



Caltrans Division of Research,
Innovation and System Information

Research

Notes

Planning, Policy,
Programming

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Project Title:
A Smart Growth Calculator

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A Smart Growth Calculator

Frameworks and Tools for Transportation/Land-Use
Coordination

WHAT IS THE NEED?

As transportation is one of the largest contributors of carbon emissions, and California Department of Transportation (Caltrans) is realizing that they can't build their way out of congestion because of induced demand.

Since providing regionally accessible housing is an endemic and growing problem, there's a recognition that land use and its coordination with transportation investments (often referred to as "smart growth") is needed by transportation agencies, like Caltrans, working in partnership with local and regional governments to help guide land use in urban form towards the achievement of Caltrans' Smart Mobility Framework (SMF) Principles.

WHAT ARE WE DOING?

Developing urban quality data sets, performance evaluation frameworks, and developing tools to help professionals at Caltrans work with key stakeholders, such as Metropolitan Planning Organizations (MPOs), local governments, and members of the public to:

- a. Understand the level of Transportation/Land-use Coordination (TLC) in various places in California, and then
- b. Help guide policies to achieve better transportation and land use coordination to achieve SMF Principles.



DRISI provides solutions and
knowledge that improves
California's transportation system

WHAT IS OUR GOAL?

Our goal is to help professionals at Caltrans work with the key stakeholders to achieve SMF Principles that can help do such things as lower the demand for travel, congestion, and carbon emissions, while helping provide housing in more accessible neighborhoods.

WHAT IS THE BENEFIT?

Developing tools to support the coordination of land use and transportation planning has wide-ranging implications for the metro areas of California. The current online tool creates a visual landscape to identify areas for development that further state emissions reduction goals, as well as reduce Vehicle Miles Travelled and traffic stress on state highways.

The goal for the tool is to not only visualize urban quality and vehicle travel metrics, but also to support decision making by adding scenario planning capabilities and policy suggestions to accomplish user-selected targets.

WHAT IS THE PROGRESS TO DATE?

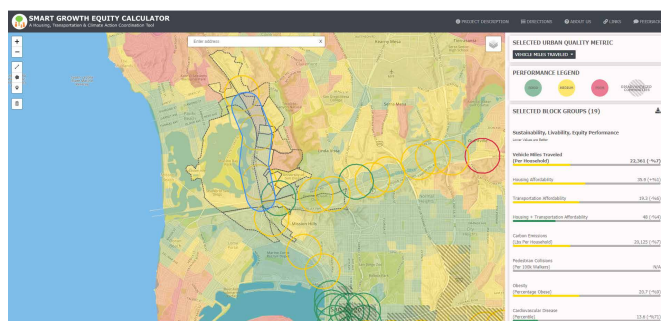
As of September 2019, the research team has accomplished the following:

- Drafted an Interim White Paper titled “A Framework And Tools For Measuring, Understanding, And Realizing TLC For Sustainability, Livability, And Equity”, building on the Spring 2019 Tech Memo outlining a framework for how Caltrans can work with key stakeholders, such as professionals from MPOs and local governments to achieve SMF principles through better TLC. This was built on the feedback received from a June 2019 stakeholder meeting with key San Diego Association of Governments MPO staff and Caltrans district representatives to present and gain feedback on the above technical memo; and how the tools and framework therein can

help Caltrans, MPOs, and local governments achieve SMF principles.

- Continued work to prepare online tools to help with Caltrans analysis and policy guidance for all the major California metro areas. For this, Caltrans is in the process of refining the geospatial datasets, gathering and processing travel demand data, and working to prepare the tools for modification.
- Acquired the 2012 California Household Travel Survey, and Streetlight data for the entire state. The research team is now cleaning and prepping the geospatially locating data for modeling with the place typology Caltrans delivered earlier for the entire State of California, and which mirrors the SMF principles.

IMAGES



Picture 1: A screenshot of the Smart Growth Calculator, showing corridor/line



Picture 2: Dr. Appleyard demonstrating the smart growth calculator to SANDAG planners on June 4

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