

# Strategy Day on Emerging Trends in Public Transport and Vehicle Automation

Challenges, Opportunities and Next Steps

# Housekeeping

- Much gratitude to:
  - Organizing Committee: Kornhauser, Le Vine, McDonald, Rodier, Young
  - Stanford Law School
  - University of Maryland's Center for Advanced Transportation Technology
  - Advanced Transit Association (ATRA)
  - Carplus
- Chatham House Rules
- Those taking part remotely: input via [AP020strategyday@advancedtransit.net](mailto:AP020strategyday@advancedtransit.net)
  - Monitored in real time.
- Please sign the “Sign in” sheet and pick up handouts
- Hold all but clarifying questions for interactive Q/A
- We have a hook for time-keeping purposes

# Today's Program

- **Stan Young:** Report from Automation Conference
- **Caroline Rodier:** California's GHG Legislation
- **Stuart Cohen:** Advocacy perspective on trends in public transportation
- **Alain Kornhauser:** A-taxis
- **Derek Touns:** Regional perspective on vehicle-automation
- **Moderated Q/A:** Business as usual vs. step changes

## Coffee Break

- **Andy Bata:** Innovations in NYC's transit system
- **Susan Shaheen:** Trends and trajectory of shared-mobility
- **Guy Fraker:** Trust and insurance in New Mobility
- **Shannon McDonald:** Architecture and land use implications of PRT/vehicle-automation
- **Moderated Q/A:** Next steps to achieve potential of 'New Mobility'
- **Caroline Rodier : Wrap Up**



# Report out from Vehicle Automation

Stan Young, CATT and ATRA

# Levels of Automation (NHTSA definitions)

- Level 0: No automation
- Level 1: Function-specific automation
- Level 2: Combined function automation
- Level 3: Limited self-driving automation
- Level 4: Full self-driving automation



# Mapping Between Technology and Issues

Level I



Level II



Level III



Level IV



Sharing

Issue 1	Issue 2	Issue 3	Issue 4	...

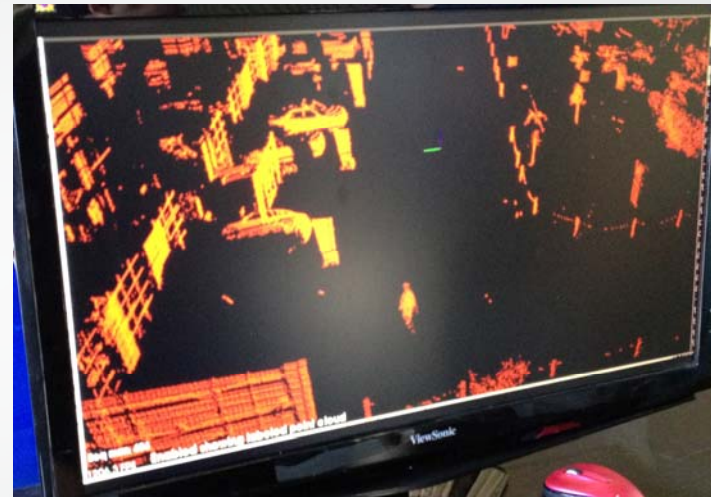
# Take home messages (1)

- Automated vehicles are (probably) legal
- Wild west vs. dead hand of regulations
- Uncertainty and perceived risk
- Insurance industry product models under pressure
- Demand and energy consumption: murky, difficult to control
- White House: This stuff matters



# Take home messages (2)

- Autonomous vs. connected
- Google: 5 yrs to level 4 (rumor has it)
- Cyber-security: think like a hacker
- Follow the data...
- Behavioral modelling
- A lot happens in 100M miles
- How good is “good enough” and who decides?
- TaaS: Transportation as a Service
- Transit, taxis, rentals: Less distinct?




# Research Needs: Shared Mobility and Transit


- Interaction between shared mobility and increasing automation level (shared fleets as test bed?)
- Automation in Public Transit – a Holistic View
- Promise of auto-valet parking: a panacea or simply shifting the problem
- Performance Measures for Automated Mobility in Urban Settings
- Exclusive Guideway vs Open Road
- Automation Impact on Mobility Impaired

# Research Needs: Shared Mobility and Transit


- Legal Framework For Automated Driverless Transit
- Integration of Automation and Shared Mobility into the Urban Fabric
- Future Alternative Analysis for MPOs and NEPA Processes
- Hazards Framework for Automated Transport Safety
- Practical / Near-term Issues of Automation in Transit Agencies
- ... only 50+ more ([www.vehicleautomation.org](http://www.vehicleautomation.org))



Automation ..... PRT ....  
..... Princeton....  
.... I'll believe that when  
cars drive themselves.



I can't believe  
he said that.



Did he really  
say that ?