AVENUE 21
PLANNING FOR THE LONG 4th LEVEL
MATHIAS MITTEREGGER
A CLOSE LOOK AT THE SAE LEVELS (AND DOCUMENT)


SAE (2016)
AUTOMATED DRIVING SYSTEM (ADS) operational design domain (ODD) using vehicle system within operational design domain (ODD) driving (Level 3 and up)

own representation. Terminology SAE 2016
DRIVING (Level 3 and up) by AUTOMATED DRIVING SYSTEM (ADS) using VEHICLE SYSTEM within OPERATIONAL DESIGN DOMAIN (ODD) own representation. Terminology SAE 2016 IMGs: DARPA (2004) Google 2015
**ADS ARE IN PRINCIPLE TRANSFERABLE**

- With ODDs you move from simple to complicated
- If you can handle the complicated ones you can handle all below
- Once established, an ADS can be installed on any container or vehicle

**DRIVING**
the control and operation of a motor vehicle

**TRANSPORT**
system to move people or goods from place to place

**EXTENSION**
system to extend one’s influence (access) over distance, environments and time

If humans are not involved in the task of driving, a new function unfolds
“We shifted our focus from research and development to operations and deployment. And that means to put anything in place to scale and expand quickly. Now with Waymo our ultimate goal is to provide a self-driving vehicle tailored to every trip and for every purpose. And we can do this, because we are building the driver. And this same driver can be adapted for all kinds of vehicles.”

John Krafcik, CEO Waymo, 27.03.2018
NEW KINDS OF DRIVING

- AGRICULTURE
- CONSTRUCTION / DEMOLITION
- SERVICE & ENTERTAINMENT
- LAWN CARE
- SECURITY & COMMERCIAL CLEANING
- TRANSPORT
- WAREHOUSE & LOGISTICS

own representation (Source Images Google)
INFERENCE ONE: GETTING BACK URBAN SPACE

- ENTERTAINMENT
- AGRICULTURE / LANDSCAPING
- SECURITY
- COMMERCIAL CLEANING
- CONSUMER SALES
- CONSTRUCTION / DEMOLITION
- PARKING

own representation
INFERENCE TWO: UNDERSTANDING TRAFFIC
Planning with ADS

by AUTOMATED DRIVING SYSTEM (ADS)

using VEHICLE SYSTEM

within OPERATIONAL DESIGN DOMAIN (ODD)

DRIVING (Level 3 and up)
Transport systems in Houston: IAH Skyway & Metro Light Tram

IMGs: Web; own representation
WHY PLANNING FOR MATTERS

Robert Moses (Source: Web)

Palmer Avenue Bridge, Bronx River Parkway, 1927 (detail). Photo: Historic American Engineering Record