#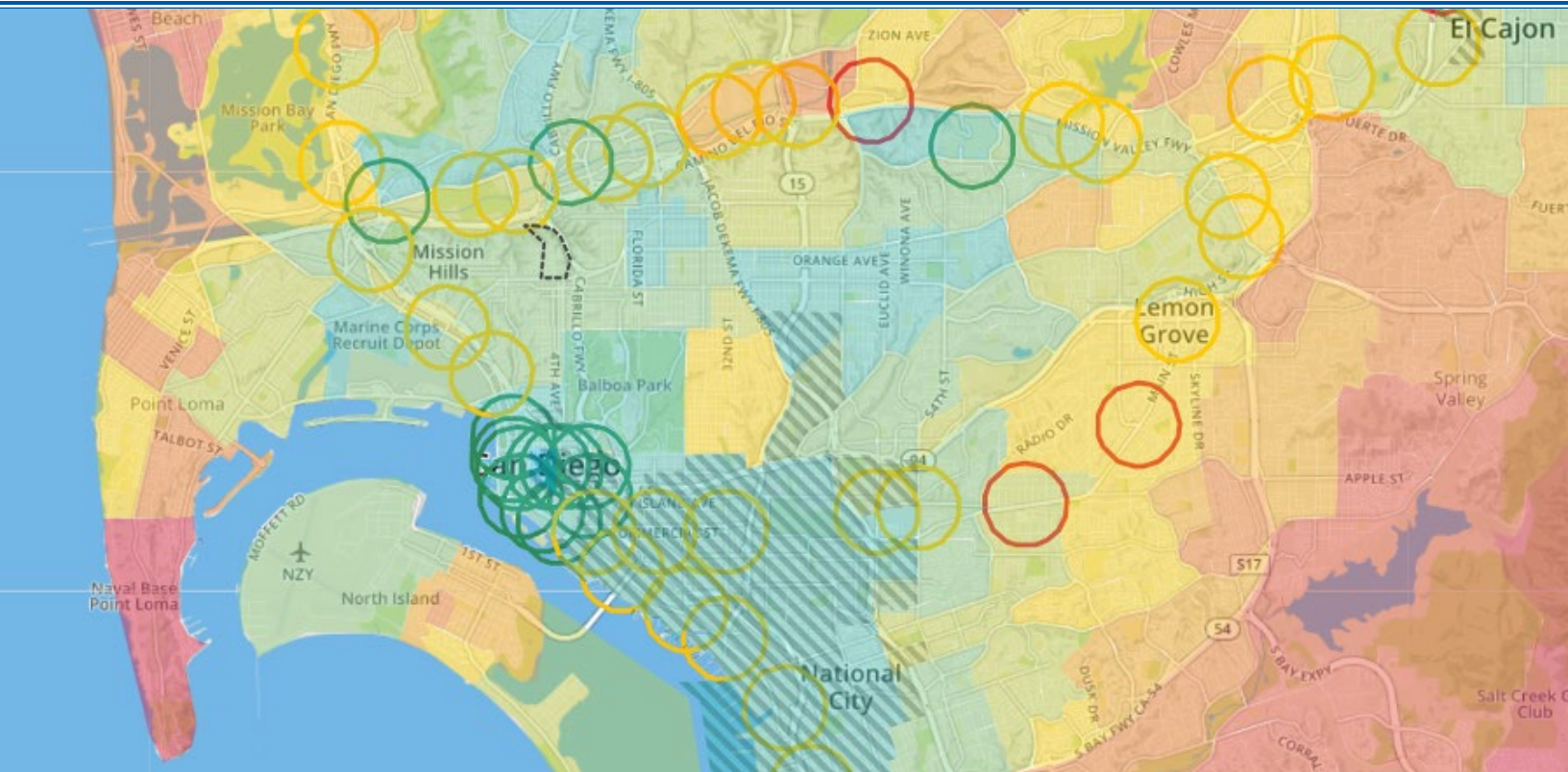 Toward a Guide for Smart Mobility Corridors: Frameworks and Tools for Measuring, Understanding, and Realizing Transportation Land Use Coordination

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In cooperation with Caltrans, our team created an easy-to-use online mapping and data visualization tool – the Smart Mobility Calculator – https://smartmobilitycalculator.netlify.com/ – that gives professionals and the public ready access to useful data such as vehicle miles traveled (VMT), GHG emissions, access to jobs, etc. This tool enables Caltrans staff and other key stakeholders to make more informed and coordinated decisions related to corridor planning, complete streets implementation, climate action planning, etc.

> *By making important data easy to access and visualize, the Smart Mobility Calculator makes it easier for a diverse array of stakeholders to get on the same page to coordinate actions for corridor planning.*

Study Methods

For the major metropolitan counties of California, we gathered, cleaned, and analyzed relevant data, such as Caltrans' own VMT data. We then geolocated the data and programmed it into an easy-to-use online mapping tool that allows for straightforward data access and visualization (smartmobilitycalculator.netlify.app). For project guidance we worked with staff from Caltrans Headquarters, District 11, and San Diego Association of Governments (SANDAG). We also created two place typologies, one for the entire state based on Caltrans' Smart Mobility Framework and our Location Efficiency Neighborhood Design (LEND) Index, and the other for all transit stations based on a national dataset on transit corridor livability and smart growth.

Findings/Policy/Practice Recommendations

The Smart Mobility Calculator is now available for use by Caltrans staff and the staff of other key stakeholders (smartmobilitycalculator.netlify.app). The Calculator is an easy-to-use mapping visualization tool designed to address Caltrans' needs around corridor planning, complete streets planning, Smart Mobility Framework implementation, and other applications. It can also be used by key stakeholders, like local land use planners and MPOs. The tool can be further customized to meet any specific needs of Caltrans and others.

According to Caltrans's own review, the tool provides the following policy/practice recommendations:

• The Calculator has very good functionality to show the Daily VMT (Per Capita, Per Employee, Per Capita for Home Base Work), which is helpful for Climate Action Planning, and evaluating the Environmental Impacts of development projects under SB 743. It uses Caltrans's official VMT numbers (per capita and per employee) that can be used to guide policies for Caltrans and its partners.

• By showing how much an area's VMT is above or below the regional average, the Calculator can be used to apply SB 743 CEQA project analysis parameters, (which allows for environmental streamlining of significant developments at or below -15% of the regional average).

• In addition to VMT, the Calculator includes a number of other urban quality metrics related to environmental impacts, affordability, health, and social equity. Included metrics are Housing and Transportation Affordability, Dwelling Density, Population Density, Job Density, Carbon Emissions, Pedestrian Collisions, Job Accessibility, Walkability, Walking Percent, Obesity, and Cardiovascular Disease.

• Climate action planning: The tool shows how many pounds of carbon per household will be generated from travel in different locations in the region and can be used to calculate different development scenarios.

• New housing initiatives: This tool can help new housing initiatives (such as SB 50) by showing the areas that are in close proximity to transit. The circles show half mile catchment areas around transit stations using the high (green), medium (yellow), low (red) smart growth performance typology, based on a national study of urban quality of the National Academies of Sciences.

• The tool also shows the location of disadvantaged communities, per SB 535, which is key to then being able to inform communities that need community-planning processes to handle new growth and avoid potential displacement from gentrification.

About the Principal Investigator

Dr. Appleyard is an Associate Professor of City Planning at San Diego State University (SDSU) and the Assistant Director of Active Transportation Research (ATR) where he helps people and agencies make more informed decisions about how we live, work, and thrive.

To Learn More

For more details about the study, access the tool here – smartmobilitycalculator.netlify.app – and download the full report at transweb.sjsu.edu/research/1805

MTI is a University Transportation Center sponsored by the U.S. Department of Transportation's Office of the Assistant Secretary for Research and Technology and by Caltrans. The Institute is located within San José State University's Lucas Graduate School of Business.