



Caltrans Division of Research,
Innovation and System Information

Research



Results



Planning, Policy,
and Programming

Developing Affordable Housing Guidelines Near Rail Transit in Los Angeles

This research is to provide Los Angeles policy makers with a clear framework for evaluating how transit-oriented development (TOD) plans affect both affordable housing and Green House Gas (GHG) reduction goals.

WHAT IS THE NEED?

Cities worldwide are struggling to provide affordable housing, while at the same time metropolitan areas aim to reduce greenhouse gas emissions. U.S. cities like Los Angeles are expanding their rail transit networks and developing TODs, which may yield progress toward both goals. We demonstrate, however, that these goals can be in conflict if high income persons reduce their driving the most when moving to TOD locations. We also quantify how various policy options jointly affect both housing affordability and environmental sustainability (i.e. reduced driving). Our overall research question is: How can planners use a region's investment in and around rail transit to advance the dual goals of providing affordable housing and generating environmental benefits in the form of reductions in greenhouse gas emissions?

WHAT WAS OUR GOAL?

The objective of this research is to provide Los Angeles policy makers with a clear framework for evaluating how transit-oriented development plans affect both affordable housing and GHG reduction goals. We will build development scenarios that specify the amount and density of new development near rail transit stations. The scenarios will be based on typologies that have been suggested by well-known transit-oriented development (TOD) experts, adjusted to fit the reality of Los Angeles' land use. We will synthesize a small number of station area scenarios, likely about half a dozen, from the typologies suggested by TOD experts.

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Project Title:

Developing Affordable Housing Guidelines Near Rail Transit in Los Angeles

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Those scenarios will reflect a range, from scenarios that give no particular attention to housing affordability to proposals that are aggressive in their promotion of affordable housing options or density. Each scenario will be a possible development future for a station area, including specifications for the number of new units, unit size, the split between rental and owner-occupied dwellings, density levels (determined by the number of new units and the available land area), and the mix of housing and employment generating (e.g. retail, commercial, service) land uses.

WHAT DID WE DO?

We find that TOD living does promote emissions reduction. We used 2012 California Household Travel Survey data to build a regression model of household VMT controlling for income and residence within or beyond ½ mile from a Metro rail station. We used predicted values from the regression to simulate household moves from beyond to within station half-mile areas. Living in a half-mile station-area TOD can reduce daily VMT by 14.9 miles for the average household. Further, the data suggest a tradeoff between environmental and equity goals. Relatively more affluent households reduce their VMT more than lower-income households when moving to a TOD. Hence making progress on equity and environmental goals would imply a mix of incomes in TOD areas.

WHAT WAS THE OUTCOME?

The most important finding of our research is that data suggests there is indeed a tradeoff between the equity goal of affordable housing and the environmental goal of greenhouse gas emission reduction. In the extreme, a policymaker seeking to maximize the environmental benefit of housing near transit would provide no affordable housing

options at all and instead generate TOD scenarios that target higher income residents exclusively.

WHAT IS THE BENEFIT?

Providing affordable housing and reducing greenhouse gases are common goals in cities worldwide. Transit-oriented development (TOD) can provide an opportunity to make incremental progress on both fronts, by building affordable housing near transit and by providing alternative transport modes such that households reduce driving. While the existing literature has focused on the relationship between TOD and housing and TOD and greenhouse gas emission reduction as separate issues, it has seldom touched on the possibility that TOD could address both goals jointly. We provide evidence to show that focusing on either housing affordability or greenhouse gas emission reduction in isolation can lead to strategies that achieve one goal to the detriment of the other. Using the case of Los Angeles, we develop a scenario planning model that allows simultaneous consideration of housing and transportation goals, and illustrates the tradeoffs of different policy approaches. The results show that larger increases in residential densities combined with a small inclusionary housing requirement yields greater benefits, in terms of both reduced driving and more affordable housing, than would a higher inclusionary percentage with smaller increases in density.

LEARN MORE

Review the complete report.

<https://www.metrans.org/research/developing-affordable-housing-guidelines-near-rail-transit-los-angeles>