Caltrans Sustainable Communities Grant to Southern California Association of Governments
Data Collection, Stakeholder Surveys and Forums, and Focus Group Interviews
Overall Topline Summary

The Potential of Ubiquitous Broadband to Reduce Trip Generation
to Reduce Greenhouse Gas (GHG) Emissions

Overview – Research Abstract

All data collected from every source—2021 Statewide Survey on Broadband Adoption, Stakeholder Surveys and Forums, Focus Group Interviews, Analysis of the Digital Divide by California Lutheran University, and Identification of Public-Assistance Households Online with Public Agencies—indicate there is a potential to reduce vehicle trip generation, and therefore associated vehicle miles traveled (VMT) and greenhouse gas emissions (GHG), through combined strategies of:

- Ubiquitous Deployment of broadband (a generic term for high-speed Internet infrastructure, including both wireline and wireless networks) throughout the SCAG Region.
- Universal Adoption by assisting all residents, especially low-income households and other digitally-disadvantaged populations, to get online through affordable home Internet service, appropriate affordable computing devices, and digital literacy training.

The next step is for the SCAG Team, Regional Broadband Consortia, Technical Consultants, and Expert Advisory Committee to reach agreement on the potential range for reduction of vehicle trip generation that can be set forth the in the Final Report and incorporated by SCAG into Regional Transportation Plan and Sustainable Communities Plan to meet the GHG reduction target assigned to SCAG by the California Air Resources Board (CARB). It further is recognized that broadband is a "green strategy" for helping reduce traffic congestion.

All of the activities associated with this study revealed an emerging sense of a "new normal" among stakeholders and residents that access to the Internet is essential and that Digital Equity is an imperative.

Overall Observations, Conclusions and Recommendations

- There are high levels of interest, engagement, and urgency by stakeholders with an imperative to develop both regional and local broadband strategies.
- There is a need for a regional strategy to include and embrace local governments that are willing to work together on middle-mile and last-mile deployment and adoption.
- All sectors in the SCAG region support a level of remote working, with a preference for hybrid and flexible work arrangements rather than a specific number of days each week.
- The private sector identified the top strategy to reduce trip generation as "Construction of High-Speed Internet Infrastructure Throughout the Region to Connect All Locations".
- The private sector next top-rated strategy is "Employer Tax Credits to Implement Telecommuting".
- Public Agencies, Service Providers, Education, and Healthcare Sectors Identified the top strategy to reduce trip generation as "Assisting Clients, Customers, Students and Patients with Securing Affordable Home Internet Service and a Computing Device".
- Land use planning must accommodate broadband as part of essential infrastructure and community amenities to ensure public safety and quality of life. This will require land use planners and regulators to think about incorporating broadband into all new projects to help reduce trip generation and ensure Digital Equity.
- Low-income individuals, who are more likely to be frontline "essential" workers and have less opportunity to work remotely, could reduce trips and VMT with more awareness and education about how to access affordable home Internet services and sufficient digital skills proficiency to navigate the Internet to access services.
- There is still a need for more education with both the public and private sectors to optimize vehicle trip generation. People are just now beginning to "connect the dots" between broadband and air quality.
- Caltrans and CARB should jointly fund additional analysis to refine the estimate of the potential for decreasing GHG emissions through reduction of trip generation because of broadband ubiquitous deployment and universal adoption.

Next Step Working Recommendations
Ubiquitous Deployment – Universal Adoption

1. Confirm substantively that telework (especially hybrid and flexible work arrangements) are here to stay. Validate that public and private employers have embraced this concept as the "new normal" and there is no desire or intent to return to old behaviors, (once the pandemic mask mandate has ended).

2. Support acceleration of high-speed Internet infrastructure deployment. Evaluate the perceived gap in broadband infrastructure by the private sector to determine and quantify if the need is middle-mile construction (connecting facilities) or last-mile deployment (connecting employees to work) and identify the obstacles and solutions. [Deployment: Push, Internal, Organization]

3. Determine type, kind and level of employer incentives that will provide the most significant outcomes? Assess feasibility of fostering a "tipping point" for telework to be the "new norm" and the extent to which it can be triggered locally or needs to occur at higher levels. [Deployment: Pull, External, Community]

4. Develop and adopt policies, strategies and programs to promote adoption of technology and home Internet use to optimize opportunities to reduce vehicle trips. Identify specific processes for how municipalities, hospitals, and schools can accelerate use and support training for digital skills competency. [Adoption: Push, Internal, Organization]

5. Design and implement pilot project (and then expand if demonstrated to be effective) a true stakeholder-driven, collaborative approach to transforming neighborhoods that achieves and accelerates adoption to get online all households. Ideally use investment in middle-mile infrastructure as a catalyst for last-mile deployment and Digital Inclusion? [Adoption: Pull, External, Community]