



New Visions 2050 Scenarios—draft of November 14, 2019

Four Basic Scenarios

- A. **Base-Year 2050 Trend.** This scenario uses the population, employment, and land-use forecasts that are incorporated in CDTC's travel demand model, which was used in the LRTP update. In this scenario, the gradual adoption of automated vehicles (AV's) would not change trend land use and development patterns. Mobility as a Service would increase without dramatically changing travel behavior.
- B. **Sprawl Development.** This scenario assumes that adoption of AV technologies will encourage development further from urbanized areas. Some commentators suggest this will be the case, as people traveling in AVs will view commuting travel time as potentially productive. Private ownership of vehicles would remain similar to current ownership rates, and Mobility as a Service would be limited and concentrated in cities. The result would be increased sprawl development patterns beyond trend. This land-use pattern would run counter to the New Visions Plan goals. Provision of transit service would become more challenging.
- C. **Concentrated Development.** This scenario assumes that urban living will be made more attractive through new transportation options like Mobility-as-a-Service (MaaS) and AV technologies. In addition, this scenario assumed a high level of urban reinvestment, transit investments and suburban planning that encourage construction of transit-oriented development in the region's urbanized areas. New paradigms would increase the importance and success of transit. Success of Mobility as a Service and AV technologies could lead to reduced private ownership of vehicles. This land-use pattern furthers the New Visions Plan development goals.
- D. **Concentrated Development with Financial Incentives.** This scenario uses the land-use assumptions from the Concentrated Development Scenario to explore the impacts of increasing household transportation costs. This could result from instituting several incentive options, including a carbon tax, a VMT tax or fee structures to encourage ridesharing in MaaS, as well as local fees from curb pricing and/or congestion pricing. Many commentators predict that without the support of fee structures to encourage ridesharing with MaaS, congestion could increase because of increased vehicle miles of travel.

Two Overlay Scenarios which could happen in combination with other scenarios

1. **Optimistic AV.** This scenario assumes that automated vehicles will be well integrated into the land use and transportation system with pricing and policy structures that encourage ridesharing and transit use. Under this scenario, empty self-driving cars on the road will be minimal and vehicle miles of travel will be less than trend. Increased efficiency of self-driving allows greater real capacity on expressways, and traffic incidents will be rare. The potential safety benefits of AV's will be fully realized.
2. **Pessimistic AV.** This scenario assumes that the availability of AV's result in significant increases in vehicle miles of travel due to empty cars circulating or returning to the car owner's home. Increased congestion results from inadequate facilities for AV's dropping off passengers. Transit service declines dramatically.