

Orf 467
Transportation Systems Analysis
Fall 1013/14



How will the Mobility Environment Change by 2033?

Key questions

- What will the mobility environment be 20 years from now? (Transportation modes, types of vehicles, mobility-related services, etc.)
- What are the most important aspects of change between now and then?
- What could happen that might change the expected evolution?

WHAT ARE THE DRIVING FORCES?

Consumers / Travelers / Shippers

- How will consumer characteristics change by 2033?
 - Demography/ economy/ urbanization
 - Behavior– trends toward increasing mobility
- How are mobility needs changing?
 - Basic mobility characteristics by consumer segment?
 - Time and budget spent on transportation
 - Importance of "ownership" vs. "usage"
- Analysis of changing mobility segments by travel mode or occasion
 - Trip intensity (#, km); identification of heavy traveler segments
 - Mobility needs (e.g., automotive services, telematics services)
 - Car (vehicle) types / concepts

Environment (Regulation, Infrastructure, Nature)

- What impact will regulatory changes have on the mobility environment in 2033?
 - Energy and Emissions
 - Recycling regulations
 - Pollution / noise regulations
 - Safety / security regulations
 - Traffic control

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- What impact will changes in infrastructure have?
- Will the natural environment change the outcome (global warming, limited resources)?

Technology

- What impact will new technologies have on the mobility environment in 2033?
 - Fundamental technologies (e.g. IT, telecommunications, nanotechnology)
 - Automotive technologies (e.g., car electronics, road electronics, automation, lidars, vision)

Thoughts: Link

- Since 1975 to Present: ~1.5M Highway deaths in US
- Since 1775 to Present: ~1.3M US Military Conflict Deaths
- (Cars killed more than have died in war; Why are we doing this to ourselves???)
- Maybe we shouldn't allow people to drive cars anymore; We can make computers drive cars much better than we can; so they don't run into each other.
- Instead of investing in "GM" we should invest in the development of autonomous cars.

Will Google successfully deliver a driverless car to the market?

Will someone else?