

# Author's Accepted Manuscript

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www.elsevier.com

PII: S0166-0462(16)30315-5  
DOI: <http://dx.doi.org/10.1016/j.regsciurbeco.2017.05.006>  
Reference: REGEC3264

To appear in: *Regional Science and Urban Economics*

Received date: 12 November 2016  
Revised date: 10 May 2017  
Accepted date: 23 May 2017

Cite this article as: Jeffrey P. Cohen and Mike Brown, Does a New Rail Rapid Transit Line Announcement Affect Various Commercial Property Prices Differently?, *Regional Science and Urban Economics* <http://dx.doi.org/10.1016/j.regsciurbeco.2017.05.006>

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## Does a New Rail Rapid Transit Line Announcement Affect Various Commercial Property Prices Differently?

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### Abstract

An announcement of new rail rapid transit access to urban commercial centers may lead to greater business activity and agglomeration economies, while causing anticipation of construction disruption and resource diversion away from other infrastructure. Using a rail rapid transit line announcement in Vancouver, BC, Canada, we estimate the net capitalization effect for each individual commercial property price resulting from expected improved urban center access. We focus on 1,895 repeat sales straddling this announcement date and use a nonparametric estimation technique - Locally Weighted Regressions - to estimate how travel time changes to the Richmond, BC and Vancouver, BC central business districts, the Olympic Village, and Vancouver International Airport affect various commercial property prices differently. By differencing our estimation equation over the two periods of the repeat sales, the time-invariant variables drop out and we are left with the travel time savings and the difference in temporal fixed effects as regressors. We find travel time savings' marginal effects on property values can be positive or negative, and patterns vary dramatically across commercial land use types and locations. Falsification and balancing tests validate our findings.

**Keywords:** Locally Weighted Regressions; nonparametric estimation; rail rapid transit; commercial property values

**JEL Codes:** R3, R4

We benefitted from comments on earlier versions of this paper from seminar participants at University of British Columbia, Rutgers University, Georgia Tech, Rensselaer Polytechnic Institute, and the Vancouver Airport Authority; the 2014 German Aviation Research Society workshop in Amsterdam; and a session at the 2014 Allied Social Sciences Association meetings in Philadelphia. Steve Ross, John Clapp, Anming Zhang, Jason Barr, Vivek Ghosal, Pat McCarthy, Peter Loeb, and Resul Cesur also provided helpful comments. Any remaining errors are our own.

### Introduction and Literature Review

Transportation and access to urban centres has long been a central focus of urban economics (Alonso, 1964; Muth, 1969). More recently, agglomeration economies (Duranton and Puga, 2004; Puga, 2010) – which can facilitate labor market clearing with larger pools of workers - have received substantial attention as an explanation of the development of urban areas. Additional congestion of roads and highways often occurs together with agglomeration and growth. Rail rapid transit is one way for workers and employers to “connect” in urban areas while avoiding much of the road traffic. An announcement of new rail rapid transit access to urban commercial centers may lead to greater business activity and agglomeration economies,

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