

Abstract #: 244

Author Name: David Miller

Author Company: Stanford University

Second Author's Name:

**Abstract Title: Automated Vehicles and Sustainability: The Route Requires Smart Planning**

Abstract Text:

Many think that automated/autonomous vehicles will reduce energy and resource use, compared to the present automotive travel model, but these benefits are unlikely to be realized without proper policy: merely adding automation features while maintaining car-dominated urbanization patterns will exacerbate the problems of resource and land use, and their human impacts. With autonomous (able to drive without any human present) vehicles still 15-20 years away, autonomous taxis are far in the future. Even near-future automation systems that allow for driver disengagement will not offer all of the gains some anticipate; it will be very difficult to work or sleep in-vehicle as a result of road conditions, it will always be necessary to protect occupants from collisions, and driver engagement will be required at some times, at least until autonomous vehicles are omnipresent. Planning needs to take into account the potential for vehicle automation in both the near-term and autonomous instantiations. Special infrastructure will be necessary, such as automated platooning lanes and vehicle-to-infrastructure communication. Gains in safety will be significant, and sustainability may be improved if policies encourage urbanization and transportation models other than 'car only'. Individual vehicles will be a part of the urban-suburban fabric, and the rapid advancement of vehicle technology needs to be factored in to the roadmaps for sustainable development and transport for the future. Automated vehicles won't be an atomic panacea, but as a part of future mobility, there