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Resources searched: ASCE Library, Library Catalog, Google, RiP, Transport Database

Summary: Results are compiled from the databases named above. Links are provided for full-text, if applicable, or to the full record citation. I completed my searches using the following terminology: congestion, transit, public transportation, job access, employment access, travel time. Results are divided between most relevant and least relevant results.

Most Relevant Results

ASCE Database

Evaluating Public Transit Equity Using the Concept of Accessibility
CICTP 2018: Intelligence, Connectivity, and Mobility (839 - 851)
ABSTRACT
Growing urban traffic congestion is one of the major problems of today’s transportation system. Properly understanding the nature of transit travel demand is at the heart of transportation policy and the success of transit systems. Unfortunately, in analyzing transit travel demand and level of transit use, most existing studies have focused on only a few aspects of transit systems and overlooked basic accessibility and transportation equity. This study investigates the determining factors for transit travel demand by bus and subway in Wuhan. This research is primarily concerned with two concepts: accessibility and equity. Although the demand for transit travel in Wuhan is rapidly increasing, the current transportation infrastructure is lacking in the provision of basic accessibility to low-income and suburban households. To meet passenger demand, high public transit accessibility is vital to provide basic accessibility to key locations such as job centers.

Study on Commuting Trips and Job Accessibility for Commuters with Different Residential Locations — A Case Study of Shanghai
CICTP 2014: Safe, Smart, and Sustainable Multimodal Transportation Systems (3316 - 3330)
Abstract
Many Chinese metropolises are in an ever-growing suburbanization, with the economy blooming and population agglomerating. The home/work separation is increasing due to large numbers of residents moving from the inner city to the suburbs as a result of the government-led urban redevelopment or house rate leverage, while the highest density of jobs remains in the inner city. The home/work separation is thought to be the trigger of over-commuting, traffic congestion, low job accessibility and other urban problems. In China, where the inner city residents' emigration was conducted within a short time, suburban commuting and job accessibility piqued researchers' interests. In order to provide a deeper understanding of this issue in those metropolises, this study (conducted in Shanghai) analyzes commuting trips and job accessibility of commuters.
with different residential locations, while also bringing into consideration transportation mode choice, public transit availability and commuter income level. The data in this study comes from the 4th Shanghai Comprehensive Traffic Survey and its supplementary survey. Results show that job accessibility changes with the residential location — the closer commuters reside to the city center, the better job accessibility they could enjoy. Commute mode choice and public transit conditions also affect the residents' job accessibility. The study points out the importance of public transit conditions on commuting and job accessibility, gives well-directed suggestions for planners and decision-makers to work out reasonable planning and construction of public transit systems which could improve job accessibility among different groups, guarantee the residential stability and social equity, and promote balanced and energetic development of the city.

TRID Database

Space–time mismatch between transit service and observed travel patterns in the Wasatch Front, Utah: A social equity perspective
Farber, Steven; Ritter, Benjamin; Fu, Liwei
Abstract. In the absence of other alternatives, people who rely on public transportation to conduct their daily activities have travel patterns that differ from discretionary transit users, especially those who choose to use transit for work trips. At the same time, in many regions around the world, public transportation is primarily designed to accommodate peak-hour travel demands in order to reduce congestion and its impacts. It is theorized that this results in a mismatch between the demand and supply of public transportation among populations at risk of social exclusion. In this research, the authors characterize and compare the spatiotemporal patterns of travel demand and transit supply. Their analysis consists of a comparison between observed travel patterns and a new temporal measure of transit supply based on travel times. They measure travel demand with the observed trip-making characteristics (i.e. origin, destination, time-of-day) of the respondents to two transportation surveys conducted in Utah. Transit supply is characterized using a transit travel time cube, a three-dimensional array of origin–destination transit travel times computed for all origins, destinations and times of day. Mismatch is examined by descriptive and multivariate comparisons of observed trips and computed levels of transit provision. The authors' results confirm theory: more marginalized groups demand travel between locations at times of the day that are poorly served by transit. However, when controlling for all variables simultaneously in a multivariate regression, few socioeconomic factors remain significant, indicating the overall importance of employment status, making work trips, and traveling during peak times, in explaining mismatch.

Record Type: Publication
Record URL: http://dx.doi.org/10.1016/j.tbs.2016.01.001; http://www.sciencedirect.com/science/article/pii/S2214367X16000028
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The impact of congestion on bus passengers
Begg, D
Abstract. Over the last 50 years, bus journey times have increased by almost 50% in the more congested urban areas of the United Kingdom. If we had protected bus passengers from the growth in congestion there would arguably be between 48% and 70% more fare paying bus passenger journeys today. If the trend is allowed to continue, then our urban buses will no longer represent a viable mode of transport for the majority of its customers and will be populated largely by people with mobility difficulties. This report makes clear the true extent to which congestion has been corrosive to the bus sector. It has been caught in the vortex of three vicious downward spirals: 1. Slower speeds leading to higher costs and higher fares; 2. Slower speeds leading to increased journey time; 3. Slower speeds leading to punctuality and reliability decline. The net result is a direct correlation between operating speeds and patronage: a 10% decrease in speeds reduces patronage by at least 10%. Slow buses are bad for our city economies. If the trend for bus journey times increasing by almost 1% per annum continues we can expect to continue to lose access to around 5,000 jobs per year as a consequence. Slow buses are also bad for pollution. Fuel efficiency measured in kilometres per litre has declined by 35% since 2000, and carbon dioxide emissions per bus km in urban conditions have risen by 25%. While there are factors other than congestion driving this trend, such as larger buses, stop-start conditions caused by congestion are a key factor.

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Record URL: http://www.greenerjourneys.com/publication/the-impact-of-congestion-on-bus-passengers/
Corporate Authors: Greener Journeys London
Pagination: 55p
Publication Date: 2016-06-00
Language: English

Least Relevant Results

TRID Database

Joint Analysis of the Commuting Departure Time and Travel Mode Choice: Role of the Built Environment
Ma, Xiaolei; Yang, Jie; Ding, Chuan; Liu, Jianfeng; Zhu, Quan
Abstract. This paper aims to conduct an empirical study to evaluate the influence of built environment features and socioeconomic factors on commuters' simultaneous choice of departure time and travel mode. Using Kunming, China, as the study region, the 2015 Regional Household Travel Survey and 2016 Point of Interest data are used in the analysis. The results show that, in addition to socioeconomic factors, built environment, such as the density of residential building, employment, and service facility are correlated with joint choice behavior. Moreover, there exist differences regarding the influence of built environment and socioeconomic factors on departure time and travel mode choice. The dissimilarity parameters show that commuters prefer to shift travel mode than departure time generally when travel condition alters. In order to examine the policy measures' potential performance, the paper conducts simulation tests based on the Monte Carlo method. The simulation results show that congestion pricing of car travel during peak hours can reduce the number of commuting trips, and reducing travel time of public transit would be a better strategy to attract more passengers during peak hours. Moreover, reasonable land use planning, such as building more bus stops around commuters' home location, would be a long term and fundamental approach to reduce mobile-source emissions and attract more public transit passengers.
Commute Well-Being Differences by Mode: Evidence from Portland, Oregon, USA

Smith, Oliver

Abstract. To understand the impact of daily travel on personal and societal well-being, researchers are developing more sophisticated quantitative measures of travel satisfaction. Metrics related to Subjective Well-Being (SWB), defined as an evaluation of one’s happiness or life satisfaction, hold promise for better evaluating health impacts of transportation and land-use policies. This article examines commute well-being, a multi-item measure of how one feels about the commute to work, and its associated factors. The measure was adapted from the Satisfaction with Travel Scale originated by Ettema et al. (2010). Data were collected from a web-based survey of workers (n=828) in Portland, Oregon, U.S.A. with four modal groups: walk, bicycle, transit and car users. With some modifications from previous research, this research confirms that the commute well-being scale reliably measures commute satisfaction. A multiple linear regression model shows that along with travel mode, traffic congestion, travel time, income, general health, attitudes about travel, job satisfaction and residential satisfaction also play important individual roles in shaping commute well-being. Results in this study add further evidence that people who bike and walk to work are happier with their commutes and are relatively unaffected by traffic congestion compared to bus and car commuters. The findings suggest opportunities for policymakers to more effectively market active transportation policies.
Employment centers and travel behavior: exploring the work commute of Mumbai’s rapidly motorizing middle class

Shirgaokar, Manish

Abstract. In the Greater Mumbai Region (GMR), jobs and housing are agglomerating in nodes in the periphery of Mumbai City. However, current transportation investments focus on strengthening connections within Mumbai City, while these outlying nodes have received less attention. As housing and jobs move out, given limited travel choices, the need for mobility nudges many middle class Indian households into owning private vehicles. Using household travel survey data from the GMR, this paper develops an understanding of how worker’s trips are different for those who commute to the city versus the exurbs. Socio-economic and transportation indicators for middle class workers going to the city versus the exurbs show that these populations are quite similar demographically. However, those traveling to the exurbs, on average, tend to be at a socio-economic disadvantage with respect to income, education and out-of-pocket travel burdens. Those traveling to exurban work locations have shorter travel times and trip distances, and make much higher use of walking, biking, rickshaws, and motorized two-wheelers compared to commuters to Mumbai City. Across the GMR, car users travel longer and farther compared to motorized two-wheeler users. On average, traveling by a private vehicle is faster than bus or rickshaw travel revealing advantages of private vehicle use. These mode choices in the middle class have resulted in rapid motorization and negative externalities such as traffic congestion and emissions. Evidence of large increases in motorized two-wheelers and cars in India suggests that these modes will likely keep growing, unless competing efficient travel options are supplied.

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Web

Measuring Access to Employment to Guide and Evaluate Public Transit Service Planning in New Orleans https://scholarworks.uno.edu/cgi/viewcontent.cgi?article=3397&amp;context=td


USING TRAVEL TIME MEASURES TO ESTIMATE MOBILITY AND RELIABILITY IN URBAN AREAS https://static.tti.tamu.edu/tti.tamu.edu/documents/1511-3.pdf

Where the Jobs Are: Employer Access to Labor by Transit

Transportation Cost and Benefit Analysis II – **Travel Time** Costs
https://www.vtpi.org/tca/tca0502.pdf

GUIDE TO SUSTAINABLE TRANSPORTATION PERFORMANCE MEASURES