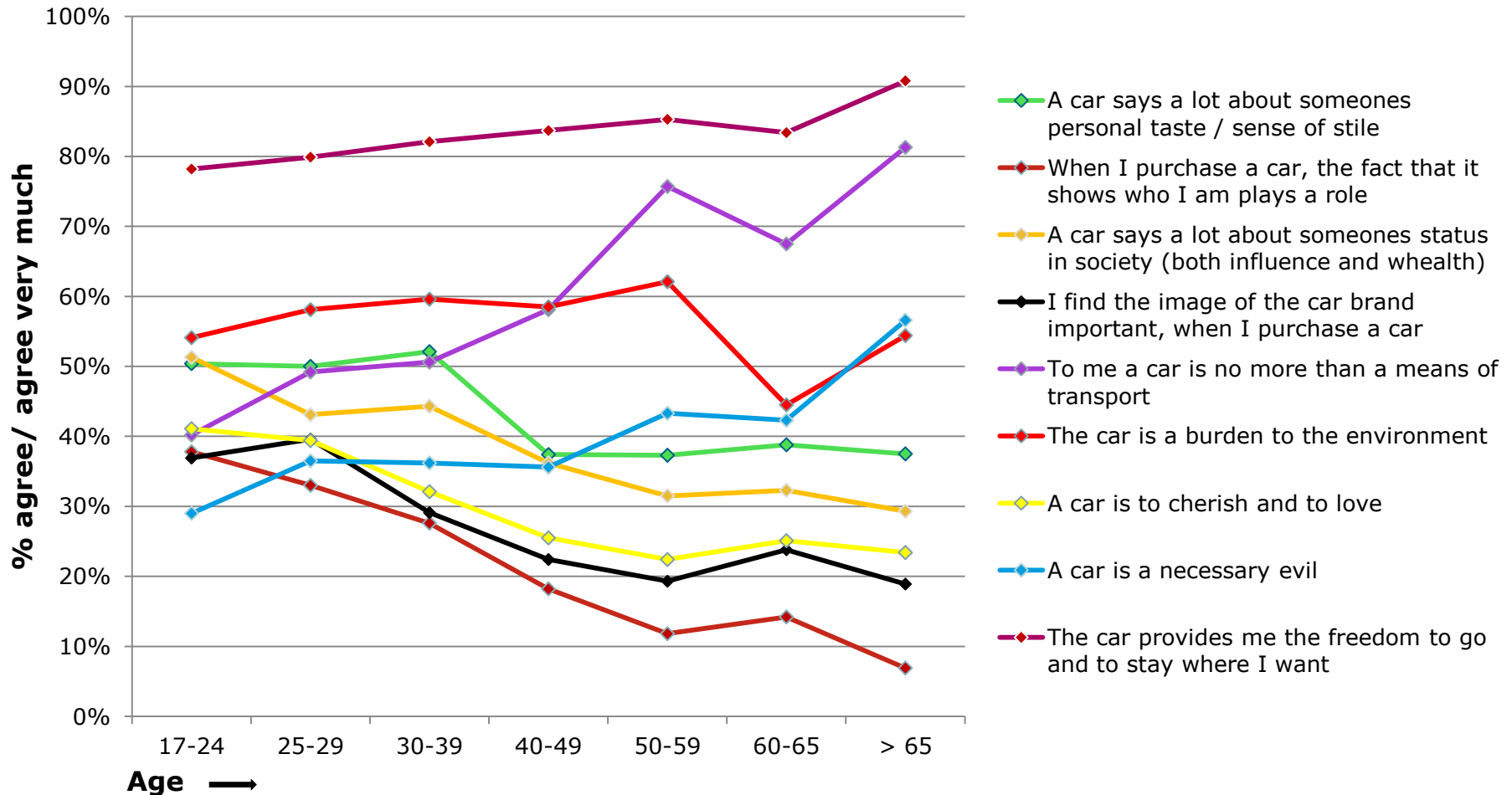
# Changing car mobility young adults

## Cohorts





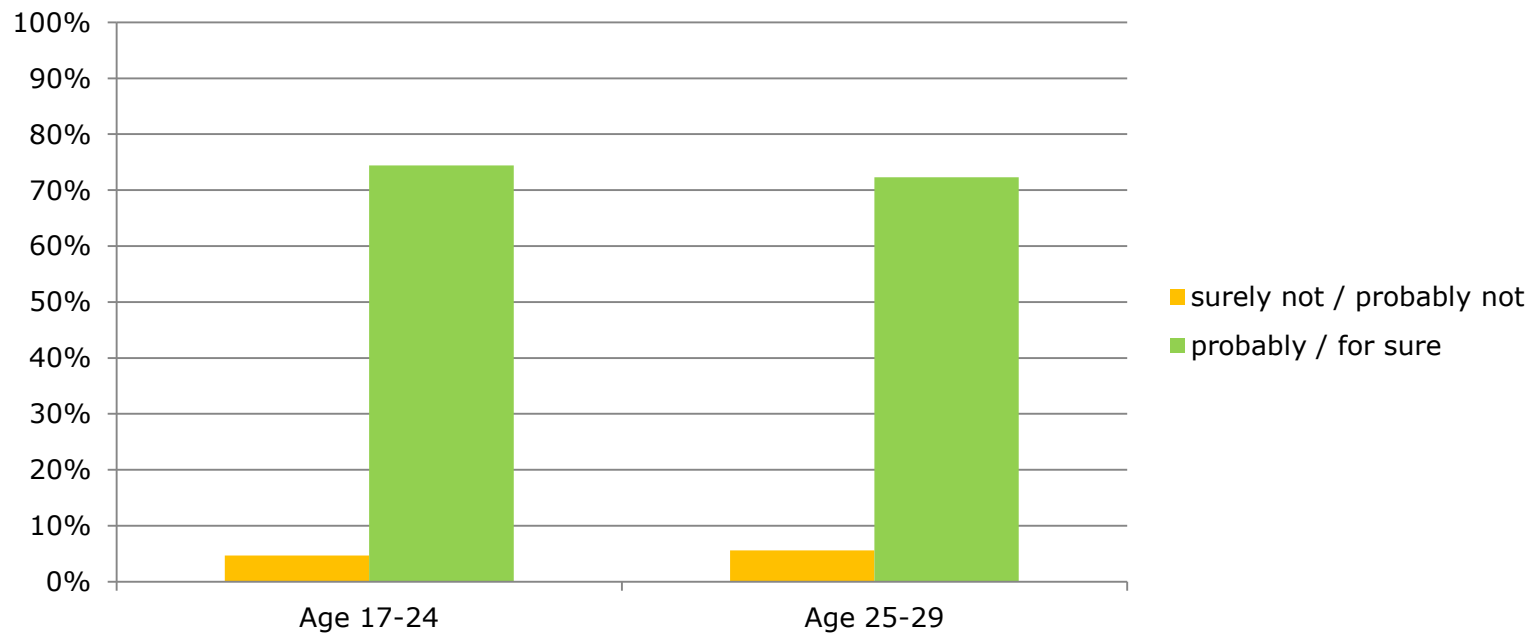
# Changing attitudes towards the car





# Changing attitudes towards the car

*Suppose you are over 30, You live together, maybe have one or two children and are 'settled'. Would you consider owning a car?*

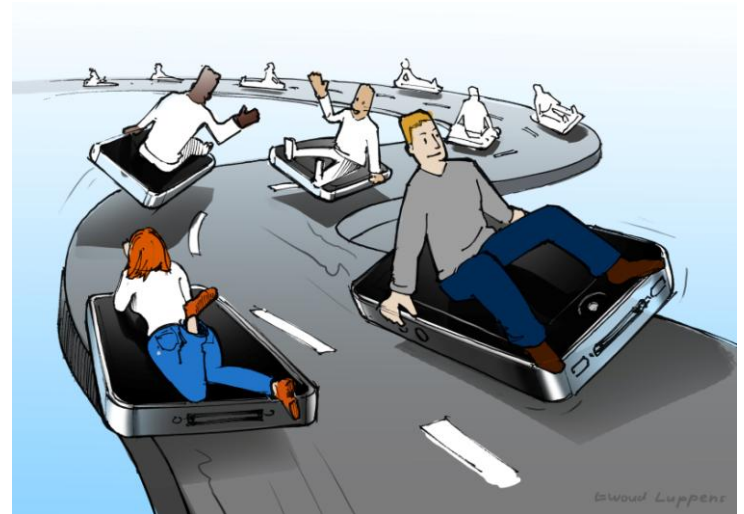




## Changing car mobility young adults

- *Gartner:*
  - *"I'd rather have access to the web than a car of my own"*
    - 48% in category 18-24 jaar
    - 15% in Baby Boom generation
- In our focus group experiment we found no apparent shift in focus from car to smartphone/tablet
- Car still has a high status among young adults (focus group)

Is increased use of IT for activities, a factor influencing the reduction in car use





## Less mobility as a result of E-society?

- The Netherlands is frontrunner in Europa for internet connections
- Frequency in internet use is high, also by mobile devices
- Possibilities change quickly through mobile internet; individuals become 'footloose' (Smartphone, Tablet)

What do we know about effects on mobility of things like:

- e-working
- e-commerce
- telebanking
- e-leisure
- e-conferencing



## Less mobility as a result of E-society?

- A strong decrease in physical mobility is expected as a result of a strong increase in digital communication.
- However.....
  - In reality impacts of e-activities are not limited to changing physical trips into virtual trips (substitution)
  - Generation effects occur
  - Existing research has a strong focus on substitution, resulting in little knowledge about the net effects.



## Less mobility as a result of E-society?

- Expected effects from various e-activities

<u>Type of E-activity</u>	<u>Substitution</u>	<u>Neutrality</u>	<u>Modification</u>	<u>Generation</u>	<u>Efficiency</u>
<b>E-working</b>	X		X	X	
<b>Business to Consumer E-commerce</b>	X	X	X	X	X
<b>Consumer to Consumer E-commerce</b>	X			X	
<b>Internet banking</b>	X				
<b>E-conferencing</b>	X	X		X	
<b>Leisure time spent on Internet</b>	X		X	X	X



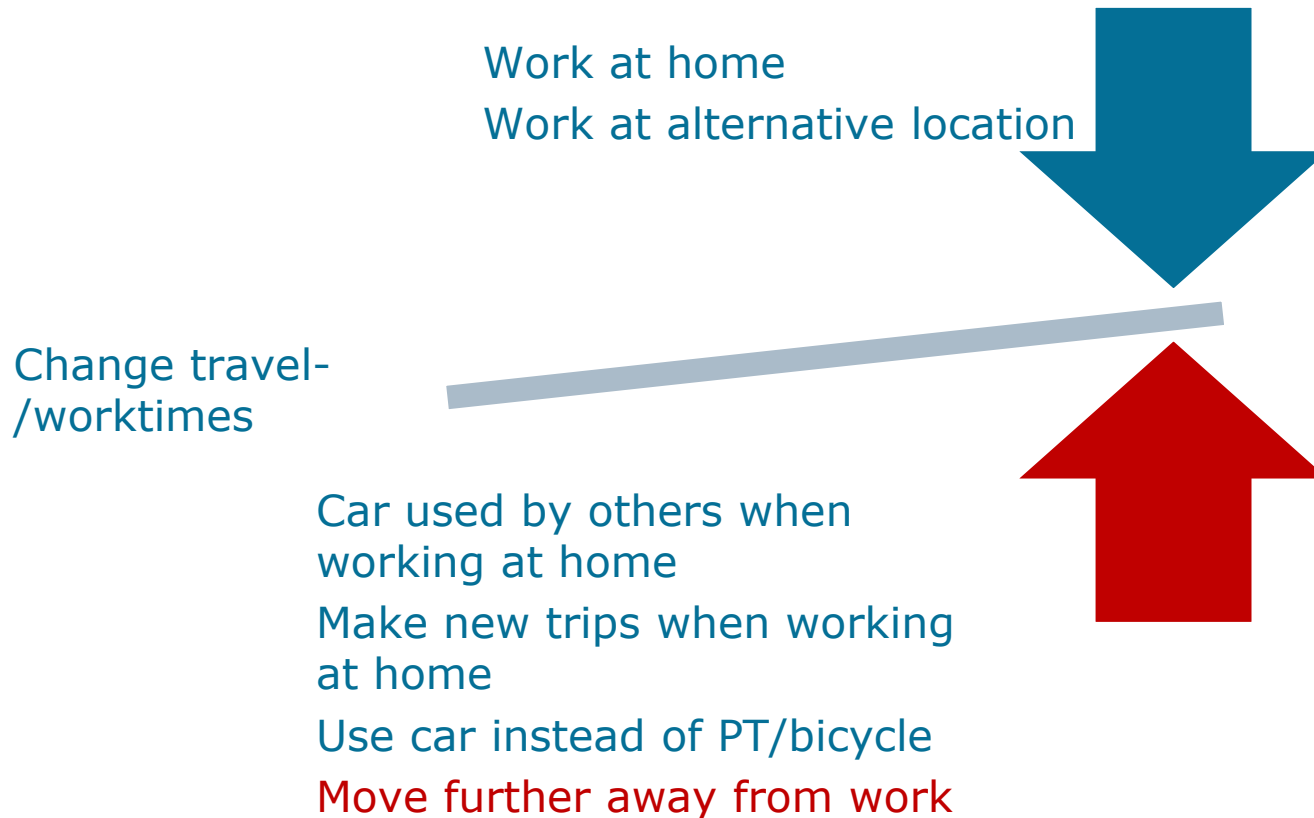
## Less mobility as a result of E-society?

- Existing research has a strong focus on substitution, resulting in little knowledge about the net effects.
- Actual effects are probably overestimated

Example: E-working (“Het Nieuwe Werken”)

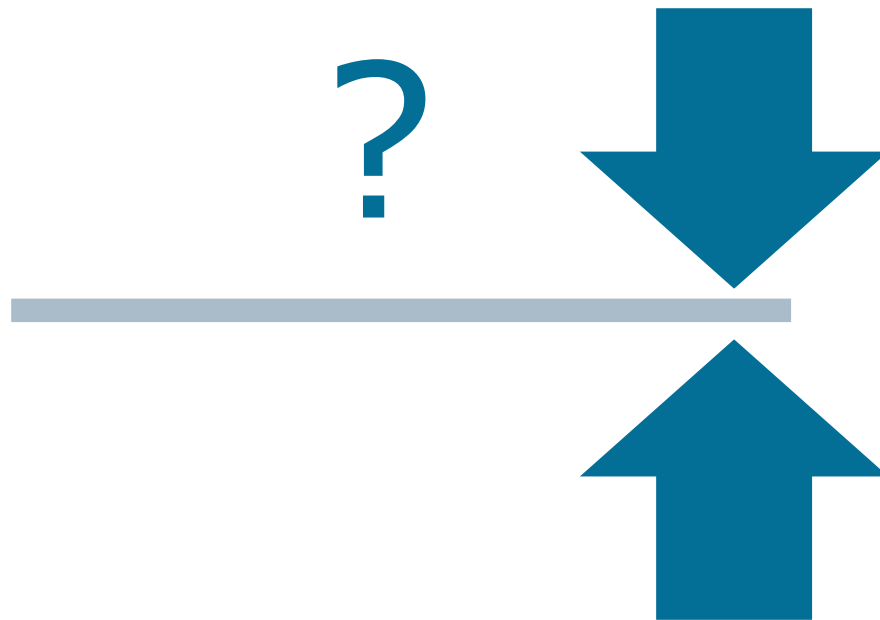


## Example: E-working





## Example: E-working





## Is growth moving abroad



### Dutch leisure mobility grows wings

- Little change in short leisure trips abroad by the Dutch
  - Growth in trips by plane
- Strong increase in holiday trips (4 days or more) by the Dutch
  - Clear shift from car to plane, also in Europe
- Total number of trips is limited



## Summary of results

### Contributions to levelling off of car use:

- Signs of saturation? Car ownership/ drivers licence
  - Limited contribution;
- Mobility of young adults: reurbanisation/drivers licence/ car ownership/ more students
  - Substantial contribution, mainly from situational changes; not from changes in attitude towards car.
- Impacts of e-society
  - Possible contribution; not to be determined; more research needed
- Is growth moving abroad?
  - Limited contribution (# trips); not a relevant trend





# Implications for transport policy development

- The need to deal with an even more uncertain future
  - Adaptive policy making
- More policy attention for different groups
- Dynamically changing travel patterns require a more robust transport system
- Focus on (re-)urbanisation



# Questions ?

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