

Visitation Capacity Planning for Public Venues



ORCA Consulting
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ORCA Consulting Expertise

**Operations
& Visitor
Experience**

**Visitor
Capacity &
Circulation**

Operations/Visitor Experience

- Ease of operation
- Cost efficiency
- Revenue enhancement
- Visitor satisfaction
- Ancillary business opportunities
- Operational insights
- Visitor program development
- Staff development
- Visitor amenities
- Implementation strategies

Visitor Capacity and Circulation

- Design and peak day attendance
- Visitor length of stay
- Instantaneous visitor counts
- Visitor capacity
- Wayfinding strategy
- Public space and support facility sizing and configuration
- Circulation
- On-site transportation capacity
- Reservations and ticketing strategy

Major Categories of Leisure Venues

Public Sector

- Nature & historic parks & sites
 - National
 - International
 - Regional
- Urban public venues
 - Zoos & Aquariums
 - Museums, Galleries, Gardens
 - Visitor Centers
 - Concert & theatre venues
- Fairs & Expositions

Private Sector

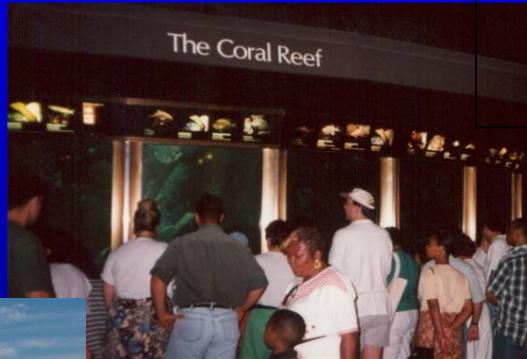
- Theme parks & attractions
- Resort destinations
- Sports venues
- Entertainment venues
- Traveling venues

The Spectrum of Leisure Venues



Theme Parks

Non-profits



Private Sector

National Parks



Increasing emphasis on revenues & profit

Comparison of Management Objectives: National Parks vs Theme Parks

National Parks

- Provide unique opportunities for visitors to experience priceless & one-of-a-kind resources
- Try to accommodate visitation, but not encourage more of it

Theme Parks

- Provide exciting experiences that simulate reality or fantasy
- Maximize attendance & profits through marketing and meeting visitors' needs

Comparison of Management Objectives: National Parks vs Theme Parks

National Parks

- Protect sensitive & valuable resource
- Respond to a host of non-NPS stakeholders

Theme Parks

- Renovate or replace resources that are no longer cost-effective
- Comply with appropriate regulations, but plan & operate autonomously from outside influences

Comparison of Management Objectives: National Parks vs Theme Parks

National Parks

- Operate the parks as effectively as possible with limited funds / seek alternate funding sources
- Provide basic visitor services & amenities with little emphasis on revenues

Theme Parks

- Provide capital & operating revenues as needed to maximize attendance and profits
- Provide ample visitor services and amenities to maximize visitor comfort & profits

Comparison of Management Objectives: National Parks vs Theme Parks

National Parks

- Manage visitor stay time to mitigate congestion
- Provide a variety of experiences , ranging from high social densities to opportunities for solitude

Theme Parks

- Increase visitor stay time to maximize spending
- Plan for a balanced distribution of visitors across the key resources to maximize comfort and profits

Impacts of Management Objectives on Visitation Capacity Planning

- Capacity Limitations of key resources
- Acceptable levels of crowding & congestion
- Ability to develop & implement standards
- Ability to develop & implement improvements
- Level of visitor services
- Visitor experience satisfaction
- Planning sophistication

Planning Similarities

- Planning objectives may be different, but similar capacity planning approaches have been shown to be very effective



Planning Similarities



- Many problems can be solved by getting visitors out of their cars and onto alternative & fun transportation



Planning Similarities

- Need to provide for effective visitor information, orientation and wayfinding



Capacity Planning Terminology

National (& other) Parks

- Carrying Capacity
- Sustainable Capacity
- Recreation Capacity
- Limits of Acceptable Growth
- VERP
- PAOT

General Planning Terms

- Attendance Capacity
- Visitation Capacity
- Admissions Capacity
- Throughput Capacity
- THRC, OSHRC
- Instantaneous visitor counts

Importance of Visitation Capacity Planning

- Protection of valuable resources
- Optimal utilization of key resources
- Spend budgets cost-effectively
- Manage “excess” recreational demand
- Provide comfortable and enjoyable visitor experience

Effects of Excessive Visitation

- Resource deterioration
- Reduced visitor experience quality
- Reduced future visitation through word of mouth



Assessing the problems

- Each site is unique and requires a tailored solution approach
- Issues related to carrying capacity should be assessed holistically
- Local stakeholders should be engaged



Mitigation Strategies for Overcrowding

- Establish & implement realistic carrying capacities
 - Consider both visitor experience and resource protection
- Identify opportunities to increase capacity
 - Viewing areas at key resources
 - Add activity areas
 - Implement operating procedures
- Shift visitation into non-peak periods
 - Hours
 - Days
 - Seasons

Managing the visitor experience

Visitor experience should be managed to sustain revenues and future attendance

- Set the stage for the visitors' experience
- Provide appropriate wayfinding
- Eliminate circulation choke points
- Develop an effective path network
- Provide adequate amenities
- Provide a variety of interpretive experiences

Self-sustaining financial structure

- Often, critical site improvements cannot be implemented due to lack of funding
- Visitors are willing to pay a fair price for unique experiences
- Financial mechanisms are needed to ensure that a site can be sustained and preserved for future generations

Attendance Analysis

**Annual Attendance
Estimates**

**Seasonality
Analysis**

Daily Distribution of Annual Attendance

**Venue
Program**

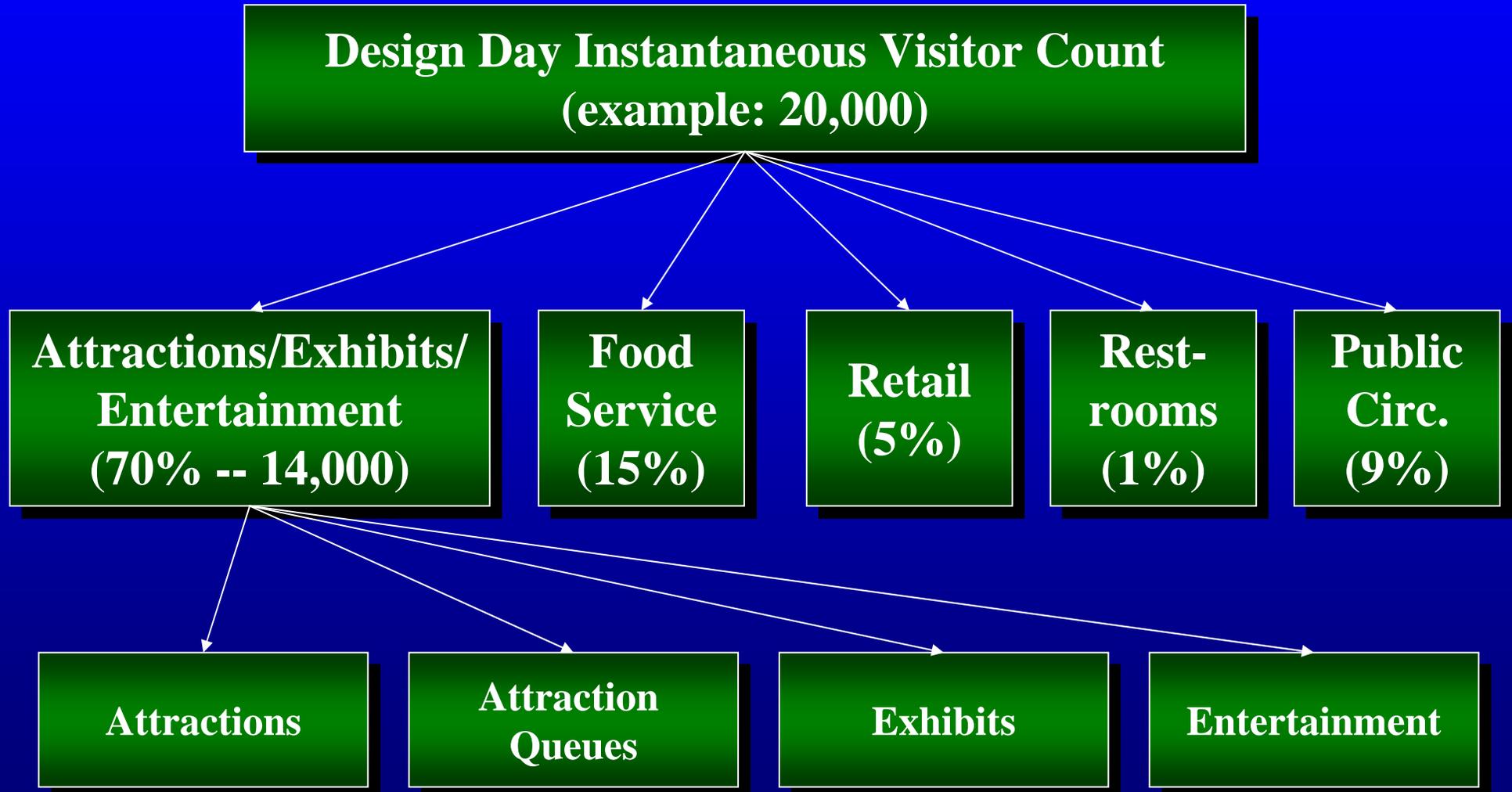
Attendance Design Criteria

- Design Attendance Day
- Peak Attendance Day
- Hourly Visitor Arrivals
- Inst Visitor Counts (PAOT)

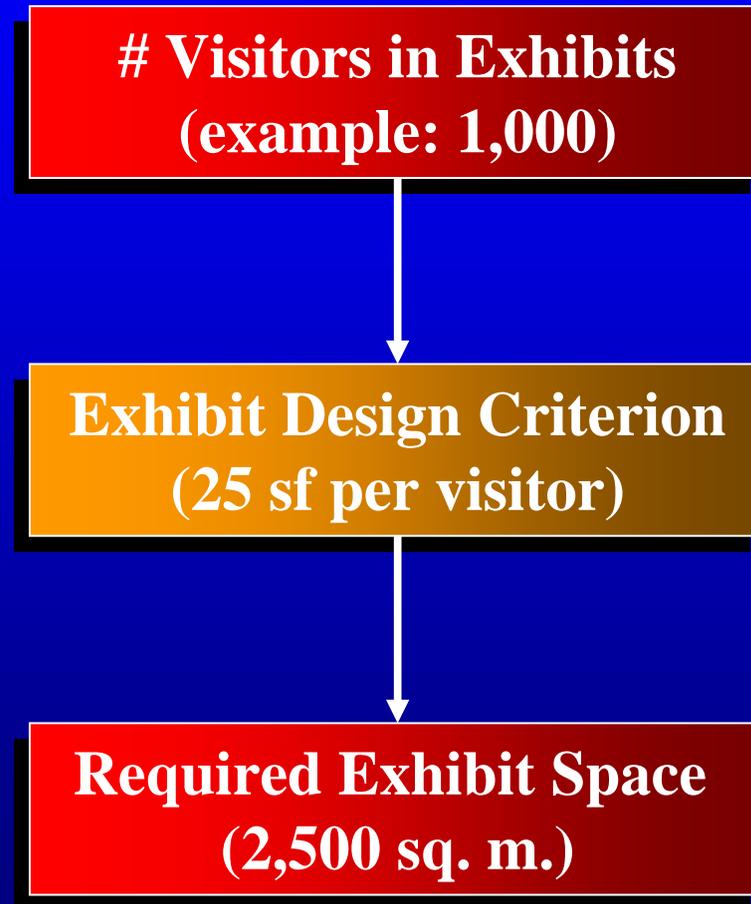
**Operational
Planning**



Instantaneous Visitor Count Distribution



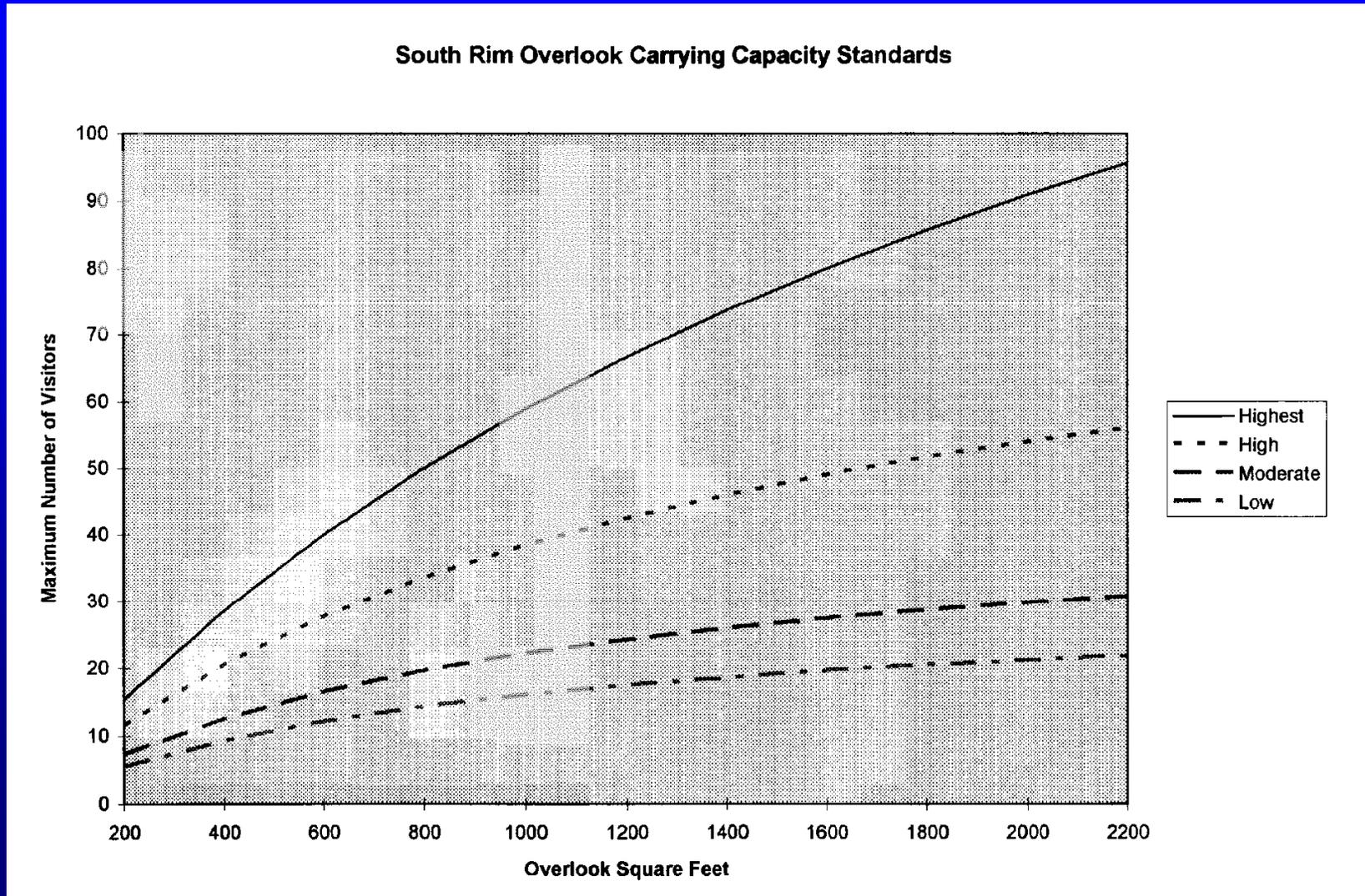
Capacity Planning Methodology for Exhibits



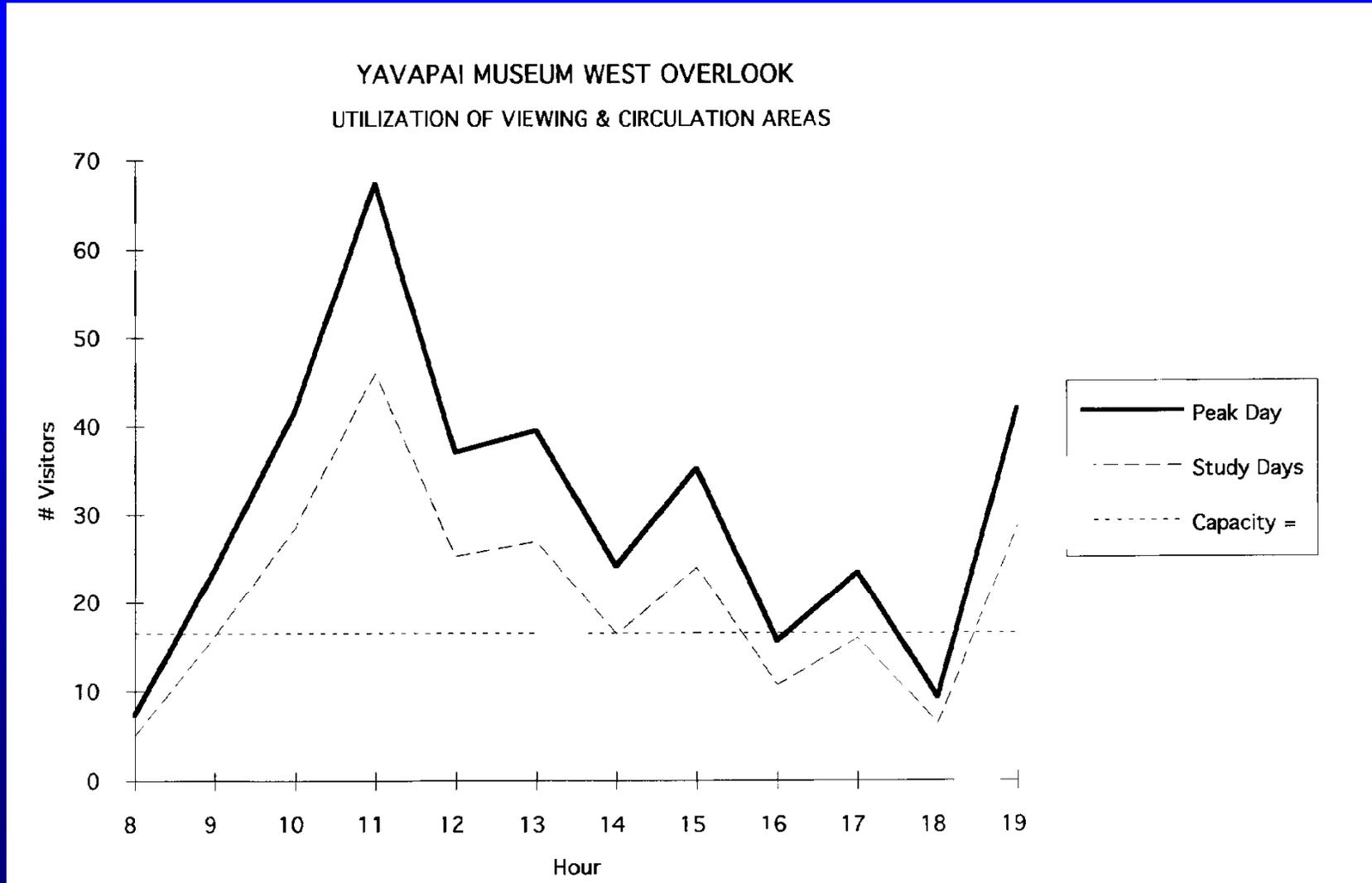
Typical Capacity Planning Standards for Theme Parks

- Attraction Wait Times
 - Design Day: 15 / 45 minutes
 - Peak Day: 30 / 90 minutes
- Fast Food Wait Times: 5 / 15 min. Design Day
- Ticket Booths: 10 minutes Peak Day
- Restrooms: Zero Wait Peak Day

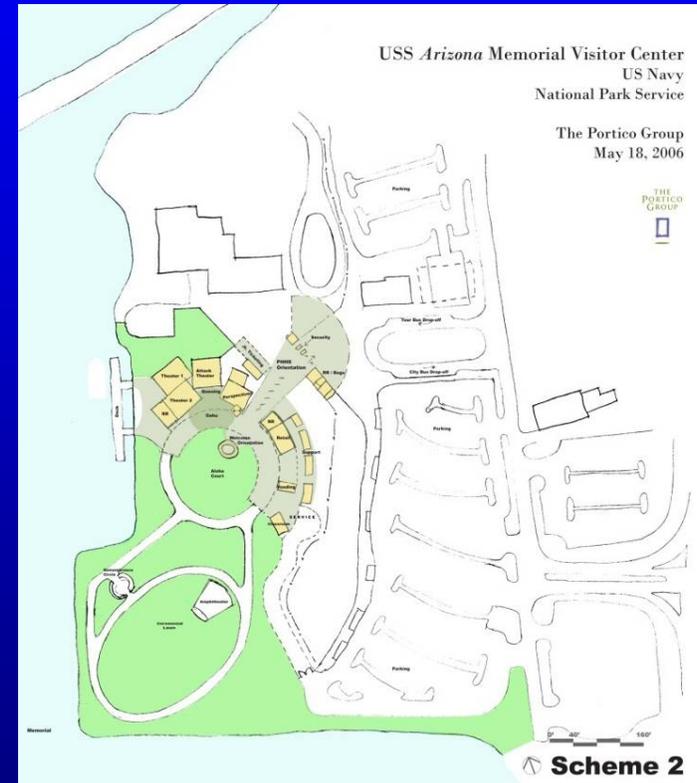
Grand Canyon Example - Methodology for Visitor Carrying Capacities of Overlooks



Visitor Use at Yavapai Overlook Area



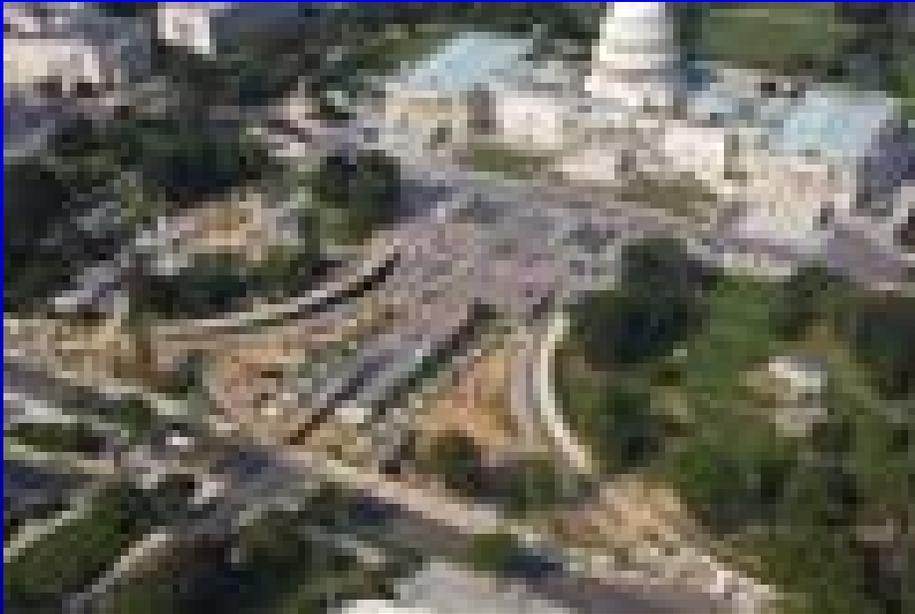
Example: USS Arizona Memorial Visitor Center



Example: Statue of Liberty Monument Reopening



Example: U.S. Capitol Visitor Center



Conclusion



- Major planning consideration: provide memorable and comfortable visitor experiences