FRIDAY ANCILLARY WORKSHOP ENVISIONING AUTOMATED VEHICLES WITHIN THE BUILT ENVIRONMENT: 2020, 2035, 2050

BREAKOUT SESSION RESULTS SUMMARY

TRB-AUVSI Automated Vehicles Symposium

July 17, 2014

Session Focus and Goals

Workshop organizers developed a set of scenario contexts that anticipated challenges that transportation planning agencies may face as AVT is introduced into the transportation system over time. These scenarios specified level of automation and market penetration, time horizons, and geographic scale. They were intended to be provocative and stimulate in-depth development and evaluation of AVT and built environment scenarios. The scenarios were supplemented with handouts and presentations in words, images, maps and diagrams. What follows is a summary of the scenarios presented to the workshop participants.

Session Focus and Goals

Speakers:

- **The educational portion of the workshop began with three presentations.**

- **Steve Shladover gave an overview of the previous three-day symposium and highlighted findings and discussions relevant to the workshop, such as the presentations from automobile companies and current state of the technology.**

- **Dr. Dan Fagnant's (University of Utah)   presentation was titled "*A Convergence in Shared Mobility: Demand-responsive fully automated vehicles, for carsharing and ridesharing across Austin, Texas*"**

- **Professor Walker Smith's (University of South Carolina) presentation was titled "*Government Regulation, Anticipation and Participation.*"**

Session Focus and Goals

- **Investment and Re-Design of the Freeway System: In 2025, a metropolitan planning organization is negotiating with a state department of transportation about continued implementation of a managed lane network.**

- **Complete Streets: By 2030, market demand and planning refocus new development into lively and diverse urban neighborhoods. Complete streets policies have improved neighborhood quality and walk and bike infrastructure. Demand for parking is disappearing with level 4 automation [now understood as Level 5 automated vehicles as defined by the Society of Automotive Engineers (SAE) International On-Road Automated Vehicle Standards (ORAVS)].**

Session Focus and Goals

- **Parking: By 2030, it is clear that automated vehicles will have a significant impact on parking in major metropolitan areas. Shared self-driving car services are picking up and dropping off travelers with short access and egress times at affordable prices.**

- **Mitigating Poor Performance: By 2035, automated vehicles dominate a dramatically expanded vehicle fleet that safely travels on the 2015 highway system. There has been no real change in auto ownership and use over time.**

- **Sustainable Mobility for All: By 2020, it is clear that automated vehicles are likely to have a profound effect on the use of our transportation system, the location of employment and housing, and land development.**

Results:

- **The most important outcome from the Workshop was that it provided the forum for constructive multi-disciplinary interaction and collaboration, between disciplines that heretofore have been engaged in parallel discussions regarding vehicle automation. Having engineers, architects, planners, transportation professionals and technologists together discussing specifically focused scenarios allowed current problems to be explored and prospective and plausible future scenarios to be unpacked simultaneously from multiple angles. Policy, automated vehicles and physical planning were analyzed concurrently as a comprehensive system.**

Results:

- **Two divergent scenarios emerged from the day's discussions:**

  - One quite utopian in its vision, where automated vehicles could create an entirely new lifestyle and physical environment
  - While the other assessed possibly-dystopian outcomes where sprawl increased.

- **Parking also highlighted genuine uncertainty, with visions of reducing parking on the one hand, but potentially also mechanisms that could increase parking and roads on the other.**

- **Other scenario groups examined the practical policy and potential changes in the physical environment.**

Next Steps

- **Generally-positive feedback was received from participants at this initial workshop; follow-up workshops are now in development.**

- **Informal networking and conversations between professionals and disciplines have started new research papers, proposals and research responses.**

- **A web site to post all the documents and presentations is currently under design, sponsored by the TRB APO20 committee. Complete workshop handouts and presentations will be found at http://www.its.ucdavis.edu/2014_Automated Vehicles & Built Environment.**

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- Finally, we would like to thank the all the workshop participants for their enthusiastic and thoughtful participation!

Thank you!