

NTKN Libguides: Sustainable Public Transportation in the Western US

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Home

Overview

Public transportation, by its very nature, plays an integral role in making the nation's transportation system more sustainable. By examining ways to increase sustainability within these systems, we can better achieve the goals of creating and maintaining a stable relationship between environmental, economic and social needs, as well as building more livable communities. The American Public Transportation Association says that this can be achieved through:

- Employing practices in design and capital construction, such as using sustainable building materials, recycled materials, and solar and other renewable energy sources to make facilities as 'green' as possible.
- Employing practices in operations and maintenance such as reducing hazardous waste, increasing fuel efficiency, creating more efficient lighting and using energy-efficient propulsion systems.
- Employing community-based strategies to encourage land use and transit-oriented development designed to increase public transit ridership.

<http://www.apta.com/resources/hottopics/sustainability/Pages/default.aspx>

This guide considers different aspects of public transportation, with an emphasis on topics and issues particularly important to the states in the Western US.

Public Transportation



Sponsorship

The LibGuide platform is provided through the FHWA Pooled Fund Study TPF 5(237), Library Connectivity and Development, and the Western Transportation Knowledge Network.

The [Transportation Library Connectivity & Development Pooled Fund Study](#) is a consortium of libraries in the DOTs and UTCs working cooperatively to enhance library services among its membership. We serve our members and the entire transportation information community with products and services we design and select for tangible, lasting benefits for librarians and researchers.

Original Compilers

Some compilers may no longer be with the library.

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Bus

Sustainability Goals & Bus Transit's Role

[Achieving Sustainability Goals through University-Transit Partnerships. 2011](#)

- Universities encourage the use of transit ridership by developing travel demand management strategies, such as incentives for alternative mode use or transit pass programs. This paper provides a discussion on achievable sustainability benefits from cooperative efforts between transit providers and universities.

[Analysis on Inter-City Bus Sustainable Mode during the Process of New-Type Urbanization Evolution. 2014](#)

- This paper starts from the view of the new urbanization of the characteristics connotation, analyzing the travel characteristics by the urban agglomeration, the definition of intercity buses, features and discussing the sustainable development model, which is aimed at integrating development of intercity bus break barriers to protect their healthy development.

[Energy Savings Strategies for Transit Agencies. 2013](#)

- This synthesis describes how transit agencies in the United States and Canada are reducing their energy use. This is being done not only by providing alternatives to travel in personal vehicles but also in other categories of energy savings strategies such as those dealing with vehicle technologies; vehicle operations, maintenance, and service design; non-revenue vehicles; stations and stops; building; indirect energy use; and renewable power generation.

[Impacts of a Green-Driving Application in City Buses on Fuel Consumption. 2014](#)

- Order URL: <http://worldcat.org/issn/1751956X> The impacts of a green-driving application on fuel consumption, speeding and passenger comfort were assessed on a frequently operated bus route in the Helsinki metropolitan area. The main results of the study show that use of a green-driving application in buses significantly reduces fuel consumption and speeding and increases passenger comfort.

[The Role of Public Transit in Sustainable Communities. 2008](#)

- Transit ridership is on the rise and contributes to sustainability in a variety of ways.

[Sustainable Public Transportation: Environmentally Friendly Mobility. 2011](#)

- This digest provides an overview of an international study mission that explored how public transportation systems in several cities in India and China have implemented plans, policies, technologies, and strategies for creating more livable communities through bus, metro, bus rapid transit, rail, and light rail systems.

Mode – Bus



Clean Fuels and Buses

[American Fuel Cell Bus Project: First Analysis Report. 2013](#)

- This report summarizes the experience and early results from the American Fuel Cell Bus Project, a fuel cell electric bus demonstration funded by the Federal Transit Administration (FTA) under the National Fuel Cell Bus Program.

[American Fuel Cell Bus Project Evaluation: Second Report. 2015](#)

- In December 2011, SunLine Transit Agency began operating a new fuel cell electric bus (FCEB) in its service area in Southern California. This bus, called the American Fuel Cell Bus (AFCB), was developed as part of the Federal Transit Administration's (FTA) National Fuel Cell Bus Program (NFCBP). This report provides an update.

[BC Transit Fuel Cell Bus Project: Evaluation Results Report. 2014](#)

- The primary goals of the project were to investigate the status of the technology, to demonstrate that fuel cell electric buses could provide daily service in an urban transit operation, and to contribute to the provincial government's climate action goals.

[Development of a new hybrid bus for urban public transportation. 2015](#)

- Describes new hybrid electric bus prototype.

[Monitoring the Implementation of Cleaner Fuels and Alternative Transit Vehicle Technologies. 2009](#)

- The main objective of this research effort is to develop an analysis tool to assist public transit agencies with evaluating cleaner fuel options for heavy-duty bus fleets and making effective vehicle acquisition choices. The intended product of this effort is a user-friendly, easily-modifiable Visual Basic computer application designed to work with the Microsoft Excel platform.

Reducing Greenhouse Gas Emissions

[The Broader Connection between Public Transportation, Energy Conservation and Greenhouse Gas Reduction. 2008](#)

- This study began with the hypothesis that public transportation interacts with land use patterns, changing travel patterns in neighborhoods served by transit.

[Current Practices in Greenhouse Gas Emissions Savings from Transit. 2010](#)

- This synthesis describes the role of transit agencies in reducing greenhouse gas (GHG) emissions and catalogues the current practice of a sample of transit agencies. The purpose of this synthesis is to inform transit agencies on how their services and operations specifically impact GHG emissions from transportation.

[Quantifying Transit's Impact on GHG Emissions and Energy Use - The Land Use Component. 2015](#)

- This report examines interrelationships between transit and land use patterns to understand their contribution to compact development and the potential greenhouse gas (GHG) reduction benefits.

[The Route to Carbon and Energy Savings: Transit Efficiency in 2030 and 2050. 2010](#)

- This report identifies a portfolio of strategies that transit agencies can take to reduce the energy use and greenhouse gas (GHG) emissions of their operations and estimates the potential impacts of those strategies in 2030 and 2050.

[A Simulation of Transit Bus Emissions along an Urban Corridor: Evaluating Changes under Various Service Improvement Strategies. 2014](#)

- This study investigates the impacts of transit improvement strategies on bus emissions along a busy corridor in Montreal, Canada. The authors' findings are of most relevance for transit planners who are seeking to implement different strategies to reduce emissions and improve transit performance.

Bus Transit Planning

[Analysis on Inter-City Bus Sustainable Mode during the Process of New-Type Urbanization Evolution. 2014](#)

- This paper starts from the view of the new urbanization of the characteristics connotation, analyzing the travel characteristics by the urban agglomeration, the definition of intercity buses, features and discussing the sustainable development model, which is aimed at integrating development of intercity bus break barriers to protect their healthy development.

[Classification and Ranking of Bus Stations in Urban Settings. 2015](#)

- This paper, based on cluster analysis theory, empirically analyses the ranking of bus stations in Xi'an. The results indicate that ranking of bus stations is helpful to improve the operational efficiency and promote the sustainable development of public transportation systems and urban society and economy.

[Enhanced Transit Strategies: Bus Lanes with Intermittent Priority and ITS Technology Architectures for Transit Oriented Development \(TOD\) Enhancement. 2006](#)

- This report addresses two enhanced strategies within a transit oriented the TOD framework: 1) using Bus Lanes with Intermittent Priorities (BLIPs) to enhance bus transit; and 2) addressing how and what Intelligent Transportation System (ITS) technology can be used within TOD system architectures.

[Measuring Bus Stops toward a Sustainable Urban Environment. 2015](#)

- This paper describes how a bus stop measuring system can be developed not only to achieve transit operation efficiency, but also to proactively collaborate with urban planners and traffic engineers on transit/land use interface activities.

[Sustainable Urban Transit Network Design. 2015](#)

- This paper focuses on developing an efficient model for solving a sustainable oriented variant of the Transit Route Network Design Problem.

Train/Freight/Rail

Freight trains

[Best Practices and Strategies for Improving Rail Energy Efficiency. 2014](#)

- In support of the Federal Railroad Administration (FRA) Energy, Environment, and Engine (E3) program, this study reviews and evaluates technology development opportunities, equipment upgrades, and best practices (BPs) of international and U.S. passenger and freight rail industry segments for improving energy efficiency (E2) performance and attaining environmental sustainability goals.

[Delivering the future: new approaches to urban freight. 2015](#)

- Freight forms part of a much wider debate about what kind of cities we want to live in and how we want them to look and feel. This report presents a vision for safe, smart and clean urban freight which maximises the benefits, and minimises the negative impacts, for local economies, the environment and communities.

[The Feasibility of Moving Freight on High-Speed Rail Networks - Preliminary Investigation. 2015](#)

- As high-speed rail (HSR) networks that provide passenger transport are developed and put into operation, they provide another modal opportunity to move freight as well as people. The California Department of Transportation (Caltrans) sought to investigate opportunities for transporting a selected subset of cargo via HSR.

[Freight Rail Carbon Calculator](#)

- Trains, on average, are four times more fuel efficient than trucks. But what does that really mean? Our easy-to-use carbon calculator will estimate the amount of carbon dioxide that can be prevented from entering our environment just by using freight rail instead of trucks. We'll even tell you how many seedlings you'd need to plant to have the same effect.

[GHG-Emission Models for Assessing the Eco-Friendliness of Road and Rail Freight Transports. 2015](#)

- One of the goals of this paper is to develop mesoscopic models that combine the preciseness of micro-models while requiring only little more information than macro-models. The authors propose emission models designed for transport planning purposes which are simple to calibrate by transport managers.

[Impact of High-Speed Passenger Trains on Freight Train Efficiency in Shared Railway Corridors. 2015](#)

- This project is to understand the complex interactions between high-speed passenger trains and freight trains on shared railway corridors. The objective of this project is to develop a decision support modeling framework that can help evaluate the impact of high-speed trains on railroad freight corridor capacity and draw technical and policy insights that will address key issues of the proposed U.S. high-speed rail (HSR) plan.

[National Rail Plan - Moving Forward: A Progress Report. 2010](#)

- This report reflects 15 months of study, consultations with States and freight rail partners, conversations with focus groups of transportation experts, and public outreach events held with communities across America. It reaffirms the commitment of the Congress and President Obama to build a nation-wide high-speed and intercity passenger rail system while preserving the Nation's premier freight rail network.

[Performance Measures for Sustainable Freight Movement. 2012](#)

- This project developed a framework and methodology to address the issues of freight sustainability at the transportation corridor level, i.e., for highways and rail facilities. Steps included defining the goals and objectives of sustainability pertaining to freight movement and developing appropriate performance measures that reflect progress toward these goals.

[Reducing the Carbon Footprint of Freight Movement through Eco-Driving Programs for Heavy-Duty Trucks. 2015](#)

- Truck eco-driving is a strategy that can be implemented quickly. Evidence from Europe, Asia, and North America suggests that truck eco-driving programs can save fuel and reduce greenhouse gases in the range of 5-15%.

[Strategies for Transitioning to Low-Carbon Emission Trucks in the United States. 2015](#)

- This paper reviews estimates of truck CO₂e reduction potential and costs, and develops new scenarios to achieve an "80-in-50" target.

[Study on Improving Rail Energy Efficiency \(E2\): Best Practices and Strategies. 2015](#)

- Based on a comprehensive literature review and on experts' inputs, this report highlights models of corporate rail sustainability plans and system-wide BPs and success stories.

BNSF Rail – Montana



Car and Bike Sharing

Car Sharing

[Demonstrating Electric Vehicles in Buffalo CarShare](#)

- Buffalo CarShare (BCS) deployed four Ford Focus electric vehicles (EVs) in their fleet to evaluate the potential performance and suitability of this technology in a carsharing operation.

[Early adopters of carsharing with and without BEVs with respect to gender preferences](#)

- The majority of current e-carsharing users are middle-aged men with a high education and high income; they are most likely to have a full-time employment. Women are consistently underrepresented in previous studies and therefore this paper focusses on characterization of female early adopters.

[Innovative strategies for urban car-sharing systems and a simulator to assess their performance](#)

- In this paper, three innovative car-sharing systems for urban areas are proposed, based on fleets of individual intelligent vehicles with three service characteristics: instant access, open-ended reservations and one-way trips.

[A practice-ready relocation model for free-floating carsharing systems with electric vehicles – Mesoscopic approach and field trial results](#)

- This paper introduces a relocation model for free-floating Carsharing (FFCS) systems with conventional and electric vehicles (EVs).

[Vehicle relocation and staff rebalancing in one-way carsharing systems](#)

- This study addresses the joint optimization of vehicle relocation and staff rebalancing using two integrated multi-traveling salesman formulations.

Ride Sharing

[Optimization of Dynamic Ridesharing Systems](#)

- In the innovative mobility systems implemented and developed with internet-based technologies, the new real-time capabilities of dynamic ridesharing, an extended version of traditional ridesharing, can play a key role if the relevant performance is improved. In other words, although ridesharing is not a new idea, recent technological advances should increase its popularity.

[Point to point transport taskforce: discussion paper](#)

- This discussion paper is the taskforce's conversation-starter with the NSW community on point to point transport services. In NSW, these include taxis, hire cars, tourist services, ridesharing services, community transport and courtesy transport.

Bike Sharing

[Modeling the Service Quality of Public Bicycle Schemes Considering User Heterogeneity](#)

- This article proposes a methodology for studying the quality of service perceived by users of a public bicycle scheme.

[Empirical Analysis of a Mode Shift to Using Public Bicycles to Access the Suburban Metro: Survey of Nanjing, China](#)

- The combined use of a public bicycle system (PBS) and transit is considered a green and efficient travel mode, yet few studies have focused on users' perceptions of this integrated mode. This study investigated commuters who recently began using PBS to access the metro, referred to herein as the metro-PBS, and commuters who drive to work in suburban Nanjing, China, which is an area where PBS is in early developmental stages.

[Bikeshare Planning: Building Blocks for Sustainable Communities: Baton Rouge, Louisiana, Next Steps Memorandum](#)

- This memo documents the key outcomes of the technical assistance for Baton Rouge, Louisiana with the Bikeshare Planning tool, and identifies key community issues, prioritized goals, and specific actions. Bikeshare is a network of bicycles distributed around an area that allows and encourages non-motorized trips from one location to another.

[IC Card-Based Data Mining Characteristics of Urban Public Bicycles](#)

- Adopting the method of Data mining, the corresponding long-term historic credit card data, bicycle sharing system location data and the land-use properties coming from three bicycle sharing systems are compared and analyzed to get bicycle sharing system in seasonal, spatial and temporal distribution, site symmetry aspects of trip characteristics, which provides support for bicycle sharing system operational decisions.

[Exploring bikesharing travel time and trip chain by gender and day of the week](#)

- Taking the opportunity of accessing to a large-scale and smart-card-based dataset from Nanjing, China, this paper explores bikesharing travel time and trip chain patterns by gender and day of the week.

[Knowing About a Public Bicycle Share Program In Montreal, Canada: Are Diffusion of Innovation and Proximity Enough for Equitable Awareness?](#)

- This study examined 2-year changes in lack of awareness of a transport-related innovation implemented in Spring 2009 in Montreal, Canada, namely a public bicycle share programs (PBSP) called BIXI© as a function of proximity to bicycle docking stations and educational attainment.

[A simulation tool for bicycle sharing systems in multimodal networks](#)

- This paper presents a methodology for modelling an urban transport system, integrating public bicycles in a multi-modal network.

Rural and Tribal

Rural and Tribal Public Transportation



Rural Public Transportation

[Connection between Rural Transit and Rural Livability. 2013](#)

- The statements are aimed toward providing practitioners, stakeholders and policy makers with a tool to guide in developing performance measures, vision and mission statements, coordination plans, and future policies affecting rural transit and communities.

[Cost-Benefit Analysis of Rural and Small Urban Transit. 2014](#)

- This study focuses on the qualitative and quantitative benefits of small urban and rural public transit systems in the United States. First, a thorough review of previous literature is presented. Then, a framework is developed which focuses on three main areas of transit benefits most relevant to rural and small urban areas: transportation cost savings, low-cost mobility benefits, and economic development impacts.

[Enhancing Transit Service in Rural Areas and Native American Tribal Communities: Potential Mechanisms to Improve Funding and Service. 2014](#)

- Primary funding for rural transit comes from federal and state Departments of Transportation but is inadequate to provide desired transit services. This study identifies and documents non-traditional funding sources that rural transit providers and planners could pursue and acquire to close that funding gap. In addition, the report provides transit operational strategies to more efficiently utilize available funding and transit resources: travel reduction, provision of flexible services, service coordination, and use of technology.

[Improving Veteran Mobility in Small Urban and Rural Areas. 2014](#)

- The objective of this study was to identify veterans with mobility needs currently living in rural Minnesota, Montana, and North Dakota, and to quantify the cost of transportation options for meeting their mobility needs.

[Innovative Rural Transit Services. 2011](#)

- TRB's Transit Cooperative Research Program (TCRP) Synthesis 94: Innovative Rural Transit Services highlights transit and rural intercity bus service responses to changing rural community transportation needs. The report includes an emphasis on the innovative and/or entrepreneurial spirit, the innovator, and the conditions required for innovation.

[Methods for Forecasting Demand and Quantifying Need for Rural Passenger Transportation: Final Workbook. 2013](#)

- This report presents step-by-step procedures for quantifying the need for passenger transportation services and the demand that is likely to be generated if passenger transportation services are provided

[Reconnecting Small-Town America by Bus: New Federal Transit Rules Spur Investment. 2014](#)

- This report looks at the Washington State Department of Transportation's Travel Washington program. This program provides intercity bus service to rural residents and supports the local economy.

[Rural Communities, Expanding Horizons: The Benefits of Public Transportation. 2012](#)

- Access to public transit for residents of small urban and rural areas needs to be greatly expanded. Nearly two-thirds of all residents in these communities have few transportation options. While great strides have been made in the last decade to provide more transportation choices for these communities, much more support is needed. There is a need for continued innovation, for significant increases in public transit investment, and for broad political and community support.

[Rural Public Transportation Strategies for Responding to the Livable and Sustainable Communities Initiative. 2012](#)

- This digest summarizes key findings of research performed under NCHRP Project 20-65, Task 42, Rural Public Transportation Strategies for Responding to the Livable and Sustainable Communities Initiative, by ICF International. For the study, ICF conducted a nationwide survey of state departments of transportation (DOTs) and their rural livability activities; conducted follow-up interviews about grants from the Partnership for Sustainable Communities (PSC); and created a primer highlighting strategies that state DOTs, transit operators, and their partners can use to help rural organizations applying for discretionary grant programs. The strategies discussed in the primer are: (1) Building awareness of PSC resources and livability in rural communities; (2) Providing programmatic and financial support; (3) Creating statewide or regional partnerships; and (4) Encouraging transit coordination at the regional level.

[Rural Transit Fact Book. Published Annually](#)

- The intent of the Rural Transit Fact Book is to serve as a national resource for statistics and information on rural transit in America. This publication includes rural demographic and travel behavior data as well as financial and operating statistics for agencies receiving section 5311 funding.

[Rural Transportation Survey Toolkit for the Coordinated Plan: SANDAG's 2010 Rural Transportation Survey Design Toolkit for Determining Unmet Transportation Needs of Hard-to-Reach Rural Communities. 2011](#)

- With the intention of learning from and improving SANDAG's survey tool (the first step of the Coordinated Plan), this paper reviews the creation and findings of SANDAG's 2010 Rural Transportation Survey, and then refines the survey using the recommendations of rural transportation providers and mobility managers.

[Willingness to Pay for Public Transportation Options for Improving the Quality of Life of the Rural Elderly. 2014](#)

- Transportation for the rural elderly is an increasing concern as baby boomers age and young people continue to exit rural communities. When the elderly are no longer able to drive, they rely on alternative forms of transportation, including public transportation systems. Currently, such systems are usually not good substitutes for driving a private car, especially in rural areas.

Tribal Public Transportation

[5311\(c\) Tribal Transit Funding: Assessing Impacts and Determining Future Program Needs. 2011](#)

- This report draws on prior and ongoing research regarding the transportation needs of Native American and Alaska Native communities. It also presents information on existing tribal transit services, much of which was collected via a survey of the entities that have received 5311(c) tribal transit funding to either start or enhance transit services on reservations or in Alaska Native villages.

[Developing, Enhancing, and Sustaining Tribal Transit Services: A Guidebook. 2012](#)

- This report provides an overview of the tribal transit planning process and detailed guidance about the various steps for planning and implementing a tribal transit system. The steps that are described may be used for planning a new transit system, enhancing an existing service, or taking action to sustain services. While the guidebook is primarily aimed at tribal transit planners, it will also be of interest to tribal transportation planners and liaisons at all levels of government.

[Enhancing Transit Service in Rural Areas and Native American Tribal Communities: Potential Mechanisms to Improve Funding and Service. 2014](#)

- Primary funding for rural transit comes from federal and state Departments of Transportation but is inadequate to provide desired transit services. This study identifies and documents non-traditional funding sources that rural transit providers and planners could pursue and acquire to close that funding gap. In addition, the report provides transit operational strategies to more efficiently utilize available funding and transit resources: travel reduction, provision of flexible services, service coordination, and use of technology.

[Montana Complete Streets Toolkit For Cities, Small Towns and Tribal Communities. 2012](#)

- The purpose of this toolkit is to: 1) explain what is meant by a Complete Streets approach to designing and building a transportation network; 2) share the benefits of Complete Streets; 3) identify the various elements that make streets truly “complete” and describe the needed amenities to accommodate users of Montana’s roadways and 4) share innovative ways in which Montana’s cities, small towns and tribal communities are already working to complete their streets.”></i>The purpose of this toolkit is to: 1) explain what is meant by a Complete Streets approach to designing and building a transportation network; 2) share the benefits of Complete Streets; 3) identify the various elements that make streets truly “complete” and describe the needed amenities to accommodate users of Montana’s roadways and 4) share innovative ways in which Montana’s cities, small towns and tribal communities are already working to complete their streets.

Western States Initiatives

Western Initiatives

[\(Alaska\) Center for Environmentally Sustainable Transportation in Cold Climates \(CESTiCC\)](#)

- The Tier 1 Center for Environmentally Sustainable Transportation in Cold Climates (CESTiCC) is a consortium of three universities, led by the University of Alaska Fairbanks (UAF), and including Montana State University (MSU) and Washington State University (WSU). The consortium provides multi-disciplinary programs engaged in innovative research, education, and technology transfer focused on transportation issues for environmental sustainability.

[\(Alaska\) Let's Get Moving 2030: Alaska Statewide Long-Range Transportation Policy Plan](#)

- Let's Get Moving 2030 is Alaska's Statewide Long-Range Transportation Plan for 2008 through 2030. The plan was developed to guide transportation policies, programs, and investments through 2030. It can be used as a framework for developing future transportation planning documents, capital programs, and budget. The plan is an important undertaking based on an evaluation of the most pressing transportation issues facing Alaska and forecasts for the future.

[\(Arizona\) Strategic Package of Tools: Transit Oriented Development in Metropolitan Phoenix](#)

- This document summarizes a wide range of tools, both regulatory and non-regulatory, that could be offered to the development community in order to help create and enhance vibrant, healthy communities that support the light-rail transit corridor.

[\(California\) Golden Gate Bridge, Highway, and Transportation District - Short Range Transit Plan 2018/19-2027/28](#)

- Each year the Golden Gate Bridge attracts more than 10 million visitors to take in its tremendous 746-foot tall towers, sweeping main cables, signature International Orange color and Art Deco styling. It is a sensory experience featuring color, light and sound.

[\(California\) Los Angeles TOD \[Transit Oriented Development\] Typology & Case Study Project](#)

- 2009 draft project map.

[\(California\) Sustainable Freight Transport Initiative](#)

- CARB is working with agency partners and stakeholders to implement a broad program that includes regulations, incentives, and policies designed to support the transformation to a more sustainable freight system and reduce community impacts from freight operations in California. This page summarizes CARB's sustainable freight activities and provides links to more detailed information on our specific freight-related programs.

[\(California\) The National Center for Sustainable Transportation Fact Sheet](#)

- The National Center for Sustainable Transportation (NCST) provides national leadership in advancing environmentally sustainable transportation through cutting-edge research, direct policy engagement, and education of our future leaders. The Institute of Transportation Studies at the University of California, Davis (ITS-Davis) leads the NCST in partnership with California State University, Long Beach; Georgia Institute of Technology; Texas Southern University; the University of California, Riverside; the University of Southern California; and the University of Vermont.

[\(Colorado\) Implementing Living Streets: Ideas and Opportunities for the City and County of Denver](#)

- In 2008, the city launched the Living Streets Initiative. This initiative is a multi-jurisdictional effort to shape future street investments and policies and transform existing commercial corridors into living streets-pedestrian oriented, multi-modal streets that can support a dense, vibrant mix of shops, offices, and residences.

[\(Hawaii\) Clean Energy Initiative](#)

- HCEI 2.0 will help drive the formation of this new ecosystem by implementing grid modernization and interconnections, as well as bridging the gap between conventional and renewable energy sources with transitional fuels.

[\(Montana\) Zero Emissions Buses - University of Montana, Missoula](#)

- (2016) The streets of Missoula will get a little greener this summer when the University of Montana's fleet of noisy diesel buses give way to cleaner electric vehicles, saving more than 123,000 gallons of fuel while cutting carbon emissions by 1,300 tons.

(New Mexico) Taos Smart Growth Implementation Assistance: Concepts for the Paseo del Pueblo Sur Corridor

- Three state highways intersect in Taos, and the town will use the Paseo del Pueblo Sur project as a model to improve development, traffic flow, and pedestrian and bicycle enhancements in the other highway corridors.

(North Dakota) Implementing Transit Coordination in North Dakota - Pilot Regions

- This project was designed to facilitate further regional transit coordination in North Dakota as mandated by the 2009 Legislature when it enacted Senate Bill No. 2223, a copy of which is presented in Figure 1.1. The intent of the bill was to coordinate the provision of public transportation services, reduce fragmentation and duplication, and increase effectiveness and efficiency.

(Oregon) Oregon Sustainable Transportation Initiative (OSTI)

- The Oregon Sustainable Transportation Initiative, or OSTI, is an integrated statewide effort to reduce greenhouse gas, or GHG, emissions from transportation while creating healthier, more livable communities and greater economic opportunity. OSTI must address how the energy landscape is changing, how we will continue to power transportation and sustain a strong economy.

(Washington) Greening Capitol Way: Olympia, Washington. 2015

- The city of Olympia, Washington, wants to create a cohesive vision for Capitol Way, the city's main street in the downtown that links the state capitol with the popular Olympia Farmers Market. The city wishes to make the street more accommodating for pedestrians and bicyclists, add more street trees with better planting techniques to make the street more attractive and safer, and manage stormwater runoff to improve water quality and minimize localized flooding. The city hopes that the investment made in public improvements of the street will spur increased private investment and vitality in the downtown.

[\(Washington\) OneBusAway](#)

- The OneBusAway open source project is a consortium of representatives from public sector transit agencies, commercial firms, academic research representatives, and interested individuals. The goals of the OneBusAway project are:
 - To deliver robust real-time applications that meet the needs of transit providers and academic researchers
 - To foster an expanding and dynamic community of users, both commercial and academic
 - To build productive, effective partnerships with other open source transit and like-minded projects such as OpenTripPlanner, 1-Click, and Tiramisu Transit.

Equity of Access

Equity of Access

For low-income workers to get to work, they must have reliable, affordable means of transportation. For those without access to automobiles, finding work is often predicated by its proximity to established bus and transit lines, which often limits their possibilities. Similarly, seniors and those with disabilities are sometimes isolated by the lack of transportation. How to provide equity of access for these groups becomes an important part of planning for sustainable transportation.

Access to Essential Services

[Costs and benefits of employment transportation for low-wage workers: An assessment of job access public transportation services](#)

- This paper focuses on an evaluation of public transportation-based employment transportation (ET) services to transport low-wage workers to jobs in the United States. The authors make an attempt to capture a more comprehensive range of intended and unintended outcomes of ET services than those traditionally considered in the case of public transportation services. 2013

[Transit and job accessibility: an empirical study of access to competitive clusters and regional growth strategies for enhancing transit accessibility](#)

- This study looks at questions of regional transit job accessibility in an urban area making significant changes to its transit system. The study area is the Minneapolis–St. Paul (MSP) metropolitan region, which also has several initiatives to build/expand different competitive economic clusters. The research helps to bridge the separate bodies of literature on competitive clusters and transit, tests alternative land use scenarios to enhance accessibility, and investigates the importance of transit for jobs in regional competitive clusters. 2014

[The long journey to work: a federal transportation policy for working families](#)

- This paper discusses the effects of poor access to transportation on the employment and economic well being of many working low income families. It notes that research confirms that economic outcomes are enhanced when people have access to good transportation services, especially if the access is to automobiles. The paper offers specific policy recommendations to improve access to transportation for the low income worker, depending on the metropolitan area and neighborhood in which the worker resides. Recommendations include improved paratransit services, expanded fixed-route public transit, door-to-door transit services, and automobile access programs. 2003
- This paper discusses the effects of poor access to transportation on the employment and economic well being of many working low income families. It notes that research confirms that economic outcomes are enhanced when people have access to good transportation services, especially if the access is to automobiles. The paper offers specific policy recommendations to improve access to transportation for the low income worker, depending on the metropolitan area and neighborhood in which the worker resides. Recommendations include improved paratransit services, expanded fixed-route public transit, door-to-door transit services, and automobile access programs. 2003

Seniors and Persons with Disabilities

[Making public transport more accessible for people who face mobility challenges](#)

- About 20 per cent of Victorians have some type of disability and about one third of these people, or 6 per cent, report that this affects their access to public transport. Other people, for example, parents with young children, also need public transport that is easy to use. This audit examined whether the department has been effective in making existing public transport services more accessible for people with a disability. 2009

[Barriers to Using Fixed-Route Public Transit for Older Adults](#)

- For older adults, unmet transportation needs are linked to reduced well-being. Although public transit is available for many older adults, actual and perceived barriers prohibit its use. Thus, the research presented here examines what do older persons perceive as barriers to using fixed-route public transit? This report summarizes findings and presents a behavior change model that may be used as an intervention and even a guide to market the strengths of fixed-route public transit while encouraging older adults to use transit. 2010

[Improving the accessibility of urban transportation networks for people with disabilities](#)

- The intersection of limits to government support with the growing mobility needs of the elderly and of people with disabilities calls for the development of tools that enable us to better prioritise investment in those areas that would deliver the greatest benefits to travellers. 2014

[Transportation-Disadvantaged Populations: Coordination Efforts are Underway, but Challenges Continue](#)

- Millions of Americans are unable to provide their own transportation or have difficulty accessing public transportation. Such transportation-disadvantaged populations may include those who are elderly, have disabilities, or have low incomes. Older adults represent the fastest-growing segment of the U.S. population, and access to transportation is critical to helping individuals remain independent as they age. 2013.

[Willingness to pay for public transportation options for improving the quality of life of the rural elderly](#)

- Transportation for the rural elderly is an increasing concern as baby boomers age and young people continue to exit rural communities. When the elderly are no longer able to drive, they rely on alternative forms of transportation, including public transportation systems. Currently, such systems are usually not good substitutes for driving a private car, especially in rural areas. Because expanded rural transportation systems would likely be funded by taxpayers, an understanding of their preferences and willingness to pay (WTP) for non-medical transportation options is essential. To help understand WTP and preferences, a choice experiment survey was administered to taxpayers in three counties (Atascosa, Polk, and Parker) in Texas. Results indicate taxpayers' value transportation services for the elderly and are willing to support them. 2014

[Evaluating the Transportation Needs and Accessibility Issues for Adults on the Autism Spectrum in New Jersey](#)

- There are numerous Federal and State transportation programs intended to provide accessible and appropriate transportation to those with disabilities, including autism. In 2008, New Jersey conducted a survey to develop a comprehensive understanding of the needs of the autistic community. The survey found that the current travel patterns place an undue burden on family and friends, while demonstrating restrictions on the activities of people with autism. 2010

[Maryland Study of Paratransit Services for Dialysis](#)

- Research performed at the request of the Maryland Legislature's Joint Committee is excerpted in this article. The purpose of the study, which was conducted by the Maryland Department of Transportation and the Maryland Transit Administration (MTA) in consultation with the Department of Health and Mental Hygiene, the Maryland Association of Counties, and the Transportation Association of Maryland, was two-fold: 1) to estimate the demand for paratransit to dialysis centers; and 2) to estimate the required funding if that demand were to be met by public transit agencies. Three areas of data were collected and presented in the study, as follows: 1) the number of dialysis/patient trips; 2) the number of dialysis trips on public paratransit; and 3) the cost of additional trips. 2014

Ohio Mobility Improvement Study

- Health and human services transportation (HHST) describes a series of services, administered by a multitude of different organizations, directed at various populations – including the elderly, people with low incomes, and individuals with disabilities – that is extensively provided throughout Ohio. Many obstacles and challenges still exist to effectively coordinating health and human services transportation and public transportation in the state. This Ohio Mobility Improvement study is designed to determine whether Ohio can embrace a statewide approach that integrates HHST services so that individuals served by these agencies can meet basic mobility needs in an efficient and effective manner. 2012

Improving Transportation for Patients Receiving Dialysis Treatment

- This report emerges from Portland, Oregon's Ride Connection and a Strengthening Inclusive Coordinated Transportation Planning project. 2014

ADA Paratransit Services: Demand Has Increased, but Little is Known about Compliance

- The Americans with Disabilities Act (ADA), a civil rights law enacted in 1990, provided that it shall be considered discrimination for a public entity that operates a fixed-route transit system to fail to offer paratransit service to disabled individuals that is comparable to services provided to those without disabilities. FTA is responsible for overseeing compliance with ADA requirements for paratransit services. Little is known about the extent of transit agencies' compliance with the ADA paratransit service requirements. 2012

Assessing Equity

[Using principles of justice to assess the modal equity of regional transportation plans](#)

- While equity has been an important consideration for transportation planning agencies in the U.S. following the passage of Civil Rights Act of 1964 (Title VI specifically) and the subsequent Department of Transportation directives, there is little guidance on how to assess the distribution of benefits generated by transport investment programs. As a result, the distribution of these benefits has received relatively little attention in transportation planning, compared to transport-related burdens. 2014

[Civil rights guidance and equity analysis methods for regional transportation plans: a critical review of literature and practice](#)

- Metropolitan planning organizations typically undertake an analysis of regional transportation plan equity to comply with federal anti-discrimination law, most prominently Title VI of the 1964 Civil Rights Act. In this critical review, we examine the law, regulatory guidance, academic research, and agency practice pertinent to equity analysis. Meaningful transportation equity analyses must include an assessment of both current and near-term conditions and provide racially specific outcomes, while seeking to mitigate inequities through programming decisions. 2013

[Addressing Urban Transportation Equity in the United States](#)

- Transportation touches almost every aspect of our lives and plays a pivotal role in shaping human interactions, economic mobility, and sustainability. Transportation provides access to opportunity and serves as a key component in addressing poverty, unemployment, and equal opportunity goals. This article examines the inequity that exists in the United States when it comes to transit, as the benefits from transportation advancements and investments are not distributed equally among communities, making transportation equity an issue of civil rights and social justice. Transportation continues to be divided along racial lines, but it is a key ingredient in building economically viable and sustainable communities and with the policy recommendations detailed in the article's conclusion, these inequities can be addressed. 2003

[Access Across America: Transit 2019](#)

- Accessibility is the ease of reaching valued destinations. It can be measured for various transportation modes, to different types of destinations, and at different times of day. In this study, rankings are determined by a weighted average of accessibility, giving a higher weight to closer jobs. Jobs reachable within ten minutes are weighted most heavily, and jobs are given decreasing weight as travel time increases up to 60 minutes. Companion publication: Access Across America: Transit 2014 Methodology <http://trid.trb.org/view/2014/M/1328256> 2014

[Access to Destinations Study Reports](#)

- A compilation of reports and publications from the Access to Destinations study through the University of Minnesota.

Connectivity

Bike/Transit Connectivity

[The bicycle as a feeder mode: experiences from three European countries](#)

- Bike-and-ride, or the combined use of bicycle and public transport for one trip, is a multimodal alternative for the car. This paper discusses the use of bike-and-ride in three countries with widely differing bicycle cultures and infrastructures: the Netherlands, Germany and the UK."></i>Bike-and-ride, or the combined use of bicycle and public transport for one trip, is a multimodal alternative for the car. This paper discusses the use of bike-and-ride in three countries with widely differing bicycle cultures and infrastructures: the Netherlands, Germany and the UK.

Connectivity Between Modes

[A measure of equity for public transit connectivity](#)

- Historically transit equity has not been considered in planning or has been an afterthought in the process; leading to the underutilization of transit and encouraging travelers to be auto dependent. In this paper, the authors propose a methodology to estimate transit equity using a number of attributes such as frequency, speed, capacity, and built environment in a multi-modal transit network. The proposed approach can be utilized as a tool for transit service planning. 2013

[Performance indicators for public transit connectivity in multi-modal transportation networks](#)

- Connectivity plays a crucial role as agencies at the federal and state level focus on expanding the public transit system to meet the demands of a multimodal transportation system. Transit agencies have a need to explore mechanisms to improve connectivity by improving transit service. This requires a systemic approach to develop measures that can prioritize the allocation of funding to locations that provide greater connectivity, or in some cases direct funding towards underperforming areas. The concept of connectivity is well documented in social network literature and to some extent, transportation engineering literature. However, connectivity measures have limited capability to analyze multi-modal public transportation systems which are much more complex in nature than highway networks. 2012

[A Triple-Level Effectiveness Evaluation Procedure for Multi-Modal Public Transit Networks](#)

- An objective effectiveness evaluation of a multi-modal public transit network lays the foundation for reasonable policy recommendations. This paper presents a triple-level procedure for appraising a multi-modal public transit network's effectiveness. Route levels - considering economic, service, and environmental impact criteria - are evaluated by the Data Envelopment Analysis (DEA) method. A transit effectiveness index is proposed for a specific model (conventional bus, bus rapid transit, tram, and subway) level assessment. Then, Technique for Order Preference by Similarity to an Ideal Solution (TOPSIS) is designated for appraising a multi-modal public transit network at the system level. Finally, case research on a multi-modal public transit network was conducted to illustrate the evaluation procedure. 2014, Full-text with ASCE access.

[Access to railway stations and its potential in increasing rail use](#)

- The paper has two broad aims: first, to evaluate how important the 'access-to-the-station' part of a rail journey is to passengers in their overall satisfaction with the rail journey and second, to investigate the balance between characteristics of the service, the access to it and the population served in determining rail use in different parts of the rail network.

[Airline and railway integration](#)

- Most of the transport literature only looks at mode alternatives in competition with each other, rather than exploring the potential for cooperation. This paper examines this possibility by making the case for aircraft and high speed train (HST) substitution under conditions of intermodal integration.

[Demand for rail travel to and from airports](#)

- Rail access to airports is becoming increasingly important for both train operators and the airports themselves. This paper reports analysis of inter-urban rail demand to and from Manchester and Stansted Airports and the sensitivity of this market segment to growth in air traffic and the cost and service quality of rail services.

International Reports

[Coordinating public transport](#)

- This audit assessed Public Transport Victoria's (PTV) progress and effectiveness in coordinating public transport services. It examined whether institutional arrangements support effective strategic planning for and governance of coordination initiatives, and whether key strategies and initiatives for managing coordination have been effective. By shifting its focus from modal to network planning, PTV has improved its understanding of the challenges and actions needed to improve coordination. PTV's draft coordination framework is a good basis for public transport planning and action. However, there is more to do to achieve adequate coordination within and between different modes. 2014