

Protttoy Aman Akbar

(Updated October 2020)

CONTACT INFORMATION

Website: www.protttoyamanakbar.com
E-mail: protttoyamanakbar@pitt.edu
Phone: +1 202-317-1960

Department of Economics, University of Pittsburgh
4900 Wesley W. Posvar Hall
Pittsburgh, PA 15260

EDUCATION

Ph.D. Candidate in Economics, University of Pittsburgh, USA Expected 2021
Thesis Title: Public Transit Access and Residential Segregation
Thesis Committee: Prof. Randall P. Walsh (chair), Prof. Gilles Duranton, Prof. Richard van Weelden, Prof. Allison Shertzer

M.A. in Economics, University of Pittsburgh, USA 2017

B.A. in Economics and Mathematics, Middlebury College, USA 2013

RESEARCH INTERESTS

Primary Fields: Urban Economics, Development, Economic History, Transportation
Secondary Fields: Applied Microeconomist, Experimental Economics

WORKING PAPERS (with abstracts at the end)

Who Benefits from Faster Public Transit? (*Job market paper*)

Public Transit Access and Income Segregation (*Under review*)

Mobility and Congestion in Urban India (*Revision requested at American Economic Review*)
with Victor Couture (British Columbia), Gilles Duranton (UPenn) and Adam Storeygard (Tufts)

Racial Segregation in Housing Markets and the Erosion of Black Wealth (*Under review*)
with Sijie Li (Freddie Mac), Allison Shertzer (Pittsburgh) and Randall P. Walsh (Pittsburgh)

Measuring the Cost of Congestion in a Highly Congested City: Bogotá
with Gilles Duranton (UPenn)

PUBLICATIONS

Profit Sharing & Peer Reporting (2018), *Management Science*, 64(9), 4261-4276
with Jeffrey Carpenter (Middlebury) and Andrea Robbett (Middlebury)
(Originally, my undergraduate honors thesis)

Prottoy Aman Akbar

RESEARCH FUNDING

National Bureau of Economic Research / US Department of Transportation "Mobility and Congestion in US Cities" (\$39,000) (joint with Victor Couture, Gilles Duranton and Adam Storeygard)	2020
Asian Development Bank "Key Indicators for Asia and the Pacific" (\$11,600)	2020
"The Urbanization-Poverty-Inequality Triangle in Asia and the Pacific" (\$25,500)	2019
The World Bank "Spatial Development, Transport and Congestion: Lessons from Indian Cities" (\$10,000)	2016

FELLOWSHIPS

Benjamin H. Stevens Graduate Fellowship North American Regional Science Council (\$30,000)	2019-2020
Andrew Mellon Pre-doctoral Fellowship University of Pittsburgh (\$24,240)	2018-2019
Arts and Sciences Graduate Fellowship University of Pittsburgh (\$24,262)	2015-2016, Summer 2017

TEACHING EXPERIENCE

Instructor, University of Pittsburgh	
• Game Theory	Summer 2018, 2019
Teaching Assistant / Grader, University of Pittsburgh	
• Introduction to Microeconomic Theory	Summer 2017
• Intermediate Microeconomics	Summer 2020
• Intermediate Macroeconomics	Summer 2020
Teaching Assistant / Grader, Middlebury College	
• Intermediate Microeconomic Theory	Fall 2012, Spring 2013
• Intermediate Macroeconomic Theory	Fall 2012
• Multivariable Calculus	Fall 2012
Writing Tutor, Middlebury College	
• Physics for Educated Citizens (Physics first-year seminar)	Fall 2012
• Discovering Infinity (Math first-year seminar)	Fall 2011
• Writing Workshop II	Fall 2010

EXTERNAL SEMINAR AND CONFERENCE PRESENTATIONS

2020	Urban Economics Association (virtual), Mechanism Design for Social Good (MD4SG, virtual), University of Pennsylvania
2019	North American Regional Science Council (Pittsburgh), Université du Québec à Montréal (UQAM)

Prottoy Aman Akbar

- 2018 North American Regional Science Council (San Antonio), Applied Economics, Regional, and Urban Studies (Morgantown), Southern Regional Science Association (Philadelphia)
- 2017 North American Regional Science Council (Vancouver)

RELEVANT WORK EXPERIENCE

- Graduate Student Research Assistant, Department of Economics, University of Pittsburgh 2016-2018
for Prof. Randall P. Walsh and Prof. Allison Shertzer
- Data Analyst, Zell/Lurie Real Estate Center, Wharton, University of Pennsylvania 2013-2015
for Prof. Gilles Duranton, Prof. Jessie Handbury and Prof. Todd Sinai

OTHER ACTIVITIES

Journal referee for: American Economic Journal: Economic Policy, Journal of Urban Economics, Macroeconomic Dynamics, Environment and Planning B

Mentoring: Mentor to 2nd year Ph.D. students (2017-2018, 2019-2020), University Honors College undergraduate research mentor (2017)

PAPER ABSTRACTS

Who Benefits from Faster Public Transit? (*Job market paper*)

Lower income commuters are more likely to ride and reside near public transit within cities, but do they also benefit more from faster transit travel? Combining survey data on travel behavior with web-scraped data on roads, establishments and counterfactual travel times for millions of trips across 49 US cities, I estimate a model of travel mode and residential location choices. I characterize the heterogeneity across income groups and cities in commuters' willingness to pay for access to faster transit versus faster driving commutes. I find that richer commuters sort more aggressively into the fastest transit routes and are, on average, willing to pay more for faster travel. Improvements in transit speed are likely to attract and benefit high-income transit riders more where transit is fast (relative to driving) and in cities with a greater share of rail transit. Whereas they are likely to benefit low-income riders more where transit is relatively slow and in cities with more bus transit.

Public Transit Access and Income Segregation (*Under review*)

What are the implications of mass transit improvements for residential income segregation within cities? This paper models a stylized city where heterogeneous households choose where to live and how to travel given a spatial distribution of travel times and a competitive housing market. I characterize when and where marginal improvements in transit access reduce income segregation instead of exacerbating it. I show that a planner trying to maximize the city's transit ridership is incentivized to improve low-speed transit (e.g. buses on shared lanes) where it reduces income segregation but improve high-speed transit (e.g. subways) where it increases income segregation. These results are consistent with recent changes in transit ridership and neighborhood incomes in US cities.

Prottoy Aman Akbar

Mobility and Congestion in Urban India (*Revision requested at American Economic Review*)

with Victor Couture (British Columbia), Gilles Duranton (UPenn) and Adam Storeygard (Tufts)

We develop a methodology to estimate robust city-level vehicular mobility indices, and apply it to 154 Indian cities using 22 million counterfactual trips measured by a web mapping service. There is wide variation in mobility across cities. An exact decomposition shows this variation is driven more by differences in uncongested mobility than congestion. Under plausible assumptions, a one-standard-deviation improvement in uncongested speed creates much more mobility than optimal congestion pricing. Denser and more populated cities are slower, only in part because of congestion. Urban economic development is correlated with better (uncongested and overall) mobility despite worse congestion.

Racial Segregation in Housing Markets and the Erosion of Black Wealth (*Under review*)

with Sijie Li (Freddie Mac), Allison Shertzer (Pittsburgh) and Randall P. Walsh (Pittsburgh)

Housing is the most important asset for the vast majority of American households and a key driver of racial disparities in wealth. This paper studies how residential segregation by race eroded black wealth in prewar urban areas. Using a novel sample of matched addresses from prewar American cities, we find that over a single decade rental prices soared by roughly 50 percent on city blocks that transitioned from all white to majority black. Meanwhile, pioneering black families paid a 28 percent premium to buy a home on a majority white block. These homes then lost 10 percent of their original value as the block became majority black. These findings strongly suggest that segregated housing markets cost black families much of the gains associated with migrating to the North.

Measuring the Cost of Congestion in a Highly Congested City: Bogotá

with Gilles Duranton (UPenn)

We provide a novel approach to estimate the deadweight loss of congestion. We implement it for road travel in the city of Bogotá using information from a travel survey and counterfactual travel data generated from Google Maps. For the supply of travel, we find that the elasticity of the time cost of travel per unit of distance with respect to the number of travellers is on average about 0.06. It is close to zero at low levels of traffic, then reaches a maximum magnitude of about 0.20 as traffic builds up and becomes small again at high levels of traffic. This finding is in sharp contrast with extant results for specific road segments. We explain it by the existence of local streets which remain relatively uncongested and put a floor on the time cost of travel. On the demand side, we estimate an elasticity of the number of travellers with respect to the time cost of travel of -0.40. Although road travel is costly in Bogotá, these findings imply a small daily deadweight loss from congestion, equal to less than 1% of a day's wage.

Profit Sharing & Peer Reporting (2018), *Management Science*, 64(9), 4261-4276

with Jeffrey Carpenter (Middlebury) and Andrea Robbett (Middlebury)

Despite the “1/N problem” associated with profit sharing, the empirical literature finds that sharing profits with workers has a positive impact on work team and firm performance. We examine one possible resolution to this puzzle by observing that, although the incentive to work harder under profit sharing is weak, it might be sufficient to motivate workers to report each other for shirking, especially if the workers are reciprocally-minded. Our model provides the rationale for this conjecture and we discuss the results of an experiment that confirms that profit sharing is most effective when peer reporting is possible.

Prottoy Aman Akbar

SELECTED RESEARCH IN PROGRESS

The Impact of Public Transit on Congestion and Pollution: Evidence from Jakarta's MRT

with Arya Gaduh (Arkansas) and Alex Rothenberg (Syracuse) and Yao Wang (Syracuse)

Abstract: We use several data sources to study how the opening of Jakarta's mass rapid transit (MRT) system in April 2019 improved traffic and air quality for city residents. To estimate how the MRT system alleviated congestion, we use high frequency data from Google Maps to compare changes in travel times for routes lying close to the MRT corridor to changes in travel times for planned but unbuilt MRT routes. We use a similar strategy to estimate the impact of the MRT system on pollution using remotely sensed pollution measures from the European Space Agency's Sentinel-5 Precursor (S5P) satellite. Finally, we compare our estimates of the benefits of reduced congestion and improved air quality to the costs of building and operating the MRT system.

Public Transportation and the Rise of the Segregated Metropolis in the United States

with Allison Shertzer (Pittsburgh) and Randall P. Walsh (Pittsburgh)

Abstract: We explore the origins of urban residential segregation by race in ten northern US cities and provide the first empirical evidence of the role of the expansion of the street car grid in facilitating the flight of white households from black families that were moving into the urban core between the late 19th and early 20th century. Our analysis exploits a newly digitized panel of streetcar maps, a matched panel of individuals from historical Censuses, and a panel of complete neighborhood-level demographic counts to show that streetcar access was a key determinant of racial segregation in US cities.

IT SKILLS

Programming Languages: Python, JavaScript, SQL, VBA

Environments: MATLAB, STATA, ArcGIS, QGIS, Mathematica, R, zTree, AWS Cloud Computing

LANGUAGES: Bengali (native), Hindi (fluent), Spanish (intermediate)

NATIONALITY: Bangladesh (F-1 visa)

DATE OF BIRTH: 14 November 1991

Prottoy Aman Akbar

REFERENCES

Prof. **Randall P. Walsh** (chair)
Department of Economics
University of Pittsburgh
4528 Wesley W. Posvar Hall
230 S. Bouquet Street,
Pittsburgh, PA 15260
E-mail: walshr@pitt.edu

Prof. **Richard van Weelden**
Department of Economics
University of Pittsburgh
4508 Wesley W. Posvar Hall
230 S. Bouquet Street,
Pittsburgh, PA 15260
E-mail: rmv22@pitt.edu

Prof. **Gilles Durantou**
Real Estate Department
Wharton School of Business
University of Pennsylvania
452 Vance Hall
3733 Spruce Street,
Philadelphia, PA 19104
E-mail: [duranton@wharton.upenn.edu](mailto:durantou@wharton.upenn.edu)

Prof. **Allison Shertzer**
Department of Economics
University of Pittsburgh
4509 Wesley W. Posvar Hall
230 S. Bouquet Street,
Pittsburgh, PA 15260
E-mail: shertzer@pitt.edu

PLACEMENT OFFICERS

Prof. Stefania Albanesi
Graduate Placement Officer
Phone: (412) 648-1741
Email: albanesi@pitt.edu

Mr. Brian Deutsch
Graduate Program Administrator
Phone: (412) 648-7270
Email: brd51@pitt.edu