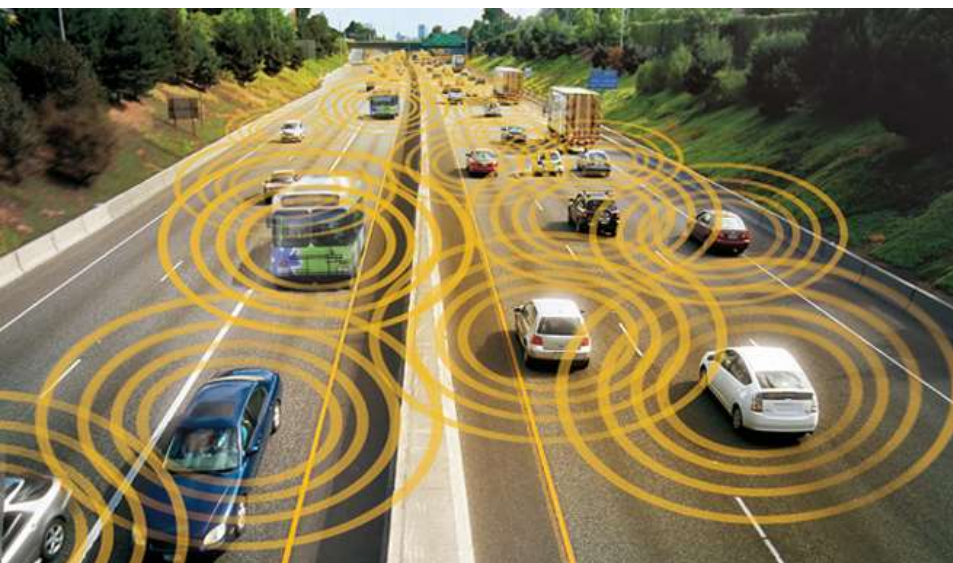




Ministry of Infrastructure and the
Environment



Smart Mobility

Learning by doing national and international

16 mei 2016

Michiel Beck



Agenda

- Developements influencing traffic and transport in The Netherlands
- Traffic policy in The Netherlands and goals
- Transitions towards Smart mobility
 - ICT and vehicles
 - Vehicles and levels of automation
- Discussion



DEVELOPMENTS



Developments influencing transport in The Netherlands

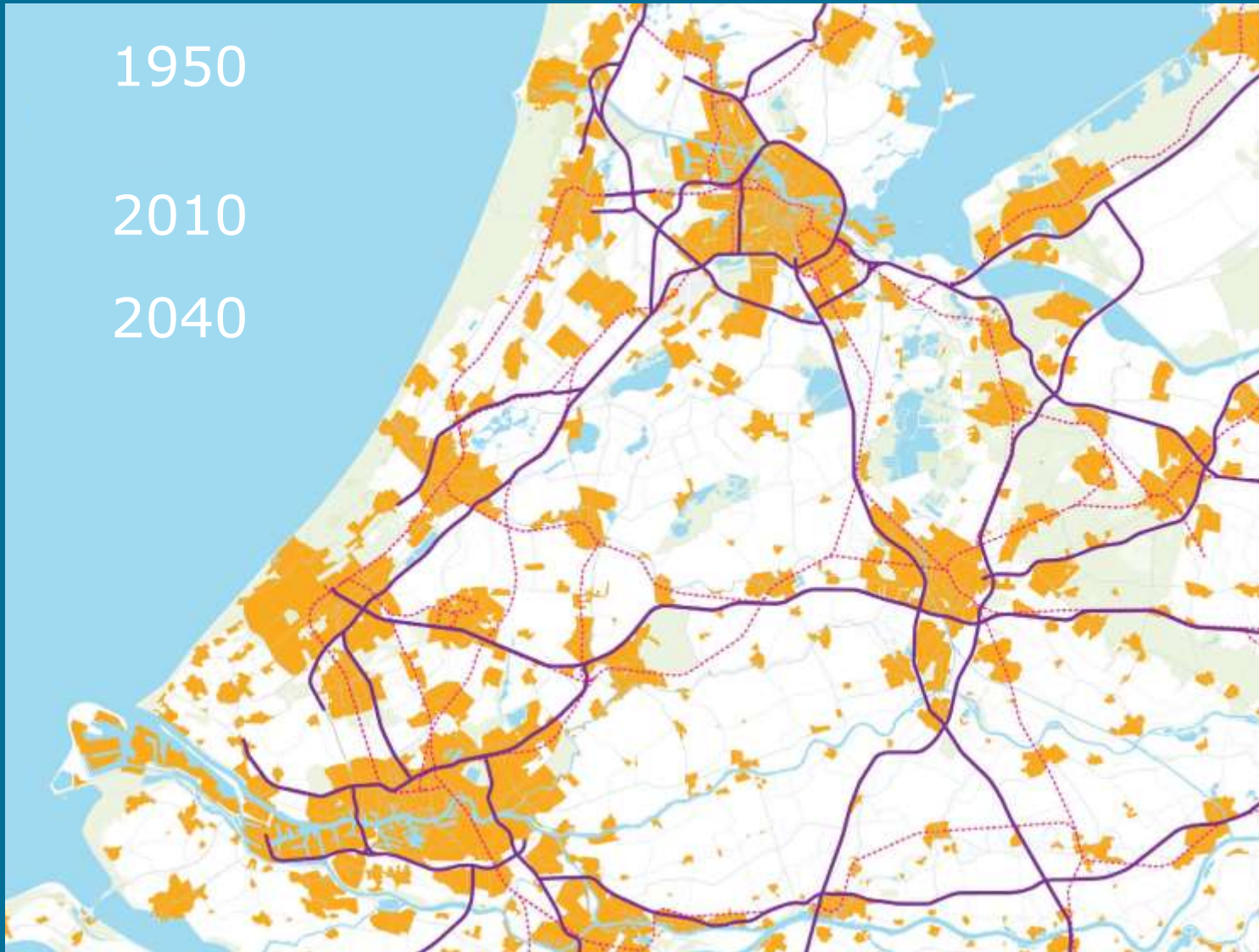
- Demography
 - Aging
- Economy
 - Income
 - Car ownership
- Spatial planning
 - Urbanisation
 - Infrastructure
- Technical developments, innovations

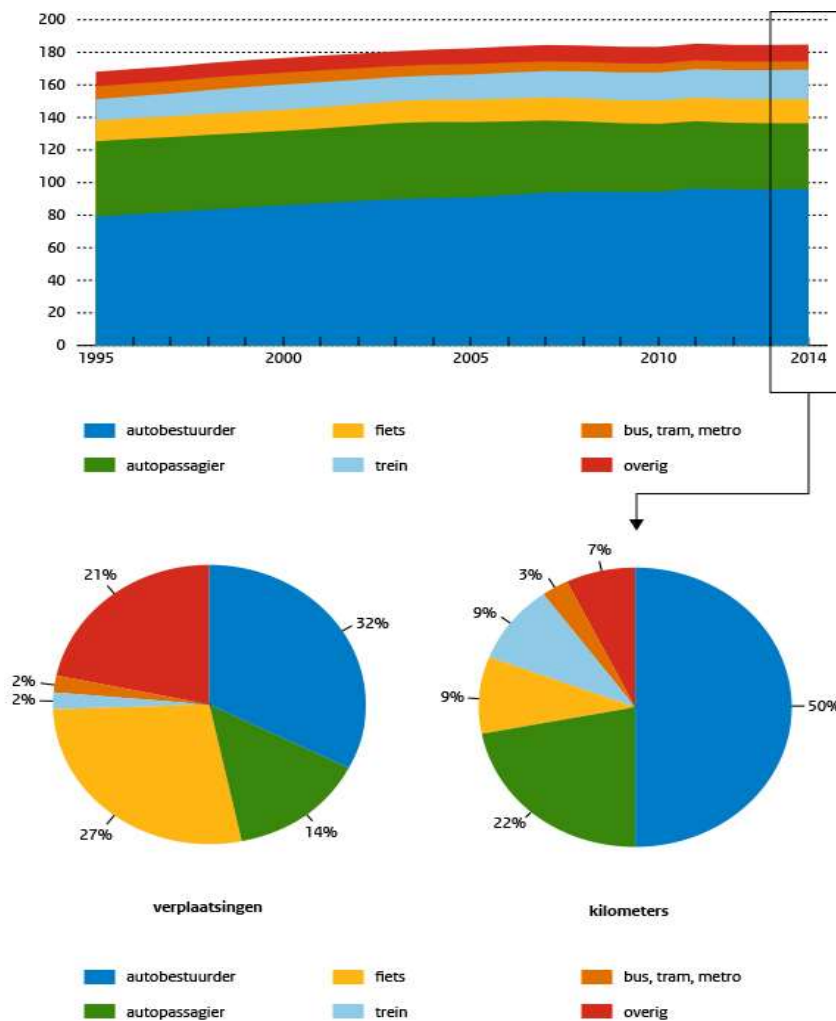


1950

2010

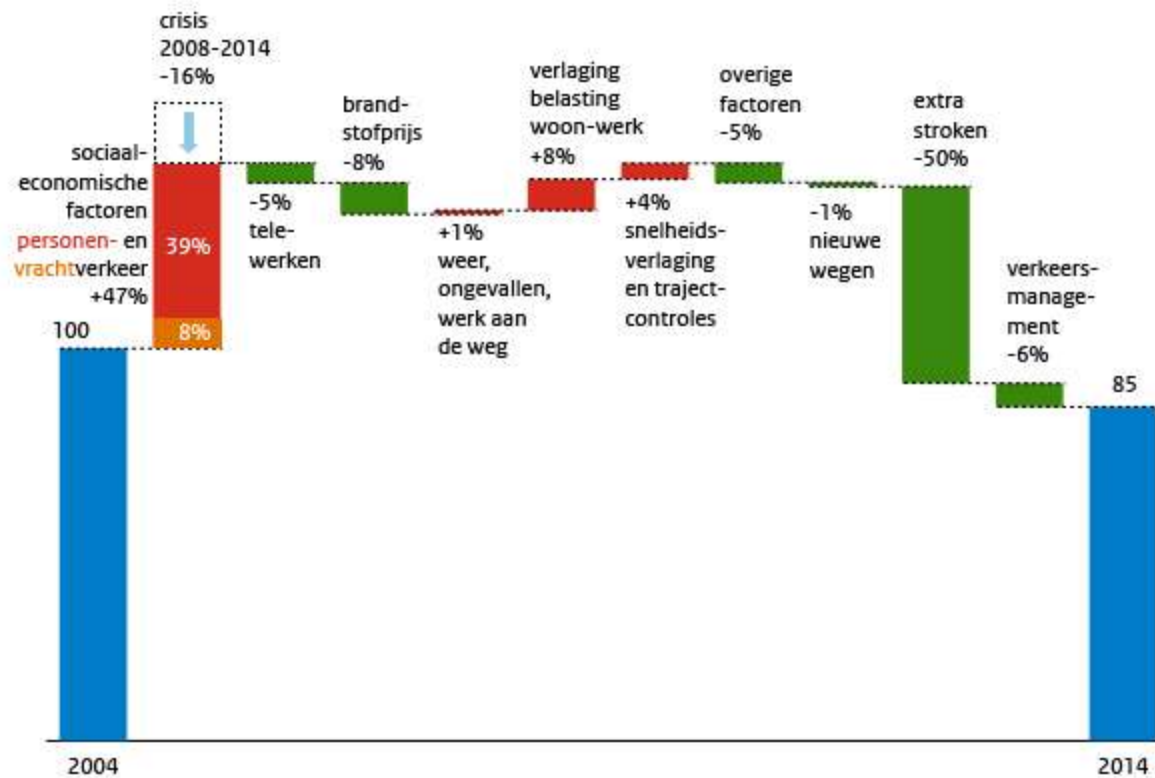
2040







Reistijdverlies





POLICY AND GOALS

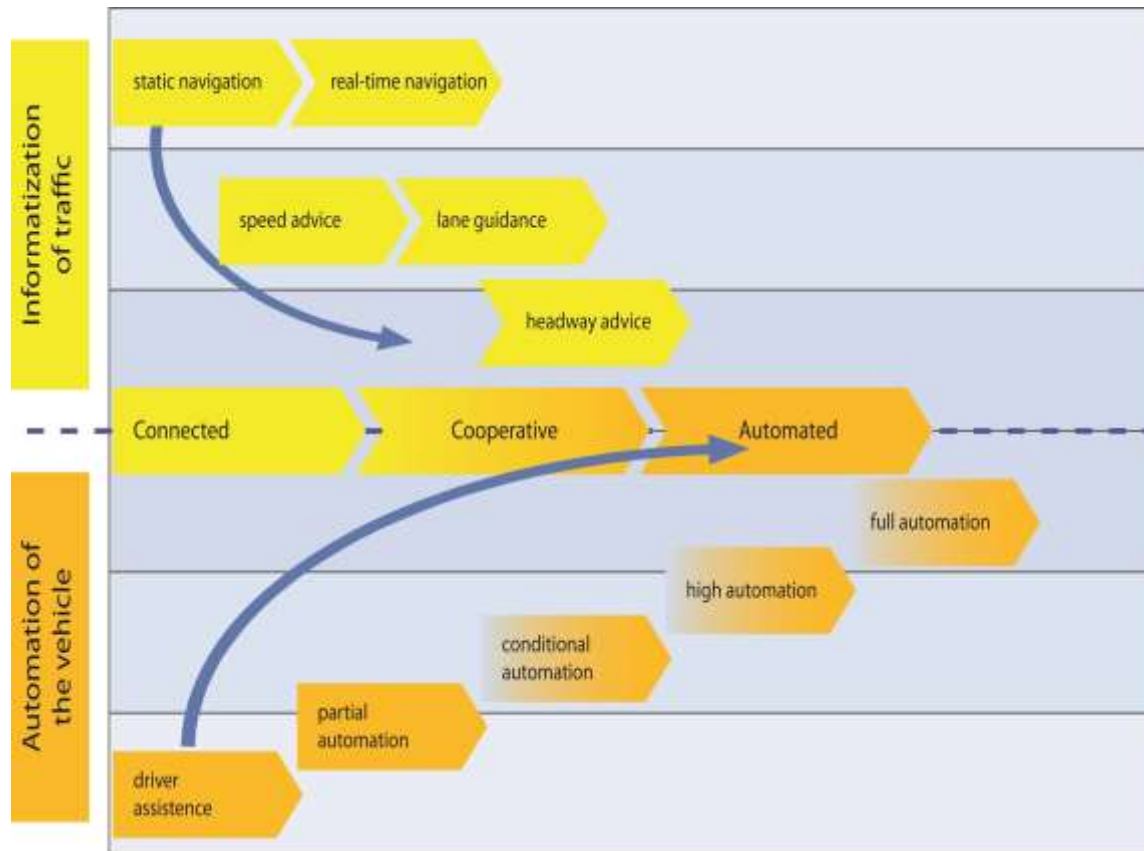


Innovative mobility meets Dutch policy objectives





A comprehensive approach



- Stimulate innovation and market developments
- Dealing with uncertainties:
 - no fixed point on the horizon
 - requires proactive and flexible attitude
- Learning by doing



Dutch approach and current activities

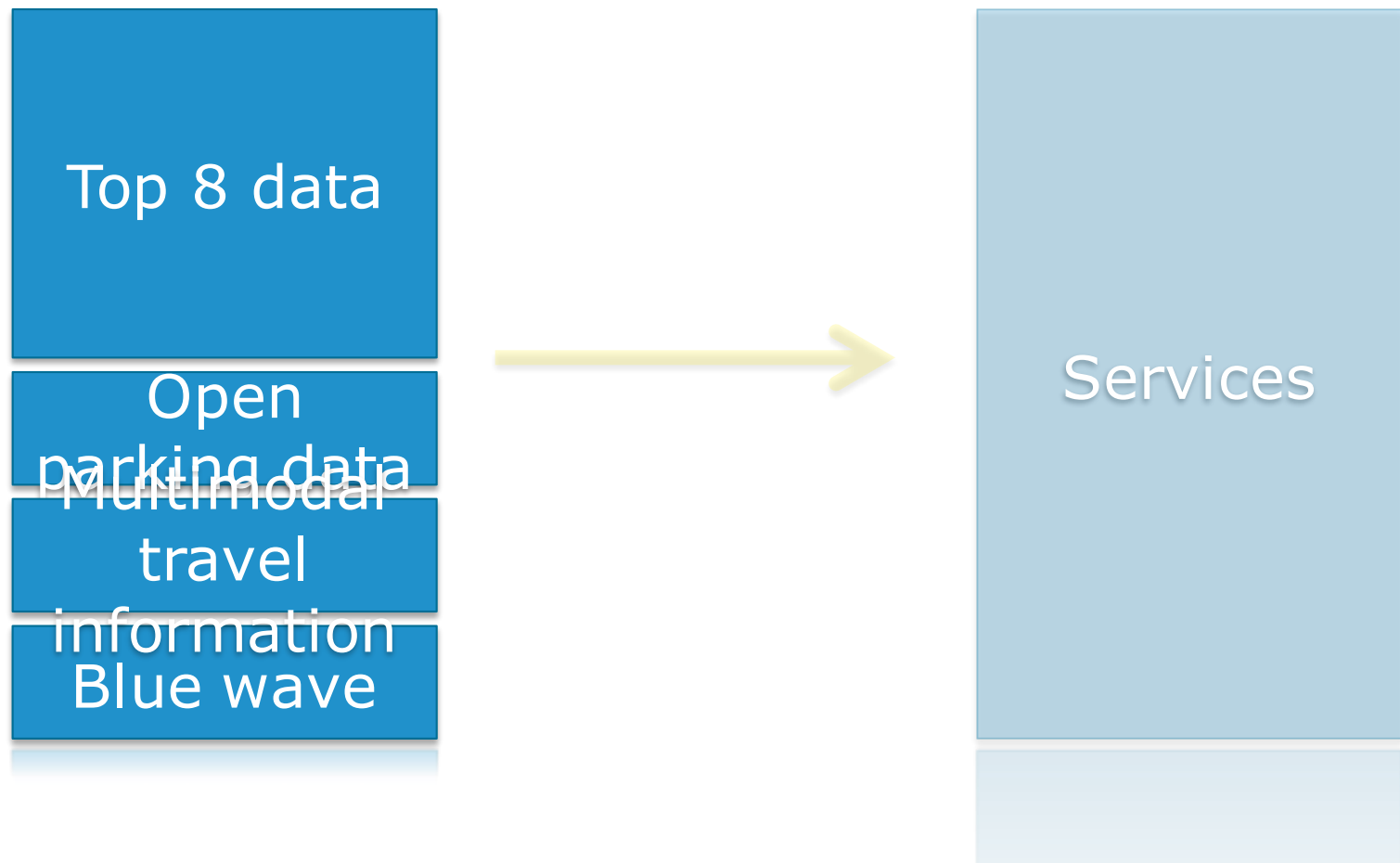
- **'Optimising Use' programme (short term benefits)**
 - the Dutch government, regions and businesses are working together to improve road, waterway and railway accessibility in the busiest regions.
 - Customised to the region
 - Mix of measures
 - Key role for businesses

- **Connected & cooperative , V2V, V2I, V2X (medium term benefits)**
 - Connecting Mobility: joint roadmap on traffic management and traffic management by industry, government, knowledge institutions
 - Projects: Cooperative ITS- Corridor NL-DE-AT, Practical trial Amsterdam, Shockwave A58
 - International harmonisation/ standardisation: C-ITS Platform/ Amsterdam Group
 - ITS-guideline: deployment of priority actions

- **Automation and self driving cars, levels 0-5 (long term benefits)**
 - Adjustment of (inter)national law
 - Facilitate large-scale practical tests on public roads
 - International efforts to make deployment a reality
 - Stimulating and developing knowledge



Data





TRANSITION TOWARDS SMART MOBILITY

Transition routes

From Roadmap to Implementation Agenda - Focus on six transition routes

Objectives



END 2023



START 2013



Present traffic management via broadcast





Future traffic management? Via personal info





Use cases: fuel efficiency/safety/sustainability



- Red Light Violation Warning (RLVW)

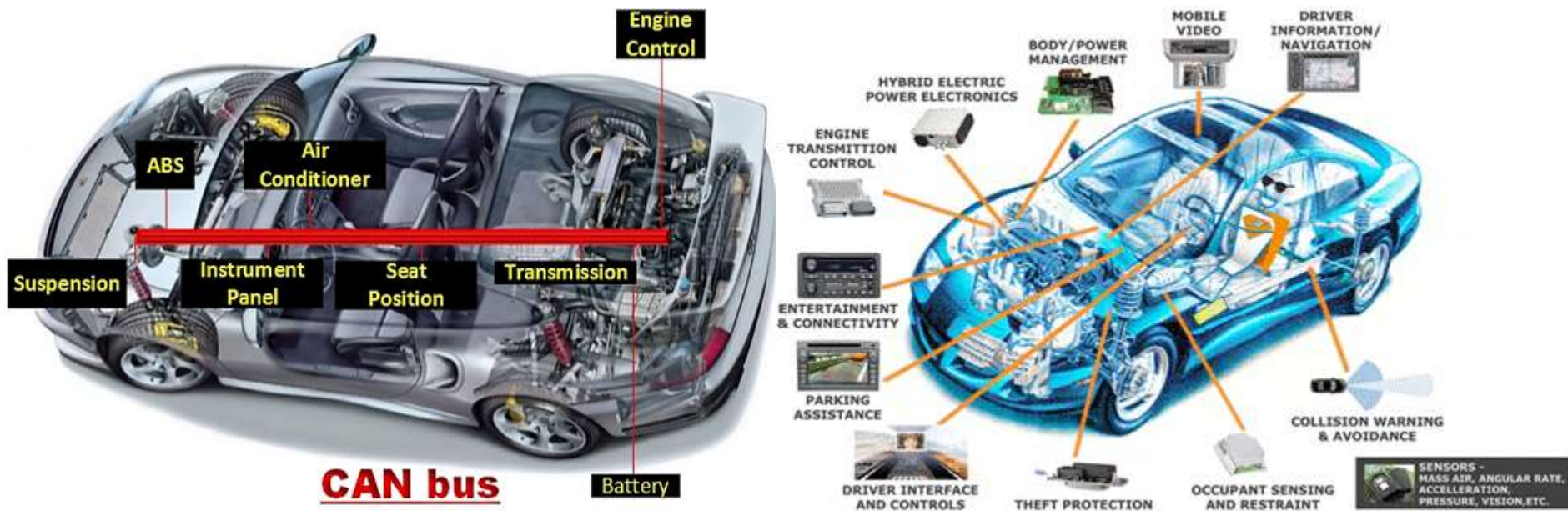


- Energy Efficient Intersection Service



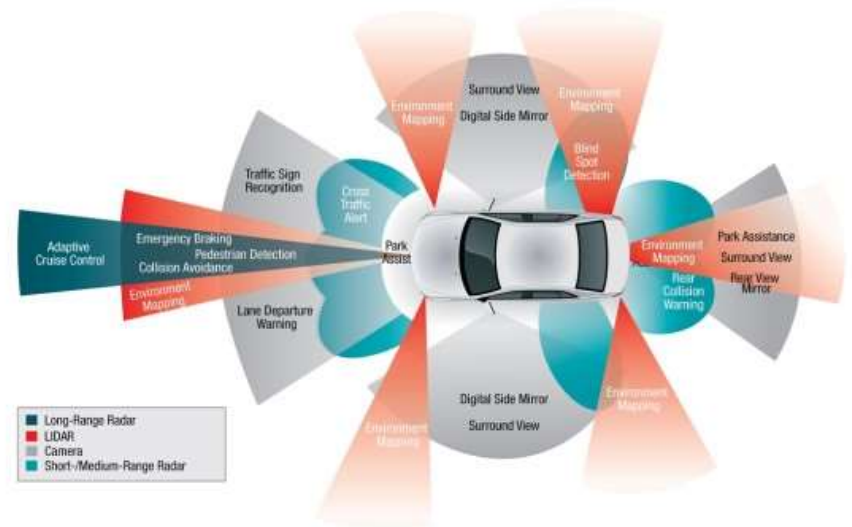
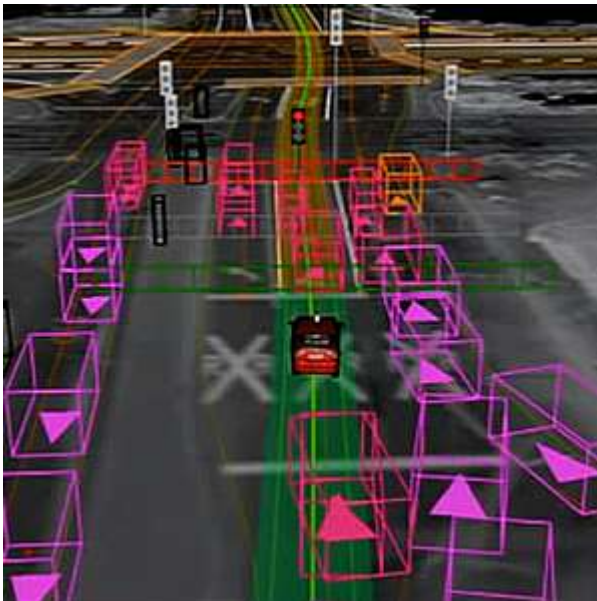


Cars as a data generator



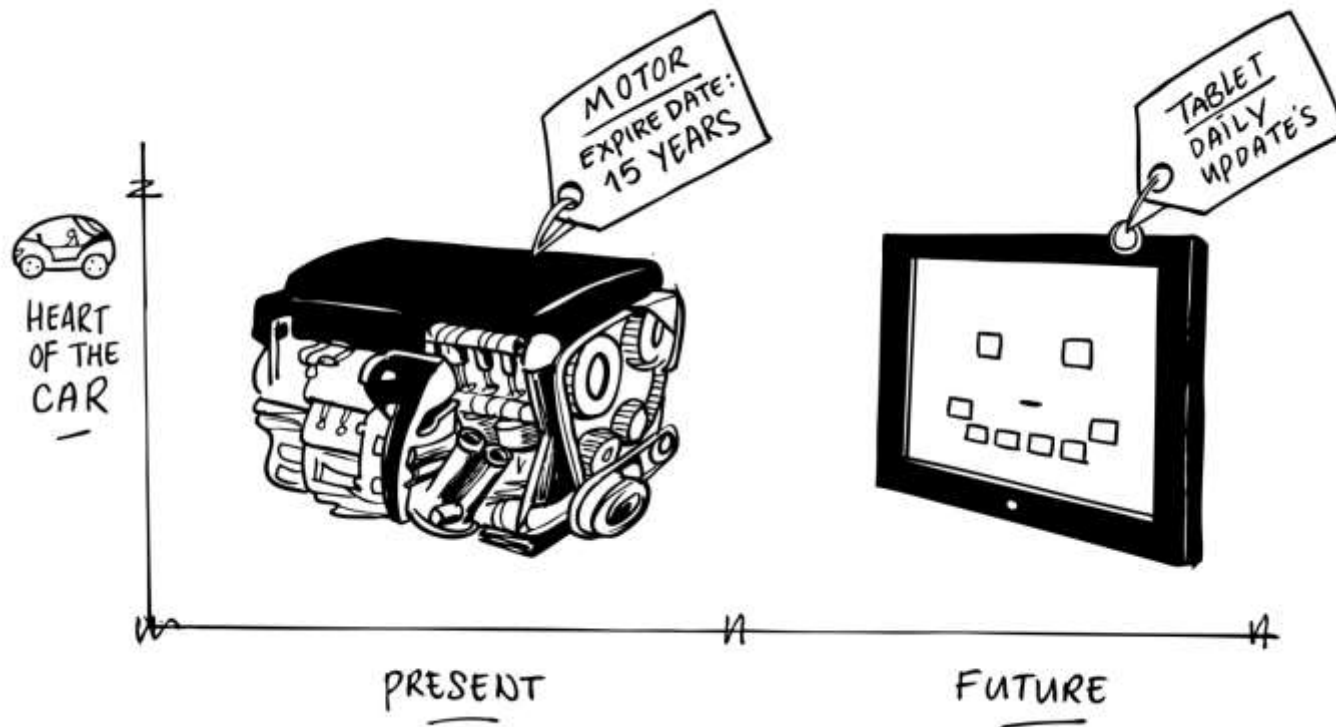


Cars gathering data





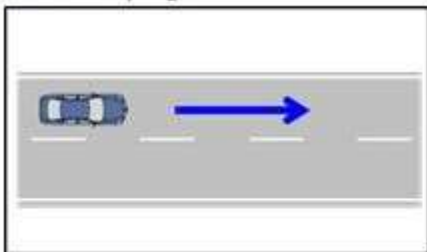




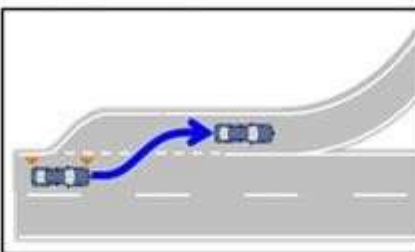


First levels of automation

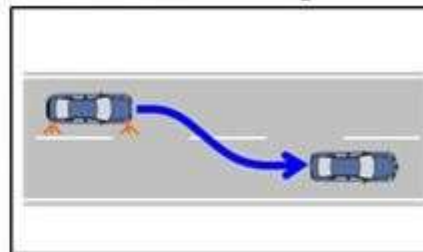
Lane Keeping



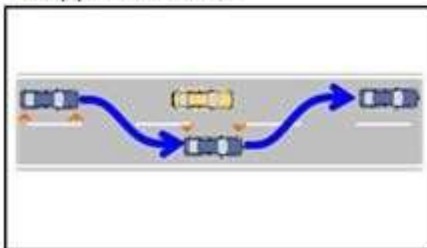
Automatic Exit



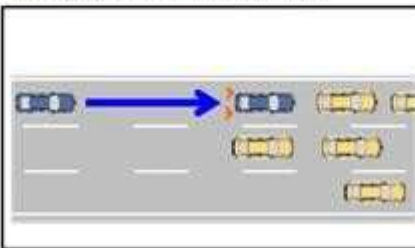
Automatic lane change



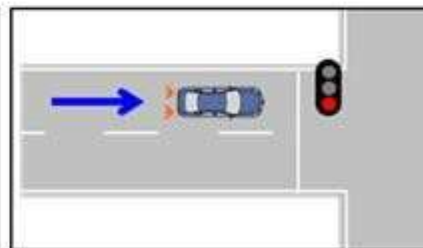
Automatic overtaking slower or stopped vehicles



Automatic deceleration behind congestion on freeways



Automatic stopping at red lights





Talking traffic?

