FAST Act - PSR 015 Optimal Density Restrictions in the Los Angeles-Long Beach CSA

Analyze and summarize the existing knowledge in optimal design of an urban area and collect data for the Los Angeles-Long Beach CSA.

WHAT IS THE NEED?

A successful completion of this project will enable us to answer the following questions:

- How can California Department of Transportation (Caltrans) adjust zoning and density restrictions to improve access to jobs and quality of life for the residents of the Los Angeles-Long Beach Combined Statistical Area (CSA)?
- How will optimal zoning and density restrictions change the shape of the urban area, particularly local density and land use, commuting flows, urban congestion, property values, and other variables? Any concrete policy proposals that could improve welfare for residents of the metro area?

The research team will answer these questions by designing and completing quantitative counterfactual exercises in the framework of a state-of-the-art general equilibrium quantitative urban model.

WHAT ARE WE DOING?

This research entails tasks required to accomplish an initial part of a larger project, which consists of:

1. Analyzing and summarizing the existing state of knowledge in optimal design of an urban area.
2. Collecting the data for the Los Angeles-Long Beach CSA, which will be required for further stages of the project.
WHAT IS OUR GOAL?

This task order constitutes a part of a larger project in which a quantitative general equilibrium model of the Los Angeles-Long Beach CSA will be developed. The parameters of the general equilibrium quantitative urban model will be estimated using data on the distributions of residence and employment across the 3,925 census tracts of the Los Angeles-Long Beach CSA, together with tract-level data on residential and commercial property values and bilateral commuting flows.

The model will be used to:

1. Quantify the effect of current zoning restrictions on aggregate productivity and welfare in the Los Angeles-Long Beach CSA;
2. Identify zoning policy adjustments which would move the regulatory regime closer to the productivity- and welfare-maximizing optimum; and
3. Make tract-level predictions of the impact of specific policy changes on residential and commercial density, property values, commuting flows, and the environment.

Eventually, the project will attempt to answer the questions described above by designing and completing quantitative counterfactual exercises in the framework of the general equilibrium quantitative urban model.

WHAT IS THE BENEFIT?

This project is relevant for the Caltrans' topic “Meeting transportation needs in the midst of changing California demographics.” A successful completion of this project will provide Caltrans a tool to recommend policy adjustments, which can improve access to jobs and amenities, and quality of life for residents of the Los Angeles-Long Beach CSA.

WHAT IS THE PROGRESS TO DATE?

Kickoff meeting was held on August 15, 2019.

Task 1
Draft research paper delivered by 3/31/2020

Task 2
- Integrated Dataset delivered by 2/29/2020
- Build the integrated database containing data on the following items by census tract:
  i. Total population (source: 2010 Census)
  ii. Total employment (source: 2010 Census)
  iii. Numbers of residents with low, middle and high incomes (source: 2010 Census)
  iv. Numbers of employees with low, middle and high salaries (source: 2010 Census)
  v. Number of employees by 2-digit NAICS industry (source: 2010 Census)
  vi. Number of housing units (source: 2010 Census)
  vii. Self-reported house prices (source: 2010 Census)
  viii. Bilateral commuter flows between each pair of census tracts (source: 2010 Census)
  ix. Average commuting time between each pair of census tracts, if user agreement permits sharing of data (source: Google Distance Matrix API).
  x. Mean residential floorspace price (source: Zillow dataset)
  xi. Mean commercial floorspace price, if user agreement permits sharing of data (source: NCREIF dataset)

Task 3
- Final research paper delivered by 7/31/2020
- Research brief Delivered by 7/31/2020.
  The paper and the brief will contain the detailed review of the literature as well as the results of the data analysis for the Los Angeles-Long Beach Combined Statistical Area.