Research and Innovation Challenges of Connected and Automated driving

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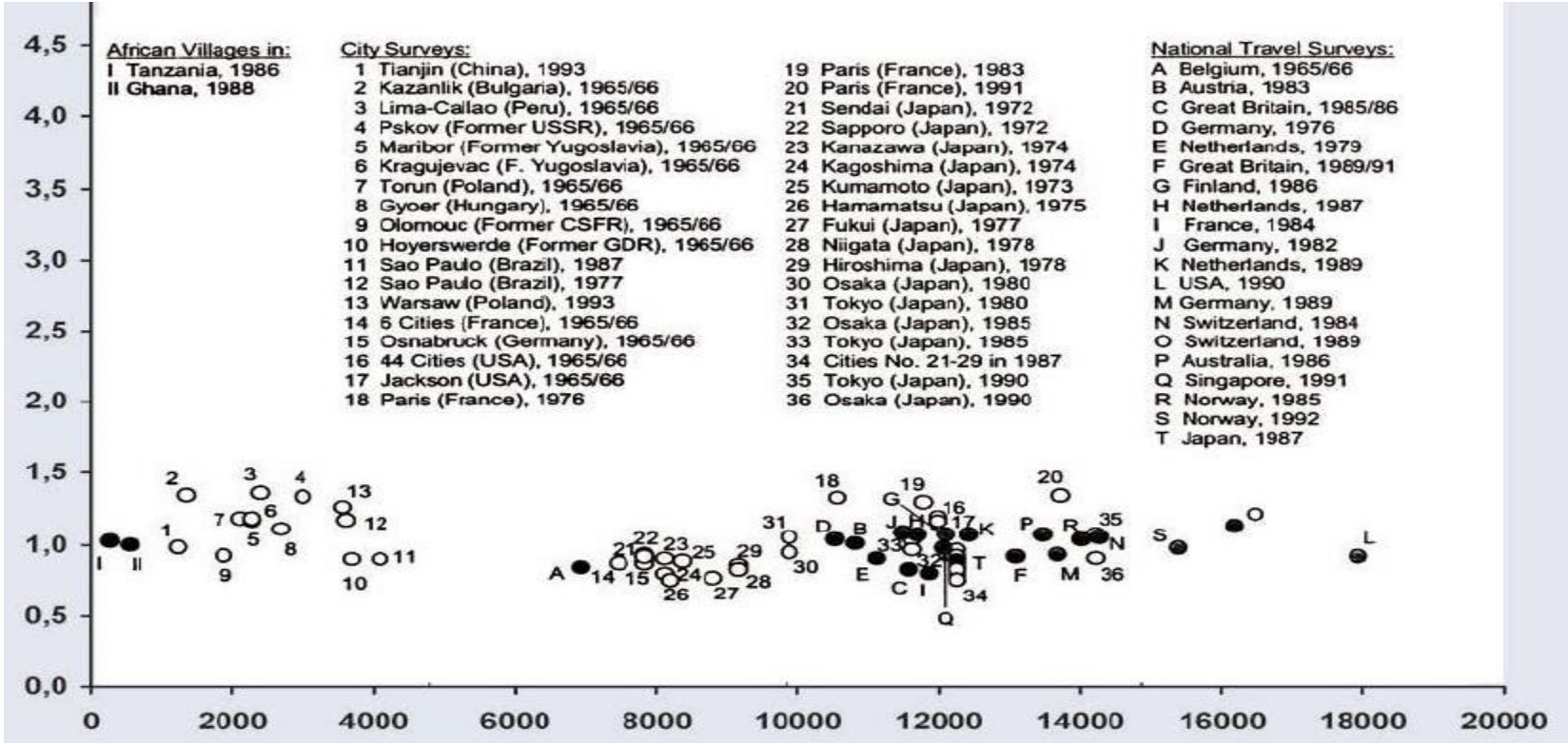
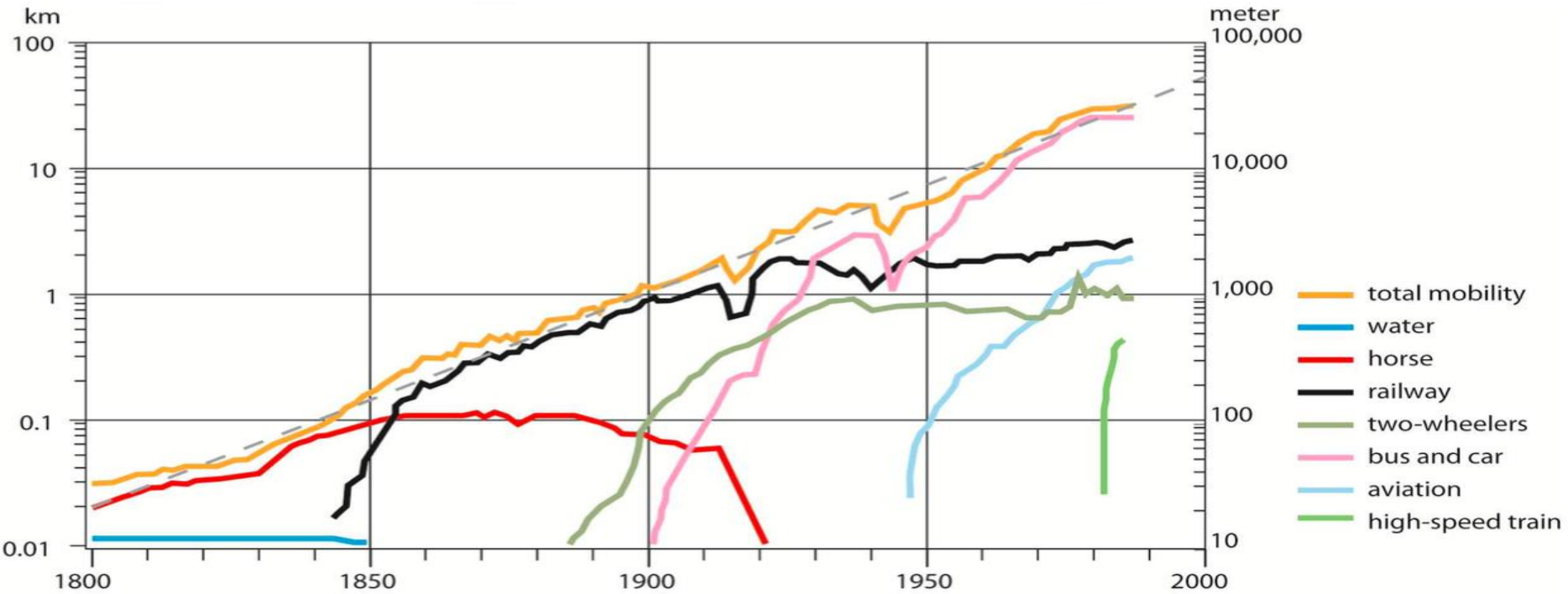
Marchetti's Constant



Daily mobility in passenger-kilometres (France)



Grübler 1990

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Pasteuning Wijnen
SALE

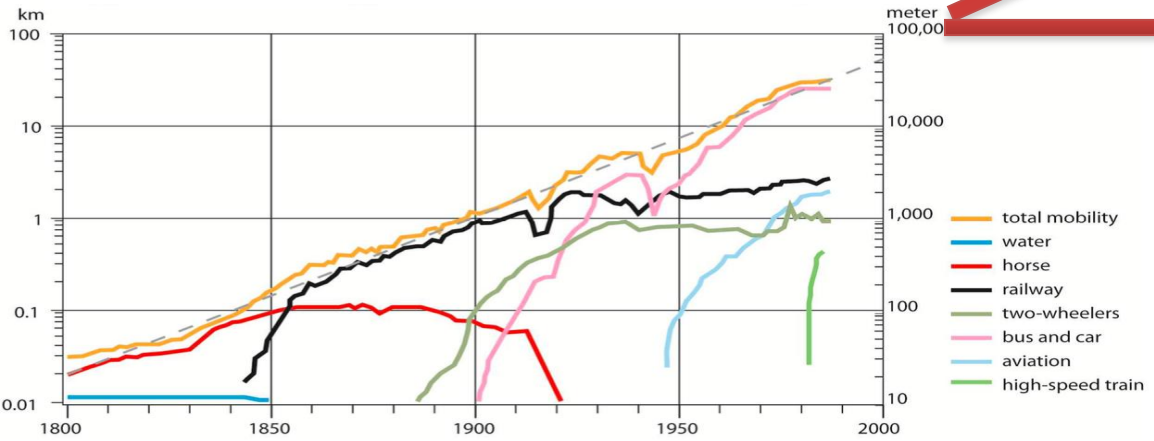
AUTONOMOUS MODE
TU/e

0
20
40
60
80
100
120
140
160
180
200
220
240
260
km/h
Durchfahrt bei Grün
13:25
+20.5°C
D
44
km
150327

Theses

- Cars will be inherently safe, through ADAS rather than autonomous driving
- Mobility will be clean, independent from CAD
- Connectivity will lower congestion. Automation will worsen congestion, but lower the congestion problem
- SAE Level 5 is a solution looking for a problem
- **Urban space is the major left over challenge for mobility**
- CAD R&I needed: cooperative systems, new mobility systems, crowd sourced HAD maps, Low-cost antenna radar, Privacy and (Cyber)Security, Infrastructure for Smart Mobility

Quantity or Quality?



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More?

High speeds trains, hyperloops, planes, asphalt, parking

Better?

Bikes, Liveable Urban spaces, inherent safe and clean transport, parks

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