

Technical Memorandum #2

# Summary of Planning Recommendations for Completed Planning Grants from 2006 - December 2011

January 2013



*Paul S. Sarbanes  
Transit In Parks*

Technical Assistance Center

UNDERSTANDING

RESOURCES

SOLUTIONS

*This document was prepared for the Federal Transit Administration  
by the Paul S. Sarbanes Transit in Parks Technical Assistance Center*

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## AUTHOR

This document was authored by Kourtney Collum, graduate research assistant, and John Daigle, Professor in the School of Forest Resources – Parks, Recreation, and Tourism Program at the University of Maine and Phil Shapiro from Shapiro Transportation Consulting, partner organizations of the Paul S. Sarbanes Transit in Parks Technical Assistance Center (TRIPTAC), as well as, Jaime Eidswick of the Western Transportation Institute (WTI) at Montana State University Bozeman, the lead organization of the TRIPTAC.

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## PURPOSE

The purpose of this memorandum is to succinctly present the recommendations made or alternatives considered on completed planning projects funded by the Transit in Parks (TRIP) program from 2006 to December 2011. The memorandum is divided into two sections. Section I lists planning projects completed through December 2011. As of that date, 45 planning projects were complete, 29 of which have final reports. Table 1 contains a list of all completed planning projects with final reports, indicating the title and author of the final report and whether the associated unit(s) received follow-up TRIP funding. Table 2 contains a list of the remaining completed planning projects, which do not have known final reports. This table includes a brief description of each project, the land management unit(s) associated with the grant, and whether the unit received follow-up TRIP funding.

Section II focuses on the information available from the 29 completed projects with a final report, summarizing the alternatives considered and recommendations made by the planning process. Table 4 provides a summary of the recommendations for each project and indicates whether public involvement, financial sustainability, environmental quality and SAFETEA-LU planning factors (listed in Table 3) were considered during the planning process. At the end of Section II, observations and conclusions related to the planning processes for these alternative transportation projects are provided.

## SECTION 1: COMPLETED PLANNING PROJECTS

*Table 1: Completed Planning Projects with Reports*

<b>Project # /Amount Received</b>	<b>Final Report Title</b>	<b>Author</b>	<b>Received Follow- up TRIP Funding</b>	<b>Follow-up Project #</b>	<b>Amount Received</b>
2006-005  \$167,000	<ul style="list-style-type: none"> <li>Devils Postpile National Monument Shuttle System Operational and Financial Assessment: Technical Memorandum Study Findings and Recommendations</li> </ul>	Prepared by David Evans and Associates	Implementation Implementation	2009-011 2010-020	\$1,600,000 \$2,800,000
2006-013  \$40,000	<ul style="list-style-type: none"> <li>Shuttle Feasibility Study for Rocky Mountain Arsenal National Wildlife Refuge, Commerce City, and Stapleton Area</li> </ul>	Prepared by LSC Transportation Consultants, Inc.	Implementation Planning	2007-012 2010-057	\$171,720 \$400,000
2006-016  \$700,000	<ul style="list-style-type: none"> <li>Alternative Transportation in Parks and Public Lands Study, J.N. "Ding" Darling National Wildlife Refuge</li> </ul>	Prepared by JACOBS	Planning	2009-015	\$900,000
2006-019  \$256,600	<ul style="list-style-type: none"> <li>Alternative Transportation Study for Midewin National Tallgrass Prairie: Draft Final Report</li> </ul>	Prepared by AECOM	Implementation	2011-048	\$291,576
2006-021  \$95,000	<ul style="list-style-type: none"> <li>Parker River National Wildlife Refuge Access Project</li> </ul>	Prepared by Vanasse Hangen Brustlin, Inc.	No	-	-
2006-023  \$200,000	<ul style="list-style-type: none"> <li>Cape Cod National Seashore Satellite Vehicle Maintenance Facility Feasibility Study</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	A follow-up was not recommended	-	-
2006-029  \$150,000	<ul style="list-style-type: none"> <li>Sandy Hook Traveler Information System</li> </ul>	•Prepared by John A. Volpe National Transportation Systems Center	No	-	-
2007-003  \$180,000	<ul style="list-style-type: none"> <li>Transportation Analysis and Feasibility Study: Sabino Canyon Recreation Area Coronado National Forest</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	Planning *NEPA compliance	2010-027	\$450,000

<b>Project # /Amount Received</b>	<b>Final Report Title</b>	<b>Author</b>	<b>Received Follow- up TRIP Funding</b>	<b>Follow-up Project #</b>	<b>Amount Received</b>
2007-013  \$298,817	<ul style="list-style-type: none"> <li>Integrated Approach to Transportation and Visitor Use Management at Rocky Mountain National Park</li> </ul>	Prepared by Resource Systems Group, Colorado State University, and Utah State University	Planning	2010-033	\$535,000
2007-015  \$250,000	<ul style="list-style-type: none"> <li>Fort Pickens/Gateway Community Alternative Transportation Plan</li> </ul>	Prepared by National Park Service Gulf Islands National Seashore in cooperation with Federal Highway Administration Eastern Federal Lands Highway Division	Implementation	2009-017	\$2,800,000
2007-017  \$100,000	<ul style="list-style-type: none"> <li>Alternative Transportation Study: Monomoy National Wildlife Refuge</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	Implementation	2011-050	\$400,000
2007-018  \$250,000	<ul style="list-style-type: none"> <li>Cape Cod National Seashore Integrated Parking and Transit Study</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	No	-	-
2007-022  \$72,000	<ul style="list-style-type: none"> <li>Fort McHenry National Monument and Historic Shrine: Shuttle Feasibility Study</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	Implementation	2009-025	\$1,164,000
2007-025  \$270,000	<ul style="list-style-type: none"> <li>Chincoteague National Wildlife Refuge Alternative Transportation Study</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	Implementation	2011-013	\$1,500,000
2007-030  \$50,000	<ul style="list-style-type: none"> <li>Sandy Hook Alternative Access Concept Plan and Vehicle Replacement Study</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	No	-	-
2007-036  \$168,000	<ul style="list-style-type: none"> <li>Designing, Marketing, and Evaluating Alternative Transportation at Valley Forge National Historical Park Transportation Scholar Report</li> </ul>	Prepared by Natalie Villwock, Transportation Scholar	Planning Planning	2008-042 2009-037	\$223,000 \$237,000
2007-038  \$25,000	<ul style="list-style-type: none"> <li>Kennesaw Mountain National Battlefield Park Assessment of Management of Kennesaw Mountain Drive and Bus Shuttle Service</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	No		
2007-042  \$204,000	<ul style="list-style-type: none"> <li>Albion Basin Transportation Feasibility Study</li> </ul>	Prepared by David Evans and Associates, Inc.	No	-	-

<b>Project # /Amount Received</b>	<b>Final Report Title</b>	<b>Author</b>	<b>Received Follow- up TRIP Funding</b>	<b>Follow-up Project #</b>	<b>Amount Received</b>
2007-044*  \$95,000	<ul style="list-style-type: none"> <li>Colonial National Historical Park Alternative Transportation System Evaluation and Business Plan, July 2010</li> <li>Colonial National Historical Park Shuttle Service Survey Report, Feb. 2010</li> <li>Colonial National Historical Park 2010 Visitor/Motorist Survey, May 2011</li> </ul>	<ul style="list-style-type: none"> <li>Prepared by John A. Volpe National Transportation Systems Center</li> <li>Prepared by John A. Volpe National Transportation Systems Center</li> <li>Prepared by John A. Volpe National Transportation Systems Center</li> </ul>	Implementation	2009-043	\$104,270
2008-001  \$400,000	<ul style="list-style-type: none"> <li>Prince William Sound, Copper River Watershed Area, Gulf of Alaska Integrated Motorized &amp; Non-Motorized Alternative Transportation Plan: Draft 10</li> </ul>	Prepared by The Native Village of Eyak Alternative Transportation Project Steering Committee	No	-	-
2008-019  \$60,000	<ul style="list-style-type: none"> <li>Rocky Mountain National Park Multi-Use Trail Feasibility Study</li> </ul>	Prepared by EDAW/AECOM	Planning	2010-034	\$240,000
2008-024  \$250,000	<ul style="list-style-type: none"> <li>Study Integrated Bicycle Plan for Cape Cod Bicycle Feasibility Study</li> </ul>	Prepared by Vanasse Hangen Brustlin, Inc.	Implementation Planning	2009-021 2011-011	\$250,000 \$381,680
2008-025  \$250,000	<ul style="list-style-type: none"> <li>Cape Cod National Seashore Intelligent Transportation Systems Implementation Plan Final Report</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	No	-	-
2008-033  \$100,000	<ul style="list-style-type: none"> <li>Cape Hatteras National Seashore Alternative Transportation Study for Bodie Island District</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	No		
2008-034  \$150,000	<ul style="list-style-type: none"> <li>White Mountain National Forest Alternative Transportation Study</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	Implementation	2011-072	\$62,627
2009-014  \$250,000	<ul style="list-style-type: none"> <li>Executive Summary Final Master Plan &amp; FY2011 Grant Applications Summary: Reconnecting the Castillo and the Bayfront</li> </ul>	Prepared by Halback Design Group	Implementation Planning	2011-019 2011-020	\$753,000 \$150,000

<b>Project # /Amount Received</b>	<b>Final Report Title</b>	<b>Author</b>	<b>Received Follow- up TRIP Funding</b>	<b>Follow-up Project #</b>	<b>Amount Received</b>
2009-019  \$122,300	<ul style="list-style-type: none"> <li>Parker River National Wildlife Refuge Transit Planning Study</li> </ul>	Prepared by John A. Volpe National Transportation Systems Center	No	-	-
2009-029  \$100,000	<ul style="list-style-type: none"> <li>Partnership Transit Analysis &amp; Pilot Implementation Plan Guilford Courthouse National Military Park Greensboro, North Carolina</li> </ul>	Prepared by Vanasse Hangen Brustlin, Inc. and Tom Crikelair Associates	No	-	-
2009-041  \$150,000	<ul style="list-style-type: none"> <li>Wasatch Canyons Tomorrow</li> </ul>	Prepared by Envision Utah	Implementation	2010-037	\$1,120,000

\* Although this project was awarded a Paul S. Sarbanes Transit in Parks (TRIP) grant, it is the belief of the John A. Volpe Center that the project and report were actually funded through NPS Category III funding and not TRIP funding.

**Table 2: Completed Planning Projects without known Reports**

Project # /Amount Received	Project Description	Land Unit(s) Associated with Grant	Received Follow- up TRIP Funding	Follow-up Project #	Amount Received
2006-006  \$175,000	Improve Accessibility and Safety of Headlands Transportation System	Point Reyes National Seashore	Implementation Implementation	2009-004 2009-007	\$47,000 \$296,400
2006-007  \$300,000	Studies Required to Complete EIS for Extension of Historic Streetcar Service	San Francisco Maritime National Historical Park of the Golden Gate National Recreation Area	Planning	2007-010	\$493,000
2006-009  \$486,000	Integrated Transportation Capacity Assessment for Yosemite Valley	Yosemite National Park	Planning Planning Implementation	2007-011 2008-015 2009-010	\$621,600 \$500,000 \$1,280,000
2006-017  \$120,000	Continued Transportation Planning to Improve Congestion and Overcrowding	Hawaii Volcanoes National Park	No	-	-
2006-018  \$99,934	Grand Teton National Park Public Transportation (Transit) Business Plan	Grand Teton National Park	No	-	-
2006-030  \$68,000	Design ATS Pilot Program	Roosevelt-Vanderbilt National Historic Sites	Implementation Implementation	2007-033 2008-040	\$226,800 \$630,000
2006-031  \$170,000	Prepare Title II Contract Documents for Completion of Railroad Signalization at Cuyahoga Valley National Park	Cuyahoga Valley National Park	No	-	-
2006-041  \$78,500	Complete Fiscal Analysis of Public Private Transit	Marsh-Billing-Rockefeller National Historical Park	Implementation Implementation	2008-048 2010-053	\$215,000 \$220,000
2007-005  \$70,000	Prepare Operational Plan to Implement the Fort Baker Shuttle	Golden Gate National Recreation Area	Implementation	2009-006	\$145,000

Project # /Amount Received	Project Description	Land Unit(s) Associated with Grant	Received Follow- up TRIP Funding	Follow-up Project #	Amount Received
2007-016  <i>\$100,000</i>	Rehabilitate Ferry Hub Pier at Georges Island	Boston Harbor Islands National Recreation Area	No	-	-
2007-026  <i>\$80,000</i>	Evaluate Bus Stops to Eliminate Safety Hazards	Acadia National Park	Implementation Implementation	2009-026 2011-077	\$236,000 \$1,324,518
2007-040  <i>\$150,000</i>	Complete Zion National Park Shuttle Service Planning Study	Zion National Park	Planning	2010-002	\$600,000
2007-045  <i>\$5,000</i>	Lake Chelan Dock Infrastructure – Prince Creek Dock Replacement	Wenatchee National Forest	Implementation	2009-045	\$100,000
2008-036  <i>\$200,000</i>	Alternative Transportation Planning for Public Access and Use in the Valles Caldera National Preserve, New Mexico	Valles Caldera National Preserve	No	-	-
2008-038  <i>\$150,000</i>	Complete Planning for the Rockaway Gateway Connector	Jamaica Bay Unit of the Gateway National Recreation Area	No	-	-
2008-042  <i>\$223,000</i>	Continue the pilot shuttle bus program as the second to last step in alternative transportation planning at Valley Forge National Historic Park	Valley Forge National Historical Park	Planning	2009-037	\$237,000

## SECTION 2: SUMMARIES AND RECOMMENDATIONS FOR COMPLETED TRIP FUNDED PROJECTS WITH FINAL REPORTS

This section summarizes the 29 planning projects for which final reports exist. Each project summary provides the following information:

- Federal Land Management Agency (FLMA) (NPS, FWS, USFS or BLM)
- Unit characteristic (urban or rural)
- Unit location (state)
- Background (the purpose of the project, as specified in the TRIP grant application)
- Alternatives considered (alternative transportation options that were considered during the planning process, as specified in the final report)
- Recommendation (the specific transportation service or improvement that was recommended by the planning process, as specified in the final report)
- Follow-up funding received (the grant number and brief description of subsequent planning or implementation grants that were awarded by TRIP to carry out the recommendations made by the planning process)

### PROJECT SUMMARIES

#### **PROJECT: 2006-005 DEVILS POSTPILE NATIONAL MONUMENT SHUTTLE SYSTEM ASSESSMENT**

**FLMA, characteristic, location:** USFS, rural, California

**Background:** This planning grant funded a feasibility analysis for a sustainable transportation system. The planning study evaluated several transportation options based on operational efficiency and financial sustainability.

**Alternatives considered:** The planning process considered partnership options and acquisition of vehicles, including purchasing, leasing, and a combination of the two. A range of vehicle types were considered for environmental quality and level of service.

**Recommendation:** The plan recommended that federal funds be secured for the park unit to purchase shuttle vehicles, thus allowing them to acquire buses that provide appropriate amenities to visitors. It was recommended that the shuttle service be operated by a partner organization, Eastern Sierra Transit Authority (ESTA). This scenario had the lowest estimated cost and allows for sharing of operational facilities and resources between the partner organizations.

**Follow-up funding received:** Yes. ESTA assumed operation of the Reds Meadow Shuttle in 2009. Two grants were awarded (2009-011 and 2010-020) for the purchase of buses to enable long-term viability of the new partnership between the Inyo National Forest, Devil's Postpile National Monument and ESTA.

## **PROJECT: 2006-013 ROCKY MOUNTAIN ARSENAL NATIONAL WILDLIFE REFUGE SHUTTLE FEASIBILITY STUDY**

**FLMA, characteristic, location:** FWS, urban, Colorado

**Background:** Rocky Mountain Arsenal National Wildlife Refuge is located within an hour of the Denver metro area; therefore, a shuttle transportation system was proposed to connect the Refuge to the Denver regional transportation system in order to maximize transportation mobility and flexibility for residents and visitors. A feasibility study was conducted to determine the need for and characteristics of a potential shuttle system including route, fare, and vehicle type.

**Alternatives considered:** Seven potential service options were evaluated and one was chosen as the preferred service option. Five alternative options were also presented, which can be implemented at a reduced cost if the unit is unable to secure funding for implementation of the preferred option.

**Recommendation:** The preferred service option called for a shuttle route to connect the Refuge to a number of commercial areas and civic locations in the Denver metropolitan area. This service would be offered seven days a week at a 30 minute frequency.

**Follow-up funding received:** Yes. The Refuge received a grant (2007-012) to purchase a bus to facilitate transportation within the unit. This was one of the reduced-cost alternatives evaluated during the planning process. The Refuge also received a planning grant (2010-057) to develop a more detailed feasibility analysis and transportation implementation plan.

## **PROJECT: 2006-016 J.N. "DING" DARLING NATIONAL WILDLIFE REFUGE ALTERNATIVE TRANSPORTATION STUDY**

**FLMA, characteristic, location:** FWS, rural, Florida

**Background:** A feasibility analysis was conducted to evaluate alternative transportation options at the Refuge. This study analyzed carrying capacity, included public involvement, and identified alternative fueled transportation modes. It resulted in an alternative transportation plan for the Refuge.

**Alternatives considered:** Three preliminary transportation alternatives were proposed and compared to a no-action approach: a Refuge only alternative incorporating expanded tram service and non-motorized, multi-use paths within the Refuge; an Islands only alternative that would involve implementation of a tram service to connect the gateway community to the Refuge's existing tram service; or a Refuge and Island alternative that would involve implementing expanded tram service and building new multi-modal trails in both the Refuge and gateway community. A 14 month pilot study was suggested for any transportation alternative selected.

**Recommendation:** No specific recommendation was made.

**Follow-up funding received:** Yes. An additional planning grant was awarded (2009-015) to further examine the opportunity for alternative transportation to better connect visitors to the refuge and mitigate traffic congestion in cooperation with the gateway community of Sanibel Island, Florida.

## **PROJECT: 2006-019 MIDWIN NATIONAL TALLGRASS PRAIRIE ALTERNATIVE TRANSPORTATION STUDY**

**FLMA, characteristic, location:** USFS, urban, Illinois

**Background:** Using recommendations from four previous transportation studies, Midewin National Tallgrass Prairie, along with its regional comprehensive and transportation planning partners, the Northeastern Illinois Planning Commission and the Chicago Area Transportation Study, sought to develop detailed transportation alternatives for the region, evaluate their costs and benefits, and propose phased implementation strategies. An additional objective of this project was to develop short- and long-term funding strategies to cover the operating costs of the recommended services.

**Alternatives considered:** A wide range of service alternatives were evaluated including specialized transportation service (ride sharing, demand responsive, or shared taxi), local bus service (Flex-route or shuttle bus), and express bus service (special event or charter bus). Non-motorized options were also evaluated.

**Recommendation:** A website, [www.pacerideshare.com](http://www.pacerideshare.com), already exists to organize ridesharing within the region. It was recommended that Midewin promote this website in newsletters and encourage employees to rideshare. It was also recommended that a shuttle bus be piloted as a Saturday only, seasonal transportation option that can be expanded if demand is high. A Charter bus was recommended for group tours and to transport visitors from nearby lots during special events. Additionally, the development of multi-use trails connecting the Midewin Prairie Learning Center site to the towns of Joliet, Elwood, Wilmington and Manhattan was recommended.

**Follow-up funding received:** Yes. A grant was awarded (2011-048) to construct a 2.5 mile multi-use trail between the Midewin Welcome Center and the existing trail system of Midewin.

**PROJECT: 2006-021 PARKER RIVER NATIONAL WILDLIFE REFUGE ACCESS PROJECT**

**FLMA, characteristic, location:** FWS, rural, Massachusetts

**Background:** The purpose of this project was to develop a plan to complete safe, non-motorized access between Parker River National Wildlife Refuge, the Refuge Headquarters and the Newburyport MBTA Transit Center located in the adjacent town. The focus of the plan was to guide the development of a 1.7 mile bicycle/pedestrian trail that would link to and utilize the Clipper City Trail maintained by the town of Newburyport, as well as the Plum Island Turnpike bike lanes that extend 2.4 miles from the Refuge Visitor Center to Plum Island.

**Alternatives considered:** Multiple routes were considered throughout the planning process and were evaluated by a team of regional stakeholders, interested citizens, and project consultants.

**Recommendation:** A two-phase project was recommended. Phase I proposed signage, striping, and pavement markings to improve the existing accommodations for cyclists along a continuous and direct route between the MBTA station and the Refuge. Phase II proposed to extend the route to the Refuge Visitor's Center and out to Plum Island. The report presented graphics of the various roadway cross-sections.

**Follow-up funding received:** No.

**PROJECT: 2006-023 CAPE COD NATIONAL SEASHORE SATELLITE VEHICLE MAINTENANCE FEASIBILITY STUDY**

**FLMA, characteristic, location:** NPS, urban, Massachusetts

**Background:** This study assessed the feasibility of a satellite vehicle maintenance facility on the Outer Cape of Cape Cod National Seashore. The proposed facility was meant to reduce operating costs associated with the current shuttle routes and reduce the out-of-service time for buses by providing a nearby facility where shuttles could be stored and maintained.

**Alternatives considered:** The planning process determined that the savings associated with a satellite facility would be greatly outweighed by the substantial upfront capital costs needed for construction of the facility. Thus, three alternative approaches were suggested: an overnight storage facility for the buses to reduce deadheading costs; a "scaled back" satellite maintenance facility that would allow for vehicle washing, overnight storage, and minor repairs; or a mobile maintenance unit (i.e. a heavy-duty truck that is equipped with specialized vehicle maintenance and repair equipment, including a lift and diagnostic tools). The report also advised that the virtues of a "no action" alternative should be considered, as

current vehicle maintenance arrangements, while somewhat inefficient, may represent the most cost-effective approach for the region.

**Recommendation:** The planning process identified the need for an effective partnership to improve the feasibility and sustainability of any of the proposed alternatives. It was recommended that a task force be formed to identify potential partnership arrangements.

**Follow-up funding received:** No.

## **PROJECT: 2006-029 ENHANCE PARKING MANAGEMENT TIS AT SANDY HOOK**

**FLMA, characteristics, location:** NPS, urban, New Jersey

**Background:** The original intent of this project was to develop a concept of operations and requirements for a Traveler Information System for Sandy Hook; however, this was modified to be a review of existing transportation data, identification of needed information, and a gap analysis.

**Alternatives considered:** This report examines ways to communicate data with visitors including intelligent transportation systems and social media. A number of alternatives were considered for how to collect and disseminate traveler information including the equipment, system, and processes.

**Recommendations:** Five short-term recommendations were the outcomes of this report. The 5 recommendations include: (1) develop partnerships, (2) identify data and information priorities, (3) utilize existing resources, (4) hire a programmer, and (5) develop an operations framework.

**Follow-up funding received:** No.

## **PROJECT: 2007-03 SABINO CANYON TRANSPORTATION ANALYSIS AND FEASIBILITY STUDY**

**FLMA, characteristic, location:** USFS, urban, Arizona

**Background:** This transportation analysis and feasibility study explored opportunities for an environmentally sound and cost effective transportation system to meet current and future demand; evaluated relationships between the transportation systems and visitors/recreationists against the impact on natural resources; updated parking, transit, and visitor counts; explored carrying capacities; and considered operational strategies and potential transportation partners.

**Alternatives considered:** Four alternatives were proposed and evaluated against a no-action approach: parking management and capacity control; expanded non-motorized use;

expanded fare-free shuttle service; and/or infrastructure improvements. Long-range management and operations elements were also outlined that could be combined with any of the alternatives.

**Recommendation:** No specific recommendation was made.

**Follow-up funding received:** Yes. An additional planning grant was awarded (2010-027) to undertake the design, engineering, and National Environmental Policy Act (NEPA) actions required for future construction of an interconnected, hard-surfaced, accessible trail system from the site's main parking lot to the terminus of Sabino Canyon Road.

### **PROJECT: 2007-013 ROCKY MOUNTAIN NATIONAL PARK INTEGRATED APPROACH TO TRANSPORTATION AND VISITOR USE MANAGEMENT**

**FLMA, characteristic, location:** NPS, rural, Colorado

**Background:** The purpose of this project was to assist the NPS in refining the design of Rocky Mountain National Park's shuttle bus system, in order to enhance the park's ability to use alternative transportation as an essential element of visitor capacity management and resource protection.

**Alternatives considered:** A rigorous analysis was performed that assessed visitor perceptions of resource impacts, explored recreation ecology and visitor management and education, and included transportation, visitor use, and noise modeling. The study primarily yielded data that can be used to inform a transportation management approach.

**Recommendation:** The deployment of ITS was proposed as a tool for increasing shuttle use and decreasing traffic congestion.

**Follow-up funding received:** Yes. An additional planning grant was awarded (2010-033) to evaluate the operational, financial, and resource management-related feasibility of refining the existing shuttle service and implementing new shuttle service routes and ITS solutions to address crowding and resource impacts.

### **PROJECT: 2007-015 FORT PICKENS/GATEWAY COMMUNITY ALTERNATIVE TRANSPORTATION PLAN**

**FLMA, characteristics, location:** NPS, rural, Florida

**Background:** This study was conducted to identify the transportation needs and feasibility of alternative transportation in the Fort Pickens Area of the Gulf Islands National Seashore.

**Alternatives considered:** Both water and land-based alternative transportation options were considered. For each option, the authors provided details about service

characteristics, operational requirements, capital requirements, costs, and advantages of options during the temporary closure of the Fort Pickens Road.

**Recommendation:** The study provided recommendations for alternative transportation option as well as the necessary steps for their implementation. Recommendations included two options for a ferry service in Pensacola Bay serving multiple destinations; continuation of commercial use authorization services after the reopening of Fort Pickens Road; consider a seasonal daytime trolley service to Fort Pickens; intra-park circulation including restoring bicycle rentals, adding bicycle racks, potentially adding Segway rentals, and a handicap-accessible tram service; and expansion of the ECAT service to Fort Pickens.

**Follow-up funding received:** Yes. A grant was awarded (2009-017) to construct a passenger ferry dock facility at Fort Pickens.

#### **PROJECT: 2007-017 MONOMOY NATIONAL WILDLIFE REFUGE ALTERNATIVE TRANSPORTATION STUDY**

**FLMA, characteristic, location:** FWS, rural, Massachusetts

**Background:** This project examined alternatives for expanding shuttle service from Outer and Lower Cape Cod to the town of Chatham, the Monomoy National Wildlife Refuge, and the South Beach Unit of the Cape Cod National Seashore.

**Alternatives considered:** Four alternatives were proposed that could be carried out individually or in any combination of two or more. Each alternative was assessed against a no-action alternative. The four alternatives included: satellite parking and shuttle service to alleviate congestion in Chatham; relocation of the Monomoy Visitor Contact Station to improve access; roadway safety improvements; and/or enhancement of non-motorized access to the Refuge and other popular Chatham destinations.

**Recommendation:** No specific recommendation was made.

**Follow-up funding received:** Yes. A grant was awarded (2011-050) to provide biodiesel-fueled shuttle service from a satellite parking lot to Monomoy National Wildlife Refuge facilities and the surrounding town of Chatham. The grant also included funds for widening and parking relocation (off-pavement) for shuttle passage.

#### **PROJECT: 2007-018 CAPE COD NATIONAL SEASHORE INTEGRATED PARKING AND TRANSIT STUDY**

**FLMA, characteristic, location:** NPS, urban, Massachusetts

**Background:** This study assessed the need for additional beach parking and park-and-ride facilities within Cape Cod National Seashore and the towns located on the Outer Cape. The

study was intended to result in a recommended parking development and maintenance plan.

**Alternatives considered:** Using stakeholder input, geospatial analysis, aerial photography and site visits, a designated project team identified 52 potential satellite parking areas, both privately and publically held. These potential sites included existing underutilized lots, previously disturbed sites, and a few publicly owned undisturbed parcels. A shuttle route analysis considered routes that would link beaches to parking areas. The project team identified and assessed potential parking areas for the beaches based on proximity to the beach, number of parking spaces, and proximity to the main route. A total of 36 potential routes were developed, serving 17 beaches.

**Recommendation:** Based on the analysis of all potential routes, the project team recommended eight routes for further consideration and provided an analysis of the associated satellite parking areas. The project team also recommended the expansion of an existing shuttle (Little Creek Shuttle) to the Visitor Center, which would provide beach access to visitors by connecting them to regional transit. This expansion would rely on existing infrastructure and would be entirely operated and managed by the park service. It was also recommended that a memorandum of understanding be setup with the Nauset Regional School District to use the high school parking area as a first pilot shuttle route to deal with existing over-capacity on peak weekends.

**Follow-up funding received:** No.

**PROJECT: 2007-022 FORT MCHENRY NATIONAL MONUMENT SHUTTLE  
FEASIBILITY STUDY**

**FLMA, characteristic, location:** NPS, urban, Maryland

**Background:** A feasibility study was conducted to evaluate a proposed transit/ trolley system. The proposal called for a circulator system that would connect Ft. McHenry with the Inner Harbor area of the City of Baltimore.

**Alternatives considered:** A number of alternatives were considered that evaluated various shuttle stops, days of operation, and hours of service.

**Recommendation:** Two potential transit routes were recommended, both of which would service the Baltimore Area Visitor Center, Fort McHenry, multiple museums, and other residential and commercial areas along the route. It was recommended that the shuttles operate year-round from 7:00 AM to 7:00 PM, seven days a week, with service every 30 minutes.

**Follow-up funding received:** Yes. A grant was awarded (2009-025) to purchase two hybrid electric buses to enable the City of Baltimore to extend the circulator system to Fort McHenry National Monument.

**PROJECT: 2007-025 CHINCOTEAGUE NATIONAL WILDLIFE REFUGE  
ALTERNATIVE TRANSPORTATION STUDY**

**FLMA, characteristic, location:** FWS, rural, Virginia

**Background:** A comprehensive transportation planning study assessed safety issues and transportation needs and proposed the best motorized and non-motorized alternative transportation systems to alleviate traffic congestion and enhance visitor safety on the Chincoteague National Wildlife Refuge of the Assateague Island National Seashore.

**Alternatives considered:** Three alternatives were evaluated against a no-action approach: maintain existing beach parking with low cost improvements to parking infrastructure; relocate and reduce beach parking and implement satellite parking and ITS; and eliminate beach parking and build a new parking garage off-site with access via transit and bike paths.

**Recommendation:** No specific recommendation was made.

**Follow-up funding received:** Yes. A grant was awarded (2008-046) to provide traveler information station capabilities, information and entrance pass kiosks in hotels and public places, and electronic informational signage. An additional grant was awarded (2008-047) to extend the existing bicycle/pedestrian path from the Town of Chincoteague to the Chincoteague National Wildlife Refuge.

## **PROJECT: 2007-030 SANDY HOOK ALTERNATIVE ACCESS CONCEPT PLAN AND VEHICLE REPLACEMENT STUDY**

**FLMA, characteristic, location:** NPS, urban, New Jersey

**Background:** A feasibility study was conducted to determine the best course of action for upgrading the park's existing alternative transportation system, consisting of a combination of seasonal ferry service, multi-use pathways, and a shuttle bus service.

**Alternatives considered:** Five alternatives were presented. Option 1 proposed a new ferry service to Sandy Hook from either of two existing nearby ferry terminals that currently provide service to Manhattan and the surrounding area. Option 2 proposed train/bus access to Sandy Point via an extension of a commuter rail service provided by NJ Transit Circle Line. Option 3 proposed a bus shuttle from another nearby ferry landing in New Jersey. Options 1, 2 and 3 would use static and dynamic message signs to divert motorists to the new access point. Option 4 proposed a bicycle incentive program and connection of the Henry Hudson Trail to the Sandy Hook multi-use pathway. Option 5 proposed a long-range plan involving the redesign of the Henry Hudson Trail to accommodate an adjacent paved path for an electric tram.

**Recommendation:** No specific recommendation was made.

**Follow-up funding received:** No.

## **PROJECT: 2007-036 VALLEY FORGE NATIONAL HISTORIC PARK ALTERNATIVE TRANSPORTATION STUDY**

**FLMA, characteristic, location:** NPS, urban, Pennsylvania

**Background:** This study helped to develop a pilot shuttle bus program, thereby completing the final phase of alternative transportation planning at Valley Forge National Historic Park (VFNHP). The proposed pilot program was meant to collect the final set of information needed to evaluate the full feasibility of a long-term shuttle program, including the proposed routes, headways, operations, and visitor acceptance of the shuttle program.

**Alternatives considered:** A range of shuttle routes, headways, vehicle types and fuels were considered and tested during the pilot shuttle bus program. Four service alternatives were evaluated, two of which called for road closures to increase the benefits from the shuttle system.

**Recommendation:** It was recommended that the shuttle service operate seven days a week between 9:30am-6:15pm from Memorial Day through Labor Day weekend. For a holiday weekend, it was recommended that the shuttles run on seven minute headways, with nine minute headways for all other weekends. This service option also called for road closures during hours of shuttle operation and recommended 25-passenger shuttle vehicles.

**Follow-up funding received:** Yes. Two additional planning grants were awarded (2008-042 and 2009-037) to complete a second and third year of the pilot shuttle bus program.

### **PROJECT: 2007-038 CONDUCT TECHNICAL STUDY OF MOUNTAIN ROAD SHUTTLE BUS SERVICE**

**FLMA, characteristics, location:** NPS, rural, Tennessee

**Background:** This study was undertaken to assess the management of the Kennesaw Mountain Drive from the Visitor Center to the summit of Kennesaw Mountain. The study includes existing conditions, review of previous studies, critique of previous management techniques, recommendations for management of Kennesaw Mountain Drive, recommendations on the shuttle service, and a vehicle technology assessment.

**Alternatives considered:** Management alternatives from several previous studies were reviewed as well as alternatives for funding, managing, and operating an expanded shuttle service. Four alternatives for shuttle vehicles were also considered in this study.

**Recommendations:** The study recommends closing Kennesaw Mountain Drive to private vehicles and expanding the shuttle to operate seven days a week. The study also recommends continuing use of an external shuttle contract, implementing an entrance fee to fund shuttle operations, purchasing a 30-foot clean diesel vehicle, and initiating the NEPA process for the physical improvements suggested for Kennesaw Mountain Drive, shuttle operations, management of the road, and entrance fee implementation.

**Follow-up funding received:** No.

### **PROJECT: 2007-042 ALBION BASIN TRANSPORTATION FEASIBILITY STUDY**

**FLMA, characteristic, location:** USFS, rural, Utah

**Background:** This feasibility study explored innovative solutions to managing recreation on the Albion Basin road and trail system, while enhancing the recreation experience and protecting natural resources. A Traffic Study, a Visitor Survey, an Economic Analysis, and a Preliminary Environmental Analysis were completed to aid the formulation of potential alternatives.

**Alternatives considered:** Four alternatives were proposed against a “no action” alternative. Alternative 1 would restrict private vehicle access on Albion Basin Summer Road with exceptions for residents, campground visitors and those with special mobility needs. Only pedestrian and bicycle access would be permitted. Alternative 2 would follow the same guidelines but with added ski lift access. Alternative 3 would follow the guidelines of alternative 1 but with the addition of shuttle access to the area. Alternative 4 would offer

multi-modal access by accommodating a range of access options for pedestrian, bicycle, shuttle, ski lift, and private vehicle. All action alternatives called for implementation of wayfinding signs and ITS information sources.

**Recommendation:** No specific recommendation was made.

**Follow-up funding received:** No.

**PROJECT: 2007-044 COLONIAL NATIONAL HISTORICAL PARK ALTERNATIVE TRANSPORTATION SYSTEM EVALUATION AND BUSINESS PLAN\***

**FLMA, characteristic, location:** NPS, urban, Virginia

**Background:** Funding was provided for conduct of a visitor use survey to evaluate the use of and satisfaction with the existing alternative transportation system. Funding for the existing system was set to expire; therefore, the results from the visitor survey were used to develop a business plan to determine potential methods for funding continuing shuttle service.

**Alternatives considered:** Possible funding sources were proposed via the planning process; however, it was determined that steps were necessary to reduce the cost of the service in order to finance the system until secure, long-term funds could be acquired. Three cost-saving alternatives were proposed for the interim: shortened operating season; shortened operating season and shortened daily operating hours; or discontinuation of the Historic Triangle Shuttle routes while continuing the Jamestown Area Shuttle.

**Recommendation:** No specific recommendation was made.

**Follow-up funding received:** Yes. A grant was awarded (2009-043) for the pilot operation of an additional contracted bus for the Jamestown Area Shuttle route.

\* Although this project was awarded a Paul S. Sarbanes Transit in Parks (TRIP) grant, it is the belief of the John A. Volpe Center that the project and report were actually funded through NPS Category III funding and not TRIP funding.

**PROJECT: 2008-001 COPPER RIVER, PRINCE WILLIAM SOUND AND GULF OF ALASKA AREA ALTERNATIVE TRANSPORTATION PLANNING STUDY**

**FLMA, characteristic, location:** USFS, rural, Alaska

**Background:** Funding was provided to develop a comprehensive long range plan for an integrated motorized and non-motorized transportation system in the Copper River, Prince William Sound and Gulf of Alaska area. This region includes the Chugach National Forest,

the southern portions of Wrangell St. Elias National Park, and portions of Chugach State Park.

**Alternatives considered:** Thirteen strategic actions were developed to enhance alternative and multi-modal transportation options at the regional and community level. The strategic actions were developed to address seven areas of need that were identified during the planning process: “hot spot” fixes to address carrying capacity problem areas; coordination on regional transportation infrastructure and service needs; alternative and multi-modal connections; local community level initiatives; alternative transportation promotion and events; education and information; and non-oil dependent futures.

**Recommendation:** Specific recommendations are being selected for implementation by the project partners based on the 13 strategic actions that were developed during the planning process. The final recommendations will be presented in the final draft of the Prince William Sound, Copper River Watershed Area, Gulf of Alaska Integrated Motorized and Non-Motorized Alternative Transportation Plan report.

**Follow-up funding received:** No.

## **PROJECT: 2008-019 ROCKY MOUNTAIN NATIONAL PARK MULTI-USE TRAIL FEASIBILITY STUDY**

**FLMA, characteristic, location:** NPS, rural, Colorado

**Background:** This study explored the feasibility, costs and anticipated success of a multi-use trail connecting Rocky Mountain National Park and the Town of Estes Park in order to reduce congestion and provide an alternative means of visitor access.

**Alternatives considered:** Several maps were created displaying proposed trail corridors, intersections with existing roads and trails, and connections to existing and proposed shuttle stops and parking areas. These potential trail options were evaluated against a ‘no action’ alternative, where no trails would be constructed if the benefits did not outweigh the financial and resource impacts of construction.

**Recommendation:** The feasibility analysis determined that a multi-use trail would offer significant benefits to the Town and Park and should be developed with critical links to existing campgrounds, trailheads, and shuttle stops within the park. A variety of potential trail designs were presented. A market evaluation indicated a strong demand for additional trail infrastructure and recreational opportunities based on current visitation and trends in demography and recreation.

**Follow-up funding received:** Yes. An additional planning grant was awarded (2010-034) to build on the conclusions of the feasibility study by developing and proposing reasonable trail design alternatives to be evaluated in a NEPA Environmental Assessment report.

## **PROJECT: 2008-024 CAPE COD BICYCLE FEASIBILITY STUDY**

**FLMA, characteristic, location:** NPS, urban, Massachusetts

**Background:** This study sought to develop a comprehensive vision for an integrated regional system of bicycle trails and facilities including connections to existing bus, rail and ferry service. The end goal was to develop a specific plan for capital improvements that would eventually lead to the creation of a regional bicycle network, thereby improving bicycle access to and within the Outer Cape and Cape Cod National Seashore.

**Alternatives considered:** A consultant team worked with the National Park Service and a project steering committee to develop 120 potential projects and initiatives that would enable the development of a regional bicycle network for Cape Cod. An assessment protocol and sorting matrix was developed and applied to categorize and identify a manageable list of projects that would yield significant benefits within reasonable costs. Using this process, the list was reduced to 47 projects. These projects fell into three broad categories:

1. Improvements to existing facilities, new facilities, and other initiatives, including safety education and outreach,
2. Improved policies, and programmatic efforts aimed at improving coordination among localities
3. Encouraging greater use of bicycling for transportation.

**Recommendation:** The planning process recommended implementation of any of the 47 projects which were deemed to deliver the greatest benefits while also having the lowest barriers to implementation. A specific implementation plan was not presented, although it was determined that the projects could be carried out in stages.

**Follow-up funding received:** Yes. A grant was awarded (2009-021) for the purchase of two 12 passenger vans with trailers equipped to haul bicycles and cyclists. This was one of the 47 projects recommended by the planning process. An additional grant was also awarded (2011-011) to develop a plan for integrating and connecting the existing bicycle and pedestrian facilities.

## **PROJECT: 2008-025 CAPE COD INTELLIGENT TRANSPORTATION SYSTEM IMPLEMENTATION PLAN**

**FLMA, characteristic, location:** NPS, urban, Massachusetts

**Background:** This study examined optimal ITS methods for Cape Cod National Seashore.

**Alternatives considered:** A number of ITS technologies were considered to determine the most appropriate vehicle counting and traveler information dissemination systems for Cape Cod National Seashore.

**Recommendation:** The report recommended that the National Seashore incrementally deploy magnetometer-based vehicle counting systems at its beaches and Highway Advisory Radio (HAR) to disseminate beach parking status information to travelers. The report also recommended deployment of a small, context-appropriate Dynamic Message Sign (DMS) unit near the entrance to each beach parking area to provide parking status and estimated wait time.

**Follow-up funding received:** No.

### **PROJECT: 2008-033 ALTERNATIVE TRANSPORTATION IMPLEMENTATION STUDY FOR BODIE ISLAND IN CAPE HATTERAS NATIONAL SEASHORE**

**FLMA, characteristics, location:** NPS, rural, North Carolina

**Background:** The purpose of this project was to explore alternative transportation improvements and strategies for the Bodie Island District of the Cape Hatteras National Seashore to prepare for the increase in visitation when the Bodie Island lighthouse is opened for touring. Recommendations from a number of previous regional transportation planning studies were used to inform this study.

**Alternatives considered:** Three deliverables were created including a conditions inventory/assessment; needs assessment; and alternative transportation analysis. The alternative transportation analysis focused on shuttles, local buses, water-ferry services, and non-motorized options. 38 potential strategies and 6 potential transit routes were considered.

**Recommendation:** Planning-level recommendations and estimates were provided. Specific short-term recommendations included forming a transportation committee to discuss both short- and long-term strategies, working with NCDOT on additional signage on NC 12, setting up a reservation system for summer 2011, delaying implementation of a larger parking lot until data collection can occur, and partnering on a small transit shuttle for satellite parking for the first summer.

**Follow-up funding received:** No.

### **PROJECT: 2008-034 WHITE MOUNTAIN TRAIL ALTERNATIVE TRANSPORTATION PROJECT**

**FLMA, characteristic, location:** USFS, rural, New Hampshire

**Background:** This study examined alternative transportation solutions for the White River National Forest by identifying potential strategies to address traffic congestion, greenhouse gas emissions, and other impacts related to existing and projected vehicular use.

**Alternatives considered:** A project team created sets of alternative transportation issues and alternative transportation options to address these issues. The transportation issues and options were grouped into four transportation categories: traveler information, wayfinding and signage; bicycle and pedestrian; transit; and policy and planning. Based on these transportation issues and options, the study team developed six transportation scenarios to inform future transportation planning possibilities for the White River National Forest: (1) create a regional Alternative Transportation Technical Advisory Committee; (2) improve access to and quality of traveler information; (3) improve the existing bicycle and pedestrian infrastructure; (4) expand the existing Appalachian Mountain Club (AMC) Hiker Shuttle service; (5) introduce limited seasonal shuttle service on the Kancamagus Highway among high use sites; and (6) provide better pedestrian and bicycle access among Front Country sites by consolidating trail access points with existing parking areas to more efficiently manage visitor parking and create potential future shuttle stops.

**Recommendation:** No specific recommendation was made.

**Follow-up funding received:** Yes. A grant was awarded (2011-072) to expand the AMC Hiker Shuttle service by adding a third vehicle to AMC's fleet.

## **PROJECT: 2009-014 CASTILLO DE SAN MARCOS / CITY OF ST. AUGUSTINE, FLORIDA, PEDESTRIAN AND TRANSIT STUDY**

**FLMA, characteristic, location:** NPS, urban, Florida

**Background:** Funding was provided to perform a pedestrian and transit study to improve the visitor experience to the Castillo de San Marcos National Monument and the visual connection to the adjacent historic downtown of St. Augustine, Florida, in preparation for the city's 450th anniversary. Narrow sidewalks connect the city's Visitor Information Center (VIC) and the Castillo along State Road A1A (SR A1A); therefore, planning and preliminary design was needed for pedestrian and other transit or non-motorized-only (i.e. horse carriages) routes to better connect the two facilities.

**Alternatives considered:** During the planning phase, 12 alternative transportation proposals were developed for community discussion and input. These options included bicycle lanes, dedicated carriage lanes, lane reductions (north-bound), traffic-calming improvements, and enhanced pedestrian connections with new crosswalks and wider sidewalks along SR A1A.

**Recommendation:** The City Commission voted to select a preferred alternative from the 12 proposals. The selected alternative minimizes additional encroachment on the historic earthworks surrounding the Castillo de San Marcos while expanding sidewalks, adding bike lanes, and moving the same amount of vehicular traffic. The existing adjacent 4-lane highway (SR A1A) will be maintained and a dedicated horse carriage pathway will be added.

**Follow-up funding received:** Yes. An implementation grant was awarded (2011-019) to create enhanced links between parking, transit, and pedestrian pathways to St. Augustine's historic properties across and along SR A1A. An additional planning grant was also awarded (2011-020) for further SR A1A multi-modal planning and to assess parking and transit needs for the area.

#### **PROJECT: 2009-019 PARKER RIVER NATIONAL WILDLIFE REFUGE TRANSIT PLANNING STUDY**

**FLMA, characteristic, location:** FWS, rural, Massachusetts

**Background:** Parker River National Wildlife Refuge was awarded a TRIP implementation grant to purchase a transit vehicle. However, due to changes in funding needs, U.S. Fish and Wildlife Service (FWS) leadership set aside a portion of the grant funds to complete a transit planning study. The study defined the Refuge's need for a transit vehicle and provided a plan for the purchase, management, and operations of the vehicle.

**Alternatives considered:** Several transportation options were considered, including various uses of a transit vehicle, size of the transit vehicle, and fueling options.

**Recommendation:** The planning process indicated a strong demand for a transit vehicle and recommended that the vehicle be used primarily for environmental education, interpretive programs and special events. The analysis suggested that a light-duty "standard" option, 28-passenger, diesel-powered bus with features such as overhead parcel racks, custom paint and wheelchair lift and restraints would offer the best combination of value, practicality, and ease of operation.

**Follow-up funding received:** No.

#### **PROJECT: 2009-029 GUILFORD COURTHOUSE TRANSIT SYSTEM PLANNING STUDY**

**FLMA, characteristic, location:** NPS, urban, North Carolina

**Background:** This transportation planning study explored a three-year pilot transit system linking six sites: Guilford Courthouse, Greensboro Country Park, Tannenbaum Historic Park, Jaycee Park, Natural Science Center, and Zoo.

**Alternatives considered:** Four pilot transit service design alternatives were evaluated with three potential operating seasons. The four alternatives offered varying combinations of headways, routes, and number of tram vehicles. Three tram types were evaluated with potential for upgrade to biofuel models.

**Recommendation:** A preferred alternative was selected by the primary financial and operating partners. The recommended alternative was to provide tram service daily from Memorial Day to Labor Day. Three trams would be used to provide 15-minute service frequency along a single route through the Military Park and Country Park.

The service would be a partnership of the NPS, the City of Greensboro Parks and Recreation Department, and the Natural Science Center. Trams and other capital costs would be provided by the NPS. Operating funds would be provided by NPS partners, day-to-day operations of the trams would be overseen by the NPS, and drivers would be provided by the City of Greensboro Parks and Recreation Department. The recommended shuttle vehicle was the Classic American Tram. This tram would accommodate 22 passengers (or 18 and two wheelchairs) and would have a diesel engine capable of using either standard Ultra Low Sulfur Diesel or B20 biodiesel. Three trams would need to be purchased.

**Follow-up funding received:** No.

## **PROJECT: 2009-041 WASATCH CANYONS TRANSPORTATION PLANNING PROJECT**

**FLMA, characteristic, location:** USFS, urban, Utah

**Background:** This effort was the major transportation planning element of a larger project, the Wasatch Canyons Project, which aimed to create a broadly supported vision and statement of guiding principles for the future of the seven Wasatch Canyons within the Wasache-Cache National Forest: City Creek, Red Butte, Emigration, Parley's, Millcreek, Big Cottonwood and Little Cottonwood.

**Alternatives considered:** No alternatives were presented.

**Recommendation:** The project team produced a transportation goal statement. Eight publicly supported recommendations were developed that support the transportation goal statement: (1) expand from winter-only to year-round transit service in Big and Little Cottonwood Canyons; (2) continue to look for and promote ways to improve road-cycling safety for both transportation and recreation; (3) prepare and implement updated road corridor avalanche control plans for Big and Little Cottonwood Canyons; (4) study the feasibility of extending Utah Transportation Authority's TRAX line to a "transit hub" at the mouth of Big Cottonwood Canyon or Little Cottonwood Canyon to serve shuttles and buses to Millcreek and Big and Little Cottonwood Canyons; (5) develop Express Bus transit service between downtown Salt Lake City and Summit County/Park City; (6) conduct a feasibility study of extending a mountain rail line up Little Cottonwood Canyon to Snowbird and Alta; (7) study the feasibility of alternative transportation for Millcreek Canyon; and (8) implement recommendations from the Big and Little Cottonwood Canyon Corridor Management Plan.

**Follow-up funding received:** Yes. An implementation grant (2010-027) was awarded to replace three Canyon Transit buses and to make major repairs to the concrete and curbing of the Cottonwood Canyons park-and-ride lots.

**ADDITIONAL PROJECT INFORMATION**

For each project summarized above, TRIPTAC researchers compared the objectives listed in the associated TRIP grant application to the eight SAFETEA-LU planning factors (listed in Table 3) to determine which planning factors were meant to be considered during the planning process. They then compared the list of ‘considered’ planning factors to the planning process described in the associated final report to determine if these planning factors were actually accounted for during the planning process. Table 4 provides a summary of the recommendations for all 29 planning projects with final reports; the last column indicates the planning factors that were ‘considered’ and ‘accounted for’ in each project. Table 4 also indicates whether public involvement was carried out during the planning process, if a reasonable financial plan was developed, and whether environmental quality was considered when evaluating the transportation alternatives.

*Table 3: SAFETEA-LU Planning Factors*

#	Planning Factor
1	Supports the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency.
2	Increases the safety of the transportation system for all motorized and non-motorized users.
3	Increases the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and non-motorized users.
4	Increases accessibility and mobility of people and freight.
5	Protects and enhances the environment, promotes energy conservation, improves the quality of life and promotes consistency between transportation improvements and state and local planned growth and economic development patterns.
6	Enhances the integration and connectivity of the transportation system, across and between modes, for people and freight.
7	Promotes efficient system management and operation.
8	Emphasizes the preservation of the existing transportation system.

*Table 4: Recommendations and Process Summary for Completed Planning Projects with Final Reports*

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
2006-005	Devils Postpile National Monument	Acquisition of 12 35-passenger buses and service provided through a partnership with the regional transportation authority.	No	Yes	Yes	2, 4, 6, 7, 8 *2, 4, 6, 7, 8
2006-013	Rocky Mountain Arsenal National Wildlife Refuge	A regional transit service to connect the Refuge to a number of commercial and civic locations in the Denver metropolitan area. Service would be offered 7 days a week at a 30 minute frequency.	Yes	Yes	Yes	1, 2, 4, 5, 6, 7 *1, 2, 4, 5, 7
2006-016	J.N. "Ding" Darling National Wildlife Refuge	No specific recommendation was made. Three alternatives were compared to a "no-action" approach: expansion of the regional tram service and construction of non-motorized, multi-modal trails within the Refuge only; outside of the Refuge in the surrounding gateway communities only; or a regional system linking the Refuge and the gateway communities.	Yes	No	Yes	2, 4, 5 *2, 4, 5

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
2006-019	Midewin National Tallgrass Prairie	Four transportation recommendations were made: promotion of a ridesharing website for employees and groups; a shuttle bus to be pilot tested as a Saturday only, seasonal transportation option that can be expanded if demand is high; use of a charter bus for group tours and to transport visitors from nearby lots during special events; and the development of multi-use trails connecting the Midewin Prairie Learning Center to the towns of Joliet, Elwood, Wilmington and Manhattan.	Yes	No	Yes	4, 5, 6, 7 *4, 5, 6, 7
2006-021	Parker River National Wildlife Refuge	A two-phase project was recommended. Phase I proposed signage, striping, and pavement markings to improve the existing accommodations for cyclists between the Newburyport MBTA station and the Refuge. Phase II proposed to extend the route to the Refuge Visitor's Center and out to Plum Island.	Yes	Yes	Yes	2, 4, 5, 6, 7 *2, 4, 5, 6, 7
2006-023	Cape Cod National Seashore	A full satellite maintenance facility was not recommended. Three alternatives were compared to a "no-action" approach: satellite bus storage; a "scaled back" maintenance facility; or a mobile maintenance unit.	No	Yes	No	7, 8 *7, 8

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
2006-029	Gateway National Recreation Area-Sandy Hook	A conceptual framework for a text based traveler information system was recommended along with recommendations for (1) developing partnerships, (2) identifying data and information priorities, (3) utilizing existing resources, (4) hiring a programmer, and (5) developing an operations framework.	No	Yes	No	7, 8  *7, 8
2007-003	Sabino Canyon Recreation Area- Coronado National Forest	No specific recommendation was made. Four non-mutually exclusive alternatives were compared to a “no-action” approach: parking management and capacity control; expanded non-motorized use; expanded fare-free shuttle service; or infrastructure improvements.	Yes	No	Yes	2, 4, 5, 7  *2, 4, 7, 8
2007-013	Rocky Mountain National Park	ITS deployment was proposed as a tool for increasing shuttle use and decreasing traffic congestion.	Yes	No	Yes	4, 5, 6, 7, 8  *4, 5, 6, 7, 8
2007-015	Gulf Islands National Seashore	Fort Pickens/Gateway Community Alternative Transportation Plan	No	Yes	No	2, 4, 5, 6, 7, 8  *2, 4, 5, 6, 7, 8

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
2007-017	Monomoy National Wildlife Refuge	No specific recommendation was made. Four non-mutually exclusive alternatives were proposed and compared to a “no-action” approach: satellite parking combined with shuttle service; relocation of the Monomoy Visitor Contact Station to a more accessible location; roadway safety improvements; enhancement of non-motorized access to the Refuge and other popular Chatham destinations.	Yes	Yes	Yes	4, 5, 6, 7, 8  *4, 5, 6, 7, 8
2007-018	Cape Cod National Seashore	Eight potential shuttle routes with associated satellite parking areas were recommended for further consideration. The expansion of an existing parking shuttle to the Visitor Center was recommended to provide beach access to visitors by connecting them to regional transit. It was also recommended that a MOU be setup with the Nauset Regional School District to use the high school parking area as a pilot shuttle route to deal with existing over-capacity on peak weekends.	Yes	No	Yes	2, 4, 5, 6, 7  *2, 4, 5, 6, 7
2007-022	Fort McHenry National Monument and Historic Shrine	Two potential shuttle routes were recommended with year round service offered 7 days a week, every 30 minutes from 7am to 7pm.	No	Yes	No	4, 6, 7  *4, 6, 7

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
2007-025	Chincoteague National Wildlife Refuge	No specific recommendation was made. Three alternatives were compared to a “no action” approach: maintain existing beach parking; reduce beach parking; or eliminate beach parking and build a new parking garage off-site with access via transit and bike paths. ITS would be used to promote these alternatives.	Yes	No	Yes	2, 4, 5, 7  *2, 4, 7
2007-030	Gateway National Recreation Area- Sandy Hook Unit	No specific recommendation was made. Five alternatives were proposed: new ferry service from existing nearby ferry terminals; train/bus access to Sandy Point via an extension of a commuter rail service; shuttle service to Sandy Point from a nearby ferry terminal; restructuring of a bicycle path to create direct access to the area; or tram service provided along the bicycle path. Static and dynamic message signs were proposed to promote the alternatives.	No	Yes	No	4, 6, 7  *4, 6, 7

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
2007-036	Valley Forge National Historic Park	Shuttle service operating seven days a week between 9:30am-6:15pm from Memorial Day through Labor Day weekend. Seven minute headways were recommended for holiday weekends and nine minute headways for all other weekends. This recommendation also called for road closures during hours of shuttle operation and 25 passenger shuttle vehicles.	Yes	Yes	Yes	2, 4, 5  *2, 4, 5
•	• Kennesaw Mountain National Battlefield Park	Closing Kennesaw Mountain Drive to private vehicles and continuing use of an external shuttle contract, but expanding the shuttle to operate seven days a week. The study also recommends implementing an entrance fee to fund shuttle operations, purchasing a 30-foot clean diesel vehicle, and initiating the NEPA process for these changes.	No	Yes	Yes	2, 4, 5, 7, 8  *2, 4, 5, 7, 8

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
2007-042	Albion Basin-Wasatch-Cache National Forest	No specific recommendation was made. Four alternatives were compared to a “no action” approach. Options 1, 2, and 3 called for restricted automobile access. Option 1 would provide bicycle/pedestrian access. Option 2 would offer bicycle/pedestrian and ski access. Option 3 would offer bicycle/pedestrian and shuttle access. Option 4 would leave the roads open to automobiles and provide bicycle/pedestrian, shuttle and ski access. ITS was proposed for each alternative.	Yes	Yes	Yes	4, 5, 6, 7  *4, 5, 6, 7
2007-044	Colonial National Historic Park	No specific recommendation was made but three cost-saving alternatives were proposed until secure funding can be acquired to maintain full shuttle service. The options were: shortened operating season; shortened operating season and shortened daily operating hours; and discontinuation of one of the shuttle routes.	Yes	Yes	No	7, 8  *7

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
2008-001	Chugach National Forest, Wrangell St. Elias National Park, and Chugach State Park	Specific recommendations are currently being evaluated and selected for implementation by the project partners based on 13 strategic actions that were developed during the planning process.	Yes	No	Yes	2, 4, 5, 6, 7  *2, 4, 5, 6, 7
2008-019	Rocky Mountain National Park	A multi-use trail connecting the Town of Estes Park to Rocky Mountain National Park with critical links to existing campgrounds, trailheads, and shuttle stops within the park.	Yes	Yes	Yes	2, 4, 5, 6, 7  *2, 4, 5, 6, 7
2008-024	Cape Cod National Seashore	Forty-seven projects were selected to enable the creation of a regional bicycle network. The projects include improvements to existing facilities, addition of new facilities, and other initiatives and programmatic efforts aimed at improving coordination among localities and encouraging greater use of bicycling for transportation.	Yes	No	Yes	2, 4, 5, 6, 7  *2, 4, 5, 6, 7
2008-025	Cape Cod National Seashore	A magnetometer-based vehicle counting system, highway advisory radio (HAR) and a small, context-appropriate DMS unit were selected, to be implemented incrementally.	No	Yes	No	7, 8  *7, 8

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
•	• Cape Hatteras National Seashore	Planning-level recommendations and estimates were provided. Specific short-term recommendations included forming a transportation committee to discuss both short- and long-term strategies, working with NCDOT on additional signage on NC 12, setting up a reservation system for summer 2011, delaying implementation of a larger parking lot until data collection can occur, and partnering on a small transit shuttle for satellite parking for the first summer.	Yes	Yes	No	2, 4, 5, 6, 7  *2, 4, 5, 6, 7
2008-034	White Mountain National Forest	No specific recommendation was made, but six transportation scenarios were developed to inform future transportation planning: (1) create a regional Alternative Transportation Technical Advisory Committee; (2) improve access to and quality of traveler information; (3) improve the existing bicycle and pedestrian infrastructure; (4) expand the existing Appalachian Mountain Club (AMC) Hiker Shuttle service; (5) introduce limited seasonal shuttle service on the Kancamagus Highway among high use sites; (6) provide better pedestrian and bicycle access among Front Country sites by consolidating trail access points with existing parking areas.	Yes	No	Yes	2, 4, 5  *2, 4, 5

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
2009-014	Castillo de San Marcos National Monument	A phased multi-modal project with expanded sidewalks, added bike lanes, and a dedicated horse carriage pathway along the major state highway adjacent to Castillo de San Marcos National Monument.	Yes	No	Yes	1, 2, 4, 5, 6, 7  *1, 2, 4, 5, 6, 7
2009-019	Parker River National Wildlife	Purchase of a light-duty “standard” option, 28-passenger, diesel-powered bus to be used primarily for environmental education, interpretive programs and special events.	No	Yes	No	3, 4, 5, 7  *3, 4, 5, 7
2009-029	Guilford Courthouse National Military Park	Daily tram service from Memorial Day to Labor Day. Three trams would operate at a 15-minute service frequency along a single route through the Military Park and Country Park. The service would be a partnership of the NPS, the City of Greensboro Parks and Recreation Department, and the Natural Science Center. Three Classic American Trams would be purchased that accommodate 22 passengers, or 18 and two wheelchairs. These trams have a diesel engine capable of using either standard Ultra Low Sulfur Diesel or B20 biodiesel.	No	Yes	Yes	2, 4, 5, 6, 7  *2, 4, 5, 6, 7

Project #	Location	Type of Service/Improvement Recommended	Public Involvement	Reasonable Financial Plan	Environmental Quality Considered	SAFETEA-LU Planning Factors Considered and *Accounted for
2009-041	Wasatch-Cache National Forest	Eight recommendations were developed: (1) expand from winter-only to year-round transit service in Big and Little Cottonwood Canyons;(2) look for and promote ways to improve road-cycling safety for transportation and recreation; (3) prepare and implement updated road corridor avalanche control plans for Big and Little Cottonwood Canyons; (4) study the feasibility of extending Utah Transportation Authority's TRAX line to a "transit hub" at the mouth of Big Cottonwood Canyon or Little Cottonwood Canyon; (5) develop Express Bus transit service between downtown Salt Lake City and Summit County/Park City; (6) conduct a feasibility study of extending a mountain rail line up Little Cottonwood Canyon to Snowbird and Alta; (7) study the feasibility of alternative transportation for Millcreek Canyon; and (8) implement recommendations from the Big and Little Cottonwood Canyon Corridor Management Plan.	Yes	No	Yes	2, 4  *2, 4

## OBSERVATIONS AND CONCLUSIONS

This memorandum documents the 45 completed planning projects funded by the Transit in Parks program from 2006 to December 2011 and provides a short summary of the planning process, alternatives considered and recommendations developed for the 29 projects with known final reports. The planning process for all 29 projects evaluated multiple transportation alternatives, and eight of these projects considered the value of “no-action.” The planning process for one project in particular determined that inaction might be preferable to action as the existing transportation arrangement, though somewhat inefficient, was a cost-effective approach for the region. Nineteen of the 29 final reports offered specific recommendations for transportation services or improvements, while nine simply outlined the alternatives and allowed the unit to determine the most appropriate course of action. One report indicated that a “preferred” service recommendation is being selected by the project team and will appear in the final draft of the final report later this year.

Nineteen of the 29 projects incorporated some form of public involvement during the planning process. This involvement took the form of key-person interviews, stakeholder and citizen meetings, and visitor surveys. In general, every project should incorporate some form of public involvement. Although only 19 of the 29 final reports specifically referenced or documented the public involvement process, it is possible that public involvement was carried out for related projects and detailed in a broader agency document.

Eighteen of the 29 final reports provided a reasonable financial plan for funding the proposed transportation services or improvements. This is an element that should be considered in every planning process since implementing alternative transportation projects can be very costly and financial sustainability is important. Thus, it is important that alternatives are considered and a decision is made based on a rigorous set of evaluation criteria that includes capital and maintenance costs. When the planning process provides service alternatives rather than a formal recommendation, a cost summary should be provided for each alternative so that they can be properly evaluated by the unit and others.

Twenty of the 29 projects considered environmental quality when evaluating potential transportation services or improvements. Considering the environmental impacts of a proposed transportation alternative will in most cases be needed prior to implementation. While every unit certainly considers environmental quality in their management plans and other governing documents, environmental quality should nonetheless be specifically addressed during the planning phase of transportation projects.

Impressively, all 29 projects considered two or more SAFETEA-LU planning factors during the planning process. In the final report, 25 of the projects accounted for every planning factor they had identified in the grant application. Seventeen of the 29 projects were awarded subsequent planning and/or implementation funding, allowing the units to carry out the recommendations made by the planning process.

While final reports for 29 of the 45 TRIP planning projects were found for this study, it is possible that additional final reports exist. Accessing these final reports proved to be a difficult task, as the planning projects were carried out by various agencies and were documented in various ways. In addition to filing quarterly reports, it would be useful if all units would share any official reports documenting projects funded by TRIP grants with the Federal Transit Administration. These reports could then be available on the TRIPTAC Resource Library or elsewhere.

Although nearly all of the final reports documented planning studies that were well performed and presented detailed transportation options and recommendations, many were limited in certain respects. For example, only seven of the 29 final reports summarized in this memorandum documented thorough consideration of public involvement, financial sustainability, and environmental quality during the planning process. The authors of this synthesis believe these three areas of consideration are important to rigorous transportation planning and should be addressed in most planning studies and documented in final report.



