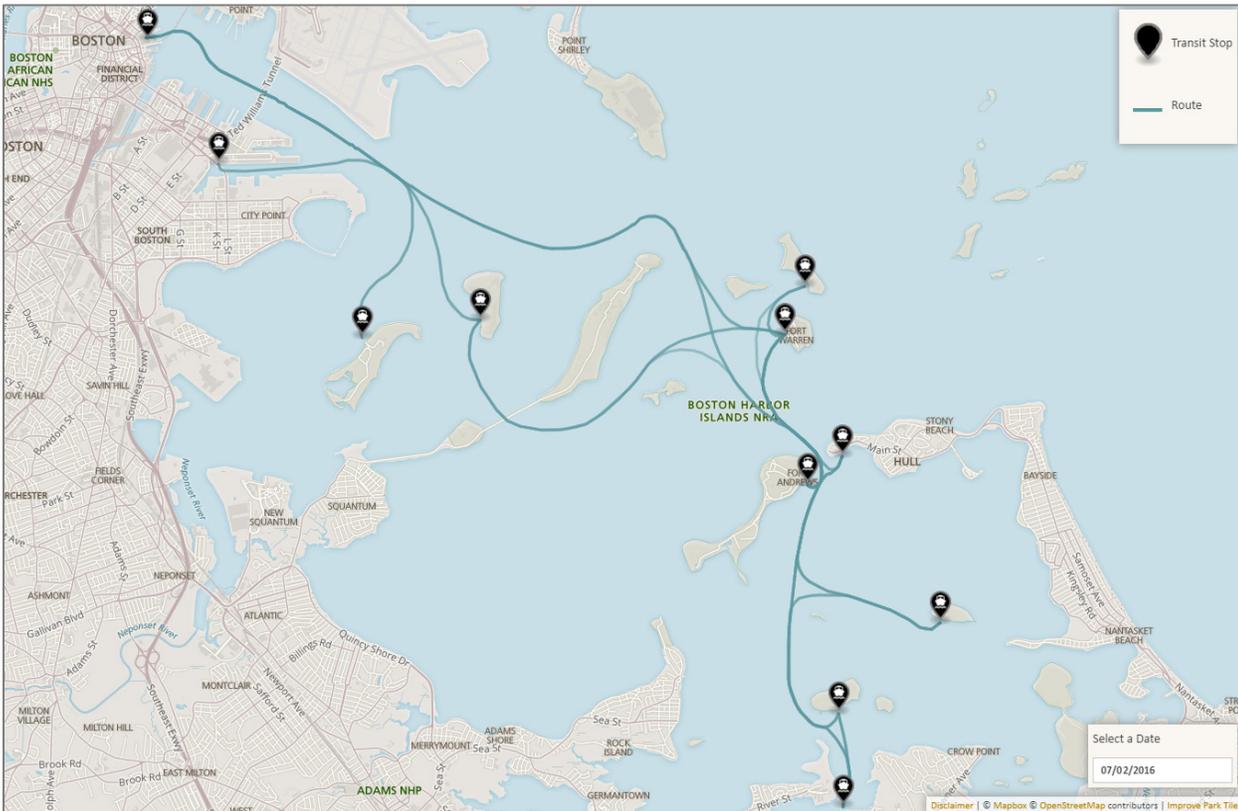




# Digital Transit Data Sharing Pilot *Results and Discussion*



April 2017



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## Introduction

This report describes the National Park Service’s pilot project to convert select NPS transit schedules to a digital format, known as General Transit Feed Specification (GTFS), in order to share more widely with the public. The GTFS pilot effort began in 2015. This report includes a summary of the pilot effort, key insights, and recommendations for next steps and future implementation by other parks. In general, the pilot experience suggests that GTFS will likely be most beneficial as one component of a broader, park-led effort to communicate with visitors about transportation options using official NPS tools.

This pilot project was led by the National Park Service (NPS) Washington Support Office (WASO) with technical support from the Volpe National Transportation Systems Center, part of the U.S. Department of Transportation.

### *Digital Transit Schedules and the National Park Service*

At the time of this report, there were 121 transit services—ferries, buses, and other vehicles—in NPS units across the country, providing approximately 36.5 million trips every year. In order to better connect people to parks and improve trip planning capabilities, NPS is interested in making visitor information more accessible to a broader range of visitors both online and through mobile devices.

Sharing information about transit is a potentially important component of this strategy for two reasons:

1. Transit itself can help NPS meet agency goals by managing congestion at parks, reducing negative impacts from increased visitation and vehicle use, and generally improving the visitor experience.
2. State and local transit agencies have largely settled on a set of open standards for sharing digital transit schedules: the General Transit Feed Specification. Using this broadly-accepted specification makes it easier for the NPS as well as third-party and partner web developers to use this data and share it with visitors.

### *What is the General Transit Feed Specification?*

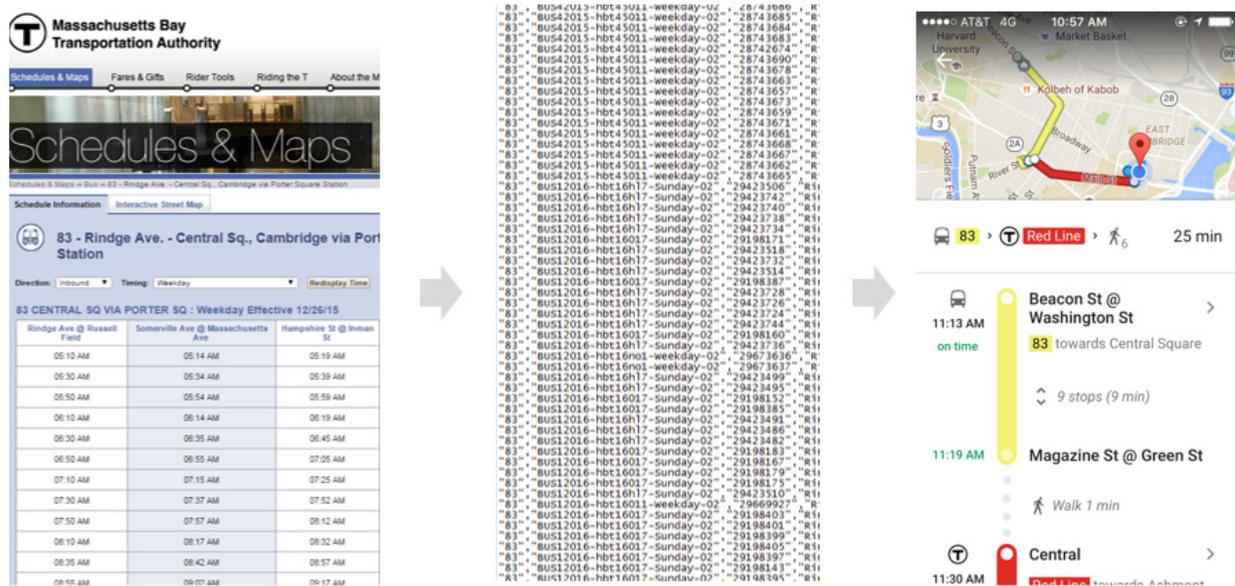
The [General Transit Feed Specification](#) (GTFS) is a standard, machine-readable digital file format for transit schedules. Transit agencies make their schedules available using GTFS so that “apps,” either third-party like Google Maps or developed by the agency itself, can display these schedules to riders.

A “GTFS feed” is essentially a collection of transit timetables saved as spreadsheet text files and formatted in a consistent way. Unlike a traditional timetable, they are not designed to be easily read by the public, although they are simple enough that someone familiar with the feed can manually create and edit the tables. Instead, they are designed so that a program or application can read the GTFS feed and redisplay the information in a more legible way (see Figure 1). For example, Google Maps uses GTFS feeds from transit agencies to give its users step-by-step transit navigation. Because Google Maps and similar apps have access to the full range of timetables for that area, they can provide suggestions like the most efficient route to take, when the bus is expected to arrive, transfers across services operated by different agencies, etc.

Although it is difficult to determine an exact number, almost all large- and medium-sized transit agencies, and even many small rural agencies, in the U.S. publish their schedules in GTFS format. U.S. DOT’s official [National Transit Map](#) registry of feeds counts around 200 agencies that have voluntarily submitted their GTFS links to the national database. Unofficial databases like [transitfeeds.com](#) list almost 800 feeds across the world.

Figure 1

A GTFS feed does not communicate information to the public directly, but instead allows web or mobile applications to make transit directions and scheduling information available in a variety of ways.



### Existing Transit Data and Transit Apps for National Parks

Because of the prevalence of transit agencies that share this data, and the popularity of web or mobile applications (i.e. “apps”) that rely on it, many parks may already be served by transit providers that make this data available. This is especially true for urban parks. For example, a visitor to the San Antonio Missions National Historical Park can use the municipal transit bus network (VIA) to access major destinations.

In addition, visitors are already using third-party apps to plan their park visits. For tech-savvy visitors or others familiar with navigation apps like Google Maps, Apple Maps, or the Transit App, using these apps within national parks may be second nature. This is especially true for parks within urban areas, or where parks are primarily served by municipal transit systems. Even for parks with NPS or concession-managed systems, third-party app developers like National Geographic and Chimani already provide some amount of scheduling and route information on shuttles at Glacier, Yosemite, and other parks. In some cases, the developers manually digitize NPS timetables so they can provide directions, countdowns, or other interfaces typical for transit navigation apps.

However, the lack of official NPS digital transit schedule data for transit systems serving national parks, among the variety of unofficial sources may result in confusion for visitors. For example, at Boston National Historical Park, the municipal transit system that connects and interlines with ferries providing direct access to the NPS Boston Harbor Islands is available in GTFS and mapping apps, although the particular ferry trips administered by NPS are not shown. This gives an incomplete picture of the transit available to the Harbor Islands. **Error! Reference source not found.** shows how the steps taken as part of this pilot and potential future activities would fit into the current range of ways NPS visitors obtain transit information digitally, including both third-party and official NPS apps.

**Figure 2**  
Diagram showing how GTFS feeds for NPS-supported transit fit into an overall approach for providing digital transit information to visitors.

**STEP 1: DIGITIZE SCHEDULES (GTFS)**

Partner transit schedules, e.g. urban transit agencies



NPS transit schedules (Not yet digitized in GTFS)



Non-NPS apps and trip planners



**STEP 2: INTEGRATE INTO NPS.GOV + NPS APPS**

NPS.gov and other official trip planning apps



NPS visitors



## Summary of Pilot Project

As illustrated above, this pilot project is the first step in an overall effort to share more transit data and improve its accessibility and quality, whether NPS visitors are using a third-party app or NPS's own digital sources such as nps.gov or other national park apps. This pilot created GTFS feeds for three national parks without active GTFS feeds, and sought to improve visibility for two additional parks that already had this data.

### *Scheduled and Live Data*

In addition to schedule data covered by the GTFS standard, many municipal transit agencies in particular have begun sharing live (real time) transit arrival and departure times using global positioning system (GPS) devices in vehicles and system-wide management software called an Automated Vehicle Locator (AVL) system. The project team discussed whether it made sense to create these live data feeds, as these can be more informative for users. With live data, there is no need to assume that transit services are running on schedule. However, WASO and the Volpe Center agreed that the pilot should focus only on schedule data for the following reasons:

- AVL systems and the associated data sharing tools are complex and expensive, usually requiring more than \$100,000 to implement on one system depending on the size. They must be fully integrated with the management and operation of the vehicle fleet with training for operators and managers. They also often are tied to proprietary scheduling software or tools. In contrast, GTFS feeds are simply spreadsheet schedules that can be managed and kept up-to-date independently of how the system is operated day-to-day.
- AVL systems typically require an agency to have a scheduled GTFS already in place before installation.
- Only one park (Acadia) uses this AVL technology.
- While there is a GTFS-real time specification, it has not yet become the definitive, well-understood standard that static GTFS has for scheduled data. This is largely due to the complexity of integration with often-proprietary AVL systems.

### *Pilot Parks*

At the beginning of this effort, WASO and the Volpe Center developed a shortlist of potential pilot parks based largely on the National Park Service Transit Inventory. Based on existing use cases of GTFS, the project team set out a few criteria to find parks where GTFS was likely to succeed and/or show how digital transit schedules could work in different contexts. Criteria included:

- A diversity of park types in both urban and rural locations, recognizing that visitors to different types of parks may find GTFS more or less relevant, or relevant in different ways.
- Connections to urban, suburban, or rural transit systems already using GTFS or sharing other digital transit data.
- Interest in using digital transit data as an overall approach to improving the visitor experience.

The project team also recognized that not all parks with transit systems would likely benefit from GTFS, for a variety of reasons, including:

- Very high trip frequencies or passenger security requirements at check-in, such as the ferry system at the Statue of Liberty, make it difficult for visitors to plan around transit schedules.
- Where visitors must reserve trips days in advance, promoting scheduled departures outside of the reservation process could be misleading (e.g. Alcatraz Ferry at Golden Gate National Recreation Area in San Francisco)

- For tour-like transit services, there is less of a need for digital transit schedules because park or tour staff manage visitor experience and transportation, e.g. the trolley at Adams National Historical Park.

NPS regional transportation coordinators discussed the shortlist of potential pilot parks on a series of calls, recommending a set of parks that WASO and the Volpe Center should reach out to about potentially participating in the pilot. The final list of parks reflects those who agreed to work with WASO and Volpe to digitize their transit schedules and share lessons learned from at least one season after the feeds were made available to developers.

Park	NPS Abbreviation	System Name
Boston Harbor Islands National Recreation Area	BOHA	Boston Harbor Islands Ferries
Cuyahoga Valley National Park	CUVA	Cuyahoga Valley Scenic Rail
Rocky Mountain National Park	ROMO	Rocky Mountain National Park Shuttles
Acadia National Park*	ACAD	Island Explorer
Yosemite National Park*	YOSE	Yosemite Area Regional Transportation System

\* These parks already had digital transit data maintained by partners which the WASO/Volpe team continued to share. However, there was not extensive coordination as with the other pilot parks.

## Creating and Managing GTFS Feeds

The project team examined a variety of tools for creating and managing the GTFS feeds for these pilot parks. The overall goal was finding a method that would be simple for NPS, contractors, or partners to keep up-to-date. This is an important challenge; it is more confusing for visitors and app makers if there is an out-of-date digital transit schedule than no digital transit schedule at all.

NPS transit systems have some unique characteristics that are relevant to the management of GTFS feeds. Unlike most transit agencies, parks typically operate seasonal service in the summer and schedules must only be updated once per year. This means that there are fewer opportunities for park staff to become familiar with the process of managing a GTFS feed, regardless of what tool they use. In addition, park staff, unlike those developing GTFS feeds for transit agencies, are often not transportation planners or transportation engineers. Finally, NPS transit systems are usually small—often just one or two routes compared to the dozens or even hundreds a municipal transit agency may operate.

## Tools and Software

There are generally two types of tools that can create and manage GTFS feeds:

- Proprietary transit schedule management software (e.g. Trapeze). These perform many transit scheduling tasks, including in some cases generating a GTFS feed.
- Stand-alone management tools, often open-source (e.g. the [Conveyal GTFS editor](#)).

The first category of tools are not available to most national parks since they do not use schedule management software, which is usually expensive and better-suited for systems larger than the typical NPS transit service. Like automated vehicle locator software, these tools are usually “all-encompassing”

solutions, requiring the operator to fundamentally change how they manage the system. In many cases (including all pilot parks identified in this effort) a concessionaire operates the transit system through a defined agreement and the ability for NPS to require that they use a particular schedule management software is limited.

Stand-alone tools initially seemed like an appealing choice, especially since most are free, open-source software. However, the project team found that most of these tools were either not complete (i.e. still in development or development has halted) or required fairly complex setup procedures (e.g. setting up server-side software packages) that parks would likely not want to manage. The best tool the team found for NPS purposes is the National Rural Transit Assistance Program's free [GTFS Builder](#). The tool is Excel-based with extensive documentation but does not "abstract" the feed so much that quality is reduced. However, the tool still might be too complex for people who are not transportation experts.

There are two main challenges for using any software package that manages NPS transit feeds:

1. There is a limit to how much the complexity of GTFS can be reduced (i.e. to make it easier for a non-transportation specialist to manage) without generating low-quality data that some third party apps will not accept.
2. Even manually creating the feeds through Excel can be a simple process if the manager regularly works with GTFS and becomes familiar with how it works. However, the typical annual update cycle for NPS transit schedules provides few opportunities for NPS or partner staff to become proficient with managing GTFS files.

For the two reasons above, the project team decided it would create the feeds manually, using Excel as a spreadsheet editor. As discussed in the "Key Findings" section of this document, the cost of engaging an expert familiar with GTFS to make annual schedule updates, manually or otherwise, is very small (informally quoted by one partner at \$100 per route, per year) relative to the cost of training park staff to maintain this data.

## *Data Feed Storage and Sharing*

The online location where GTFS feeds are stored is an important part of making digital transit data available to developers, and hence the visiting public. Developers must be able to find an online link to GTFS files (either in raw text form or in a .zip) from which they know they can always expect to download the latest schedule. The project team agreed that ideally there should be a unified, official NPS location where all NPS transit schedule data feeds can be found, as developers interested in using schedules from one park may also be interested in others.

Based on recommendations from NPS's Resource Information Services Division (RISD), the project team created a [repository on NPS's official GitHub account](#) that hosts pilot feeds and links to other, partner-managed transit feeds. There are multiple reasons why NPS is using its existing GitHub account for these feeds:

- GitHub's primary audience is developers, and one of the pilot goals is to encourage developers to make use of this open transit feed data.
- A GitHub repository makes it easy to provide or revoke write access to internal or external users, so that WASO could enable a park or contractor staff to edit the feeds.
- At the same time, GitHub's version control shows what users have changed what part of the code, so mistaken edits to the feed could easily be identified and fixed.
- GitHub allows for creation of a readme file with important information about the feeds such as links to park webpages and date of expiration.

Creation of the pilot park feeds and upload to GitHub occurred in Summer and Fall 2015, with seasonal updates occurring in the Winter.

## *Outreach to External Developers*

As the feeds were being uploaded to GitHub, the project team began reaching out to third-party app developers to inform them that NPS had released this open transit data. While NPS does not endorse any particular third party app, creating and promoting this open data to developers who might include it in their app is part of the overall strategy to ensure that national park visitors have greater access to transit schedules for planning their trips.

Informal, informational conversations with a handful of developers also helped the project team understand how developers use transit feed data and how they might share NPS transit data with visitors through their apps. WASO and the Volpe Center held these types of discussions with developers of the following third party transit apps:

- Apple Maps
- Chimani
- Google Maps
- Moovit
- Transit App
- TransLoc
- Trillium Transit
- Windows Maps

As discussed in the “Key Findings” section below, these apps often function very differently from one another, and serve varying audiences and purposes. Some apps may make less sense in the national park context, or for access within particular parks. Further, these app developers are accustomed to working with local transit agencies operating year-round service rather than NPS, which hosts or operates hundreds of seasonal transit services in different parts of the country. In some cases, this presents hurdles for developers testing these feeds within their apps and fully integrating NPS transit data.

## *Outreach to Internal Developers*

Integrating GTFS transit schedules into nps.gov, the official NPS smartphone apps, and park-specific websites, was not part of this pilot. However, as shown in **Error! Reference source not found.**, integration with official NPS apps and tools is an important step if the agency chooses to further pursue sharing digital transit information. To this end, the project team coordinated with NPS RISD to develop a prototype webmap based on the GTFS feeds that could be integrated into nps.gov, and the team also informally discussed other ways the feeds could be used. However, NPS and its partners will need to develop more tools before parks will be able to share this data to visitors through official apps and websites.

## *Collecting Results*

Given the budget constraints for this pilot project, measures of success were designed to be largely limited to conversations with park staff after feeds had been fully available for at least one season. In addition, the project team tracked the third party apps that had integrated different pilot NPS transit systems. More detailed quantitative analysis about usage of GTFS data within third-party apps would have exceeded the scope of this effort and is therefore limited. However, larger app developers do not often share usage information with transit agencies that create the data. And while a few smaller app makers agreed to share the information, they were not able to integrate the feeds in time for a full season of data.

The next section discusses the results of the pilot and key insights for NPS as it considers how to best share transit information with visitors moving forward.

## Pilot Lessons

Overall, the digital transit schedules pilot project showed the importance of official NPS sources in communicating traveler information with visitors, even where other developers were highly interested in incorporating park transit schedules into their apps.

### *Lesson: Third-Party Apps are not a Total Solution*

At the outset of the pilot, it seemed that simply releasing National Park GTFS feeds and promoting the availability of this open data to third-party smartphone and web app developers could quickly have positive benefits for NPS visitors and transportation. Many visitors already use non-NPS apps to at least partially plan their trip. However, the particular nature of NPS transit posed some interesting challenges in encouraging those partners to make effective use of the feeds.

#### **Seasonal schedules are difficult for third parties to test and implement**

Most NPS transit systems have seasonal schedules reflecting when the parks are open or busiest. For example, BOHA only operates its ferry service in the spring and summer, with peak operation during the summer months. This caused confusion for some app developers, who are accustomed to year-round transit operations in cities and suburbs, and some sent incorrect notices to the project team stating that the data in the GTFS feeds must be incomplete. Other app developers found that they could not test implementation of the NPS feeds in their apps during the off-season, which meant they could not fully make the data available to their users in time for seasonal service to begin.

#### **Some third-party apps require legal agreements**

Most app developers had no organizational or legal issue working with NPS's GTFS feeds, which were released as open data under a clear public domain license. However, a few larger app developers such as Google Maps stated that they require transit agencies providing data to sign a release agreement allowing the app to use the data. Since the data was already made available free of restrictions, this extra step was not necessary and required extra coordination with the park that was not always feasible.

This situation was complicated by data submission schemes that are oriented towards transit agencies—local entities managing a handful of transit systems in a constrained geographic area. Large app developers did not have institutional processes to handle transit data from an entity like NPS, which manages over 100 transit systems in locations across the country.

#### **Third-party apps focus on major metropolitan areas, urban parks**

Similarly, app developers were not always interested in using transit data from all of the parks available. Because most existing transit apps are oriented toward urban and suburban public transportation and sometimes explicitly constrain their coverage to certain metro areas, more app developers were interested in using BOHA GTFS than used the data from ROMO or CUVA. Third-party apps, with the exception of those like National Geographic and Chimani that are oriented explicitly towards parks, appear to be a more useful target for parks in urban areas and those with connections to other forms of transit.

The urban audience for many of these transit apps could present a future opportunity for urban parks. Because these apps seek to be daily travel aids for residents of urban areas, the presence of NPS transit systems in these daily tools could be a way to spread awareness and promote visitation of the urban parks themselves.

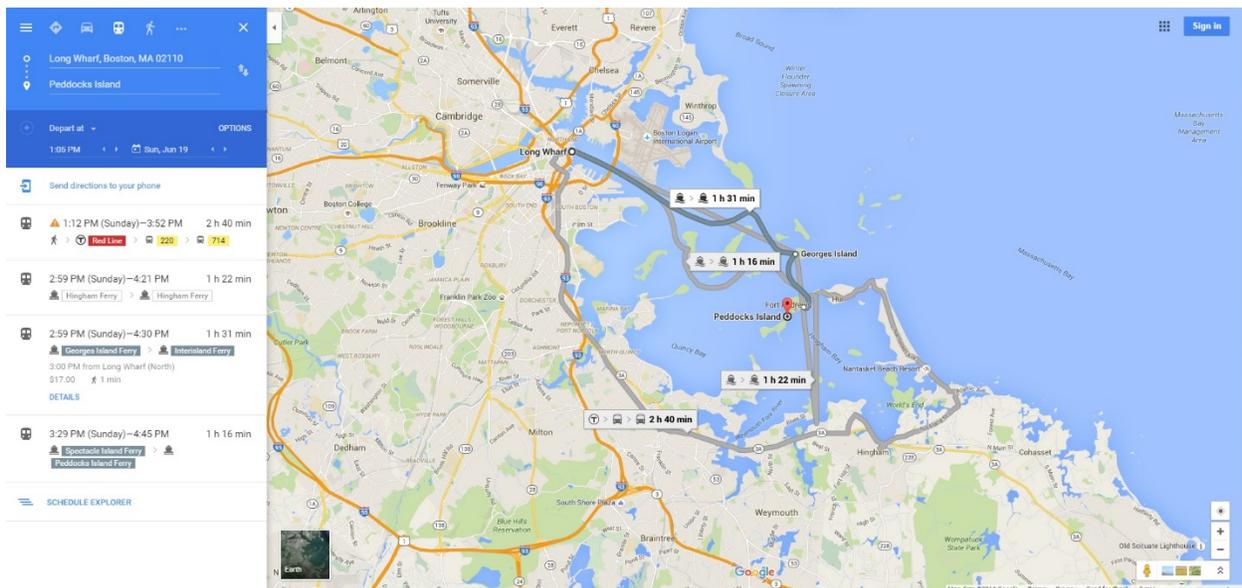
#### **Third-party apps do not always display information in a way that is relevant for NPS visitors**

Most fundamentally, third-party apps tend to display NPS data the same way they do for other transit systems, but this may not always make sense for that particular park. For example, applications like Google Maps and Apple Maps focus on giving “Point A to Point B” transit directions for the most efficient combination of bus and train routes. However, at parks like CUVA, where the system is low frequency

and has just one line, the time to the next departure is more relevant than determining an efficient route. At BOHA, the park found that the routing suggested by the apps was not always what park staff would suggest to visitors, and apps could generate odd or misleading directions. While NPS ferries are included in the directions at BOHA, most directions apps that use the feed also provide alternative routes that do not actually bring visitors to the islands (see Figure 3).

Because these apps are not maintained by NPS and—in all cases except a small handful—not oriented toward recreation travelers, it is not generally possible to ask these third parties to adjust their apps to accommodate NPS users.<sup>1</sup>

**Figure 3**  
Screenshot of Google Maps using BOHA data.



### *Lesson: Need for Official NPS Tools*

The above experience with third-party apps highlights the importance of incorporating transit data in official NPS tools. Although the scope of this pilot was focused on releasing the transit schedule data through GTFS feeds and promoting their availability to third parties, there are a number of ways that NPS itself could use GTFS to actively share transit data in new ways (see Figure 4):

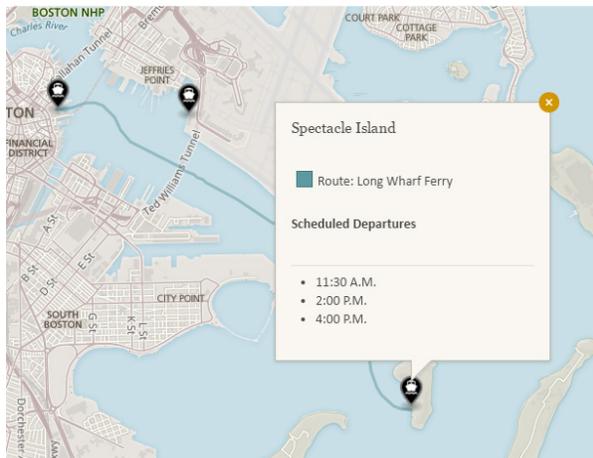
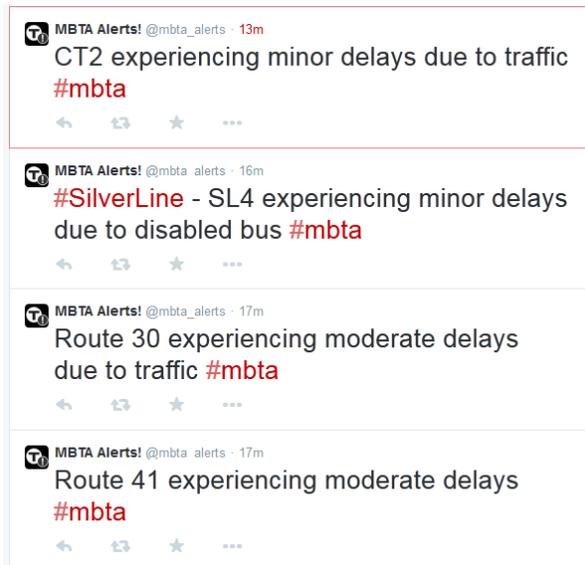
- Web maps or trip planners built into nps.gov (the project team built a [rough prototype](#) for pilot parks)
- Physical countdown signs and screens at parks, i.e. intelligent transportation system (ITS) infrastructure
- Official twitter feeds sharing alerts and information
- Integration into existing, official [NPS smartphone apps](#)

<sup>1</sup> Companies like Chimani and National Geographic create smartphone apps specifically for NPS visitors. Chimani staff spoke with the project team as part of this pilot.

Integration into the tools that visitors already use to plan their national park trips (nps.gov, official apps, third-party apps, the physical location of the park or visitors center), parks can provide transit information to visitors on tools they are already using.

**Figure 4**  
Clockwise from bottom-left, examples of an interactive nps.gov GTFIS map prototype, a Twitter alert system, and a physical countdown screen.

Source: U.S. DOT screenshots or photos



## *Lesson: Parks Should Implement GTFS as Part of Wider Transit Outreach and Planning*

Not all third-party apps met the needs of the different pilot parks. Any official NPS solution needs to reflect the particular needs of that park. There is not one way of sharing digital transit data that will work for all NPS transit systems across the country, and for some systems it may not make sense to share digital schedule data.

Future rollouts of GTFS should be park-led so that unit staff responsible for transportation and the visitor experience can determine how best to share this information. Ideally, parks should look at GTFS as part of overall planning for visitor experience so that transit information is integrated with park visitor information sources such as websites, apps, and physical infrastructure (i.e. digital screens and signage).

## **Recommendations for Future use of GTFS**

Based on the pilot experience, the project team developed a series of recommendations about how NPS can make the most effective use of GTFS, taking into account the insights described above.

### *Nationwide Management of NPS Digital Transit Feeds*

One key consideration discussed by the project team and pilot parks throughout was how to efficiently manage GTFS long-term. As described in the pilot summary, the team investigated tools that might allow parks themselves or operator partners to manage the GTFS feeds. However, while GTFS feeds are not complex for someone familiar with how they work, most parks' annual update cycles mean that staff would essentially need to re-learn the details of GTFS feeds every year. In contrast, a transportation professional that works with the feeds on a regular basis could make updates to existing GTFS feeds quite easily.

One private company that specializes in GTFS informally estimated that it costs on average around \$100 per route annually to keep feeds up to date. However, the specific cost could vary depending on how extensive the annual changes to service are. There are 14 routes across all of the pilot parks, so based on this estimate all three parks' feeds combined would cost \$1,400 annually to maintain. Assuming that only a handful of parks where GTFS is most appropriate want to share digital transit schedules, the annual maintenance cost would be quite low.

The project team recommends two approaches that could be implemented in tandem depending on the circumstances of each park:

1. **To support the parks and achieve efficiency, WASO should handle annual maintenance of all GTFS feeds.** A transportation contractor or partner could perform the regular updates in coordination with WASO and the parks.
2. **Parks that operate transit through a concession contract/agreement should consider requiring the contractor to create and maintain a GTFS feed.** Since GTFS is a national standard, larger contractors should be familiar with the format and be able to do this at a similarly low cost to national management.

Regardless of who updates the feeds, the project team recommends that all feeds continue to be either stored at or linked from the central repository on NPS's GitHub account:

<https://github.com/nationalparkservice/nps-gtfs>

Making GTFS feeds available in one place makes it easier for WASO, NPS developers, and third-party app makers to see what data is available for parks across the country and ensure that this open data is being kept up-to-date.

## *Integrate GTFS into NPS Website, Apps, and On-site Infrastructure*

As discussed above, sharing GTFS feeds with third-party app developers can be beneficial, but the most effective use of digital transit schedules is sharing better transit information through official NPS means, including:

- Official smartphone apps
- Park nps.gov webpages
- On-site infrastructure such as arrival boards

While not part of the focus for this pilot, the project team made some initial inroads into identifying next steps for integration into official NPS tools. In particular, a related project created [prototype web maps](#) using NPS's official web mapping library that could be embedded into nps.gov.

Helping the current pilot parks make use of their existing GTFS feeds in official NPS sources will be useful, but could also provide a precedent for parks in the future as they consider the usefulness of sharing GTFS digital schedule data as part of an overall visitor information strategy. The project team identified the following next steps that could build on this pilot and set a framework for other parks:

- Assist existing pilot parks in implementing official NPS tools most relevant to their needs, e.g. web tool, arrival boards, etc.
- Work with stakeholders at nps.gov, RISD, and others to integrate GTFS into existing tools and document existing templates and procedures.
  - Integrate GTFS links into the nps.gov API
  - Establish a process for parks to create a web map or trip planner based on their GTFS data, potentially using existing prototype code

## *Digital Transit Schedules Checklist for Other Parks*

GTFS is a tool that should be considered opportunistically. As parks plan for their transit systems and evaluate their overall strategies for communicating with visitors, they should consider sharing digital transit schedule data. While not necessarily appropriate for all NPS transit systems, GTFS can enable transit tools that may align with a park's wider approach to transit or visitor information, e.g. enabling visitors to learn more about the park through smartphone apps or enhancing visitor information available at visitor centers.

As a shorthand, parks considering GTFS can use the following questions and suggestions to help guide their decisions:

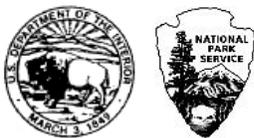
- **Does providing schedule information to visitors help them plan their trip?** Or is their use of transit at your park managed in other ways, such as very frequent service of advance reservations?
- **Consider the ways (apps, signs, nps.gov) you can share schedule data with visitors** and reach out to the appropriate people, e.g. third-party app makers, NPS app developers such as RISD or Harpers Ferry Center, or facilities staff who could install custom signs.
- **Coordinate with WASO and your regional transportation coordinator**, who can help you think about strategies for using GTFS and keeping the feed up-to-date. For example, helping you ensure your park's feed is listed and updated through the [central NPS repository](#).

## **Conclusions and Contacts**

Transit is just one element of the visitor experience at some national parks. By sharing data and thinking about how that information can be made more accessible to visitors, parks can help engage a new

generation of visitors. Based on the pilot experience, the key to success with digital transit schedule data is ensuring that it is used as part of an overall strategy for digital information.

If parks or others have questions about the pilot or using GTFS in the NPS context, please contact the project leads: Krista Sherwood at NPS WASO Transportation Branch ([Krista\\_Sherwood@nps.gov](mailto:Krista_Sherwood@nps.gov)) and Logan Nash at the U.S. DOT Volpe Center ([Logan.Nash@dot.gov](mailto:Logan.Nash@dot.gov)).



As the nation’s principal conservation agency, the Department of the Interior has the responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.