LATEST NEWS

Recently, FTA implemented new guidelines and requirements for the development and production of its research reports. These are available at http://www.fta.dot.gov/about/12351_8850.html. The latest FTA-funded research publications are posted here as well, including the following five new reports published in the last several months.

FTA Report 0001
Flooded Bus Barns and Buckled Rails: Public Transportation and Climate Change Adaptation

FTA Report 0002

FTA Report 0003

FTA Report 0004
Metro Orange Line BRT Project Evaluation

FTA Report 0005
Crashworthiness Evaluation of Light Rail Vehicle Interiors
Positive Train Control (PTC) for Commuter and Regional Rail Systems

Research Objective: Safety Innovations Research
Investigator: James E. Moore II, University of Southern California, Viterbi School of Engineering, Los Angeles, CA

This project will conduct a technical and safety evaluation of a new Positive Train Control (PTC) system to be deployed by the Southern California Regional Rail Authority, which provides commuter rail service in the Los Angeles region. It includes an evaluation of current PTC technology, documentation of implementation issues, and identification of needs for further research in Rail Transit Signal and Control Systems for commuter and regional rail operations. The final report will assess development and implementation of PTC at a regional commuter rail system, evaluate the safety and reliability of the PTC system, document lessons learned, and recommend best practices in implementation of PTC systems.

Schedule: August 2011–June 2013
FTA Funding: $449,346
Non-FTA Funding: $450,000 from Office of the Secretary of Transportation; $237,618 local match
FTA Project Manager: Patrick Centolanzi, patrick.centolanzi@dot.gov
FTA Project Number: CA-26-7084

Communication-Based Train Control (CBTC) for Heavy and Light Rail Transit Systems

Research Objective: Safety Innovations Research
Investigator: Alan F. Rumsey, Delcan Corporation, Vienna, VA

This project will analyze the costs and benefits of Communication-Based Train Control (CBTC) technology and determine the ability of CBTC to supplant the functionality provided by track circuits in conventional rail signaling systems. The research will evaluate current CBTC technologies; document implementation issues and lessons learned; conduct a comparative analysis of specific CBTC functional, performance, and safety requirements against industry standards; and identify needs for further research in rail transit signal and train control applications. It will address key national concerns regarding rail transit safety and productivity by evaluating the safety and reliability of CBTC technologies for both heavy rail and light rail transit systems. The project will document and analyze implementation of CBTC technologies at MTA/New York City Transit and Southeastern Pennsylvania Transportation Authority.
Fixed Asset Reporting for the National Transit Database

Research Objective: Asset Management and Maintenance Research
Investigator: Robert Peskin, AECOM, subcontractor to High Street Consulting Group, Chevy Chase, MD

This project will develop a tool for collecting a more complete set of asset inventory data from transit providers as part of the annual National Transit Database (NTD) reporting process. This new reporting tool will improve the organization of vehicle and guideway data already being collected and will add new data on system assets that have a significant impact on long-term reinvestment needs. The project will develop a spreadsheet-based data collection tool with built-in validation checks that can be used by transit systems to report data to the NTD, along with training materials and definitions of data elements. It includes managing the first-year (pilot) data collection for rail transit systems, providing technical assistance, summarizing results, and making recommendations for final implementation. Transit operators will also be able to use the spreadsheet as a standard template for creating an asset inventory that can be used by asset management analysis tools such as the “Lite” version of the Transit Economic Requirements Model (TERM), which FTA makes available as a free download that agencies can use for long-term capital investment planning. The contractor will deliver recommended data elements, a spreadsheet-based reporting tool, a reporting manual and training materials, and a report on pilot implementation of new reporting procedures for rail transit asset reporting. The tool will gather new data on transit facilities, guideways, and subsystems (such as train control, telecommunications, and power) while minimizing the reporting burden on the transit industry. The additional data will allow FTA to track the impact of current capital investments and to better evaluate and forecast required levels of capital investment needed to bring transit operators to a State of Good Repair.

Schedule: April 2011–January 2013
FTA Funding: $499,739
FTA Project Manager: Keith Gates, keith.gates@dot.gov
FTA Project Number: MD-26-6009

Asset Condition Assessment Methodologies

Research Objective: Asset Management and Maintenance Research
Investigator: Lauren Isaac, Parsons Brinckerhoff, Inc., New York, NY
This project supports efforts to develop a framework for transit asset management. A variety of existing sources and stakeholders will be reviewed and adapted to the general institutional environment of U.S. transit agencies. The project will develop a guidance document describing essential elements of transit asset management and how they should be implemented, as well as training materials for a national-level course. The project supports development of standards for asset management planning by reviewing the state of practice of asset condition assessment methodologies and developing a framework for asset condition assessment and rating. It will provide information and guidance to transit agencies about best practice in methods for assessing the condition of transit assets to determine if they are in a State of Good Repair. It will provide an example of the contents of an acceptable transit asset management system and technical assistance tools to help transit agencies follow the model.

Schedule: August 2011–December 2012
FTA Funding: $699,989
FTA Project Manager: Terrell Williams, terrell.williams@dot.gov
FTA Project Number: NY-26-7010

Independent Review of Transit Economic Requirements Model (TERM)

Research Objective: Asset Management and Maintenance Research
Investigator: To be appointed by the Transportation Research Board of the National Academies, Washington, DC

This independent technical review of the assumptions and application of the Transit Economic Requirements Model (TERM) should promote confidence in the reasonableness of its assumptions and the estimates it produces of backlog in the State of Good Repair of the nation’s transit assets. This review is to consider if the TERM methodology is (1) the best approach to assessing future transit agency capital needs and (2) implemented with appropriate analytical methods and assumptions. FTA has used TERM as the basis for calculating the national State of Good Repair (SGR) backlog and normal replacement needs in the Rail Modernization Study and in the National State of Good Repair Assessment and for transit projections in the Conditions and Performance report to Congress. The results of TERM calculations are used in developing policies, budgets, and legislative proposals affecting federal financial assistance for purchasing and maintaining transit assets. The project will produce a letter report summarizing the independent assessment of the TERM model and how it is applied in characterizing the condition of transit assets.

Schedule: September 2011–August 2012
FTA Funding: $250,000
FTA Project Manager: Jarrett Stoltzfus, jarrett.stoltzfus@dot.gov
FTA Project Number: DC-26-7351
TERM Lite: Asset Assessment Tool for Transit Agencies

Research Objective: Asset Management and Maintenance Research
Investigators: Denise Longley, Los Angeles County Metropolitan Transportation Authority, Los Angeles, CA, and Grace Gallucci, Regional Transportation Authority of Northeastern Illinois, Chicago, IL

These projects support the efforts of the Los Angeles County Metropolitan Transportation Authority (MTA) and the Regional Transportation Authority of Northeastern Illinois (RTA), in partnership with FTA, for the purpose of modifying FTA's Transit Economic Requirements Model (TERM) to be a user-friendly and useful tool for transit agencies in understanding the future condition of their assets under different investment scenarios (TERM-Lite). FTA will use TERM to evaluate the impact of various national-level investment scenarios on the conditions and performance of the nation's transit systems over the next 20 years. TERM can calculate the State of Good Repair backlog, normal replacement needs, and average conditions that result from various constrained funding scenarios for the transit industry as a whole. To promote better local asset management, FTA is adapting TERM to provide these capabilities for individual transit agencies so they can make similar calculations based on their own assets. LA MTA and Chicago's RTA are beta-testing TERM-Lite by using it to make projections and calculate backlog in the same way FTA does and by running different funding scenarios to explore their long-term capital investment needs, also as FTA does. FTA contractors are working with them to make TERM-Lite as user-friendly as possible.

Schedule: March 2011–September 2012
FTA Funding: $50,000 each
FTA Project Manager: Keith Gates, keith.gates@dot.gov
FTA Project Numbers: CA-26-6009 and IL-26-6002

Successful Practices in Railcar Maintenance

Research Objective: Asset Management and Maintenance Research
Investigator: David Rose, Parsons Brinckerhoff, Inc., New York, NY

This project will identify rail transit agencies with effective, best-practice railcar maintenance processes based on agency data regarding on-time performance, safety record, and mean-time-between-failures data. The project will evaluate railcar maintenance plans and processes and document the practices, methods and procedures that lead to highly-effective railcar maintenance. It will also develop statistical models and analysis approaches that transit agencies can use to transition to more performance-based management approaches. It will summarize performance metrics and methodologies used to evaluate operations and maintenance plan alternatives. The research products will provide guidance, examples of tools, case studies, and training materials that demonstrate best practices. A final report will identify methods to improve rail maintenance practices and offer guidance on how to make existing practices more effective.
Transit Asset Inventory Vertical Integration Research

Research Objective: Asset Management and Maintenance Research
Investigator: Ronald Humphrey, CodeRed Business Solutions, Atlanta, GA

This research considers how urban rail transit agencies can leverage data in their maintenance management systems to build asset inventories for higher-level analysis to optimize investments in capital assets. This project will define what data are needed for an asset inventory (e.g., asset type and quantity, age, remaining useful life, and replacement or renewal costs) and recommend standardized common language and definition for describing transit assets. It will explore how data in maintenance management systems can be used to build asset inventories for higher-level analysis, such as capital asset management, and how maintenance and life-cycle data can be used to infer condition of assets for purposes of informing reinvestment strategies. This project will investigate the potential to integrate existing maintenance management systems with higher-level asset management inventories in conjunction with an urban transit rail system. The project team will work closely with St. Louis Metro’s management and personnel to gain a more informed perspective on how data are used in the maintenance activity of the agency’s assets. Products will include a data flow chart, requirements for tools to support the capital budgeting and asset replacement process, and a final report.

Schedule: June 2011–April 2012
FTA Funding: $695,236
FTA Project Manager: Terrell Williams, terrell.williams@dot.gov
FTA Project Number: GA-26-7210

Best Practices in Managing Annuity and Health Insurance Obligations to Retired Transit Employees

Research Objective: Industry Analysis Research
Investigator: Michael F. Lawrence, Jack Faucett Associates, Bethesda, MD

This project will review the transit industry’s best practices and policies for managing and financing post-retirement obligations to employees and develop a Best Principles Guidebook that FTA will disseminate to transit agency managers and policy makers to help improve their retirement program management and financing capacity. FTA’s primary concern in this research is to help transit agencies take stock of and manage post-employment programs that have generated legacy costs. As in other sectors of the economy, legacy costs threaten to reduce transit agencies’ ability to finance current services. This research will develop inherently hard-to-implement, but realistic and necessary, best principles by which to change transit industry norms.
in post-retirement programs. The contractor will produce white papers for discussion and a final report in the form of a Best Principles Guidebook.

Schedule: June 2011–December 2011
FTA Funding: $88,178
FTA Project Manager: Tina Hodges, tina.hodges@dot.gov
FTA Project Number: MD-26-6010

Measuring Congestion Relief Benefits

Research Objective: Transit Planning and Forecasting Research
Investigator: Howard Slavin, Caliper Corporation, Newton, MA

This project seeks a nationally-consistent method for predicting congestion-relief benefits of proposed transit capacity expansion projects. The performance of best-practice forecasting procedures will be tested in selected case study areas to determine (a) the accuracy with which existing procedures predict current traffic volumes and (b) the reasonableness of forecasts of traffic volumes and highway speeds for a major transit alternative that reduces the number of vehicle trips assigned to the current highway network. In evaluating and rating proposed New Starts projects, FTA is required to consider mobility improvements, including reduction in highway travel times resulting from a transit improvement. The USDOT has not yet been able to develop methodologies capable of making reliable, nationally-consistent estimates of project-specific benefits related to congestion relief. This research will examine and test existing forecasting methods and identify those suitable for national application. It will identify a nationally-consistent approach to measure the highway travel time savings from transit improvements and produce a final report.

Schedule: September 2011–June 2014
FTA Funding: $275,000
Non-FTA Funding: $150,000 from Office of the Secretary of Transportation
FTA Project Manager: Nazrul Islam, nazrul.islam@dot.gov
FTA Project Number: MA-26-1018

Integrated Corridor Management Demonstration for Transit: Utility of Real-Time Transit Vehicle Data

Research Objective: Research to Improve the Rider Experience
Investigator: Koorosh Olyai, Dallas Area Rapid Transit, Dallas, TX

This project will explore and assess the utility of real-time transit vehicle data and will examine the issues, challenges, and feasibility of its use. Integrated Corridor Management (ICM) is the integrated, dynamic management of freeway, arterial, transit, and parking systems within a corridor using ITS technologies and innovative practices or strategies. This cooperative agreement will support the ability of Dallas Area Rapid Transit (DART) to collect and transmit transit vehicle
location and passenger loading data of its Red Line light rail transit trains (which operate in the US-75 corridor) to a transit management center and/or ICM system in real time. It will enable DART to monitor transit vehicle locations, speeds, and passenger loads in real time and make informed operational decisions regarding dynamic transit service adjustments in response to changing conditions in the US-75 corridor. FTA is partnering with the Federal Highway Administration (FHWA) and the Research and Innovative Technology Administration (RITA) and multimodal teams from Dallas and San Diego to implement, test, and evaluate ICM. The results will be nationally-applicable in many large urban areas. The results from the demonstration will be documented in a final project report and used in an independent evaluation conducted by the Volpe Center.

Schedule: July 2011–September 2014
FTA Funding: $900,000
FTA Project Manager: Steve Mortensen, steven.mortensen@dot.gov
FTA Project Number: TX-26-7107

Integrated Corridor Management (ICM) Demonstration for Transit: Utility of Real-Time Transit Vehicle Data

Research Objective: Research to Improve the Rider Experience
Investigator: Peter Thompson, San Diego Association of Governments, San Diego, CA

This project will explore and assess the utility of real-time transit vehicle data and will examine the issues, challenges, and feasibility of its use. It will support the ability of the San Diego Association of Governments (SANDAG) and Metropolitan Transit System (MTS) to collect and transmit transit vehicle location and passenger loading data of Bus Rapid Transit (BRT) buses (which will operate in the I-15 corridor) to a transit management center or integrated corridor management (ICM) system in real time to make informed ICM operational decisions. For example, the project will explore the scenarios for which MTS could increase capacity in real time to accommodate dynamic mode shift to transit during certain operational conditions in the I-15 corridor (e.g., incidents) or to use the data to select appropriate ICM strategies to implement. The project will also explore how real-time transit vehicle health data could improve responses to road calls or prevent bus breakdowns in the field. Finally, the project will explore the use of real-time on-board video footage for security purposes and real-time data to provide on-demand, in-vehicle traveler information to passengers. The results from the demonstration will be documented in a final project report and used in an independent evaluation conducted by the Volpe Center.

Schedule: August 2011–December 2014
FTA Funding: $0
Non-FTA Funding: $800,000 from Office of the Secretary of Transportation
FTA Project Manager: Steve Mortensen, steven.mortensen@dot.gov
FTA Project Number: CA-26-7083
Intelligent Transportation Systems (ITS) Open Data Issues

Research Objective: Research to Improve the Rider Experience
Investigator: Martin Catalá, Center for Urban Transportation Research, University of South Florida, Tampa, FL

This project seeks to identify characteristics of an open data policy for transit service information related to schedule, facility, real time arrival, and situational status (such as detours, event information, and passenger load) that are practical and suitable for transit agencies to implement. Transit agencies generate and collect a wide variety of data in order to manage rolling stock, facilities, and equipment. Technology plays a critical role in facilitating performance efficiencies and optimizing service, and it provides unprecedented visibility into daily transit operations for higher levels of decision support. There is increased interest from other entities in using transit schedule and operational data to provide real-time trip-planning applications. Open data standards offer many potential benefits, such as providing access to transit service and performance information, reducing barriers to collecting and distributing service information, leveraging the costs of developing data exchange methods to support applications, and reducing the effort to collect and process actionable information for policy and decision makers. New sources of high-quality data could create commercial opportunities for new products and markets; in the past, open data has spawned multimillion dollar industries (such as Tiger files and the geospatial industry). This research will address technical requirements (standards, data systems, data feed, security, etc.) as well as institutional requirements, effectiveness, privacy, accessibility, relation to operational practices, costs to migrate, and more. The final product will serve as a guide for successful implementation of an open data policy for transit service data for both the public- and private-sector elements within the industry.

Schedule: April 2011–May 2013
FTA Funding: $100,000
FTA Project Manager: Charlene Wilder, charlene.wilder@dot.gov
FTA Project Number: FL-26-7012

Development of Transit Livability Assessment Data

Research Objective: Transit Connectivity Research
Investigator: Martin Catalá, Center for Urban Transportation Research, University of South Florida, Tampa, FL

This project works with urban and rural livability measures recommended by other University Transportation Center (UTC) studies (see below). It develops data resources and display tools as a test of recommended metrics and to understand issues involved in collecting and maintaining the geo-coded data needed for this kind of place-based analysis. The overall goal is to be able to define quantifiable aspects of livability that can be used as performance measures to evaluate outcomes of transportation and land-use planning policies.
and programs. Transit livability metrics will be demonstrated in a geographic region or regions selected for data availability and for the applicability to a variety of communities. A final report with recommendations for structuring data collection and maintenance to support annual reporting for tracking progress will be delivered.

Schedule: March 2011–August 2012
FTA Funding: $103,000
FTA Project Manager: Keith Gates, keith.gates@dot.gov
FTA Project Number: FL-26-6002

Urban Transit Livability Performance Measures Study

Research Objective: Transit Connectivity Research
Investigator: Marc Schlossberg, University of Oregon, Eugene, OR

This project will define national urban transit livability performance measures that could be calculated on an annual basis to track trends and progress. The study will identify and evaluate performance measures for how well transit contributes to the livability of urban communities. The measures must be designed to allow FTA to gauge the effectiveness of federal livability efforts. Additionally, they must be applicable and measurable from a national perspective and compatible with regional and local planning efforts. The metrics must not require a large, ongoing funding commitment for collecting data. Measures of how well transit systems meet the needs of people in the communities they serve are required for evaluating the success of livability enhancement programs and for identifying where these programs are needed. Beyond this, the process of defining quantitative measures of abstract concepts like livability contributes to better understanding of policy objectives and builds a common vocabulary by which they can be discussed. Communities will benefit from applying performance measures of livability to their transportation and land-use planning, and transit agencies will benefit from explication of how they contribute to enhanced livability. Measures will be evaluated across a geographic region or regions selected for data availability and variety of urban environments (e.g., from low-density, low transit use to residential downtown areas with high ridership, including small, medium, and large cities).

Schedule: March 2011–July 2012
FTA Funding: $102,665
FTA Project Manager: Keith Gates, keith.gates@dot.gov
FTA Project Number: OR-26-6004

Rural Transit Livability Performance Measures Study

Research Objective: Transit Connectivity Research
Investigator: Linda Cherrington, Texas Transportation Institute, Texas A&M Research Foundation, College Station, TX
This project will define national rural transit livability performance measures that could be calculated on an annual basis to track trends and progress. The study will identify and evaluate performance measures for how well transit contributes to the livability of rural communities. The measures must be designed to allow FTA to gauge the effectiveness of federal transit livability efforts. Additionally, they must be applicable and measurable from a national perspective and compatible with regional and local planning efforts. The metrics must not require a large, ongoing funding commitment for collecting data. Measures of how well transit systems meet the needs of people in the communities they serve are required for evaluating the success of livability enhancement programs and for identifying where these programs are needed. Beyond this, the process of defining quantitative measures of abstract concepts like livability contributes to better understanding of policy objectives and builds a common vocabulary by which they can be discussed. Communities will benefit from applying performance measures of livability to their transportation and land-use planning, and transit agencies will benefit from explication of how they contribute to enhanced livability.

Schedule: March 2011–June 2012
FTA Funding: $94,000
FTA Project Manager: Keith Gates, keith.gates@dot.gov
FTA Project Number: TX-26-6005

Demand-Response vs. Modified Fixed-Route Service for Small Communities

Research Objective: Rural and Targeted Populations Research
Investigator: Community Transportation Association of America, Washington, DC

This project will study the effectiveness of demand-response transportation versus fixed-route transportation in two rural communities that are similar in geographic area, size, and population. Both communities have a small, intact central business district surrounded by a less densely-populated rural area. This study will compare the return on investment for each mode of service in reference to cost per mile, cost per trip, and cost per hour. The results of these six-month demonstrations will enable decision makers in small communities faced with the need to provide greater public transit services to make more informed choices on how to provide those services.

Schedule: September 2011–April 2012
FTA Funding: $750,000
FTA Project Manager: Gale Brown, gale.brown@dot.gov
FTA Project Number: DC-26-7323
Greenhouse Gas Emission and Energy Reduction Measures

Research Objective: Research to Reduce Transit Environmental Impacts

Investigator: Zhenhong Lin, Oak Ridge National Laboratory, Department of Energy, Oak Ridge, TN

This project will develop a tool comparing incremental cost for incremental reductions in greenhouse gas (GHG) emissions, particularly for evaluating electric-propulsion vehicle systems. It will generate detailed inventories of GHG emissions for various vehicle types and catalog fuel-energy consumption reductions for various vehicle operational strategies (idling reduction, eco-driving, reduced deadheading, etc.), maintenance activities (tire inflation, rebuild schedules, etc.), and vehicle technologies (auxiliary power units, regenerative braking, gear-shifting algorithms, etc.). This project will propose a methodology for use by transit agencies in comparing GHG emission reductions from various propulsion system technologies available for bus fleet vehicle replacement purchases and rehabilitation, as well as from operational strategies and maintenance activities. Effective GHG-reduction measures can be expected to reduce energy costs. The primary research product will be a user-friendly tool for estimating comparative GHG reductions of various bus propulsion technologies.

Schedule: September 2011–September 2012
FTA Funding: $400,000
FTA Project Manager: Venkat Pindiprolu, venkat.pindiprolu@dot.gov
FTA Project Number: TN-26-7060

FEDERAL RESEARCH PUBLICATIONS

Recent research reports issued by the Federal Transit Administration and other Federal Government agencies that may be of interest to the public transportation community.

Recently, FTA implemented new guidelines and requirements for the development and production of its research reports. These are available at http://www.fta.dot.gov/about/12351_8850.html. The latest FTA-funded research publications are posted here as well, including five new reports published in the last several months.

FTA Report 0001
Flooded Bus Barns and Buckled Rails: Public Transportation and Climate Change Adaptation

FTA Research Report prepared by the FTA Office of Budget and Policy (August 2011). This report provides transit professionals with information and analysis relevant to adapting U.S. public transportation assets and services to climate-change impacts. Climate impacts such as heat waves and flooding will hinder agencies’ ability to achieve goals such as attaining a State of Good Repair and

FTA Report 0002

FTA Research Report prepared by the National Bus Rapid Transit Institute, Center for Urban Transportation Research, University of South Florida (September 2011). This report summarizes the findings of TSP data collection on Pines/Hollywood Blvd. from December 2010 to February 2011. The data showed an average time savings of 4 minutes in the AM peak period due to TSP, which amounted to a 12 percent reduction in travel times. On-time performance improved from 66.7 percent to 75 percent. In the PM peak period, the travel time and signal delay were similar with or without the TSP activated. This could be an indication that afternoon traffic volumes on westbound Pines/Hollywood Blvd. are so heavy that TSP is of only marginal benefit. Full-text PDF (52 pages) available at http://www.fta.dot.gov/documents/FTA_Research_Report_No_0002.pdf.

FTA Report 0003


FTA Report 0004
Metro Orange Line BRT Project Evaluation

FTA Research Report prepared by the National Bus Rapid Transit Institute, Center for Urban Transportation Research, University of South Florida (October 2011). This report contains a comprehensive overview of the Los Angeles Country Metropolitan Transportation Authority (Metro) Orange Line, including a historical narrative; a profile of project elements, project costs, issues in planning, design, and implementation; technology applications; and a “lessons learned” summary. Full-text PDF (163 pages) available at http://www.fta.dot.gov/documents/FTA_Research_Report_0004_FINAL_2.pdf.

FTA Report 0005
Crashworthiness Evaluation of Light Rail Vehicle Interiors

FTA Research Report prepared by the National Institute for Aviation Research at Wichita State University (December 2011). This report contains results of a study on passenger safety depending on the configuration and severity of the accident, as well as the degree of

The following reports were developed and prepared before the new guidelines were implemented.

Communications-Based Train Control (CBTC) Before/After Cost Effectiveness Study
FTA Research Report prepared by Lea+Elliott, Inc. (March 2011). In 1998, the San Francisco Municipal Railway (Muni) undertook a retrofit of a fixed-block signaling system with a communications-based train control (CBTC) system in the subway portion of its light rail system (Muni Metro subway). This research report provides a narrative of the process, discusses issues particular to the Muni Metro system, and undertakes both a quantitative cost-benefit analysis (CBA) and a qualitative analysis of the project. It also analyzes two cases: the CBTC project as implemented and an alternative case representing a continuation of the conventional fixed-block signaling system. Full-text PDF (84 pages) available at http://www.fta.dot.gov/documents/CBTC_before-after_cost_effectiveness_study_-_Report_FTA-TX-26-7005_2010_01_-_101025_final_draft1_(3).pdf.

Traveler Information Systems and Wayfinding Technologies in Transit Systems
FTA Research Report prepared by the Volpe Center, RITA (May 2011). The report provides a technology evaluation with an understanding of wayfinding technology benefits and services for transit agencies and users. The research also identifies challenges experienced by transit agencies regarding the use and implementation of wayfinding technologies and gaps that exist in current technologies. Full-text PDF (152 pages) is available at http://www.fta.dot.gov/documents/MMTPS_Final_Evaluation_Report.pdf.

LYNX/PCTS Rural ITS Implementation and Evaluation Study
FTA Research Report prepared by the Central Florida Regional Transportation Authority (LYNX) (December 2010). This report summarizes the efforts to implement and evaluate the impact of a rural Intelligent Transportation System (ITS), specifically innovative mobile data terminals placed on transit vehicles, in a coordinated service approach between two neighboring transit systems in a rural area centered on Poinciana, FL. The equipment was part of an FTA operational test awarded to LYNX and the Polk County Transit System (PCTS). Full-text PDF (213 pages) is available at http://www.fta.dot.gov/documents/LYNX-PCTS_RuralITS_Demonstration_Report_508(1).pdf.
Multimodal Trip Planner System Final Evaluation Report
FTA Research Report prepared by the Volpe Center, RITA (May 2011). The purpose of this evaluation was gathering information to share with the transit community and other stakeholders on technical and institutional issues including ITS standards, communication, marketing, and the technical feasibility of integrating single-mode trip planning. The report concludes with lessons learned and recommendations related to the development of a door-to-door, multimodal trip planner system. Full-text PDF (85 pages) is available at [http://www.fta.dot.gov/documents/MMTPS_Final_Evaluation_05-24-2011(1).pdf](http://www.fta.dot.gov/documents/MMTPS_Final_Evaluation_05-24-2011(1).pdf).

An Evaluation of the Cleveland HealthLine Mechanical Guide Wheel
FTA Research Report prepared by the National Bus Rapid Transit Institute, Center for Urban Transportation Research, University of South Florida (March 2011). Vehicles on the Cleveland HealthLine Bus Rapid Transit (BRT) system are equipped with a mechanical docking arm and guide wheel to assist with precision docking at the stations. This report documents the evaluation of the guide wheel in four areas: how close to the platform the vehicles were able to dock; how fast the vehicles were able to dock; how much money was spent on damages related to docking; and how well the guide wheels are regarded by the HealthLine drivers. The evaluation compared the performance of the HealthLine to the EmX BRT in Eugene, OR. The EmX uses the same model vehicle as the HealthLine but does not come equipped with a docking arm and guide wheel. Full-text PDF (22 pages) is available at [http://www.fta.dot.gov/documents/Cleveland_Mechanical_Guide_Wheel_Evaluation_FINAL_-_-508_Format.pdf](http://www.fta.dot.gov/documents/Cleveland_Mechanical_Guide_Wheel_Evaluation_FINAL_-_-508_Format.pdf).

Transit Greenhouse Gas Management Compendium
FTA Research Report prepared by the Georgia Institute of Technology and Southeast Energy Efficiency Alliance (January 2011). This compendium provides up-to-date information to transit operators and regional transportation planners and decision makers on the sort of greenhouse gas (GHG) emissions reductions being reported and on the sources of information available for making informed decisions about specific GHG reduction actions. The compendium provides a framework for identifying GHG reduction opportunities, highlighting specific examples of effective GHG reduction practices. Full-text PDF (128 pages) is available at [http://www.fta.dot.gov/documents/GHGCompendGTv2.pdf](http://www.fta.dot.gov/documents/GHGCompendGTv2.pdf).

Implementation of Advanced Technologies in Rural Transit Service for the State of North Dakota
FTA Research Report prepared by the Small Urban and Rural Transit Center, Upper Great Plains Transportation Institute, North Dakota State University (June 2009). The final report for this project describes the motivation for, development and operation of, and lessons
learned from an Internet-based trip planning system. The system was developed as an addition to an existing human services website. The new transportation module consists of a searchable online database of transportation services available within North Dakota. Full-text PDF (31 pages) is available at http://www.fta.dot.gov/documents/Implementation_of_Advanced_Technologies_in_Rural_Transit_Service_for_the_State_of_North_Dakota.pdf.

Use and Deployment of Mobile Device Technology for Real-Time Transit Information, TCRP Synthesis 91
Prepared for TRB’s Transit Cooperative Research Program by Carol L. Schweiger, TranSystems Corporation, Boston, MA. This Synthesis of Transit Practice highlights the state-of-the-practice in the use and deployment of real-time transit information on mobile devices using the following five dimensions: (1) the underlying technology required to generate the information to be disseminated, (2) the mobile technology used for dissemination, (3) the characteristics of the information, (4) the resources required to successfully deploy information on mobile devices, and (5) the contribution of mobile messaging to an overall agency communications strategy, including “information equity.” One of the key results of the survey indicated that many of the respondents are using either third-party mobile content/applications providers or individuals to provide real-time information on and develop applications for mobile devices. This result confirms that many transit agencies have limited internal resources to develop, manage, and maintain real-time mobile applications. Full-text PDF (90 pages) is available at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_syn_91.pdf.

Innovative Rural Transit Services, TCRP Synthesis 94
Prepared for TRB’s Transit Cooperative Research Program by KFH Group, Inc. (2011). This Synthesis of Transit Practice 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. Full-text PDF (55 pages) is available at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_syn_94.pdf.

Connected Vehicle Core System Baseline Documentation
Prepared for the ITS Joint Program Office, RITA by Lockheed Martin (October 2011). The Connected Vehicle Systems Engineering Research Program produced baseline documentation defining the Core System that will enable vehicle-to-vehicle, vehicle-to-infrastructure, and vehicle-to-personal device communications. This documentation was developed in conjunction with interested stakeholders across the U.S. The documentation provides a concept for the core system operations and initiates a high-level design of the system defining what the system
must accomplish. The documentation also identifies potential areas for new and updated standards and identifies critical risks to system deployment. The Core System documentation is particularly useful for those interested in building, deploying, or writing applications for Connected Vehicle systems. These documents describe a Core System that can use various means of communications technology, can be deployed incrementally, and promotes national interoperability. The Core System documentation includes (1) Core System Concept of Operations (ConOps), (2) Core System Architecture Document (SAD), (3) Core System Requirements Specification (SyRS), (4) Core System Deployment Critical Risk Assessment Report, and (5) Core System Standards Recommendations. Full-text PDF files of the documentation are available at:

http://www.its.dot.gov/docs/CoreSystemConOpsRevE2.pdf
http://www.its.dot.gov/docs/CoreSystem_SE_SyRS_RevF.pdf

ENERGY and CLIMATE CHANGE

News about Federal Government initiatives and emerging technologies related to reducing energy used in public transportation operations and coping with climate change.

FTA Sustainability Initiative: 46 TIGGER III and Clean Fuels Grant Projects Selected

On November 17, 2011, U.S. Transportation Secretary Ray LaHood announced that 46 innovative transit projects chosen for their capacity to help cut the nation’s dependence on oil and create a marketplace for 21st century “green” jobs will share $112 million in FTA funding. Projects were selected through the FTA’s competitive Fiscal Year 2011 Sustainability Initiative, which includes funding from two FTA programs: the TIGGER III (Transit Investment in Greenhouse Gas and Energy Reduction) Grant Program and the Clean Fuels Grant Program.

Eighteen TIGGER III projects in 15 states were selected for funding, including wireless and fast-charge electric buses, onboard and wayside energy storage for rail transit vehicles, innovative energy-efficient accessories for buses, a stationary fuel cell powering a maintenance facility, and solar panels connected to a smart grid. Available online is a complete listing by state of all TIGGER III and Clean Fuels projects selected, at http://www.fta.dot.gov/documents/2011_TIGGER-CF.FINAL.pdf. A year earlier, Secretary LaHood announced selections of 63 similar projects, listed online at http://www.fta.dot.gov/newsroom/sitemap_12120.html.
Wireless Battery Recharging for Electric Shuttle Buses on University of Utah Campus

A TIGGER III project funded by FTA will enable the University of Utah and the Utah Transit Authority to launch the first U.S. demonstration of Wireless Power Transfer technology, which allows vehicles to be charged from under the roadbed during the course of their daily operations. The technology is being marketed by a start-up firm, WAVE (Wireless Advanced Vehicle Electrification). The project is described in a Utah State University Statesman article available online at http://www.usustatesman.com/usu-technology-to-power-new-bus-route-in-salt-lake-1.2679883.

UNIVERSITY RESEARCH
News about University Transportation Centers and transportation-related research at other universities.

U.S. Transportation Secretary LaHood Announces $77 Million in Transportation Research and Education Grants

On January 17, 2012, U.S. Transportation Secretary Ray LaHood announced $77 million in grants to 22 University Transportation Centers (UTCs) to advance research and education programs that address critical transportation challenges facing our nation. The UTCs, which are located throughout the United States, conduct research that directly supports the priorities of the U.S. Department of Transportation (DOT), and the participating universities are a critical part of our national transportation strategy.

“Transportation matters in everyone’s daily life. These research centers will help us solve the transportation challenges we face today and those that we know lie ahead of us,” said Secretary LaHood.

DOT’s Research and Innovative Technology Administration (RITA), which administers the UTC program, used a competitive selection process to select 10 University Transportation Centers (UTCs), 2 Transit-Focused UTCs, and 10 Regional UTCs. The centers will advance U.S. transportation technology and expertise in research, education, and technology transfer. Each one of the selected UTCs will receive a $3.5 million grant, which they must match with funds from non-federal sources. The 22 UTCs selected are all consortia, involving a total of 121 different universities.

“We are excited about the proposals these consortia put forward. They have the potential to advance basic and applied transportation research today and ensure a robust pipeline of professionals for the transportation workforce of tomorrow,” said RITA Acting Administrator Greg Winfree. “It is absolutely crucial that we continue to invest in research, which has the added benefit of attracting and developing the high level of professionals needed for innovation and expertise in transportation.”
UTCs work with regional, state and local transportation agencies to help find solutions to challenges that directly impact their communities and affect the efficiency of the nation’s transportation system. UTC projects are peer-reviewed and the results of their work are shared with the national transportation community to encourage greater progress through collaboration. The selected universities will research a wide range of transportation-related issues including shared rail corridors, innovations in multimodal freight and infrastructure, bridge inspection methods, and reducing roadway fatalities and injuries.

A list of grant recipients and consortium members is available at: http://utc.dot.gov/about/grant_recipients/html/2012_grant_recipients.html. Find out more about the UTC program at http://utc.dot.gov/


Transit-Focused UTCs
San José State University in San José, CA, and the University of South Florida in Tampa, FL, along with 11 other participating universities, were selected as Transit-Focused UTCs. The Transit-Focused UTCs have the same mission and objectives as the other UTCs, but they must focus their efforts on advancing transit-related research and enhancing the workforce that supports the provision of transit services.

Consortium members joining with San José State University are:
• Bowling Green State University, Bowling Green, OH
• Grand Valley State University, Allendale, MI
• Howard University, Washington, DC
• Pennsylvania State University, State College, PA
• Rutgers University, New Brunswick, NJ
• University of Detroit Mercy, Detroit, MI
• University of Nevada, Las Vegas, Las Vegas, NV
• University of Toledo, Toledo, OH

Consortium members joining with the University of South Florida are:
• Florida International University, Miami, FL
• North Dakota State University Fargo, ND
• University of Illinois, Chicago, IL

ASSET MANAGEMENT/STATE of GOOD REPAIR
News about research and technical assistance related to effective asset management leading to a state of good repair.

State of Good Repair (SGR) Pilot Projects
In these pilot projects, asset management consultants will partner with six transit agencies in trial implementations of innovative approaches to evaluate the effects of capital reinvestment decisions on system performance. These will include prioritizing major capital
projects to minimize long-term capital investment needs, adapting proven asset management from other industries to transit use, and improving other asset management activities. Sustainable and dependable transit service requires maintaining transit assets in a state of good repair. This project will showcase best practices that should be widely applicable among transit operating agencies. A final report will evaluate the pilot projects and provide recommendations to guide other transit agencies.

Participating agencies and the FTA funding allocated for the pilot projects are as follows:

- Peninsula Corridor Joint Powers Board, San Carlos, CA, “CALTRAIN Asset Management System Enhancements,” $750,000
- Valley Regional Transit, Meridian, ID, “Regional Asset Management Database,” $300,000
- Regional Transportation Authority of Northeastern Illinois, Chicago, IL, “Transit Asset Management (TAM) Pilot Program,” $800,000
- Massachusetts Bay Transportation Authority, Boston, MA, “Transit Asset Management Pilot Program,” $950,000
- Utah Transit Authority, Salt Lake City, UT, “Comprehensive Transit Asset Management System,” $500,000
- Virginia Department of Rail and Public Transportation, Richmond, VA, “Trans-AM, A Next Generation Transit Asset Management System,” $700,000

SUSTAINABLE COMMUNITIES

News about innovative approaches to making communities better places to live.

Europe’s Vibrant New Low Car(bon) Communities

The Institute for Transportation Policy Development issued a report in September 2011 that found that eight new communities across Europe, created by using smart urban and transportation planning and design, have lower car ownership rates and less driving than nearby developments of comparable size and age. As a result, these communities have less pollution, greenhouse gas emissions, public health issues, and other negative externalities associated with driving. These new developments, described in case studies, use a combination of “push” measures to discourage private car use and “pull” measures to improve the attractiveness of walking, cycling, transit, and various forms of shared vehicle use. The report explains how these measures work and advocates applying them in other new developments around the world, particularly in abandoned industrial sites or on other previously-developed land. The report is available online at http://www.itdp.org/library/publications/europes-vibrant-new-low-carbon-communities-desktop-printer-version.
Sustainable Public Transportation: Environmentally Friendly Mobility

Research Results Digest 103, “Sustainable Public Transportation: Environmentally Friendly Mobility” is an overview of a mission that explored how public transportation systems 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. These innovative systems are designed to reduce energy consumption and carbon emissions, lower operating costs, and provide safe and accessible transportation services. The cities profiled are Ahmedabad and Delhi, India, and Guangzhou, Hangzhou, and Shanghai, China. Full-text PDF (21 pages) is available at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rrd_103.pdf.

COORDINATED TRANSPORTATION SERVICES for RURAL and TARGET POPULATIONS

News about successful efforts to provide effective transportation for individuals with disabilities or other special needs, older adults, and residents of rural areas.

Expanding the Google Transit Feed Specification to Support Operations and Planning: Final Report

Prepared by Martin Català, National Center for Transit Research, Center for Urban Transportation Research (CUTR), University of South Florida for the Florida Department of Transportation, Public Transit Office (November 2011). The development of Google’s free online transit trip planner has been one of the most exciting developments in transit for many years. Transit agencies that store trip information into a specific file format (General Transit Feed Specification, GTFS) and forward the data to Google’s transit team will have a robust, recognizable online trip planner at no cost. But perhaps equally exciting is the impact of the open data architecture, which is not hidden under the veil of proprietary software and has spurred many other developments, including extending the usefulness of the GTFS through the development of applications that leverage the GTFS data to further benefit transit agencies. This project identified opportunities to use GTFS data to support service planning and operational activity. The opportunities are limited to service-level evaluations, given the static nature of the GTFS data. Furthermore, the project identified opportunities to supplement the GTFS with performance-related information and developed a prototype application that integrated GTFS data with an automatic passenger counter (APC). Available online at http://www.nctr.usf.edu/wp-content/uploads/2012/02/77902.pdf.
RESEARCH NEWS & RESOURCES

News about Federal Government research in public transportation and pertinent information resources available online.

Congress Appropriates $44 Million for FTA Research in Fiscal Year 2012

Congress appropriated $44.0 million for FTA research activities during the fiscal year ending September 30, 2012. Amounts available for FTA research and university centers programs and activities, compared with the previous year’s levels, are as follows:

<table>
<thead>
<tr>
<th>Programs and Activities</th>
<th>FY 2011 Amounts (millions)</th>
<th>FY 2012 Amounts (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Research Programs</td>
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<tr>
<td>Innovative Research and Demonstrations of National Significance</td>
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<tr>
<td>Other Research, Technical Assistance, and Workforce Development</td>
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<td>National Transit Institute</td>
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</tr>
<tr>
<td>University Research Centers</td>
<td>$6.99</td>
<td>$4.0</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$58.88</strong></td>
<td><strong>$44.0</strong></td>
</tr>
</tbody>
</table>

Access Board Releases Revised Draft of Accessibility Requirements for Information and Communication Technology

On December 8, 2011, the U.S. Access Board released for public comment a second Advance Notice of Proposed Rulemaking (ANPRM) that includes a revised draft of updated accessibility requirements for information and communication technology (ICT) covered by Section 508 of the Rehabilitation Act and Section 255 of the Telecommunications Act of 1996. This latest version includes changes made in response to public feedback received on an earlier draft.

The draft rule jointly refreshes the Board’s Section 508 standards and its Section 255 guidelines, which address access to computer hardware and software, websites, media players, electronic documents, telephones and cell phones, PDAs, and other ICT products. The Board is updating these requirements according to recommendations from an advisory body it chartered, the Telecommunications and Electronic and Information Technology Advisory Committee.

The Board released a previous draft of the rule in March 2010 and received almost 400 comments from the public, including industry, disability groups, consumers, government entities, research and trade organizations, accessibility consultants, and others. In response to this input, the Board has simplified and streamlined the document for greater usability. The revised draft further harmonizes the rule with other guidelines and standards and eliminates redundancy by referencing the Web Content Accessibility Guidelines 2.0 (WCAG). In addition, revisions have been made to clarify the relationship
between performance and technical criteria, coverage of electronic content, and clearer requirements for ICT with closed functionality.

The released draft includes a discussion that explains these and other changes and highlights other topics where public comment was sought.

The draft rule and related information are available on the Board’s website at http://www.access-board.gov/508.htm.