

Transportation Toolkit for Federal Land Managers



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Agenda

- Challenges
- Toolkit
 - Decision Support System
 - Challenges-Solutions Matrix
 - Fact Sheets
 - Other Resources
- Conclusions



Challenges

- Amounts/types of Federal Lands
- Knowledge of issues
- Sources of information



Federal Lands

Land Program	Acres	% of U.S. Land
Bureau of Indian Affairs	56 million	2.5%
Bureau of Land Management	262 million	11.6%
National Park Service	85 million	3.8%
U.S. Fish & Wildlife Service	94 million	4.2%
U.S. Forest Service	193 million	8.5%
TOTAL	690 million	30.5%

Additional Challenges

- Managers are not necessarily hired based on knowledge of transportation issues
- How to manage within confines related to Federal lands
- Need to coordinate with gateway communities and other jurisdictions
- Where to find information



Transportation Toolkit

- Decision Support System – Not Expert System
- Not intended to replace “expert” experience or detailed study
- Provide information at start of the planning process



Transportation Toolkit for Federal Lands Managers

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Introduction

This Transportation Toolkit is designed to assist Federal lands managers in identifying transportation challenges and potential solutions that apply to their respective lands. This Toolkit can assist you in the planning process by helping you define the issues you're facing and learn about a range of options that may help. The Toolkit is not a replacement for engineering judgment or the engineering process required to implement a transportation improvement, nor does it cover all potential challenges and solutions. However, it may help you select possible solutions for further exploration.

Getting Started

There are two primary ways to utilize the Toolkit. The Decision Support System is designed to help Federal land managers who are just beginning to conduct transportation planning and need help identifying which issues to address. The Challenges-Solutions Matrix is targeted at managers who've identified their specific transportation challenges and want to go directly to information about their options.

Decision Support System



This part of the Toolkit will ask you a series of questions to help you further define the transportation challenges you may be facing. Based on your responses to the questions, the Toolkit will indicate what solutions exist to address the challenges you have identified. The potential solutions are presented in the form of a Fact Sheet for your review.

Challenges-Solutions Matrix



In this area of the Toolkit, the potential solutions (Fact Sheets) are catalogued by the transportation challenges you may be facing in your particular Federal land. From the matrix, you can quickly select a particular transportation challenge, and see which solutions address that issue.

Once you are familiar with what's available, you can go directly to the tool or information you need by using the links at the top of the page.

Technical Report No. [FHWA-CFL/TD-06-003](#)

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Mountains & Minds



Decision Support System

By answering the following questions, this software will help you determine what transportation-related issues your Federal land is experiencing, as well as the potential solutions to these challenges. You can answer the questions without specific data. For example, if you are asked if your Federal land has congestion at the entrance gate, you can answer based on your best judgment and not by referring to specific data.

This process will lead you to potential solutions (presented as “Fact Sheets”) for each transportation challenge you have indicated by your answers. The Fact Sheets are categorized in four areas: Infrastructure (the built environment), Intelligent Transportation Systems (“ITS” or electronic solutions), Policy (the management of assets and systems), and Transit (alternative transportation modes).

Be sure to answer all questions on each page. Based on your responses to each series of inquiries, more detailed questions may be asked to determine where (e.g. en-route, gateway communities, etc.) or why a particular transportation challenge may be occurring, and what limits there may be on potential solutions.

Some questions may appear at first glance to be redundant. However, by answering all questions, you will ensure that all applicable potential solutions are listed. Once your customized list of potential solutions has been created, you will then need to compare and evaluate the solutions. You can begin this process by reading the information presented within the Fact Sheets, and by using additional resources, some of which are listed in the [Resources Section](#) of the Toolkit.

Keep in mind the Toolkit is the beginning of a process that will ultimately need further investigation of transportation professionals, such as individuals with the Federal Highway Administration, or the National Park Service. This process should take no more than 20 minutes. To use the Decision Support System, click on the box below.

[Click Here to Start Answering Questions](#)

[Click Here to See All Questions](#)

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Transportation Toolkit

for Federal Lands Managers

Possible Transportation Issues

By answering these questions, you will help the Toolkit (software) determine what general transportation issues are occurring in and around your particular Federal land. Click the Next button at the bottom of the page to proceed when done.

- 1) Are there congestion-related problems associated with the Federal land? (Within the Federal land and/or surrounding area).
Yes No
☐ ☒
- 2) Are there speed-related problems (e.g. speeding or congestion-related) associated with the Federal land? (Within the Federal land and/or surrounding area).
Yes No
☐ ☒
- 3) Are there emergency response issues in the Federal land?
Yes No
☐ ☒
- 4) Do construction and repair efforts cause significant traffic disruptions?
Yes No
☐ ☒
- 5) Are there areas within the Federal land that are prone to transportation-related accidents?
Yes No
☐ ☒
- 6) Is there a concern about vehicle-wildlife accidents in or near the Federal land?
Yes No
☐ ☒
- 7) Does the region experience severe weather including storms and seasonal weather?
Yes No
☐ ☒
- 8) Are motorists creating negative environmental impacts on the Federal land's resources?
Yes No
☐ ☒

[Next](#)[Exit](#)

DSS - Questions

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Challenges-Solutions Matrix

The Challenges-Solutions Matrix may help you locate potential solutions to specific transportation challenges. The transportation-related challenges that may occur in or around a particular Federal land are listed below in two main categories: Congestion Related Issues, or Safety Related Issues. Under each of those categories, the challenges are further defined. For example, congestion may occur in en-route to a Federal land because of the mix of vehicles (for example, commercial vehicles may travel slower than cars, causing traffic to slow and back-up). By clicking on the "Trip Purpose-Vehicle Type Mix" section, you will then see the potential solutions (Fact Sheets) that may help address this issue.

The potential solutions (presented as Fact Sheets) are categorized in four areas: Infrastructure (the built environment), Intelligent Transportation Systems (ITS, "electronic solutions"), Policy (the management of assets and systems), and Transit (or alternative transportation modes). Potential solutions may be limited to only one of these areas, or there may be potential solutions in each of these areas. While these potential solutions may address the various transportation challenges in your Federal land, it is important to remember that a more detailed analysis of your challenges and solutions may be necessary.

It is also important to remember that transportation issues may occur at gateway communities, en-route to the Federal land, at the entrances, and within the Federal land itself. No matter where the transportation issue occurs, there may be an impact on the visitors' experience, and the issue should be addressed. Those transportation challenges that occur at gateway communities and en-route to the Federal land will have to be addressed in a coordinated manner, meaning the management and staff of the Federal land will need to work with external agencies to address the issues. These other agencies may include state Departments of Transportation, County Governments, or Municipal (City) Governments.

Click on one of the challenges below to see the potential solutions to the challenge.

Congestion Related Issues

- [Employee/Visitor Mix](#)
- [Parking Limitations/Shortages](#)
- [Traffic Flows-Roadways-Alternate Routes](#)
- [Traveler Information](#)
- [Trip Purpose-Vehicle Type Mix](#)

Safety Related Issues

- [Emergency Response](#)
- [Environmental Impact of People](#)
- [Motorist-Bicycle-Pedestrian Safety](#)
- [Seasonal/Weather Impacts](#)
- [Traffic Speeds \(too fast or too slow\)](#)
- [Wildlife Interaction](#)
- [Work Zones](#)

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Traffic Congestion

Primary Cause: Employee/Visitor Mix

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Congestion can sometimes be caused because employees or concessionaires of the Federal land are traveling the same roads or using the same entrances as the visitors/tourists. The following image shows an example of a sign separating visitors from employees at the entrance to a Federal land.



The possible solutions to address this issue include building more infrastructure (routes or entrances) to separate employees from visitors, using ITS to identify employees, or using transit to transport employees to the Federal land. The following links let you view the Fact Sheets which provide detailed information on the possible solutions relating to this issue.

Infrastructure

- [Automated Gate Access](#)
- [Employee Entrances/Routes](#)

Intelligent Transportation Systems (ITS)

- [Automated Vehicle Identification \(AVI\) Systems](#)

Transit

- [Park and Ride Service](#)

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List of Fact Sheets – Based on Matrix

Park and Ride Service



General Description:

Park and Ride Transit consist of a parking garage and/or lot used for parking passengers' automobiles, either free or for a fee, while they use transit agency facilities. Park-and-ride facilities are generally established as collector sites for rail or bus service and may also serve as collector sites for vanpools and carpools, and as transit centers. A kiss and ride facility is a part of a park and ride facility where commuters who are passengers in non-transit vehicles are dropped off to board a public transportation vehicle. These types of facilities may be initiated in cooperation with gateway communities.

Effects of Solution:

- ☒ Increase Passenger Throughput (Transit improves throughput)
- ☐ Increase Roadway Capacity
- ☐ Manage System Efficiency
- ☒ Reduce Local Demand (Reduces vehicular demand)

Park and Ride Transit increases passenger throughput and reduces local demand by reducing the number of vehicle trips to a destination.

Examples of Implementation:

Shenandoah National Park
Douglas K. Morris, Superintendent, Shenandoah National Park
Charles Newton, Park Engineer, Shenandoah National Park

Dinosaur National Monument
Denis L. Ditmanson, Superintendent

Cost/Financial Information:

Costs will vary depending upon the facilities/infrastructure needed, as well as the vehicles used, and other variables such as the length of routes and number of passengers carried. See *Fixed Route Service* and *Express Service* fact sheets for more information.

Additional Resources:

American Public Transportation Association – APTA: <http://www.apta.com>

Community Transportation Association of America – CTAA: <http://www.ctaa.org>

Federal Transit Administration – FTA: <http://www.fta.dot.gov>

Fact Sheet

Aerial Tramways



General Description:

Aerial Tramways are systems that transport passengers or freight in gondolas suspended from cables along a series of towers. They are powered by engines or motors at a central location that is not located on the vehicles. They are primarily used for viewing scenic areas that are difficult to visit otherwise. Other variations of this technology include high gradient transit in the form of specially designed trains or cars that follow a fixed guideway up steep inclines.

Effects of Solution:

- ☐ Increase Passenger Throughput
- ☐ Increase Roadway Capacity
- ☐ Manage System Efficiency
- ☐ Reduce Local Demand

Aerial Tramways are alternative modes of transportation that do not affect roadway capacity because they are an attraction rather than a solution.

Examples of Implementation:

National Park of American Samoa
Charles Cranfield, Superintendent, National Park of American Samoa

New River Gorge National River, Gauley River
National Recreation Area, and Bluestone National Scenic River
Peter Hart, Superintendent, New River Gorge National River

Cost/Financial Information:

The cost of constructing an Aerial Tramway depends on factors such as constructability, length of tram, and size/passenger carrying capabilities. However, this type of solution is considered very expensive.

Additional Resources:

Cannon Mountain Aerial Tram in Franconia Notch State Park web page:
<http://www.cannonmt.com/summer/SummerPages/tram.html>

Fact Sheet

Conclusions

- On-line Resource
- Highlight use of solutions in Federal Lands or similar environments
- Networking opportunities
- Learn from others
- Update on a consistent basis



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Questions

