# The (Overlooked) Link between Express Bus Stations and Commercial Rents with Implications for Transit and Land Use Planning

## Overview

This is the first study establishing the association between express bus transit (XBT) stations and commercial office, apartment, and retail rents.

- We identify research gaps in understanding the effects of express bus transit stations on commercial property rents.
- Our study focuses on the relationship between express bus transit and commercial property rents in major metropolitan areas across the United States.

## Real Estate Market Premiums with Respect to Transit Station Proximity

### Is there an association between commercial real estate rent (per square foot) and proximity to rail transit stations holding other factors constant?

**Model:**

$$R_{h} (S, E, L, L_{0}, M_{h})$$

- $R_{h}$: Asking rent per square foot for property
- $S$: Shield of structure attributes for property
- $E$: Effective year built
- $L$: Location Controls
- $L_{0}$: Land Use Mix Controls
- $M_{h}$: Metropolitan Area

### The Link Between XBT Station Proximity and Office, Multifamily and Retail Rents Per Square Foot

**Distance Band Categories:**

- Less than 0.125 miles
- 0.125 to 0.250 miles
- 0.250 to 0.375 miles
- 0.375 to 0.500 miles
- Greater than 0.500 miles

### The Percent Rent Change from the Mean Between XBT Station Proximity and Office, Multifamily, and Retail Rents Per Square Foot

- Office rents decline gradually from the first distance band to the 1.625-mile distance band.
- Multifamily rents decline gradually from the first distance band to the 0.875-mile distance band.
- Retail rents begin with a positive premium at the first distance and fall steeply over the last four distance bands.

## Express Bus Characterized

- Express bus transit (XBT) features include:
  - High-occupancy vehicle (HOV) busway
  - Freeway HOV lanes have express bus service and stations
  - Busway along abandoned railroad line
  - Express buses use contra-flow bus lanes on freeway
  - Peak-period freeway bus lane busway with stations along unused railroad

## XBT Station Distance Bands:

- **Distance from Freeway Interchange**
  - Less than 0.125 miles
  - 0.125 to 0.250 miles
  - 0.250 to 0.375 miles
  - 0.375 to 0.500 miles
  - Greater than 0.500 miles

## Example Station Area Distance Bands

- Example station area distance bands for Tucson are as follows:
  - Less than 0.125 miles
  - 0.125 to 0.250 miles
  - 0.250 to 0.375 miles
  - Greater than 0.375 miles

## XBT System Performance

- The percent rent change from the mean between XBT station proximity and office, multifamily, and retail rents per square foot.
- **XBT System Performance** based on a sample of tens of thousands of commercial properties in major metropolitan areas.

## Data Sources and Predicted Significance

- Various data sources and predicted significance levels.
- Significant (p < 0.10) distance band variables in bold red.