Measuring the Economic Impact of Rural Transit Service in Greater Minnesota: Literature Search
June 29, 2017

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Resources searched: Transport database, TRB Research in Progress, MnDOT Library catalog,

Summary: Search results are compiled from the databases named above. The results at the top specifically use descriptor keywords of “economic benefits” and “economic impacts” in conjunction to “rural transit”. Other keywords were “small towns” and “rural areas”. I did not find much specific to Minnesota.

Most Relevant Results

Title: Putting Transit to Work in Main Street America: How Smaller Cities and Rural Places Are Using Transit and Mobility Investments to Strengthen Their Economies and Communities.
Author: Forbes Sasha; Anderson Alia; Kline Sarah; Brundage Vernon
Editor: Hughes John
Publication Information: 2012/5. 37p
Abstract: This report looks at rural transit systems, their impact on mobility, quality of life, and the economy. It looks at the investments being made in rural communities and the role of federal government funding. Case studies are included highlighting projects such as: improved bus networks, bus circulator systems, intermodal transit facilities, and commuter rail improvements.

Title: Rural Connections: Challenges and Opportunities in America's Heartland.
Abstract: This report looks at transportation challenges in rural America. It begins with a review of the importance of transportation infrastructure to the rural economy. A lack of connectivity between rural communities and the Interstate Highway system is a challenge which negatively impacts economic activity. Rural roads also have safety challenges including high fatality rates and a lack of safety features. Data includes the States with the most fatalities in crashes on rural non-Interstate roads and number of fatalities on rural non-Interstate roads from 2005 to 2013. Possible safety improvements for rural roads are outlined based on costs. Poor road conditions are also a safety factor and data includes States with the highest share of poor condition rural roads and percentage of structurally deficient bridges by State. The report concludes with suggestions to improve connectivity, traffic safety, and road and bridge conditions.
Publication Year: 2015

Title: Wider economic benefits of transport schemes in remote rural areas.
Author: Laird James J; Mackie Peter J
Citation: Research in Transportation Economics. 2014/11. 47(0) pp 92-102(Figs., Maps., Refs., Tabs.)
Abstract: Remote rural areas tend to experience slower population growth (sometimes decline), slower growth in gross domestic product (GDP), fewer employment opportunities and lower productivity relative to the economy as a whole. Transport policy interventions are typically focussed on addressing structural economic weaknesses. Yet despite a strong general interest in wider economic benefits, their relevance to schemes in remote rural areas has received very little previous discussion. The authors argue that remote rural areas are likely to exhibit market distortions in the goods and labour markets, primarily arising from a lack of alternatives and choices in these areas. The authors also illustrate the empirical importance of the wider economic benefits, caused by these distortions. Using case studies from the Highlands and Islands of
Scotland to do so. The authors find that focusing the cost benefit analysis only on the primary transport market can significantly underestimate welfare benefits, and that the degree of underestimation varies significantly case by case. It is highest for schemes where the impacts on business and employment are large and where all of the output and employment effects occur in a remote rural area.

**Title:** The Road to Livability: How State Departments of Transportation Are Using Road Investments to Improve Community Livability.

**Citation:** 2010/4/21. 18p

**Abstract:** Since the U.S. Department of Transportation is making livability a top priority for future transportation funding, this is an important concept to define. While some would suggest livability means a life without cars, this definition really doesn't work for the millions of Americans who have chosen the lifestyle that an automobile affords. A public policy that addresses true livability must include not only urban but rural communities, not only the environment but also the economy, not only transit riders and bicyclists, but soccer moms and family vacationers at the Grand Canyon. The Washington State Department of Transportation suggests that a 'livable future’ requires a balance of three key societal goals: vibrant communities, vital economy and sustainable environment—all goals for which good transportation is essential. In providing good transportation networks for their citizens, state DOTs have long been the incubator of such 'livable' policies as community-sensitive design, historic preservation, asphalt recycling, and practical engineering. They support the expansion of choices for transportation users to include transit, walking and biking. Daily they are working with communities and demonstrating that livability can be accomplished through road-related improvements. State departments of transportation are using several techniques to improve the livability of their communities: creating good-paying jobs; stimulating the broader economy; investing in green projects; revitalizing a small town's ‘main street’; transforming urban streets into neighborhood centers; preserving scenic country roads; creating smart transportation solutions in tight economic times; enhancing neighborhoods through the enhancement program; making design responsive to community needs; integrating transportation and land use; using scenic byways to attract tourists and support local economies; promoting walking and biking; and supporting travel and tourism.

**Title:** ECONOMIC IMPACT OF RURAL TRANSIT SERVICES.

**Author:** Burkhardt J E

**Citation:** Transportation Research Record. 1999. (1666) p. 55-64(15 Refs., 4 Tabs.)

**Abstract:** Great economic benefits are attributed to transit systems serving large urban areas, such as providing mobility, reducing costs associated with automobile use (congestion and air pollution), encouraging greater economic growth in areas served, and increasing the nation's overall economic productivity. Like the larger urban public transit systems, rural public transit systems have real benefits for the communities they serve. Unlike those of their larger counterparts, the contributions that rural transit systems have made to the economic health and well-being of the communities they serve have gone largely unrecognized. A new report measures for the first time the economic benefits of rural transit operations. The report develops benefit estimates from 22 case studies of rural transit systems and from national transportation and economic data. Large economic benefits were found, demonstrating that public transportation is a good investment for rural communities.

**Title:** ASSESSMENT OF THE ECONOMIC IMPACTS OF RURAL PUBLIC TRANSPORTATION.

**Author:** Burkhardt J E; Hedrick J L; McGavock A T

**Citation:** TCRP Report. 1998. (34) 221 p.(10 Figs., Refs., 23 Tabs.)

**Abstract:** Almost 1,200 public transportation systems now exist in rural communities across the United States and receive Federal funding. Many of these systems have been in operation since the 1970s and 1980s, but their economic impacts have seldom been quantified. This report examines the economic impacts of selected rural public transportation services at the local level through case studies, and it estimates the national economic impact of rural public transportation on an average annual per county basis. This report
will be of interest to state and local transportation planners, analysts, and decisionmakers to assist them in matters pertaining to the introduction and expansion of public transportation services in rural areas.

**Title:** RURAL TRANSIT SERVICES: A LOCAL ECONOMIC AND FISCAL IMPACT ANALYSIS.
**Author:** Peng Z R; Nelson A C
**Citation:** Transportation Research Record. 1998. (1623) p. 57-62(11 Refs., 2 Tabs.)
**Abstract:** Rural transit services are generally considered a tool to alleviate immobility for the elderly, the handicapped, and the carless and a form of income redistribution to them from society at large. But their economic impacts on local economies and governments are seldom realized and quantified. This study estimates two important transfer impacts of rural transit service on local (county) economies and governments in Georgia: the overall economic impacts and the fiscal revenue impacts. This study analyzed economic benefits of three major transit rider types in rural Georgia: elderly riders, work trip riders, and school trip riders. It found that rural transit services have a significant and positive economic impact on the local economy, indicating that, in addition to providing mobility and accessibility to the transportation disadvantaged, rural transit services promote local economic development. The fiscal revenue impact of rural transit service varies depending on the availability and the amount of federal transit subsidy. If the current level of federal transit subsidy continues, the fiscal revenue impact is positive and is larger than 1.0 for the state as a whole. It shows that providing transit service can bring positive fiscal revenues to local governments, realizing that some fiscal revenues are transferred from the federal government. Without federal transit subsidies, local governments would need to pay for all the costs. The revenue impact thus would become smaller yet still positive and greater than 1.0.

**Title:** THE ECONOMIC IMPACT OF RURAL HIGHWAY BYPASSES: IOWA AND MINNESOTA CASE STUDIES.
**Author:** Otto D; Anderson C
**Funded by:** Iowa Department of Transportation and Midwest Transportation Center.
**Abstract:** Highway bypasses around rural communities in heavily traveled transportation corridors are viewed as a highly cost effective method of improving traffic flow along non-interstate transportation routes. However the bypassing of a central business district raises concerns among merchants and residents over possible adverse impacts to their businesses. After providing a historical perspective to the role of rural bypasses, this paper uses several approaches to assess the impacts of rural highway bypasses. First, the effect on overall retail sales in bypasses communities is examined by comparing retail sales to cities without bypasses for comparable periods. Next, the total sales are decomposed into categories or classes of retail sales to analyze the impacts upon different types of businesses that may be attributed to the bypass. Finally, the effects of the bypass on individual merchants is examined through a personal survey of business operators in these bypass communities, assessing their attitude to the bypass impacts.
**Publication Year:** 1995

**Title:** THE CONTRIBUTION OF TRANSPORTATION TO RURAL ECONOMIC DEVELOPMENT.
**Author:** Henry M; Johnson T G
**Citation:** SDRC Series Publication. 1993. p. 35-46(59 Refs.)
**Abstract:** Since World War II, auto and truck flows over highways--especially the Interstate Highway System--have been viewed as the primary link between rural America and the population centers of metropolitan cities. Many rural places see access to a four-lane highway in their county or town as the key to development. Since most of rural America is now dominated by manufacturing, rural development proponents suggest that good highway transportation is the missing link to development of their area. The effects of highways can be distributional (shifts in the incidence of economic activity among locations) and/or developmental (changes in the total level of economic activity). The objective of this paper is to establish what is known about the role of highways in regional economies. Infrastructure has historically been closely associated with the process of economic growth and development. Relevant questions for policymakers are,
does infrastructure still stimulate economic development and if it does, do highways contribute to rural economic development or are alternative types of infrastructure more important; and what kinds of impacts do highways have on the location (distribution) of economic activity. The impact of a particular highway investment will be largely distributional when, for example, the public expenditure involved would have been made in another location, or on another type of project or service if the project in question had not been chosen. Developmental impacts are more fundamental changes in the structure of the economy, in the economic base, and the size and composition of the economic multiplier.

Title: RURAL COMMUNITIES: THE TRANSPORTATION DILEMMA.
Author: Hart R K
Citation: 1976/9. 96 p.
Abstract: In addressing transportation considerations in rural development, an effort has been made to highlight some of the major areas of difficulty associated with the provision of an adequate transportation system to facilitate growth in nonmetropolitan areas. Transportation is a very necessary condition for rural development, but an adequate transportation infrastructure is not sufficient for that development to take place. The report discusses the growth of light industry, changes in transportation mode such as rail to trucking, and population shifts.

Title: TRANSPORTATION IMPACT STUDIES: A REVIEW WITH EMPHASIS ON RURAL AREAS.
Author: Skorpa L; Dodge R; Walton C M; Huddleston J
Citation: 1974/10. 83 p.
Abstract: The studies reviewed were classified into four categories (these are not mutually exclusive) according to the following criteria: The nature of the transportation facility (i.e., highway, rail, etc.); the kind of area examined in the study (e.g., by-pass area, rural area, interchange area); the type of effect measured (changes in land use, land value, economic activity, etc.); the methodology employed in the analysis of impact.

Title: Successful Practice for Evaluating the Economic Impact of Transit.
URL: http://rip.trb.org/view/1357032
Abstract: Transit agencies have an increasing need to consistently and defensibly describe the economic impacts and benefits of their services. In transit, a diversity of evaluation methods can be applied, yielding challenges for consistent evaluation and documentation of economic impacts across studies and geographies. In 2012 the American Society of Civil Engineers published a study on the potential economic effects of transit under-investment at the national level and in 2013, the American Public Transportation Association (APTA) updated a national report on the overall economic impacts and benefits of transit. Various metropolitan planning organizations (MPOs), states and local transit operations have also undertaken studies showing the impact and benefit of transit systems and investments. Practitioners are challenged to interpret potentially conflicting and inconsistent approaches. The transit problem is widespread. Unique considerations make it very difficult to generalize transit economic benefits and impacts and relatively few transit operations or even metropolitan planning organizations can afford to sponsor original economic impact and benefit studies unique to their regions. Moving Ahead for Progress in the 21st Century (MAP-21) and ongoing discussions about transportation legislation, continue to emphasize performance, accountability and mode-neutrality. Yet highway, bridge and freight modes have more universally accepted and consistent economic assessment methods than transit. Moreover, transit systems, like their other modal counterparts, are faced with the challenges of shifting demands, aging infrastructure, and constrained budgets, and need credible economic evaluations to make the case for sustained strategic investment. A synthesis is needed to provide state of the practice information for transit agencies in helping them to achieve consistency in incorporating economic benefits and impacts into their decision-making. Information gathered will include but not be limited to the following: (1) Accepted methods of ascertaining transit economic benefit and impact, providing mobility and beyond; (2) Methods that can be practically applied given the analytical resources and staffing of a typical transit planning organization; (3) Available
data sources to support implementation of these methods throughout the US; (4) How factors such as area type (urban/rural), community size, type of transit operation, economic base of a community and transit market profile affect the appropriateness or transferability of transit economic analysis methods; (5) Current successful practices for planners or decision makers seeking to evaluate claims of transit economic benefit and impact resulting from available methods; and (6) This synthesis will explore these issues and document successful practice. A literature review, survey of selected transit agencies and/or other stakeholders, and detailed case examples/profiles will be accomplished to report on the state-of-practice, including lessons learned, challenges, and gaps in information. APTA, Transportation Safety Institute (TSI), and National Transit Institute (NTI) resources will be reviewed, as available. A draft further research needs statement might also be prepared.

Title: Cost-Benefit Analysis of Rural and Small Urban Transit.
URL: http://rip.trb.org/view/1396085
Abstract: The proposed objectives of this study are as follows:
1) To develop a detailed methodology for assessing economic benefits of rural transit at the local, statewide, and national levels.
2) To estimate the economic costs and benefits of rural and small urban transit.
3) To identify and describe social, environmental, and other intangible benefits of rural and small urban transit.
4) To develop concise educational material summarizing the costs, benefits, and funding of public transit operations in rural areas.

Least Relevant Results

Title: Active Transportation Beyond Urban Centers: Walking and Bicycling in Small Towns and Rural America.
Author: Loh Tracy Hadden; Walljasper Jay; Sonenklar Daniel; Mills Kevin; Levinger David
Citation: 2012. 28p
Abstract: This report presents a new analysis of the 2009 National Household Travel Survey by employing five different types of rural areas and showing that in every type of rural area, walking and bicycling are already an important part of the transportation picture. Many rural small towns are choosing to invest more in promoting active transportation, and making it safe and convenient, because of the economic, health and demographic benefits these modes return. The report relates that Federal Transportation Enhancements funding goes to rural areas at almost twice the per capita rate as urban areas, demonstrating strong demand for walkable, bikeable communities across the landscape. The report includes real stories from rural communities across the country where people are walking and biking their way to strong local economies and fitness, and the towns are boosting their attractiveness to young families.

Title: RURAL RESIDENTIAL DEVELOPMENT AND TRANSPORTATION INFRASTRUCTURE IN HIGH GROWTH RURAL COMMUNITIES.
Author: Johnson J; Maxwell B; Brelsford M; Dougher F
Citation: 2003/10. 36 p.(14 Figs., 3 Tabs.)
Abstract: The major objective of this document was to summarize Greater Yellowstone Rural Intelligent Transportation System (GYRITS) Work Order II-2E, Geographic Information System (GIS) Land Use Forecasting in Teton County Idaho. Based on the requirements of the grant the authors modeled a study area between Bozeman, MT and Four Corners in order to determine the role of changes in transportation infrastructure to changing land use in the study region. They operationalized transportation infrastructure changes as commuter capacity. Commuter capacity was developed as a measure of the amount of traffic that can move through any part of a system over a given amount of time. Commuter capacity was calculated as a function of the number of lanes and the designated speed limit, with weighting (or limiting) factors
added for road surface, quality, and traffic controls such as traffic lights and stop signs. It is, in effect, the number of automobiles that can move through the network and the rate at which those autos travel along the commuter route. The authors then made forecasts of land use changes in the Four Corners region and derived a dispersion function for development based on historic land use change and changes in commuter capacity. The result is a consistent relationship between commuter capacity with well density in recent years. Therefore, the authors believe that it can be used as a first principle process to forecast development under different road improvement scenarios. They applied the function to the Teton Valley study area between Driggs and Victor, ID assuming different road improvement scenarios and found that development follows the road network even more closely than in the Four Corners area. A fictitious scenario was developed by making hypothetical road improvements and a new commuter capacity was calculated and used to predict new residential development in the Teton Valley. Development was again restricted along the fictitiously improved roads rather than developing a patchwork of new clustered developments as was seen in the Four Corners, Montana study area. This pattern in Teton Valley is probably due to the lack of paved roads in developments prior to houses being built that would likely occur away from the main roads. Rural population growth brings positive and negative changes to the natural ecosystem and human communities of the region. Integral to growth forecasts are changes to the regional transportation infrastructure - especially new roads as drivers of new growth. Significant economic and ecological costs may result from continued rural residential development and future research should include better cost accounting of rural residential development that results from changes to the local transportation infrastructure as well as ecological and qualitative amenity accounting for rural residents.

Title: BENEFITS OF HIGHWAY IMPROVEMENTS ON RURAL COMMUNITIES IN MISSOURI: ECONOMIC DEVELOPMENT CONSIDERATIONS.
Author: Pigg K E; Johnson T; Gilles J; Fulcher C; Wilson Orndoff C
Date on cover: September 2003; date on documentation and title pages: August 2003.
Abstract: A brief examination is made of the effects of highway improvements on the economic sector of rural Missouri counties. Sixty-five rural counties with four lane highways (maintained by the Missouri Department of Transportation) are included in the regression analysis with multiple indicators of economic change. Results indicate little benefit from highway improvement, as defined for this study, exists for rural counties.

Title: LINKING ECONOMIC DEVELOPMENT TO HIGHWAY IMPROVEMENTS: PINE RIDGE RESERVATION, SOUTH DAKOTA.
Author: Khan S; Levy D
Citation: Transportation Research Record. 2003. (1848) p. 106-113(3 Figs., 4 Refs., 3 Tabs.)
Abstract: Much of the literature on the economic benefits associated with investments in transportation infrastructure focuses on locations with at least some measure of private-sector economic activity. The focus here is on the Pine Ridge Indian Reservation in South Dakota, an area with extremely limited private economic activity and a transportation network with limited connectivity and accessibility. The study was one of a series sponsored by the Federal Highway Administration to examine linkages between transportation improvements and economic development in rural areas. The Pine Ridge study established a framework for analyzing these linkages and focused the analysis on tourism, a key sector that both offers great potential for economic development and is dependent on improvements in transportation infrastructure. The analysis estimated the potential benefits of the tourism sector and identified the transportation improvements that would be needed to support this sector. It was found that, assuming implementation of a suite of supportive initiatives, a mature tourism sector at Pine Ridge could attract more than 1 million visitors each year, which would have an estimated total economic impact of $153 million during a 15-year period. By the end of the analysis period, these tourists would generate more than 1 million automobile trips per year, with a peak average daily traffic of 5,200 vehicles. The local enhancements in transportation infrastructure that would be needed to provide adequate levels of service include both upgrading the functional class of key roads and
performing adequate maintenance throughout the life cycle of the improved roads. The costs of these transportation investments are estimated at $73.3 million.

Title: HOW TRANSPORTATION AND COMMUNITY PARTNERSHIPS ARE SHAPING AMERICA. PART II: STREETS AND ROADS.
Citation: 2000. 25 p.
Abstract: Concerns about livability are shared by every type of community - whether a suburb, inner city neighborhood, small town or rural area. This booklet explores how people in these communities are working in partnership with transportation agencies to create transportation systems that enhance places - socially, economically, and physically. The case studies emphasize the direct relationship between community reinvigoration and community-supportive streets and roads. This booklet is a companion to a publication devoted specifically to transit projects.

Title: ASSESSMENT OF ARKANSAS ECONOMIC IMPACTS OF RURAL PUBLIC TRANSPORTATION.
Author: Butler D P; Maxwell T
Supported by: a grant from the U.S. Department of Transportation, University Transportation Centers Program.
Abstract: This research documents the linkages between public transportation and economic activities in the rural areas of Arkansas. A methodology is developed to estimate the impacts of rural public transportation on economic activities in the rural areas of Arkansas. The developed methodology is used to estimate several rural public transportation systems' economic impacts in the state of Arkansas. The data obtained can provide rural transportation providers with an opportunity to link the economic strength of a region and the public transit system that serves it.
Publication Year: 1997

Title: GETTING TO WORK: NORTHEAST PERSPECTIVES ON RURAL PUBLIC TRANSPORTATION AND ECONOMIC DEVELOPMENT.
Author: Ankner W; BIVENS W E
AUTHOR INFO: CONEG POLICY RESEARCH CENTER COALITION OF NORTHEASTERN GOVERNORS POLICY RESEARCH CENTER
ISBN: 0914193031 BY WILLIAM ANKNER AND WILLIAM E. BIVENS, III OTHER PHYS.
Citation: V ILL., MAP SEPTEMBER 1983 INCLUDES BIBLIOGRAPHICAL REFERENCES ADDL CORP.