National Parks of New York Harbor Traveler Information System

Functional Requirements

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Table of Content

1 Introduction

This document serves as the Functional Requirements for the National Parks of New York Harbor (NPNH) Traveler Information System (TIS). It builds upon the Concept of Operations document by providing more detailed requirements for the design, development, implementation, and operation of the TIS.

2 Scope of the System

2.1 Background

The annual visitation to National Park Service areas in the New York City region, which includes New York City and Northern New Jersey, exceeds 17 million, with the number of visits to related sites (state and city parks, and other similar attractions) approaching 50 million. Although the alternative transportation systems in the region are highly developed and efficient, they can be confusing and intimidating for visitors. Consequently, the governing body for National Parks in the New York City region – the National Parks of New York Harbor (NPNH) – would like to implement a Traveler Information System (TIS) to help visitors navigate to, from, and between, the region's National Parks and related destinations. The NPNH is also interested in enhancing the visitor experience through the TIS by delivering value-added services, such as thematic itineraries, information about attractions and services near park destinations, educational opportunities, and "self-build" itineraries based on a visitor's unique interests and preferences. The NPNH expects that the TIS will lead to greater use of alternative transportation; increased visitation to parks, attractions, and other less-popular destinations; and substantially improved and more memorable visitor experiences. All of these are major objectives of NPNH.

2.2 System Overview

The TIS will perform these key functions:

- Collect, manage, and distribute fixed and real-time information to travelers.
- Deliver information to visitors through web-based, wireless, and cellular technologies.
- Allow visitors to create itineraries, store, and update itineraries.
- Offer visitors the ability to experience parks and sites based on educational or historical themes.
- Provide a means to collect feedback from visitors about their experiences.
- Use multi-media and new interactive wireless technologies (photo tags and global positioning system (GPS)) to enhance the visitor experience.

The TIS is predominately a web-based system that informs visitors about the characteristics of sites and the transportation alternatives to the sites. Visitors will use the TIS interface to build itineraries that link destinations, site events, activities, and travel times into a printable or electronic (Smartphone) format. The information provided by the TIS ranges from "how do I use public transportation to get from my hotel in Time Square to Ellis Island" to "when I am at Ellis Island, what exhibits, events, sightseeing and learning opportunities, social interactions, and other nearby sites can I take advantage of." Visitors will compile relevant trip- and site-related information beforehand, including information about special events, accessibility for visitors with physical disabilities, hours of operation, availability and location of

restrooms and site facilities, and seasonal information, among other relevant information. To the extent possible, the TIS will provide real-time travel information by linking to external travel data.

The TIS uses Internet, wireless, and cellular technologies to deliver transportation and site-specific information to visitors. The TIS gives visitors the option to create accounts and establish user profiles that store preferences for receiving site-related information based on any number of criteria, including location, theme, event type, and activity. The TIS will leverage existing data in partner systems websites and databases by linking to these systems through web services. When visitors request information through the TIS interface, these services will reach out to the appropriate external system, retrieve data, and then display data in the TIS interface. The transaction is hidden from the viewer (visitor), who receives no visual indication that data being displayed in the TIS have been compiled from multiple sources.

Finally, the data contributors (the partners) to the TIS organize their data on a common taxonomy. The taxonomy is an accepted structure for how data is organized and ensures that the same data with different names are identified as the same and treated consistently. For example, the taxonomy would resolve the difference between the term “operating hours” and “facility hours” and recognize them as data that have the same definition.

2.3 General System Description

The flow of the Trip Lifecycle depicted in Figure 1 illustrates the general description of the system.

Figure 1: Staged flow depicting the phases and transition points identifying the full spectrum of potential interaction points spanning the entire traveler’s trip life cycle

For the purpose of this document, the TIS Trip Lifecycle is a series of stages through which something passes during its lifespan. It demonstrates the events of a discreet trip for a user or user group and delineates the phases navigated as a user contemplates, plans, travels, visits, and concludes a trip.

3 Reference

The following key documents are referenced in sections of this document.

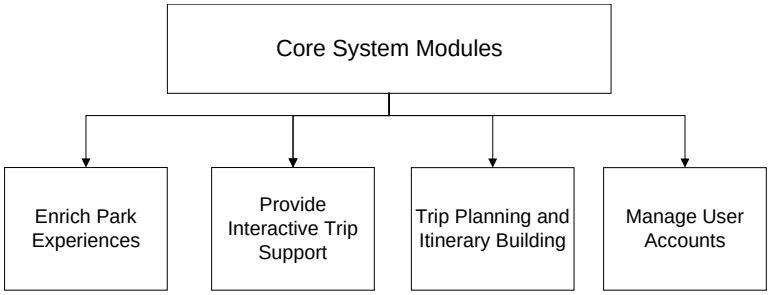
Concept of Operations Document defines the overall concept of the TIS system.

Concept and Scenario Presentation provides a mock-up style review of the concept and illustrates the use of the system through a user scenario.

4 Requirements

The functional requirements are organized using the flow of the Trip Lifecycle explained in Section 2. The TIS consists of four core modules depicted in Figure 2 below, which support the trip lifecycle phases:

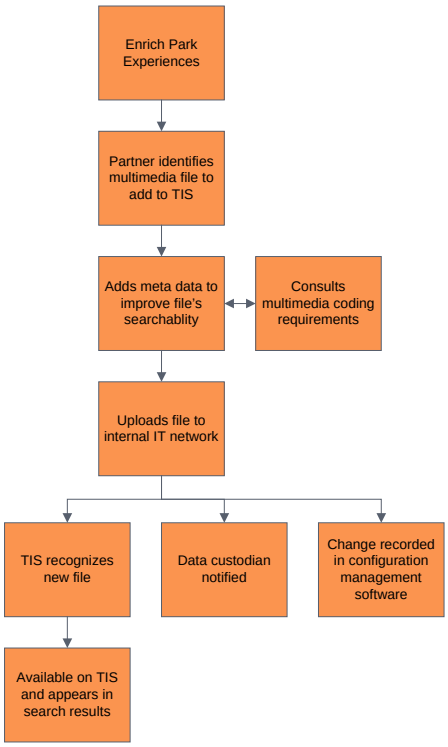
Figure 2: TIS Core System Modules



4.1 Pre-Trip

- The system shall be integrated into partner sites to promote the TIS as a common travel planning utility
- The system shall be integrated into partner sites in such a manner as to "carry forward" into the TIS the point of interest (POI) in the referring site
- The system shall be integrated with taxonomies of the partnered sites to ensure content integration

Figure 3: Core System Module to Enrich Park Experiences

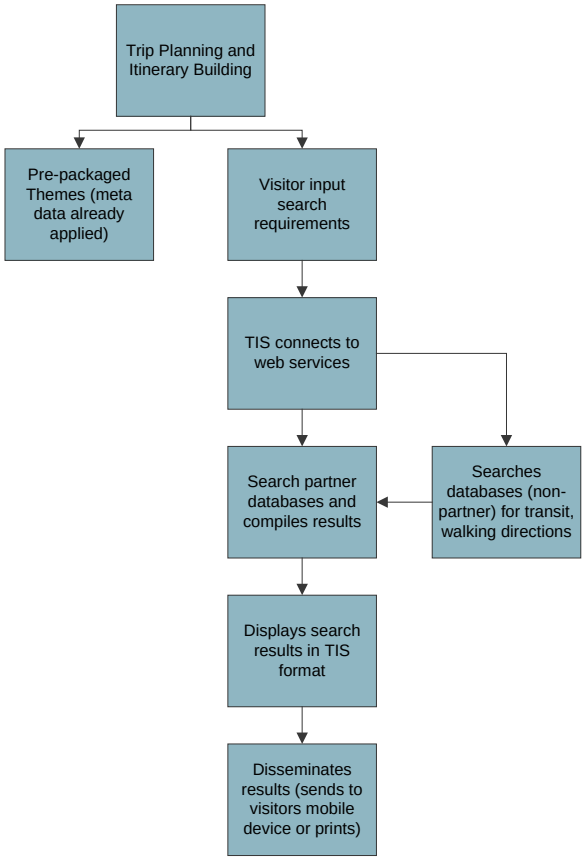


4.2 Trip Planning

- The system shall offer a rich, interactive interface for trip planning
  - Interactive map
  - Dynamic list pane
  - Link to/through content references
- The system shall allow for planning to begin
  - Designed around the initial POI passed by a referring site
  - From a "clean slate" trip plan session starting at the site
- The system shall allow users to choose from
  - Creating an itinerary from scratch
  - Selecting predefined trip itineraries from Rangers or community members
  - Augmenting with additional sites, events, activities
- The system shall filter itinerary based on themes, categories, facilities, weather, etc.
- The system shall aggregate content from a collection of partners and store only its own unique information
  - Sites
  - Events
  - Activities
  - Transit Options (routes and modes)
- The system shall offer trip optimization for time, distance, etc.

- The system shall the ability to augment itinerary with value added content (including rich media)
- The system shall provide functionality to creates and manage user profile, preferences, alerts
- The system shall allow for anonymous guest users
- The system shall provide social networking features to engage the TIS community with shared content, promoted itineraries, user ratings and reviews
- The system shall provide save, store, share, email, print itinerary functionality

Figure 4: Core System Module for Trip Planning and Itinerary Building



4.3 Inbound Transit

- The system shall offer interactive trip guidance for in-flight support
- The system shall provide levels of "opting-in" to define the level of transit interaction
- The system shall provide (through the itinerary) a transit guide for traveling to first spot
- The system shall provide (through the itinerary) the Trip Guide to offers information for review to the spot
- The system shall offer interactive assistance pushes supplemental audio/video media to mobile device to reinforce plans and introduce alternative events and activities

4.4 At Initial Site

- The system shall be extended through on-site kiosk to offer
    - Planning features to plan new, re-plan current, or plan future trips
    - Validate transit to next site
    - Rich media features
- The system shall offer smartphone based functionality
    - Picture Tagging on exhibits
    - GPS based park games
    - Digital postcards
    - Integration to TIS community social networking
- The system shall provide (through the itinerary, kiosk, smartphone) a guide to experiencing park attractions

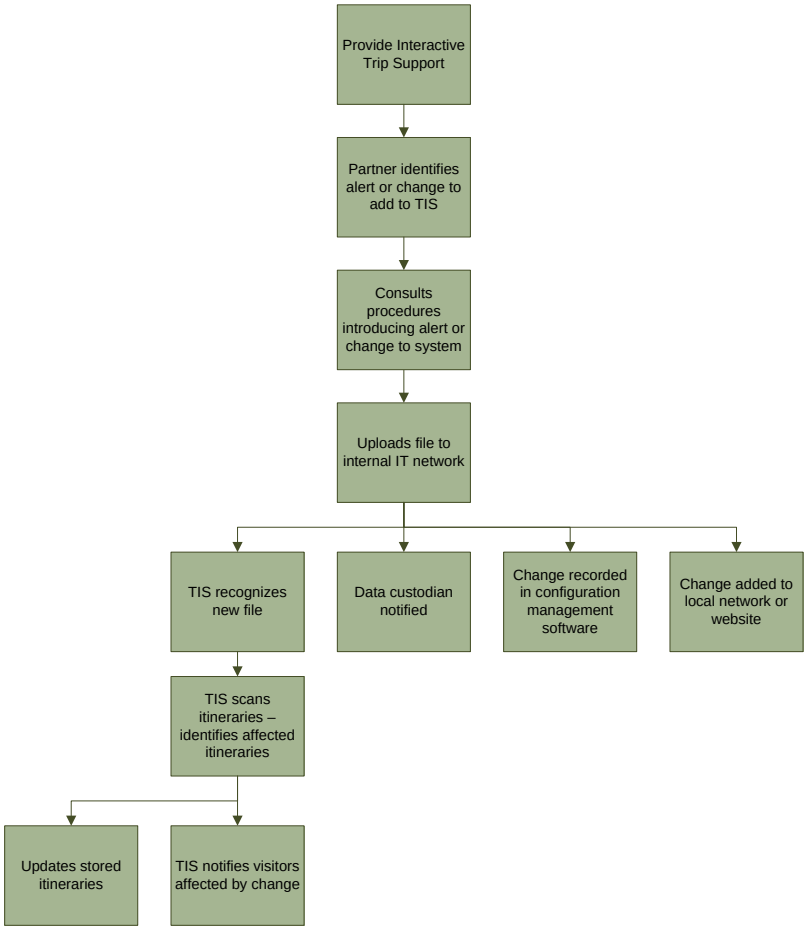
4.5 Transit to New Site

- The system shall offer all features of the initial Transit Phase
- The system shall provide a transit guide for traveling to next site
- The system shall offering streaming of supplemental audio/video media to mobile device to reinforce plans and introduce alternative events and activities
- The system shall track user through re-planning without losing track

4.6 At Additional Sites

- The system shall offer all features of the Initial Site Phase

Figure 5: Core System Module to Provide Interactive Trip Support



4.7 Outbound Transit

- The system shall provide (through the itinerary) the transit guide for concluding trip
- The system shall provide smartphone based methods for collecting trip experience feedback
- The system shall provide user guidance and instructions on contributing to the TIS community

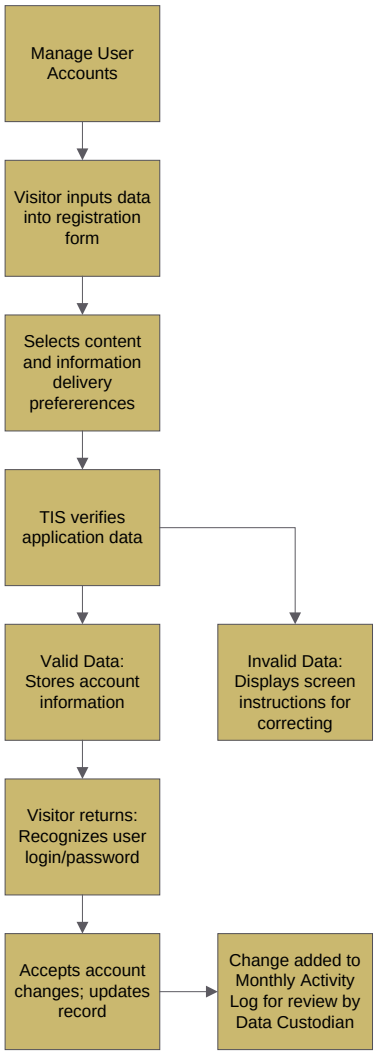
4.8 Post-Trip

- The system shall allow users to provide robust feedback through the web site
- The system shall manage surveys based on itinerary plans
- The system shall offer profile and experience based newsletters and travel alerts
- The system shall provide access to the TIS community
    - Upload content
    - Write trip reviews
    - Create and share travel journals
    - Share all content with defined levels within the TIS community
- The system will leverage the content of the trip plans and travel notes for targeted newsletter alerts

4.9 User Accounts

- The system shall allow users to create accounts via a registration form
- The system shall allow users to add/edit/delete account information via the TIS
- The system shall allow users to view saved itineraries
- The system shall allow users to complete feedback surveys

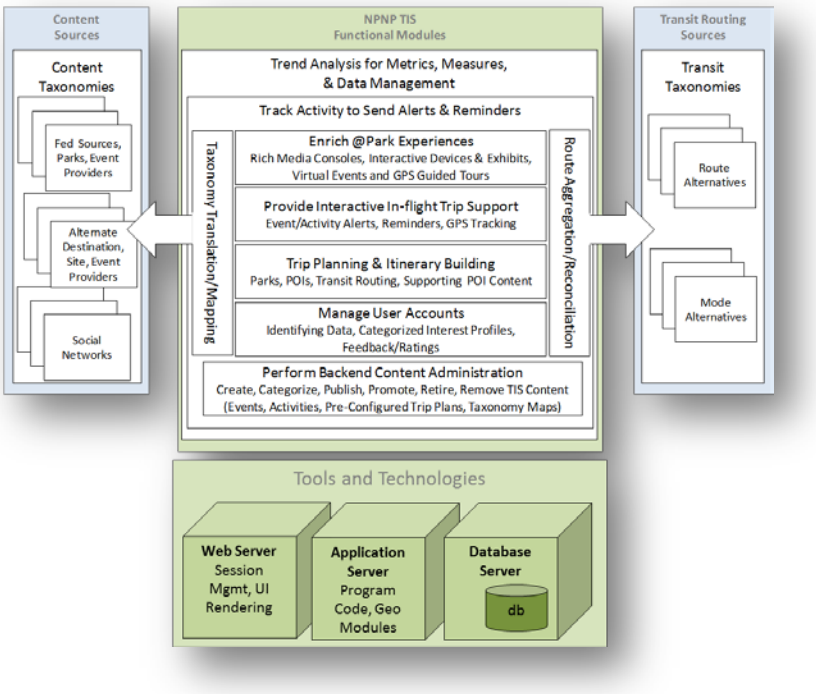
Figure 6: Core System Module for Managing User Accounts



4.10 Primary System Architecture

Figure 7 illustrates a logical overview of primary system architecture. It identifies the logical components in the system footprint.

Figure 7: Logical Design Components with Interdependencies



4.10.1 NPNH TIS Functional Modules

- **Trend Analysis for Metrics, Measures, and Data Management** track planning and travel data to provide trending
- **Activity Tracking with Alerts and Reminders** manage the sending of alerts, reminders, and newsletter content
- **@Park Experience Enrichment** manage the delivery of rich media and at site smartphone functionality
- **Interactive In-flight Support** manage the real time interaction with travelers while in transit on a trip
- **Trip Planning & Itinerary Building** manage the creation, storage, and interaction with itineraries
- **User Account Management** manage the creation, storage, and interaction with user accounts
- **Perform Backend Content Administration** offer methods to manage TIS unique content

4.10.2 Content Sources

- **Content Taxonomies** represent partners with site, event, and other content data integration from

- Federal
- Alternate
- Social Networks/Sites

4.10.3 Transit Routing Sources

- **Route Alternatives** represent partners with transit and transportation route data integrations
- **Mode Alternatives** represent partners with transit and transportation mode alternative data integrations

4.10.4 Tools and Technologies

- **This collection** represents logical components in a common web, kiosk, smartphone infrastructure broken out to
  - Web Sever
  - Application Server
  - Database Server

4.11 TIS Architectural Requirements

4.11.1 Performance

The TIS shall scale to the expected number of users.

4.11.2 Availability

The TIS shall be expected to be available to users 24 hours per day 7 days a week except for maintenance work. Updates to the system for content shall not affect the availability of the system.

4.11.3 Security

The TIS shall comply with applicable Federal security policies and standards in terms of data and system security.

4.11.4 Central Server

The TIS shall incorporate a central server for storing the following information:

- Park Content
- Visitor accounts
- Visitor itineraries
- Visitor game status
- Statistics gathered
- Reports generated

4.11.5 Maintenance

The TIS maintenance including routine updates/upgrades and bug fixes shall be performed by a Data Custodian to be named later.

4.11.6 Content Updates

Each partner shall update their content on their individual systems (see Figure 5: Core System Module to Provide Interactive Trip Support). The TIS shall identify changes to the partner's information and update the TIS information within 2 hours of the posting.

4.11.7 Interfaces

The TIS shall interface with the following systems at a minimum

4.11.7.1 Content Partners

The TIS shall interface with the following content partners: Federal, state, local, and private parks (at a minimum) to provide information regarding events and activities to be included in searches and in building itineraries.

4.11.7.2 Transit Partners

The TIS shall interface with the following transit partners (at a minimum) to provide information regarding logistics such as bus schedules or walking paths to support the visitor's itineraries:

- New Jersey Transit
- PATH
- MTA New York City Transit
- Local Ferry sites
- Google Maps
- Local Vendors
- Bus Tour Operators

4.11.7.2.1 MTA New York City Transit

The TIS will pull information from the MTA system to provide data on bus routes, Subway routes, bridges and tunnels availabilities, and rates.

4.11.7.2.2 Local Ferry Sites

The TIS will pull information from local ferry services to provide schedule, routes, and fare information. In addition, the TIS will provide links to the local ferries to allow visitors to purchase advance tickets if this service is available.

4.11.7.2.3 Google Maps

The TIS will interact with Google maps to provide location information and turn-by-turn directions.

4.11.7.2.4 Local Vendors

The TIS will pull information from local vendors including their location (mandatory) in addition to information such as menus for restaurants or services provided such as bicycle rentals.

4.11.7.2.5 Bus Tour Operators

The TIS will pull information from bus tour operators including schedules and rates.

4.12 Media Platforms for System Access and Interaction

The TIS will be expected to run on the following platforms at a minimum:

1. Personal Computers
2. Smartphones with cameras and GPS enabled
3. Tablets (e.g. iPad)
4. Kiosks

4.12.1 Personal Computers

Visitors are expected to use personal computers to plan their trips and to provide feedback once their trip is completed. Standard Internet browsers are assumed to access the TIS. Park staff members also expected to use desktop computers to update the content of their sites and to perform routine tasks such as running reports or issuing 'real time' alerts to visitors.

4.12.2 Smartphones

Visitors are expected to use smartphones during their visits for interacting with the system in real time (more details on the functionality to be described later in the document).

The following smartphone operating systems are appropriate mobile platforms at time of the writing of this document. They are assumed to be used at a minimum, and additional mobile platforms should be considered during the technology assessment/selection activities in the design specification phase:

- Google Android
- Apple iOS (iPhone)
- RIM Blackberry

4.12.3 Tablets

Tablets are expected to be used by visitors during their visits in much the same way as smartphones.

4.12.4 Kiosks

Kiosks are expected to be deployed at standalone visitor information desks and within parks and will allow visitors to dynamically view their itinerary and modify as necessary. Kiosks are expected to include large multi-touch displays as a tabletop (i.e. Microsoft Surface) or wall-mounted, and to be located in an environmentally protected space with power and data connections to be provided by others. Kiosks will comply with the Americans with Disabilities Act.

4.13 Languages Supported

All user screens shall be offered in the following languages. The visitor will be able to indicate their preferred language via a pull down list on the home pages for all of the media choices:

- English
- Spanish
- French
- German
- Italian
- Japanese
- Chinese
- Arabic
- Russian
- Hindi
- Hebrew
- Turkish

5 Verification Methods

For each requirement a method of verification is typically identified. These are the typical methods leveraged:

- **Inspection** is verification through a visual comparison. For example, quality of welding may be done through a visual comparison against an in-house standard.
- **Demonstration** is a requirement that the system can demonstrate without external test equipment.
- **Test** is a requirement that requires some external piece of test equipment. E.g. logic analyzer, and/or volt meter.
- **Analyze** is a requirement that is met indirectly through a logical conclusion or mathematical analysis of a result. E.g. Algorithms for congestion: the designer may need to show that the requirement is met through the analysis of count and occupancy calculations in software firmware.

All requirements included in this document are identified as Demonstration in terms of verification methodology.

Appendix A: Sample Itinerary

YOUR ITINERARY

Hi Jill, you have selected the following sites to visit on November 25, 2009:

FEDERAL HALL NATIONAL MEMORIAL
GROUND CASTLE CLINTON
AFRICAN BURIAL
CITY HALL PARK

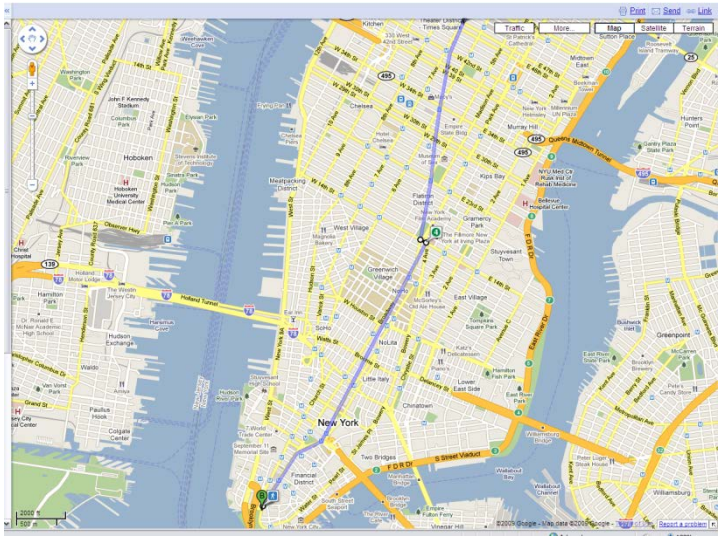
Here are your transit and walking directions:

From: **WESTIN HOTEL TIMES SQUARE** in Manhattan
To: **CASTLE CLINTON NATIONAL MEMORIAL** in Manhattan (212) 555-5555
Fare: Regular Fare $2.25 - Reduced Fare $1.10
Approx Travel Time: 18 minutes

Step 1
Walk a short distance NW on W 43rd St.
Turn left on 8th Ave.
Walk approx. 1 block SW on 8th Ave.
Enter station: **42ND ST - TIMES SQ STA** 1 2 3 7 N R Q W S
At: 8th Ave. & West 42nd St.

Step 2
Take the: **NEW LOTS AV** bound 3 Train
Leaving At: 9:01 AM

To: **WALL ST STATION** 2 3
Arriving At: 9:19 AM



Step 3
Exit Station At: Wall St & William St. (North Side)
Walk approx. 1 block SW on William St.
Turn right on Beaver St.
Walk approx. 2 blocks SW on Beaver St.
Turn left on Broadway.
Walk a short distance S on Broadway.
Turn right on Bowling Green.
Walk approx. 1 block W on bowling green.
Bear right on Battery Pl.
Walk a short distance W on Battery Pl.
Bear right on Unnamed.
Walk a short distance NW on Unnamed.
Bear left on Battery Pl.
Walk a short distance W on Battery Pl.
Turn right on Greenwich St.
Walk a short distance N on Greenwich St.

Arrive At: **CASTLE CLINTON**

Did you add events at Castle Clinton to your itinerary? Yes

Your Events:

- Walking Tour: **The New Amsterdam Trail**; On demand.

- Ranger-guided Tour: Learn about the immigrant experience through ranger-guided tour. Offered daily at 10:00 AM, 12:00 PM, 2:00 PM.

From: **CASTLE CLINTON NATIONAL MONUMENT** in Manhattan (212) 555-5555
To: **FEDERAL HALL NATIONAL MEMORIAL** in Manhattan (212) 555-5555
Fare: Regular Fare $2.25 - Reduced Fare $1.10
Approx Travel Time: 3 minutes

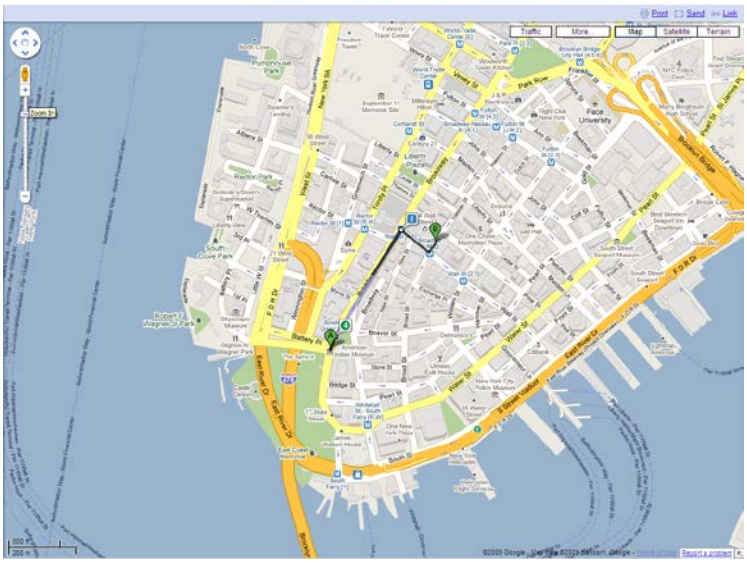
Step 1
Walk a short distance N on Greenwich St.
Turn right on Battery Pl.
Walk a short distance E on Battery Pl.
Enter station: **BOWLING GREEN STATION** 4 5
At: 1 BROADWAY

Step 2
BOWLING GREEN STATION 4 5

Take the: WOODLAWN bound 4 Train
Leaving At: 11:04 AM
To: WALL ST STATION 4 5
Arriving At: 11:05 AM

Step 3
Exit Station At: Wall St. & Trinity Place (Trinity Building S/B)
Walk approx. 1 block SE on Wall St.

Arrive At: **FEDERAL HALL NATIONAL MEMORIAL**



Did you add events at Federal Hall to your itinerary? Yes

Your Events:
- Reenactment: **Evacuation Day**; 10 AM – 4 PM.
- Exhibit: **Banners Along the Hudson**; daily 9 AM - 5 PM

From: **FEDERAL HALL NATIONAL MEMORIAL** in Manhattan (212) 555-5555
To: **CITY HALL PARK** in Manhattan (212) 555-5555
Fare: Regular Fare $2.25 - Reduced Fare $1.10
Approx Travel Time: 3 minutes

Step 1

Walk approx. 1 block NW on Wall St. 4 5
Enter station: **WALL ST STATION**
At: Wall St. & Trinity Place (Trinity Building S/B)

Step 2

WALL ST STATION 4 5

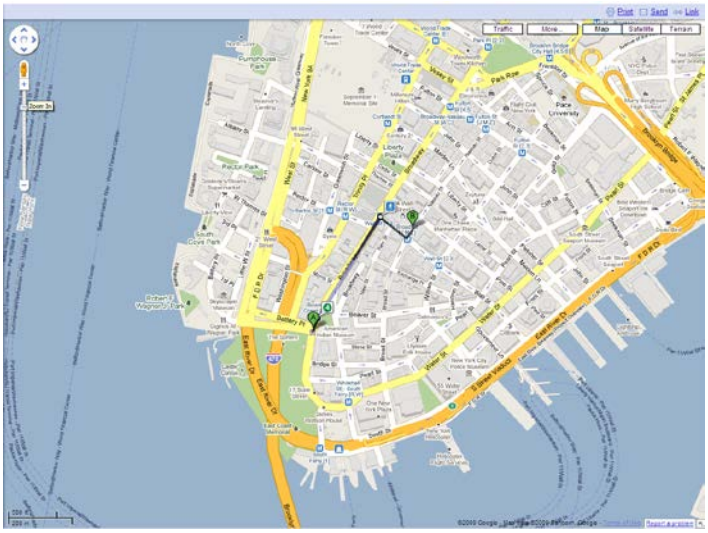
Take: **DYRE AV-EASTCHESTER** bound 5 Train
Leaving At: 11:08 AM

To: **FULTON ST STATION** 4 5
Arriving At: 11:09 AM

Step 3

Exit Station At: Broadway and Fulton St.
Walk a short distance NE on Broadway.

Arrive At: **CITY HALL PARK**



Did you add events at City Hall Park Hall to your itinerary? Yes

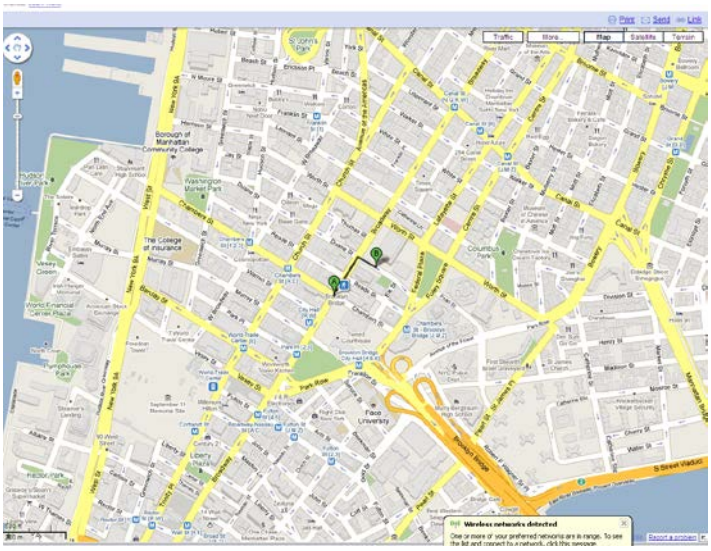
Your Events:

- Concert: **Jazzmobile: Lou Donaldson**; Wednesday, November 25, 2009; 10 AM – 2 PM.

From: **CITY HALL PARK** in Manhattan (212) 555-5555
To: **AFRICAN BURIAL GROUND** in Manhattan (212) 555-5555
Fare: NA
Approx Travel Time: 2 minutes

Step 1

Head northeast on Broadway toward Reade St
Turn right at Duane St
Destination will be on the right



Did you add events at African Burial Ground to your itinerary? Yes

Your Events:

- Walking Tour: **A Broader View: The African Presence in Early New York**.

Appendix B: Individual Park Requirements

				Actual Location					General				NPS Themes				Programming/Actvities										Transportation Detail							
	Mt. Vernon	Manhattan	NYC Harbor	Jamaica Bay (Rockaway)	Staten Island	Sandy Hook	Fee to Enter	Handicap Accessible	Open Only in Warm Months	Birth of a Nation	Military History	Immigration	Environment/Ecology	Guided Tours	Visitor Center/ Gift Shop	Museum (?)	Concessions	Restaurants Nearby	Active Outdoor Recreation	Passive Outdoor Recreation	Fishing	Biking	Boating	Birding	Camping	Within 1/4 Mile of Subway Stop	Within 1 Mile of Subway Stop	Accessible by Bus	Ferry Directly to Park (no fee)	Directly Accessible by Ferry (fee)	Ferry to Bus	Bike Racks	Free Parking Lot	Parking Lot (fee)	On-street or other Public Parking
St. Paul's Church	✓									✓	✓			✓		✓				✓							✓	✓					✓		
Hamilton Grange - In process of Moving		✓																																
General Grant Memorial		✓								✓	✓			✓				✓		✓		✓				✓		✓				✓		✓
Theodore Roosevelt Birthplace		✓					✓			✓				✓		✓		✓								✓		✓						2
Lower East Side Tenement Museum		✓					✓					✓		✓	✓	✓		✓								✓		✓				✓		2
African Burial Ground		✓										✓		✓				✓								✓		✓						2
Federal Hall		✓								✓				✓	✓	✓		✓								✓		✓						2
Castle Clinton		✓									✓	✓		✓				✓		✓						✓								2
Governors Island			✓						✓		✓			✓	✓					✓								✓		✓				3
Ellis Island			✓									✓		✓	✓					✓								✓		✓				3
Statue of Liberty			✓									✓		✓	✓					✓								✓		✓				3
Floyd Bennet Field				✓							✓		✓		✓				✓	✓	✓	✓	✓	✓	✓			✓				✓		
Carnarsie Pier				✓									✓							✓	✓			✓				✓				✓		
Jamaica Bay Wildlife Refuge				✓									✓		✓				✓	✓	✓	✓	✓	✓			✓	✓				✓		
Jacob Riis Park				✓									✓						✓	✓	✓	✓		✓				✓		✓			✓	
Fort Tilden				✓							✓		✓						✓	✓	✓	✓		✓				✓		✓		✓		
Breezy Point				✓									✓						✓	✓	✓	✓		✓								✓		
Fort Wadsworth					✓								✓	✓	✓			✓	✓	✓	✓	✓		✓				✓			✓	✓		
Miller Field					✓								✓					✓		✓	✓	✓		✓				✓			✓	✓		
Great Kills Park					✓								✓					✓		✓	✓	✓	✓	✓				✓			✓	✓		
Fort Hancock Historic District						✓							✓		✓		✓			✓	✓	✓	✓	✓				✓		✓		✓		
Sandy Hook						✓							✓				✓			✓	✓	✓	✓	✓				✓		✓		✓		

Notes:

(2) Driving by personal auto is not recommended.

(3) Expensive public parking is available at the ferry terminal, but driving is not recommended.

Appendix C: Staged Release Roadmap

Functionality will be introduced through the managed stages outlined below:

Functional Components and Features	Web	Mobile	Kiosk	Initial Release	TIS Community & Social Networks	Supplemental Rich Content	Enhance in-flight Services	Park Experience Enhancements
Trip Planning								
Multi-point, multi-modal trip plans	X			X				
Manage plans - Create, save, store, change, print/email, delete, and archive plans	X							
Proactive suggestions based on interest profiles/interests to the user	X					X		
User reviews - Rate, review, publish opinions to others in TIS community	X				X			
Trip logs/travel journals - Store photos, videos, anecdotes captured during trip	X				X			
TIS community - Interact with other TIS users and link to external social network sites	X				X			
Pre-configured ranger plans	X							
Optimized trip plans - Sites and transit routes based on expert knowledge	X			X				
Use as is - Fully configured, stand-alone plans	X			X				
Use as a starting point - Reconfigure trip components (Add/Change/Remove)	X			X				
Content from existing sources	X			x				
Fed sites	X			X				
Partners for destinations	X			X				
Partners for transit	X			X				
Rich search/filter options	X			x				
Base destination attributes - Core characteristics of sites, events, activities, etc.	X			X				
Base transit attributes - Core characteristics of transit routes	X			X				
Content categories - Collection of categories from Taxonomies	X			X				
Availability - Timing from operations and events schedules	X			X				

In-Transit Support								
View trip plan on mobile phone		X		X				
Mobile access to trip plans - Deliver plans in text, PDF, web page (with links) forms		X		X				
Mapping - Provide simple destination/transit links to allow use of existing (independent) mobile mapping applications		X		X				
Custom mobile application delivering TIS functionality							X	
Tailored feedback collected at various point during the trip							X	
Real time location-based support services (GPS tracking)							X	
Rich media streaming						X		
Enriched Park Experiences								
Interactive kiosk-based content			X					X
Interactive content navigation interface			X					X
Leverage linking to existing content, surfaced through rich interface			X					X
New rich media (pictures, movies)			X					X
Access to itinerary system to manage user information and trip plans			X					X
Augmented exhibit content			X					o
Picture tagging			X					o
Virtual tours			X					o
Geocaching events			X					o
User Accounts								
Create new account	X			o				
baseline data	X			o				
interests profile data and settings	X			o				
integration settings (to personal calendars, etc.)	X				o			
TIS communities enrollment, participation settings	X				o			
Manage/modify user data and settings	X			o				
baseline data	X			o				

interests profile data and settings	X			o				
integration settings (to personal calendars, etc.)	X				o			
TIS communities enrollment, participation settings	X				o			
Recover forgotten account access	X			o				
account lookup	X			o				
password hint	X			o				
password reset	X			o				
Provide opinions and feedback for parks, sites, events, plans, …	X				o			
Manage personal trip logs/travel journals and related content	X				o			
Manage enrollment and participation in TIS community	X				o			
Manage links to and enable integration and content exchange with extended social network sites	X				o			
Backend TIS Content				o				
Manage NPNH content taxonomy				o				
Manage park content for site, events, activities, calendars, etc.				o				
Manage TIS pre-configured trips				o				
Manage event and activity schedules				o				
Mange language localization services				??				
POI Content Integration				o				
Must ID core set against initial release sites footprint				o				
Taxonomy mapping and monitoring for content partner(s)				o				
Manage ongoing taxonomy alignment				o				
Additional content partner integrations								
Transit Content Integration				o				
Must ID core set against initial release sites footprint				o				
Taxonomy mapping and monitoring for transit partners(s)				o				
Manage ongoing taxonomy alignment								

Additional transit partner integrations								
Track Activity to Send Alerts & Reminders								
Manage "newletter" level information delivery based on user interest profiles				o				
Additional agents can monitor any area depending upon communication goals				??				
Trend Analysis for Metrics, Measures, and Data Management								
Collect and analyze site usage/visitation statistics				o				
Collect and analyze trip configuration data				o				
Additional analytics depend upon success goals, metrics, and measures				??				

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14. ABSTRACT

The purpose of this planning project is to analyze alternatives and design a Traveler Information System (TIS) that will enhance the experience of visitors to the NYNH parks and other sites managed by federal, state and local partners. The system will provide information to the traveler that will promote increased use of existing and future alternatives transportation systems in the New York City metropolitan area that service the parks and other sites. While the alternative transportation systems in the area are highly developed and very efficient, they can be confusing and intimidating for visitors. This TIS will be designed to improve that situation by providing better pre-trip planning and enhanced real time assistance while in the area. A successful TIS will result in increased use of alternative transportation, increased visitation to NY harbor attractions and substantially improved visitor experience.

15. SUBJECT TERMS

National Parks of New York Harbor; NPNH; TIS; Traveler Information System

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