National Park Service

EXPERIENCE
YOUR
AMERICA

Welcome to the VISITOR

FACILITY PLANNING MODEL

AGENDA

How NPS develops facility benchmarks

- Model definition & impetus
- Schedule
- Research & development process
- Levels of detail
- Limits/controls
  - Types of input required
- Two case histories
  - North Cascades NP
  - Arches NP
- Questions

What is the Facility Planning Model?

- A computer program for predicting realistic project size and cost
  - Developed from “Excel” into a stand-alone program
  - Can be down-loaded from website
  - Requires simple data input
  - Gives comprehensive results (Size of impacted area, site work, building size, utilities, access, any special circumstances and net construction cost)
- Responsive to unique circumstances
  - Permits customization with justifications
  - Records defining assumptions

Why are we doing this?

- Establish consistent facility development practices (benchmark values)
  - NAPA report of 1998
  - Congressional & GAO concerns
- Improve NPS budget requests (PMIS)
- Provide guidance for arriving at accurate size and cost figures in early project definition (GMP)

Where are we in the development process?

Initial work:

- Maintenance Facility Planning Models (2001)
  - Available at http://construction.den.nps.gov

Current studies:

- Visitor Facility now complete (May 2003)
- Museum collection facilities now in the final testing phase (Summer 2003)
- Other types currently in progress (FY 2003)
  - Administrative buildings
  - Entrance and comfort stations

Looking ahead (2004 and beyond)

Models and Research:

- Site Improvements (funded)
- Sewage & water treatment plants (funded)
- Wild land & structural fire-fighting facilities (funded)
- Additional facility models & upgrades
- Improved visitation data and projections
- Planning model for an entire park
- Active link to cost estimating tool

Who is involved in shaping the model?

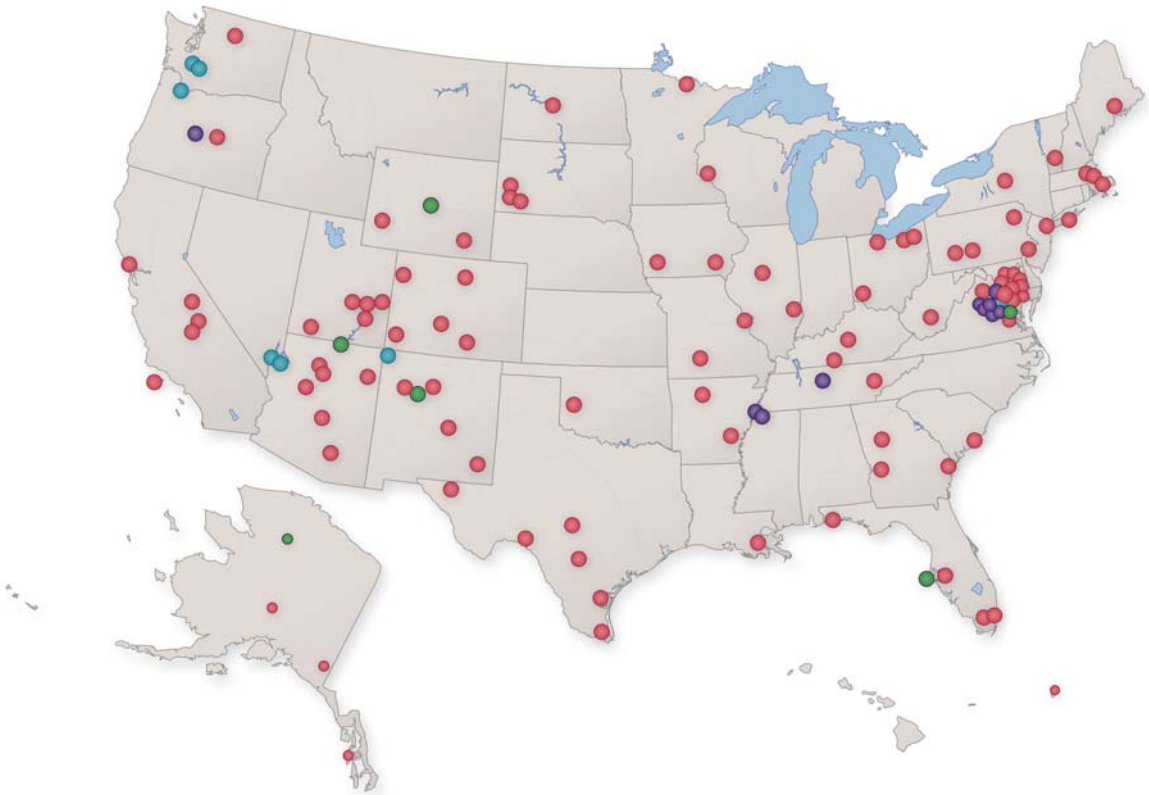
- NPS professionals
  - WASO, regions, design centers, and parks
- Private architectural and planning firms
  - David N. Sloan & Associates
  - Architectural Research Consultants, Incorporated
    - Experienced in facility planning: Immigration & Naturalization Service, Sandia National Laboratories, BIA, other state & local agencies
- NPS evaluation & test groups
  - Parks, regions, & design centers

What has research covered?

- Industry standards and guidelines
- State and Federal design and planning guides
- NPS publications and studies
- Studies of over 170 visitor facilities
- Visits to more than 40 facilities
- Analysis of facility user surveys
- Testing and refinement

How were over 122 parks chosen for study?

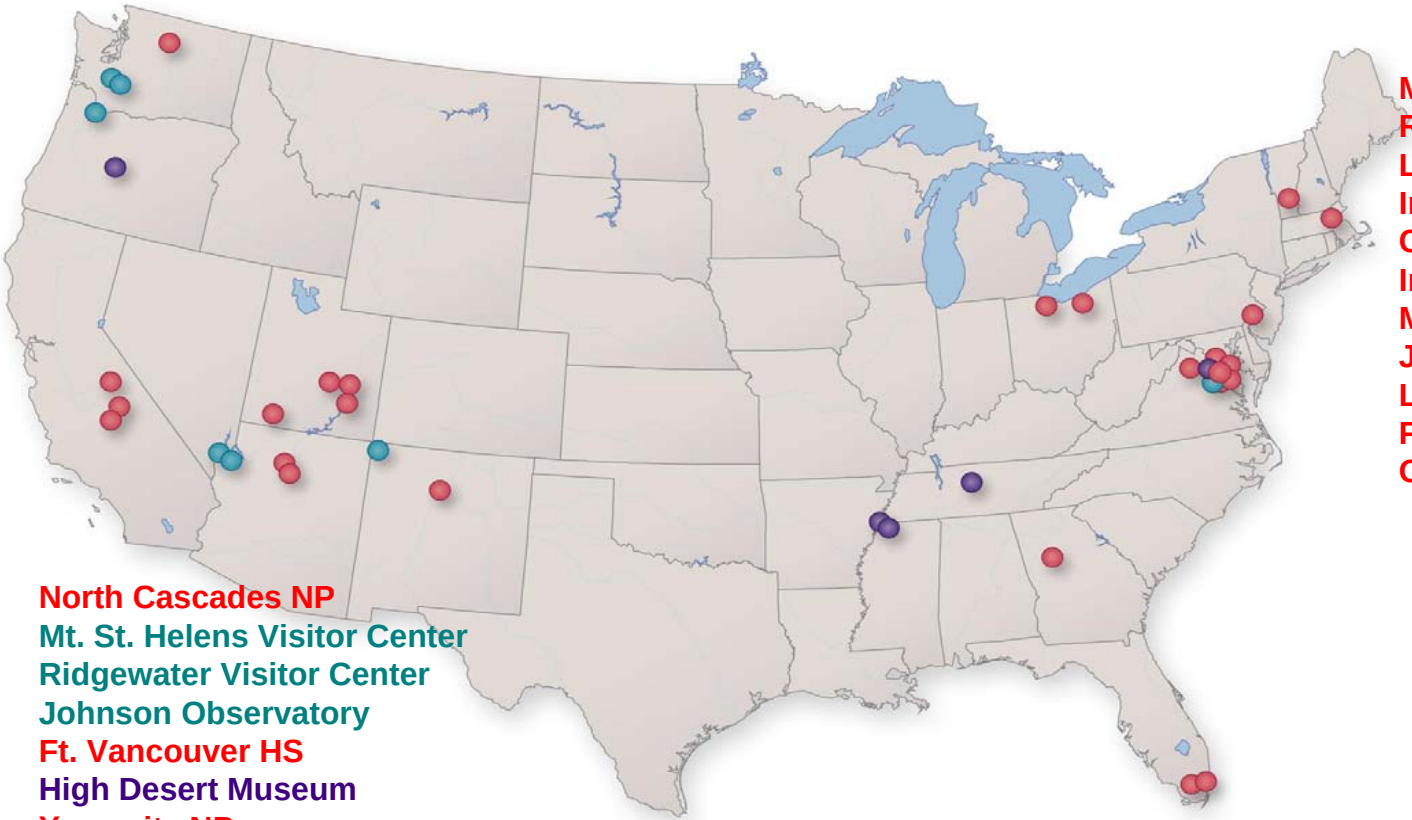
- Wide distribution to prevent organizational and regional bias
- Recent construction (10-20 years) to reveal universal trends



172 facilities were used for various studies

- **136 NPS facilities**
- **6 Private organizations**
- **17 additional public / private museums**
- **14 Other agencies**

Which 42 sites were visited?



Marsh Billings NHP
Rockefeller NHS
Lowell NHS
Indiana Dunes NP
Cuyahoga NP
Independence NHS
Mt. Vernon
Jefferson Memorial
Lincoln Memorial
Ford's Theater
Old Post Office

North Cascades NP
Mt. St. Helens Visitor Center
Ridgewater Visitor Center
Johnson Observatory
Ft. Vancouver HS
High Desert Museum
Yosemite NP
Sequoia NP

The Survey Lodge
Frederick Douglas NHS
Holocaust Museum
Newseum
Great Falls GWMP
Smithsonian Castle
President's Park
Manassas NHS

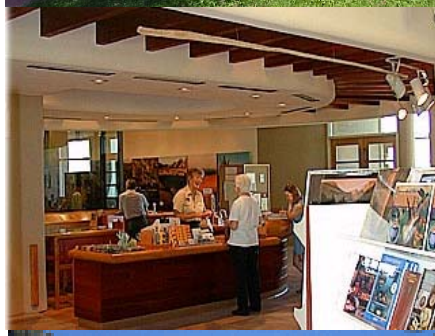
Kings Canyon NP
Zion NP
Red Canyon State Park
Hoover Dam

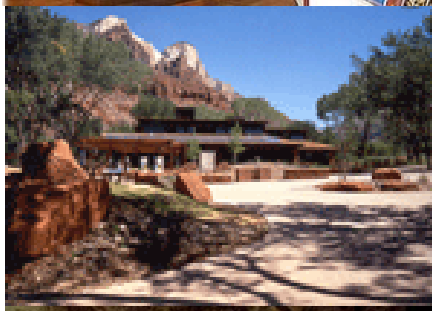
Pecos NP
Grand Canyon--Transit Center
Grand Canyon--Tusayan Museum
Canyonlands--Island in the Sky
Canyonlands--Needles
Anasazi Heritage Center

Biscayne NP
Everglades NP
Martin Luther King HS
Country Music Hall of Fame
National Civil Rights Museum
Mud Island

Where did the visitor model development begin?

- Built upon format and process from initial work on Maintenance Facility Planning Model
- Evaluated existing visitor facilities
  - How they operate
  - What their functions are
  - What works and what doesn't
- Researched guidelines and standards (government and private sector)
- Compiled and analyzed the data





What were areas of detailed research and study?

- Major public spaces
  - Exhibit areas
  - Bookstores
  - Theaters
  - Lobbies

- Impact of Visitors on space
  - Their numbers
  - Their length of stay
  - Their traffic patterns

What were next steps in model development?

- Determine fundamental visitor facility drivers
  - Visitation
  - Functions
  - Staff
- Assemble the model
- Test to assure service-wide applicability
- Adjust and retest
- Enter cost data for function types (future)

How responsive is the model?

- Provides two levels of detail

Quick Calculator

Used to:

- Prepare General Management Plan estimates
- Respond to an immediate request for information

The model:

– Requires minimal input
– Predicts a range of sizes and costs for preliminary planning purposes
– Generates results 10-20% higher than the Custom Calculator

Custom Calculator

Used to:

- Prepare PMIS estimates

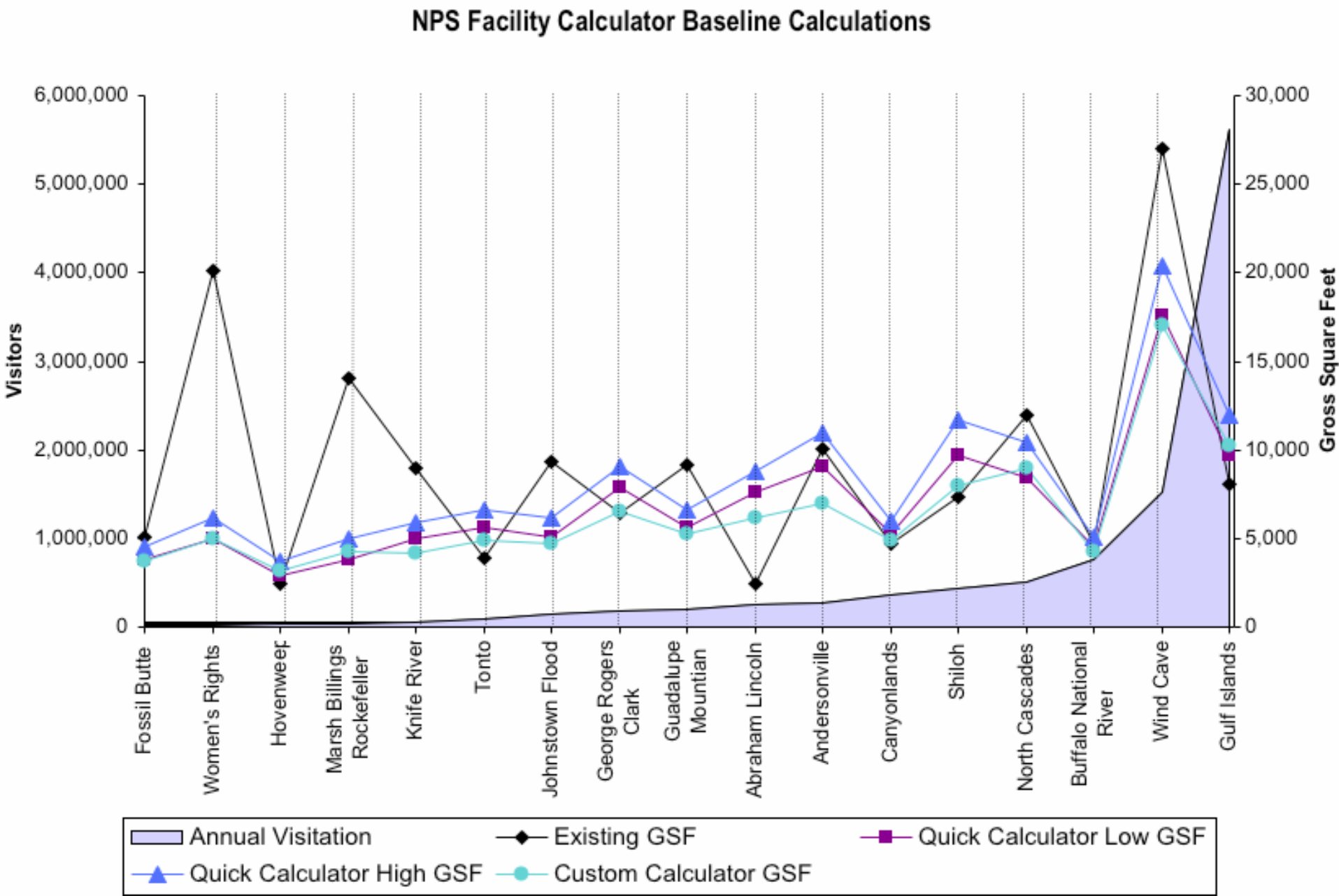
The model:

– Provides definitive size and costs based on identified functions
– Allows adjustments
– Records justifications for decisions outside recommended criteria
– Gives detailed checklist as prelude to programming
– Produces complete facility development size and costs

Both models:

– Allow for 'What If' trials
– Produce a record of early assumptions
– Document additional studies required

How do benchmarks compare with built facilities?



Are there any limits to how big a facility can be?

- Primary mechanisms for controlling facility size:
  1. Visitation database
  2. Space criteria
  3. Space caps
  4. Area check-points
     (a) Ranges of recommended area per person for public space
     (b) Staff space as a limited percentage of the building gross

1. What is the Visitation Database?

NPS records that are specific for each park

- Expanded Database elements
  - Latest year's annual visitation (2002)
  - Growth factor (as demonstrated over the last ten years, plus or minus)
  - Design target of 90% of peak attendance (average of the two peak visitation months)
  - Benchmark capture rate (based on number of visitors and historic trends)
  - Fixed amount of time spent at facility (from NPS surveys and private sector measurements)

2. What are Space Criteria and how do they work?

Development Standards specific to each functional type of space

- For public spaces
  - Unit Multiplier (in square feet) researched
  - Visitor count determined to be appropriate for sizing that type of space (% of peak on-site visitation for public spaces)
  - Example: Lobby size equals a fractional number of visitors times a specific area per person
- For staff areas
  - GSA values

3. How do Space Caps work?

Used for Public Spaces

- Limit a functional area to a maximum size
- Shift any square footage generated above the limit to an exterior space
- Permit two possible exceptions:
  - Exhibit area—for oversized exhibits
  - Second theater/multipurpose room if needed
- Set a minimum threshold for functional areas

4.a. What is an Area Check-point for Public Spaces? How does it work?

Total public space in net square feet divided by number of on-site visitors

- Is a common method for evaluating space
- Uses sliding scale based on peak on-site visitation (economy of numbers)
- Signals when benchmark has been exceeded
  - Offers two possible responses:
    - Rerun model with amended input
    - Justify existing decisions

4.b. How are Area Check-points for Staff Functions applied?

Net square feet of staff use divided by total building gross square footage

- Gives functional space as a building percentage
- Signals when benchmark has been exceeded
  - Offers two possible responses:
    - Rerun model with amended input
    - Justify existing decisions

Does the model put absolute controls on the square footages allocated?

- Yes and no. The Model:
  - Compares park requested spaces with established benchmarks
  - Responds to varied needs and missions by design intent
  - Contains built-in limits and existing databases
  - Indicates additional new functions and/or sizes exceeding recommended square footages
  - Leaves ultimate decision to NPS insight and authority
  - Must be considered a guide rather than an imperative
    - INS Border Patrol, GSA use only guidelines, not rigid standards

Case History One: Visitor Facility Planning Model
(Custom Calculator)

What is your level of knowledge--Planning or PMIS?

NPS Facility Calculators

NPS Facility Calculators

1) Please select a Calculator Type.
2) Select a previous Project Title, or click "New Project".
3) Enter summary information, and when ready, press the "Next" button.

Definitions: Quick Calculator
Custom Sizing Calculator

Calculator Types

- Visitor Facility
- Maintenance Facility
- Museum Collection Facility
- Education Facility
- Comfort Station
- Entry Station
- Administrative Facility
- Ranger Station

Project Titles (Visitor Facility)

- Arches CC1
- Arches CC2
- Arches QC1
- North Cascades CC1
- North Cascades QC1

New Project | Edit Project Title | Duplicate Project | Delete Project

Summary

Project Title:	North Cascades CC1
PMIS Number:	11111
Region:	Pacific West
Park Name:	Ross Lake NRA
Your Name:	Tim Mann
Your Job Title:	Chief of Interpretation
Approved By:	Jon Jarvis
Job Title:	Regional Director
Created Date:	04/24/03 7:15:31 AM
Modified Date:	04/24/03 10:40:42 AM
Calculator Mode:	Quick Calculator / Custom Sizing Calculator

View Report

Start Over | << Previous | Next >>

Is this facility to be new, a rehab, an addition?

North Cascades CC1

General Project Questions

Please respond to the following questions concerning your project type. Check the box for the questions that are true.

- (●) Is this a new facility?
  - [ ] Is this a new facility that replaces an existing facility?
  - [ ] If the existing facility will be demolished, enter the gross square footage slated for demolition.
- ( ) Is this a rehabilitation of an existing facility?
- ( ) Is this an addition to an existing facility?
- ( ) Is this both a rehabilitation and an addition?
  - [ ] If this is an existing facility, what is the existing gross square footage?
  - [ ] Is this structure eligible for inclusion in the National Register of Historic Places?
    - [ ] If yes, do you have an approved Historic Structure Report?
    - [ ] Is it on the list of Classified Structures?
  - [x] Yes Does your site or other factors indicate a need for a two-story building?

Start Over | Save | << Previous | Next >>

What type of visitor facility will you have?

North Cascades CC1

Visitor Facility Description

Which statement below best describes the facility that you need? Please choose one:

- (●) The facility will have functions typically found in a visitor facility. These include, but are not limited to, lobby, information desk, exhibit area, public restrooms, theater, interpretation offices and support spaces.

  'Typical' VC

- ( ) The facility has typical visitor facility functions, but also will be a hub for multiple modes of transportation requiring bus, train, and/or boat facilities. An example of this type of facility is the Zion National Park Visitor Facility.

  Typical plus transportation hub

- ( ) The facility has typical visitor facility functions, but also will be the starting point for ticketed, guided tours of the park. An example of this type of facility is Carlsbad Caverns National Monument Visitor Facility.

  Typical plus ticketed or guided tours

- ( ) The facility has typical visitor facility functions but, also will require a large exhibition space to show a museum collection.

  Typical plus large collection display

- ( ) The facility's primary function is to exhibit a museum collection.

  Primary function is exhibiting a collection

- ( ) The facility is not the main visitor facility, but is a small visitor contact station.

  Contact station

- ( ) The facility has typical visitor facility functions, but is a shared facility with another agency or is a partnership with, for instance, a local municipality.

  Partnership or shared with other agencies

Start Over | Save | << Previous | Next >>

What role will this facility play in the visitor experience?

North Cascades CC1

Visitor Facility Description

What is the role of this visitor facility in the park? Check all that apply.

- [x] Yes — Is the facility a main destination for visitors?
- [x] Yes — Is this one of multiple visitor facilities and contact stations?

3 — If yes, what is the total number of Visitor Facilities or Contact Stations?

- [x] Yes — Is this a main visitor facility for your park (which has more than one visitor facility)?
- [ ] If yes, is there a facility within a 20-to-30-minute drive of this one?

If yes, what makes your facility unique? Describe below:

Of the following information services, what is the relative proportion of orientation, interpretation, and education information expressed as a percentage of the services you provide, e.g. 20%-60%-20%? The figures must total 100%.

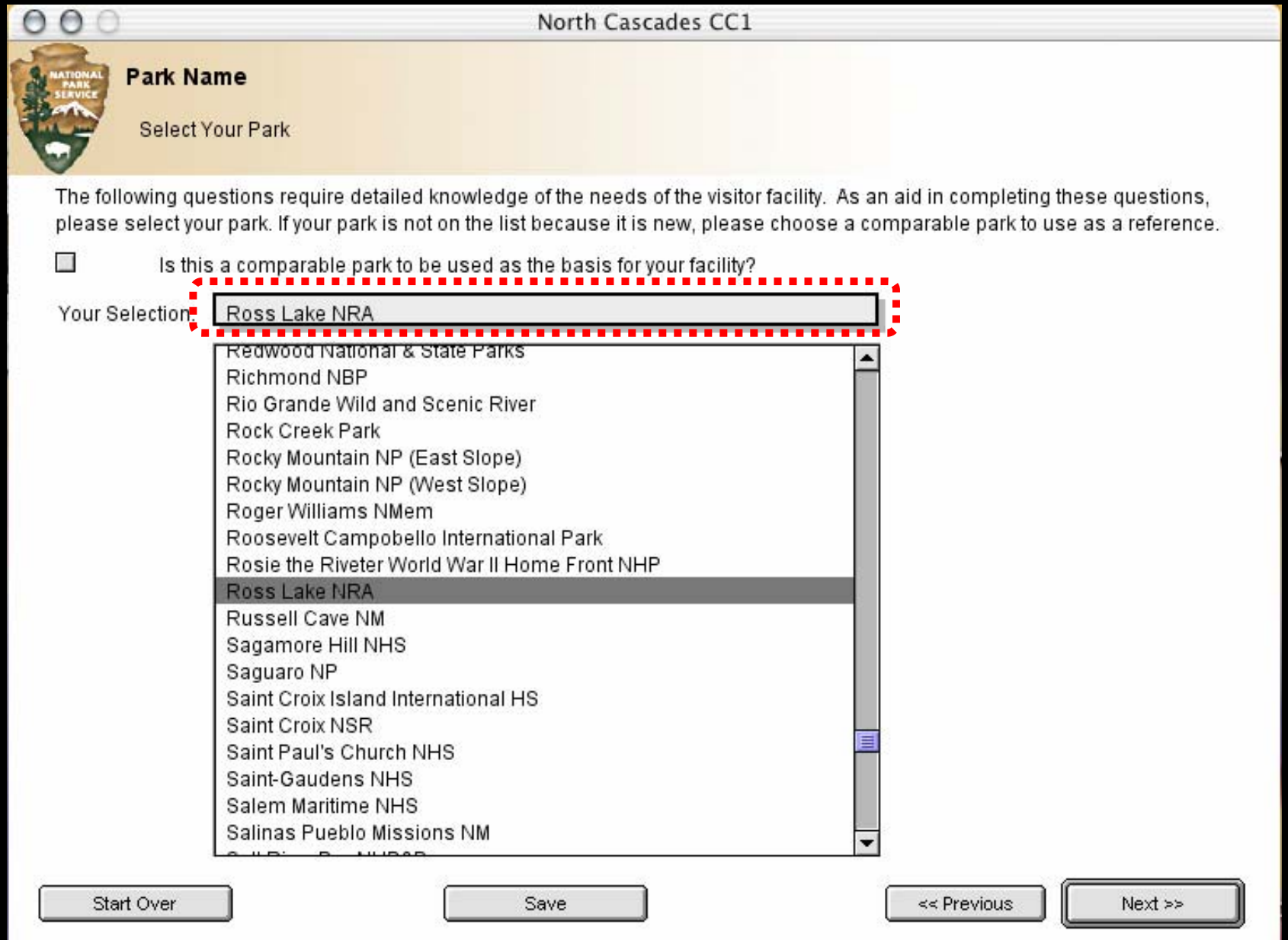
60 % Orientation

25 % Interpretation

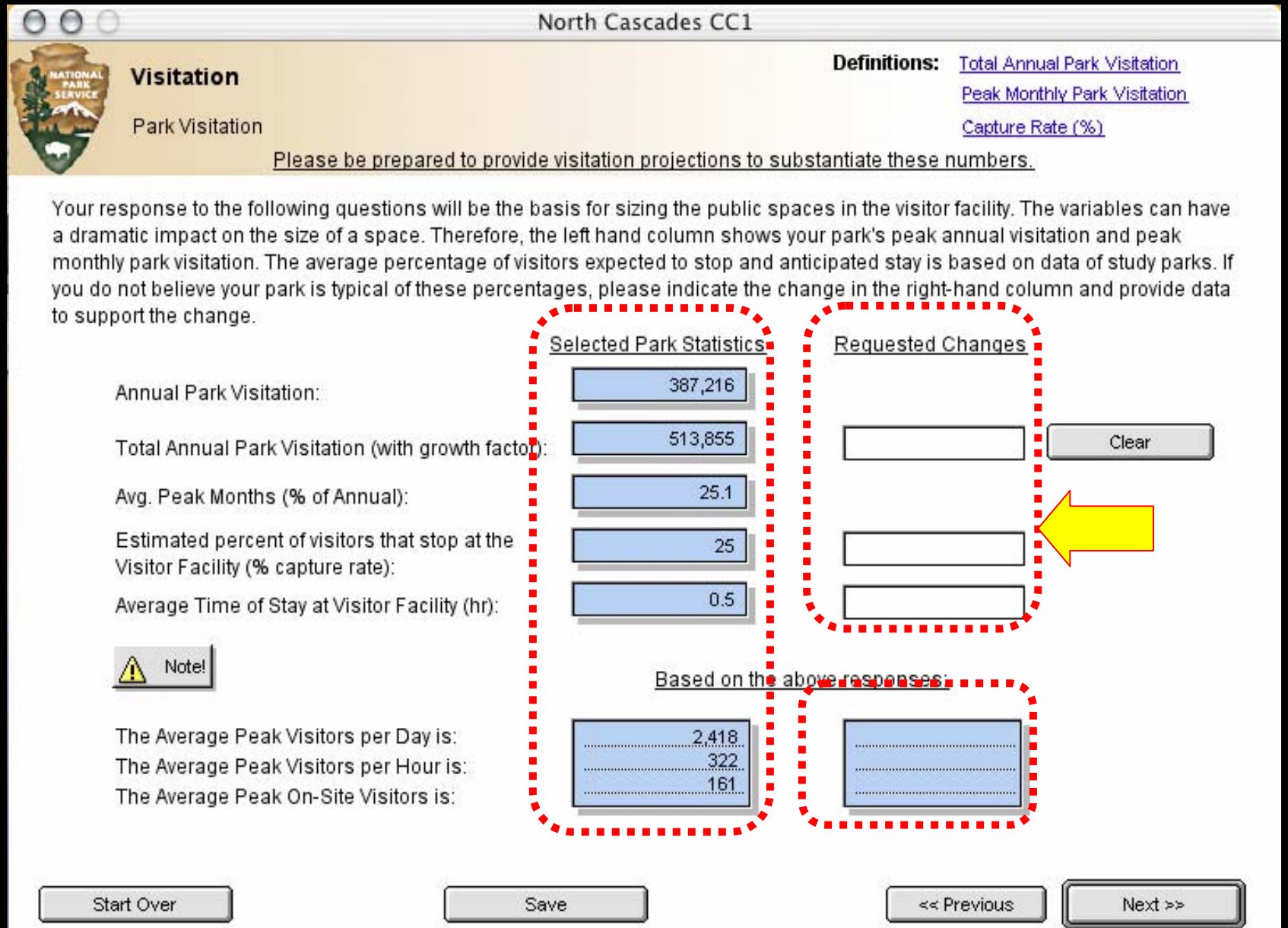
15 % Curriculum-based Education

Start Over | Save | << Previous | Next >>

Select your park. What if it is too new to have records of visitation data?

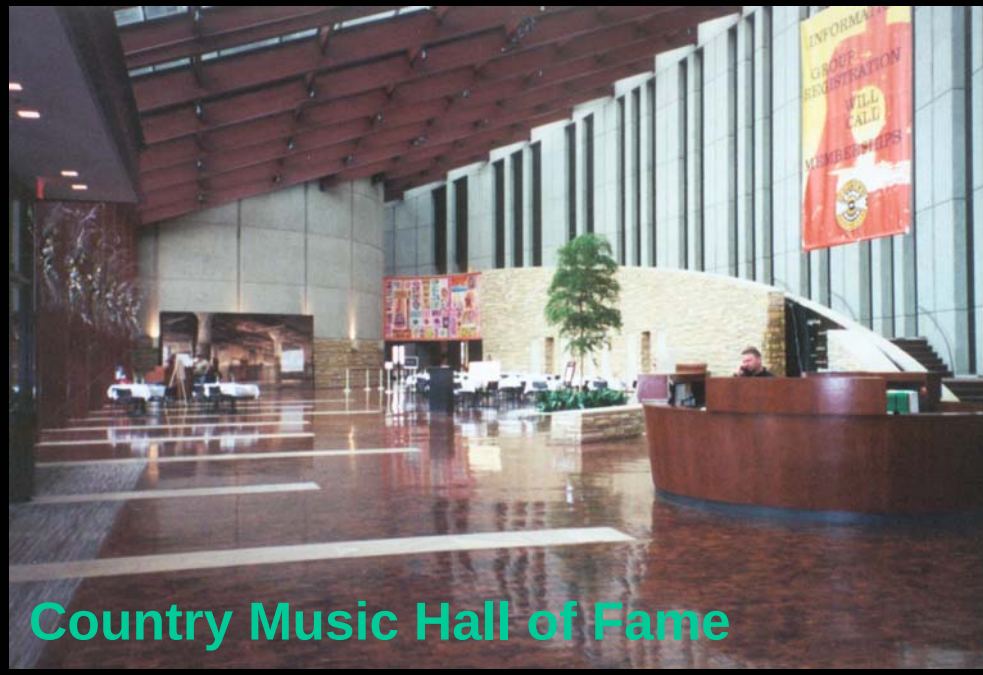


Is it possible to change some of the visitation numbers?



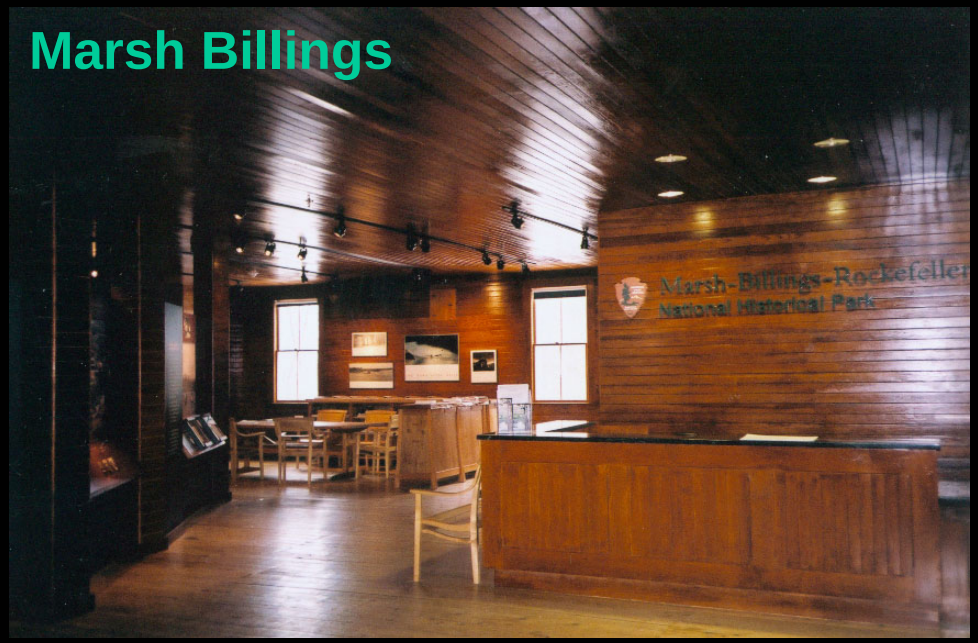
Lobby spaces

Lake Ross



Country Music Hall of Fame

Marsh Billings



Independence

How will visitors use your lobby space? Will the Cooperating Association offer educational materials?

North Cascades CC1

Public Areas

Lobby and Interpretive Sales

Based on your number of Average Peak On-Site Visitors, the lobby, orientation, and information desk space is calculated to be (nsf): 1,110 Note!

Please check all that apply:

- [x] Yes — Do you require storage for interpretive materials?
- [ ] Do you require security measures, such as tables to search bags and/or metal detectors?
- [ ] Do you require an area for the distribution and collection of visitor aids, such as listening devices?

- [x] Yes — Are you planning to have Interpretive Sales?
- [ ] Is there a nearby location that could serve the same purpose?
- 50 — What percent of the time will NPS have to staff the Cooperating Association Interpretive Sales area?

Start Over | Save | << Previous | Next >>

North Cascades

Lake Ross

Grand Portage

Exhibit spaces

Everglades

Saguaro

Will your exhibits fit?

North Cascades CC1

Public Areas

Exhibit Spaces

Based on the number of Average Peak On-Site Visitors and other factors, the exhibit space, so far, is calculated to be: 1,224

Note!

The maximum anticipated area for NPS exhibit space is 3,800 sf. If the area calculation exceeds 3,800 sf, an outdoor plaza is automatically provided for the overflow. The square footage that appears on the List of Spaces is the recommended square footage of: 1,224

Exceptions

Will you have limited or complex messages?

Note!

- ○ Does your interpretive plan indicate up to 4 themes or messages?
- ◉ Does your plan indicate over 4 themes or messages?

☐ Will you have exhibits over 100 nsf and less than 200 nsf? If yes, please give a description. Some examples could be: sculpures, relief maps, historical furniture layouts, or other large exhibits.

Description:

For exhibit articles greater than 200 nsf, see the next question.

Start Over | Save | << Previous | Next >>

Do you really need a theater?

North Cascades CC1

Public Areas

Theater Spaces

☑ Yes Does your Interpretive Plan require a dedicated theater with fixed seats?

If yes, based on the number of Peak On-Site Visitors, the theater(s) space is calculated to be (nsf): 470

The allocated space will accommodate this number of people in fixed seating: 29

☐ Is the number of seats inconsistent with your Interpretive Plan?

☐ If yes, what is the number of seats anticipated? Recalculated theater space is (nsf):

There are two instances where an additional theater/multipurpose room may be necessary. Check all that apply:

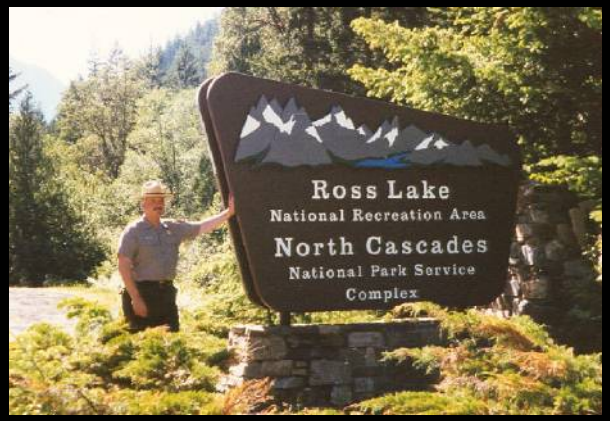
☐ 1) The allocation shown above exceeds 2,500 NSF (232 seats)

☐ 2) Your Interpretive Plan requires an additional theater for seating up to: ☐ people.

☑ Yes Do you require storage for audio/visual equipment?

Start Over | Save | << Previous | Next >>

Park staff . . .


Ross Lake
National Recreation Area
North Cascades
National Park Service
Complex

GIBRALTAR
PUT-IN-BAY
OHIO

Where will you locate the people needed to run the visitor facility?

North Cascades CC1

Staff

Staff required to run the Visitor Facility

Please fill in the appropriate boxes.

	Anticipated Full-time	Additional at Peak Season	Future Anticipated
Will Interpretive Staff be located at this facility?			
How many Interpretive Administration Staff (including support personnel)?			
How many Interpreters/Visitor Services Staff?	2	8	4
Will Cooperating Association Staff be located at this facility?		1	2
Will there be volunteers who work in this building on a recurring basis?		3	5
Others (please explain below)			

If you indicated that there are others, please describe who they are:

Total

Full Time	2
Peak Season	12
Future	11
Grand Total	25

Start Over | Save | << Previous | Next >>

Will other park administration staff expect to have offices in this facility? Why?

North Cascades CC1

Staff

Other Staff

The following questions pertain to other staff that may be co-located in the visitor facility. If these staff are added to this facility, please be prepared to justify locating them in the visitor facility.

	Anticipated Full-time	Additional at Peak Season	Future Anticipated
How many park administrative staff will be located in this facility?			
How many law enforcement staff will be located in this facility?			
How many museum collection management staff be located at this facility?			

Note!

Total

Full Time	0
Peak Season	0
Future	0
Grand Total	0

☐ Are any of the staff in the above chart currently housed in other locations? If yes, where do you currently house the staff?

☐ Have all options for locating staff in other buildings been explored?

Start Over | Save | << Previous | Next >>

Need any more staff spaces?

North Cascades CC1

Staff Area

Office Support

Note!

You will be asked to write a justification for these functions on a following screen.

☑ Yes Do you require a library? If yes:

2000 How many volumes of books are in your collection?

50 How many videos?

7000 How many slides?

Customary space needs are automatically calculated based upon staff numbers

☑ Yes Are you located in a remote area, over five to ten minutes from ranger station functions, and require a first aid station?

☐ Do you require a fee-counting room with safe storage?

☐ Do you have a volume of lost and found articles that would require a storage area?

☐ Do you require an emergency shelter?

☐ Can the staff area be used for emergency shelter without adding more space?

Offices, conference room, staff break room, interpretive work area, storage, recycle bins, staff lockers and restrooms will be calculated based personnel numbers entered.

Start Over | Save | << Previous | Next >>

Do you need to address any special visitor experiences?

North Cascades CC1

Additional Functions

Public Area - Interpretation and Education Spaces

Note!

- [ ] Does your backcountry and frontcountry permitting process require a separate area for an orientation film?

What is the number of visitors in each viewing?

- [ ] Will you have an educational program that requires a multipurpose room?

What is the average number of visitors in each program?

- [x] Yes Do you require storage for chairs and folding tables, and podiums?
- [ ] Will you require storage space for NPS carts used for visitor transportation?

If yes, how many carts will be on site?

Start Over | Save | << Previous | Next >>

Cooperating Association and Concession spaces

Saguaro

Independence

Biscayne dive shop

Lake Ross

Do you need to provide specialty concessions?

North Cascades CC1

Additional Functions

Concessionnaire

☐ Do you have a specialty concessionnaire, such as bicycle rental? If yes, please describe and indicate the amount of net square footage required. Do not include food services as this is covered in another section.

Concession Space Description	Total Net Area Required

Clear Chart

Total Net SF: 0

Note!

☐ Do you require a vending area?

☐ Does your concessionnaire contract require food service? If yes, choose the best food service option:

○ Snack Bar ○ Cafeteria

☐ For cafeterias and snack bars, do you know the number of meals to be served per hour?

☐ If yes, please indicate the number of meals per hour. If no, the space allocation will be calculated based on visitation.

Start Over | Save | << Previous | Next >>

Do you need museum collection space?

North Cascades CC1

Additional Functions

Museum Collection Space

You will be asked to write a justification for this function on a following screen.

☐ Do you require museum collections management space as part of the visitor facility?

Note!

☐ Are these activities located somewhere else? If yes, you will be asked explain why they are included in this facility.

If yes, the park is required to complete the Museum Collections Facility Planning Model.

Start Over | Save | << Previous | Next >>

Didn't turn out as you expected?

North Cascades CC1

Other Spaces

Customize Your Model

View List of Spaces

First choose the "View list of Spaces" button to review or print the list of spaces generated from your entries so far. Verify spaces and allocations. If spaces that you require are not listed then add them below. If spaces are listed, but are not sized for your needs, then put the space name and **the difference in nsf** below. For every space listed, select a Type of Space. When subtracting space, enter a minus sign before the square footage number. Please put a checkmark to indicate "Yes" for all Public spaces.

Space Name	Type of Space	NASF
	?	
	?	
	?	
	?	
	?	
	?	
	?	
	?	
	?	
	?	
	?	
	?	
	?	
	?	

Here additional spaces can be added to--or subtracted from--the model results to date

Note!

Clear Chart

Total Net SF: 0

Start Over

Save

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Next >>

Exterior elements

Need any specialized exterior areas?

North Cascades CC1

Exterior Requirements

Continued

- [x] Yes — Will deliveries be made by semitrailer? If yes, how often are deliveries made?
  - ○ Daily ○ Weekly ● Monthly ○ Annually
- [x] Yes — Do you need an area for trash pickup?

Exterior Plaza: Of the reasons for an exterior plaza shown below, please check all that apply.

- [x] Yes — 1) Visitors require 24-hour access to information.
- [x] Yes — 2) Exterior exhibit areas are desired to extend the indoor space.
- [ ] 3) There is a need for exterior queuing areas.
- [x] Yes — 4) There is a need for exterior meeting space.

- [ ] Does your Interpretive Plan require covered kiosks with free-standing exhibit boards?

  [ ] How many? If you do not know, the space allocation will be based on averages.

- [ ] Do you need a space for informal interpretative talks?

  [ ] If yes, about how many visitors will attend each talk?

- [x] Yes — Do you require a new, accessible trail as part of the visitor facility?

  [2000] If yes, how many feet of trail?

- [ ] Do you require improvement of an existing trail as part of the visitor facility?

  [ ] If yes, how many feet of trail?

Start Over | Save | << Previous | Next >>

Do you need to add visitor parking?

North Cascades CC1

Exterior Requirements

Parking - Visitors

Note!

☐ How many visitor parking spaces do you currently have available?

☑ Yes Do you need to add visitor parking spaces? If yes, please complete the following arrival distribution:

Total On-Site Visitors: 233

For the Total On-Site Visitors above, please indicate how they arrive by percentage.

% Total	Visitor Arrival By
75	Private Vehicles
5	Recreational Vehicles
20	Bus
	Commercial Boat
	Private Boat
	Train
	Hiking and Walking
	Bicycling
100	Total %

Start Over | Save | << Previous | Next >>

How much do you know about your utilities?

North Cascades CC1

Utilities

Utilities for the site

Note!

Definitions:

- Power and Natural Gas
- Sewer System
- Telephone
- Water System

☑ Yes Do you have knowledge of these issues?

If yes, check all that apply:

- ☑ Yes All utilities are on the site.
- ☐ There are partial utilities on the site.
- ☐ There are utilities that can be extended to the site.
- ☐ There are no utilities available.

Start Over | Save | << Previous | Next >>

Site constraints

soil

slope

environment

archaeology

You want to build it *where*?

North Cascades CC1

Constraints

Site and Compliance

Definitions:
- Developable Site and Constraints
- Environmental Constraints
- Archaeological Constraints
- Soils constraints
- Slope constraints

The following questions concern soils, archaeology, and environmental issues that relate to the development of the site.

☑ Yes Do you have knowledge of these issues?

If yes, check all that apply:

	Minimal	Moderate	Severe
Soil Condition	☑	☐	☐
Slope Constraints	☑	☐	☐
Archaeology	☑	☐	☐
Environmental Issues	☑	☐	☐

Start Over | Save | << Previous | Next >>

You have special needs? Please explain.

North Cascades CC1

Additional Functions

Justification

The model lists spaces added beyond the "core vc"

You have added the following functions that may or may not be located with visitor facilities. In the box below, please describe why they have been included.

Additional Functions or Issues

No justifications required. Please proceed.

Justification

Write justifications here for the added elements

Start Over | Save | << Previous | Next >>

Data Entry Is Now Complete

North Cascades Visitor Center

What is the benchmark size? What does that mean?

Visitor Facility Planning Model

Summary Report: Scroll down, or click on a button for a breakdown of the figures & detailed report.

GSF Report | Cost Report | Print Report | Print Screens

Identification:

Project Title:	**North Cascades CC1**
PMIS Number:	11111
Region:	Pacific West
Park Name:	Ross Lake NRA
Your Name:	Tim Mann
Your Job Title:	Chief of Interpretation
Approved By:	Jon Jarvis
Job Title:	Regional Director
Created Date:	4/24/03 7:15:56 AM
Modified Date:	4/25/03 1:24:10 PM
Calculator Mode:	Custom Calculator

Drivers:

Visitation and Staff	**Park Database Calculations**	**Modified Visitation**
Annual Visitation	387,216	
Projected Annual Visitation	513,855	
Average Peak Months	25.1%	
Capture Rate	25.0%	
Time Spent	.5 hr.	
On-Site Visitors	**161**	
Total Staff (NPS & others)	**25**	

Baseline Calculations:

CHECK POINTS	**Park Database Calculations**	**Modified Visitation**
Public Spaces (NSF)	3,200	
VF Staff Area (NSF)	2,500	
Administrative Staff (NSF)	0	
Tare	1,900	
Building (GSF)	**7,600**	
Recommended:		
Area Per Person in Public Spaces (NTE)	**20-25**	
Percentage of VF Staff Areas (NTE)	**SF or 33%**	
Percentage of Total Staff Areas (NTE)	**SF or 33%**	

You want it *how* big and you want to spend *how* much??

(continuation of previous chart)

Space for unique park needs shown here

Visitor Facility Planning Model

Summary Report: Scroll down, or click on a button for a breakdown of the figures & detailed report.

GSF Report | Cost Report | Print Report | Print Screens

Summary Report:

	Park Database Calculations	Modified Visitation
Public Spaces (NSF)	3,900	
VF Staff Area (NSF)	2,500	
Administration (NSF)	0	
Tare	2,700	
Building (GSF)	**9,100**	
Site (Acres)	**2.38**	
Exterior Requirements	0.98	
Site Access / Utility Extensions (Cost)		
Unique Construction Factors (Cost)		
Total Net Construction Cost	***Under Development***	
	Actual:	
Area Per Person in Public Spaces	**24**	
Percentage of VF Staff Areas	**28%**	
Percentage of Total Staff Areas	**28%**	
	Recommended:	
Area Per Person in Public Spaces (NTE)	**20-25**	
Percentage of VF Staff Areas (NTE)	**SF or 33%**	
Percentage of Total Staff Areas (NTE)	**SF or 33%**	

Check-point values are met

Definitions:

GSF- Gross Square Feet
NASF- Net Assignable Square Feet
NSF- Net Square Feet
NTE-Not to exceed
Tare (for buildings)-Corridors, walls, mechanical, electrical, vertical shafts, vertical circulation, janitor closets, etc.

Why are the North Cascades NP/Ross Lake NRA model results different from the benchmark?

Increases from baseline due to:

- Emphasis on Orientation rather than Interpretation
  - Changes the distribution of people within the building
- Higher Tare factor (30%)
  - Required for two-story structure (includes stairs, elevators, mechanical shafts)

How do the North Cascades/Ross Lake Visitor Center results compare with the existing facility?

- The existing facility is bigger
  - The Model estimates a need for 9,100 GSF
  - The facility as constructed is 11,950 GSF
- Site visits and staff interviews indicated
  - Inadequately sized information desk
  - Crowded lobby
  - Theater for 80 seats never fills over 20
- Model estimate points to
  - Greater efficiency of use
  - Redistribution of space
  - Smaller facility

Case History Two: Visitor Facility Planning Model

(Custom Calculator)

What is your level of knowledge--Planning or PMIS?

NPS Facility Calculators

NPS Facility Calculators

1) Please select a Calculator Type.
2) Select a previous Project Title, or click "New Project".
3) Enter summary information, and when ready, press the "Next" button.

Definitions: Quick Calculator
Custom Sizing Calculator

Calculator Types

- Visitor Facility
- Maintenance Facility
- Museum Collection Facility
- Education Facility
- Comfort Station
- Entry Station
- Administrative Facility
- Ranger Station

Project Titles (Visitor Facility)

- Arches CC1
- Arches CC2
- Arches QC1
- North Cascades CC1
- North Cascades QC1

Summary

Project Title:	Arches CC1
PMIS Number:	16694
Region:	Intermountain
Park Name:	Arches NP
Your Name:	Diane Allen
Your Job Title:	Chief of Interpretation
Approved By:	Karen Wade
Job Title:	Regional Director
Created Date:	04/24/03 7:50:14 AM
Modified Date:	04/24/03 10:53:24 AM
Calculator Mode:	Quick Calculator / Custom Sizing Calculator

View Report

New Project | Edit Project Title | Duplicate Project | Delete Project

Start Over

<< Previous | Next >>

Is it possible to change some of the visitation numbers?

Arches CC1

Visitation

Park Visitation

Definitions: Total Annual Park Visitation
Peak Monthly Park Visitation
Capture Rate (%)

Please be prepared to provide visitation projections to substantiate these numbers.

Your response to the following questions will be the basis for sizing the public spaces in the visitor facility. The variables can have a dramatic impact on the size of a space. Therefore, the left hand column shows your park's peak annual visitation and peak monthly park visitation. The average percentage of visitors expected to stop and anticipated stay is based on data of study parks. If you do not believe your park is typical of these percentages, please indicate the change in the right-hand column and provide data to support the change.

	Selected Park Statistics	Requested Changes	
Annual Park Visitation:	769,672		
Total Annual Park Visitation (with growth factor):	769,672	769672	Clear
Avg. Peak Months (% of Annual):	14.0		
Estimated percent of visitors that stop at the Visitor Facility (% capture rate):	25	60.8	
Average Time of Stay at Visitor Facility (hr):	0.5	0.5	

Note!

Based on the above responses:

The Average Peak Visitors per Day is:	2,020	4,914
The Average Peak Visitors per Hour is:	269	655
The Average Peak On-Site Visitors is:	135	328

Start Over | Save | << Previous | Next >>

What is the benchmark size? What does that mean?

Visitor Facility Planning Model

Summary Report: Scroll down, or click on a button for a breakdown of the figures & detailed report.

GSF Report | Cost Report | Print Report | Print Screens

Identification

Project Title:	**Arches CC1**
PMIS Number:	16694
Region:	Intermountain
Park Name:	Arches NP
Your Name:	Diana Allen
Your Job Title:	Chief of Interpretation
Approved By:	Karen Wade
Job Title:	Regional Director
Created Date:	4/24/03 7:50:56 AM
Modified Date:	4/25/03 11:31:10 AM
Calculator Mode:	Custom Calculator

Drivers:

Visitation and Staff	**Park Database Calculations**	**Modified Visitation**
Annual Visitation	769,672	769,672
Projected Annual Visitation	769,672	769,672
Average Peak Months	14.1%	14.1%
Capture Rate	25.0%	60.8%
Time Spent	.5 hr.	.5 hr.
On-Site Visitors	**135**	**328**
Total Staff (NPS & others)	**34**	**34**

Baseline Calculations:

CHECK POINTS

	Park Database Calculations	**Modified Visitation**
Public Spaces (NSF)	3,400	6,600
VF Staff Area (NSF)	2,600	5,000
Administrative Staff (NSF)	1,500	2,000
Tare	2,500	4,500
Building (GSF)	**10,000**	**18,100**
Recommended:		
Area Per Person in Public Spaces (NTE)	**25-30**	**20-25**
Percentage of VF Staff Areas (NTE)	**SF or 26%**	**SF or 28%**
Percentage of Total Staff Areas (NTE)	**SF or 41%**	**SF or 39%**

You want it *how* big and you want to spend *how* much??

(continuation of previous chart)

Space for unique park needs shown here

Visitor Facility Planning Model

Summary Report: Scroll down, or click on a button for a breakdown of the figures & detailed report.

GSF Report | Cost Report | Print Report | Print Screens

Summary Report:

	Park Database Calculations	Modified Visitation
Public Spaces (NSF)	4,500	7,700
VF Staff Area (NSF)	3,100	3,400
Administration (NSF)	1,700	1,700
Tare	4,000	5,500
Building (GSF)	**13,300**	**18,400**
Rehabilitated Area	5,600	5,600
Addition Required	**7,700**	**12,800**
Site (Acres)	**2.19**	**3.63**
Exterior Requirements	0.35	0.88
Site Access / Utility Extensions (Cost)		
Unique Construction Factors (Cost)		
Total Net Construction Cost	***Under Development***	
	Actual:	
Area Per Person in Public Spaces	**33**	**24**
Percentage of VF Staff Areas	**23%**	**19%**
Percentage of Total Staff Areas	**36%**	**28%**
	Recommended:	
Area Per Person in Public Spaces (NTE)	**25-30**	**20-25**
Percentage of VF Staff Areas (NTE)	**SF or 26%**	**SF or 28%**
Percentage of Total Staff Areas (NTE)	**SF or 41%**	**SF or 39%**

Check-point values are met

Is the Modified Benchmark valid for the Arches model results?

Arches VC Benchmark Modification:

- Visitation changes based on Park-supplied data
  - A higher capture rate of 60.8%
- Capture rate driver is valid

NPS management decision:

- Do justifications merit other requested spaces?
  - Orientation theater
  - Multipurpose room w/ chair & table storage
  - Lost & found, fee counting, first aid station

Ways to ensure success

- Use the Model as a tool for evaluation
- Involve trained “professionals” in model applications
- Gain approval from authorized entity
- Be aware that model results are predictions accurate to plus or minus 10 percent

Thank you.

WASO
Park Planning, Facilities, and Lands
Construction Program Management
http://construction.den.gov