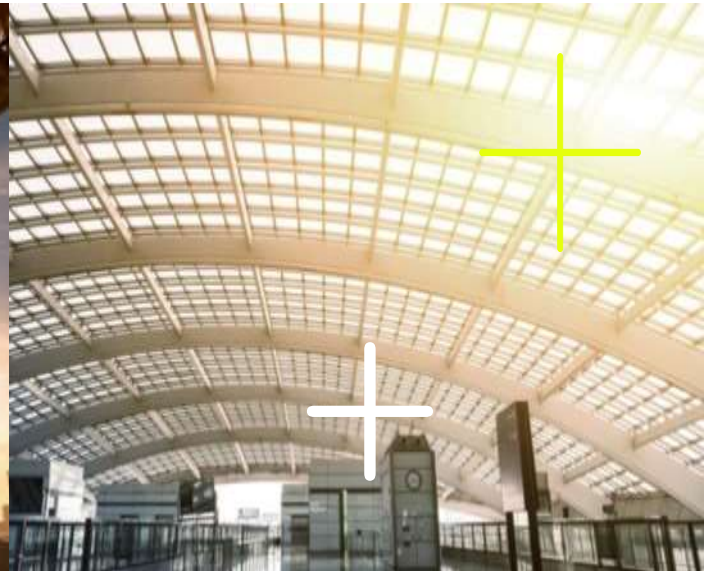


+  
Traffic Safety

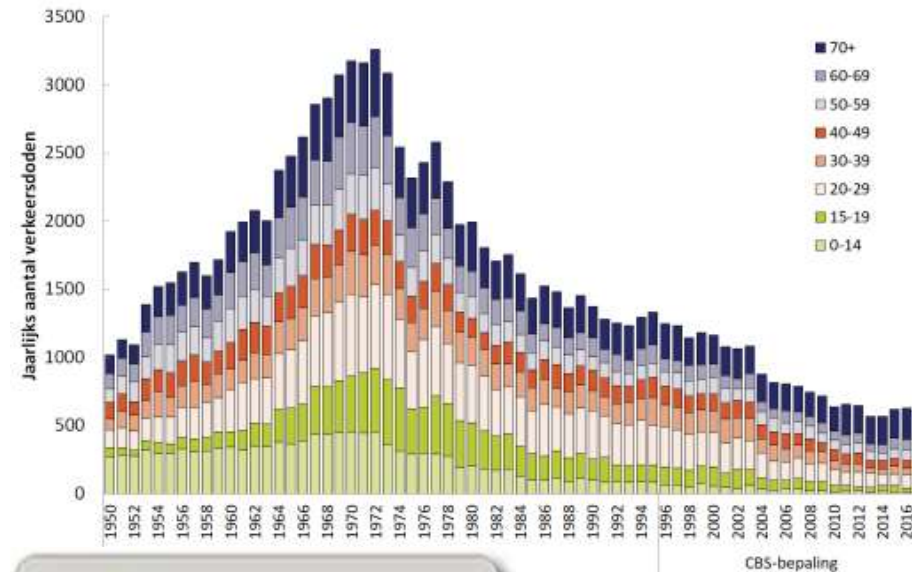


Child Safe workshop  
Pieter Onderwater

eThekwini  
20 June 2018

# Traffic Safety

- Approx. 1.3 million people die in traffic, every year...
  - South Africa in the bottom of the worldwide list
  - The Netherlands in the top...
- The Netherlands used to be unsafe
  - Since 1970s, Traffic Safety Policy
  - → halved the number of casualties,
  - every 10-15 years again
- South Africa has a similar policy
  - But is not achieving their goals, yet
- What does NL do right ?
- What can SA learn ?



# Traffic Safety

Look at Traffic Safety, from an Engineering point of view

However, it is also Urban Planning, Transport, Education, Communication → Social Engineering

- NL Traffic Safety Policy

- Road infrastructure
- Vehicle
- User
- Governance support

Compare to SA situation

- Some SA Examples

Schools, scholar Transport  
Crossing main corridors



# Compare South Africa – the Netherlands

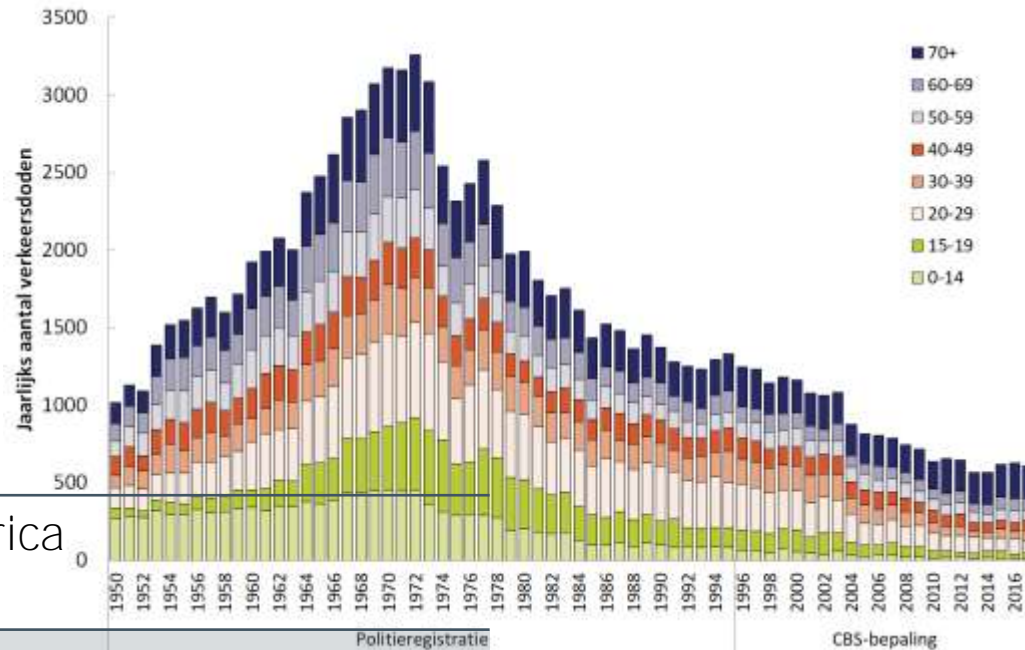
# Compare: South Africa – the Netherlands

	Netherlands 2017	South Africa 2017	Difference
Population	17 mln	55 mln	x 3
Motor Vehicles	9 mln	9 mln	= 1
Traffic Fatalities	600	14,000	x 25
Children (0-14y)	15 (< 5 %)	1,000 (< 10%)	x 60

- NL = 10-20 times safer than SA...!
- What does NL do right ?
- What can SA learn !



- NL was not always this safe
- What happened since 1970s ?
  - Continuously...!
- Can SA get there ?
  - Over time !



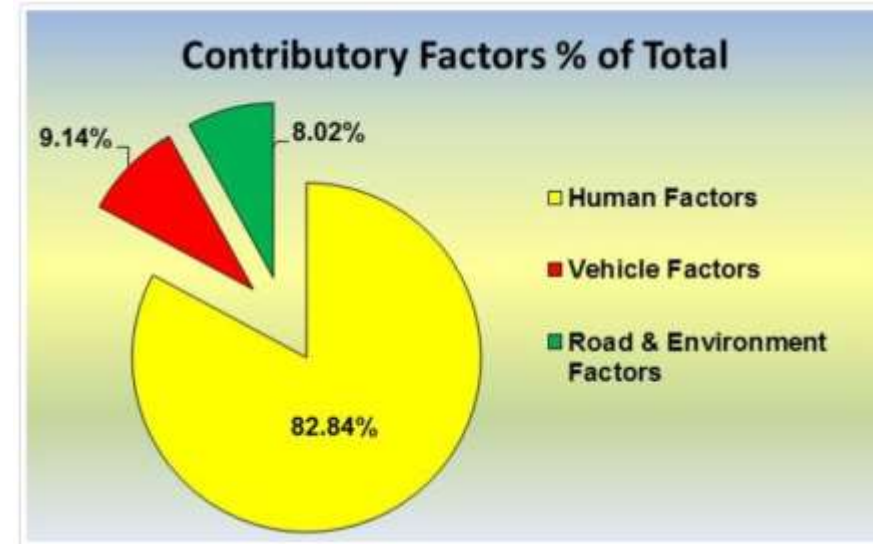
	Netherlands 1970s	South Africa 2017	
Population	13 mln	55 mln	x 4
Motor Vehicles	3 mln	9 mln	x 3
Traffic Fatalities	3,200	14,000	x 4
Children	>400 (<15 %)	1,000 (< 10%)	x 2½

Equally (un)safe

# Traffic Safety in SA

## Causes of unsafety:

- Infra
  - Design, alignment, road surface
  - Weather and external circumstances
- Vehicle
  - Faulty tyres, brakes, steering, lights
  - Fraud and corruption: Licensing
- User
  - Speeding, overtaking, ignoring road signs and stop signs, drinking
  - Little enforcement, or corrupted
  - **Pedestrians' behaviour** (jay-walking, crossing, drinking)



# Traffic Safety Policy in NL

## Traffic Safety Policy:

- Road
- Vehicle
- User
  - Majority of unsafety is caused by human factors
  - However: if you design the road / vehicle adequately → human behaviour will improve: manage road-**users' expectations**

Governance support: policies, budgets, enforcement, etc.



# Road infra = Engineering and Planning

NL

Design for Purpose:

- Road Classification
- Develop new infra conform
  - Side-walks, cycle paths, etc.
  - Geometry, speed, lanes, etc.
- And: Retrofit existing infra

Manage road-**users'** expectations

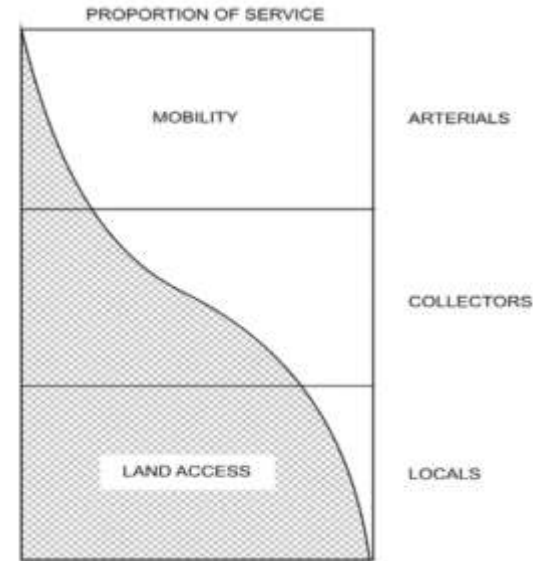
SA

- Road Classification !
- Complete Streets !

**Budget restrictions...?**

# Re-design Road infra

- Road Classification
- Complete Streets:
  - Design with people’s perspective first
  - NMT / Active Mobility
  - (‘Traditionally’: Car design)



**Road classification**  
Class 1: Freeways  
Class 2: Arterials  
Class 3: Distributors  
Class 4: Collectors  
Class 5: Residential  
Class 6: NMT routes

- Piggy-Back with Maintenance Programme:
  - Each maintenance project should be preceded by a re-design
  - Use regular Maintenance budget, plus small additional Safety budget
- Retro-fitting can take 30 years... → but you have to start

# Vehicle = Law and Enforcement



NL

Road Worthy Test:

- Vehicles >3 yrs old → every year

Rules on children in cars:

- Infant seat, not on front seat, use seat belts in rear seats, etc.
- No passengers in vans and bakkies

PT Licensing:

- Public Transport companies
  - Additional requirements

SA

- Only at selling/ buying

- Similar rules → little enforcement

- PT = individual operators
  - Partly informal, unlicensed
    - Partly back-log licensing...
  - Competition → unsafe behavior

# User = Education and Awareness

- Traffic Education at Primary school: Training, Exam and Diploma
- **Drivers' Education and License**
  - Point system for beginners / all; additional tests for pensioners
  - 2 faults in 5 yr time → **you lose your driver license...**
- Experience:
  - Back-seat generation → unconscious experience
  - As youngster, you have walked / cycled to school → once you are a driver, you do realise how vulnerable others are
- Rigorous TV promotions: seat-belts, helmets, drinking & driving, hands-free / no cell-phone use, other behaviour, etc.
  - Plus enforcement !
    - Resulted in > 95% compliance !
- Exposure: TV shows on bad behaviour in traffic



# Governance support

## NL

- Policy: continuous, disciplined
- Budgets
  - Levies = 65% of fuel price
  - → to pay for costs to society:
    - Health care
    - Enforcement (police)
    - Environment, PT, etc.
- Enforcement
- Pro-Active – prevention

## SA

- Policy !
- Levies = 40% of fuel price:
  - General levies
    - Or general tax ?
  - Road Accident Fund
- Enforcement → limited ?
- Re-Active





# Some Examples

# Example: Schools

NL

- Dense Urban Planning
- Small schools in rural villages
  - Along class 4,5 roads
  - Prim. schools → walking
  - Sec. schools → + cycling
  - On safe roads



SA

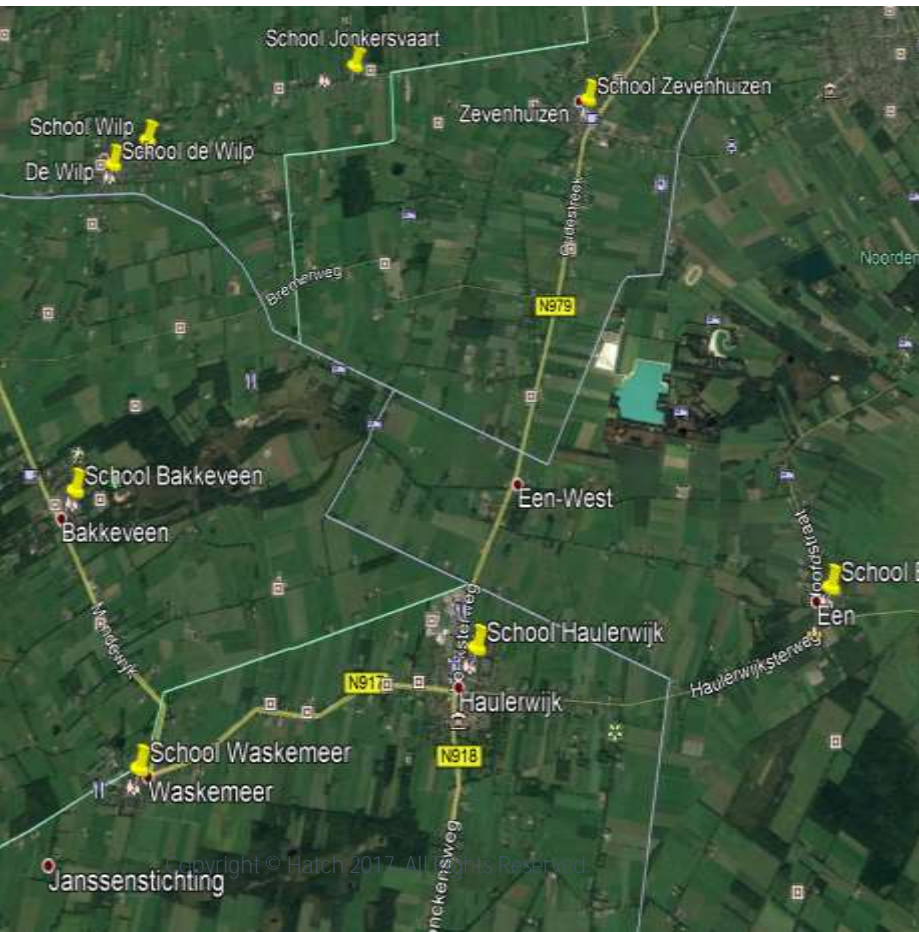
- Big schools in urban areas
    - 1000 scholars
  - Centralised schools in between villages
    - Low Rural densities
    - Very long walking distances
    - Sometimes along class 1,2,3 roads
      - Lack of parallel road infra
- More smaller schools ?



# More smaller schools

Secondary School	12 500	5 km
Primary School	7 000	5 km

NL Rural



5 km radius

SA Rural





# Example: Scholar Transport



NL

- Very few school buses
  - Most scholars walk and cycle
  - Discounts on regular PT
  - Parents drop-off
    - Causes some unsafety...

SA

- Scholar transport is a requirement > 3 km → but often lacking
  - Regular PT is expensive
  - Informal bakkie transport is unsafe
- Conflict...:
  - Take informal illegal transport off the road
  - Have the children walk for 5 or more km
  - → Provide proper alternative



# Example: pedestrians crossing main infra

- Many pedestrians walk along and cross main infra
  - Freeways, arterials, rail lines, etc. → **resulting in 1000s of casualties...!**
- Because it is the shortest (or only) route to their destination
- → Provide more facilities: parallel paths, sidewalks, crossings, pedestrian bridges, etc.
- People tend to avoid these facilities → safety and security
- → Design with community:
  - Ideal location
  - Awareness
  - Sense of ownership → security



# Lessons to learn

Traffic Safety = Urban Planning, Transport, Engineering, Education, Communication, etc. → Social Engineering

Think outside your box = Policy, Solutions, Budgets, etc.

# Acknowledgements

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Dr Hubrecht Ribbens – Child Safe presentation June 2018

Google Earth, Google Images (copy rights?)

Thank you,

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