

# Influence of Transportation Systems on Visitor Experiences in Yosemite National Park





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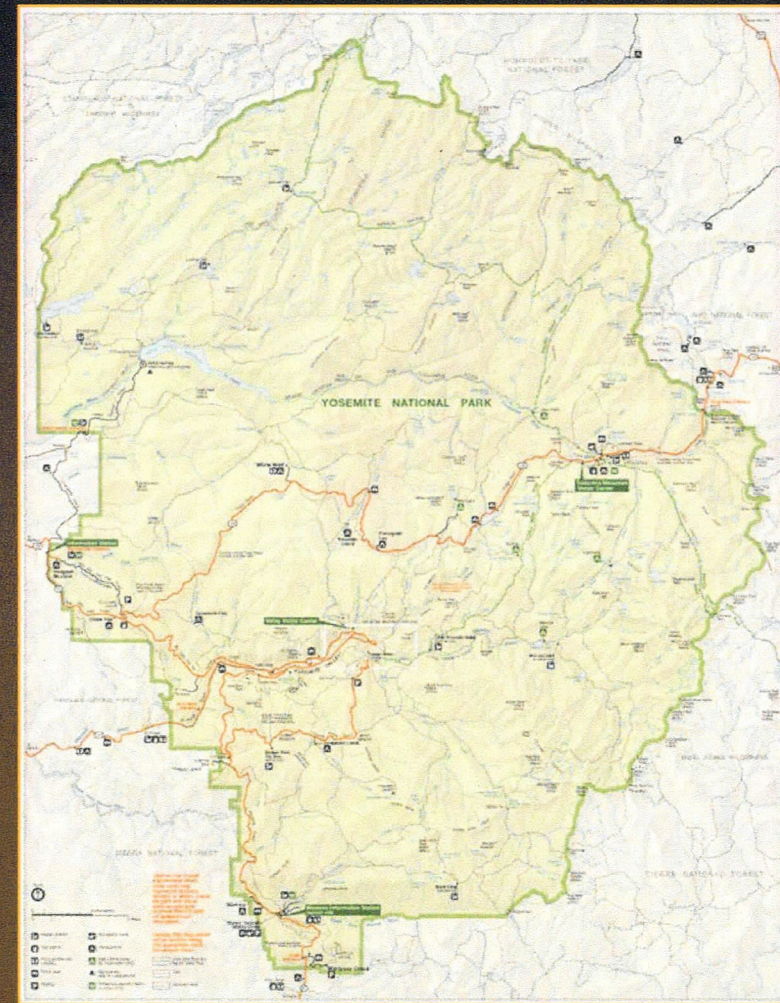
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ARIZONA STATE UNIVERSITY





# Presentation Roadmap

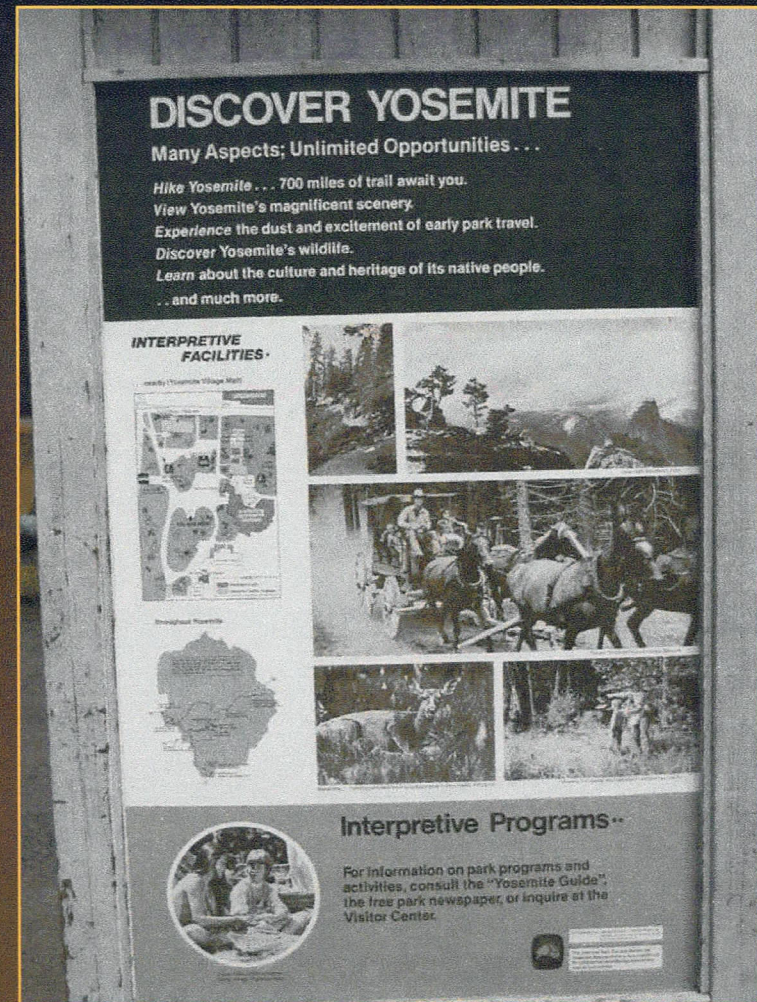
- Introduction
- Study Background and Objective
- Visitor Experience Research
- Methods
- Preliminary Results
- Discussion and conclusion





# Research Partners

- Yosemite National Park
- NPS Denver Service Center
- NPS Social Science Program
- ASU School of Community Resources & Development





# Study Background and Justification

- **Study objective: to evaluate the impact of transportation systems on visitors' experiences of Yosemite National Park**
- **Study justifications**
  - Transportation moderates the relationship between visitor and experience of the natural, cultural, and social landscapes
  - Almost no research on how transportation *affects* visitor experience, yet transportation is a pervasive aspect of many “crown jewel” National Parks (e.g., Zion, Grand Canyon, Yosemite, Yellowstone)
  - Assist National Park Service with making decisions about transportation policy



# Visitor Experience Research





# Visitor Experience Research

- **Visitor experience as a interaction between individual, social, and physical landscapes (Brody, et al. 2002)**
- **Key domains of visitor experience**
  - Thoughts and learning (Brody, et al. 2002)
  - Affect / emotion / mood (Chhetri, et al. 2004; Hull & Stewart 1995)
  - Behaviors
- **Dynamic and occurs in multiple phases (Borrie & Roggenbuck, 2001; Arnould & Price, 1993)**
- **Transportation as a dimension of visitor experience (Davenport & Borrie, 2005)**
  - Significant visitor experiences included *seeing an abundance of diverse wildlife in their natural habitat and viewing unique natural scenery and geological processes*
  - Visitors considered the snowmobile to be a *form of transportation and a means to experience the park* that facilitated the interaction with the landscape and ability to attain significant meanings



# Visitor Experience Research

(Davenport & Borrie, 2005)

*“I don’t think I could enjoy it half as much from a vehicle looking out. I think it gives you a sense of freedom and an ability to guide your own destiny with stopping at certain sites and seeing different animals and so forth.”*

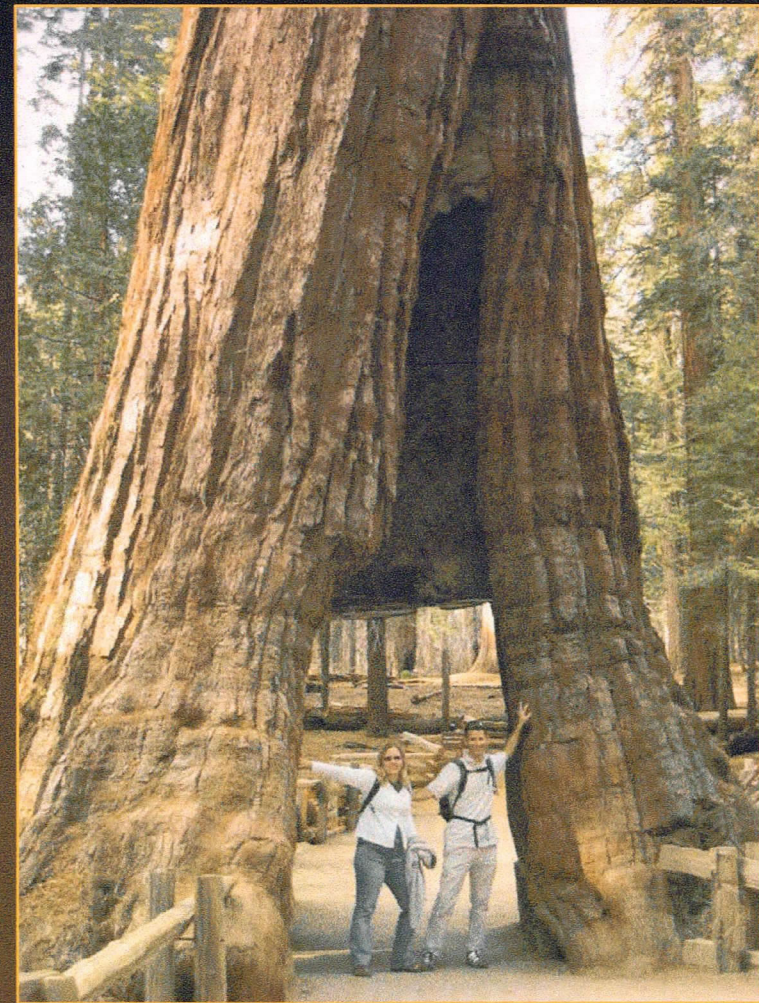
*“You’re really not here to snowmobile so much. You can ride fast anywhere and ride good trails. You’re here to see the sites and see nature and all that.”*





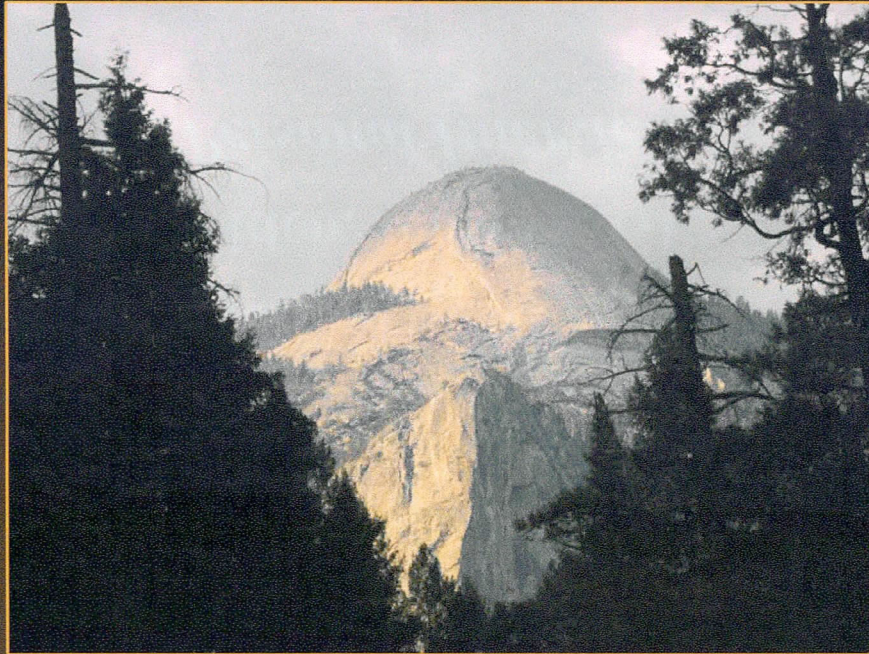
# Visitor Experience Research

- **Methods of studying visitor experience**
  - Questionnaires
  - Diaries
  - Experience Sampling Method
  - Video, sensors, GPS
  - *Personal Interviews*





# Sampling and Data Collection



- Convenience sampling
- Face to face, semi-structured interviews conducted with adult park visitors at seven locations in Yosemite Valley
  - Approximately 15 minutes in length and 11 questions
  - **100 interviews completed in August 2005 (high-use season)**
  - 60 interviews completed in October 2005 (lower-use season)
- Demographic questionnaire
  - One-page, self administered



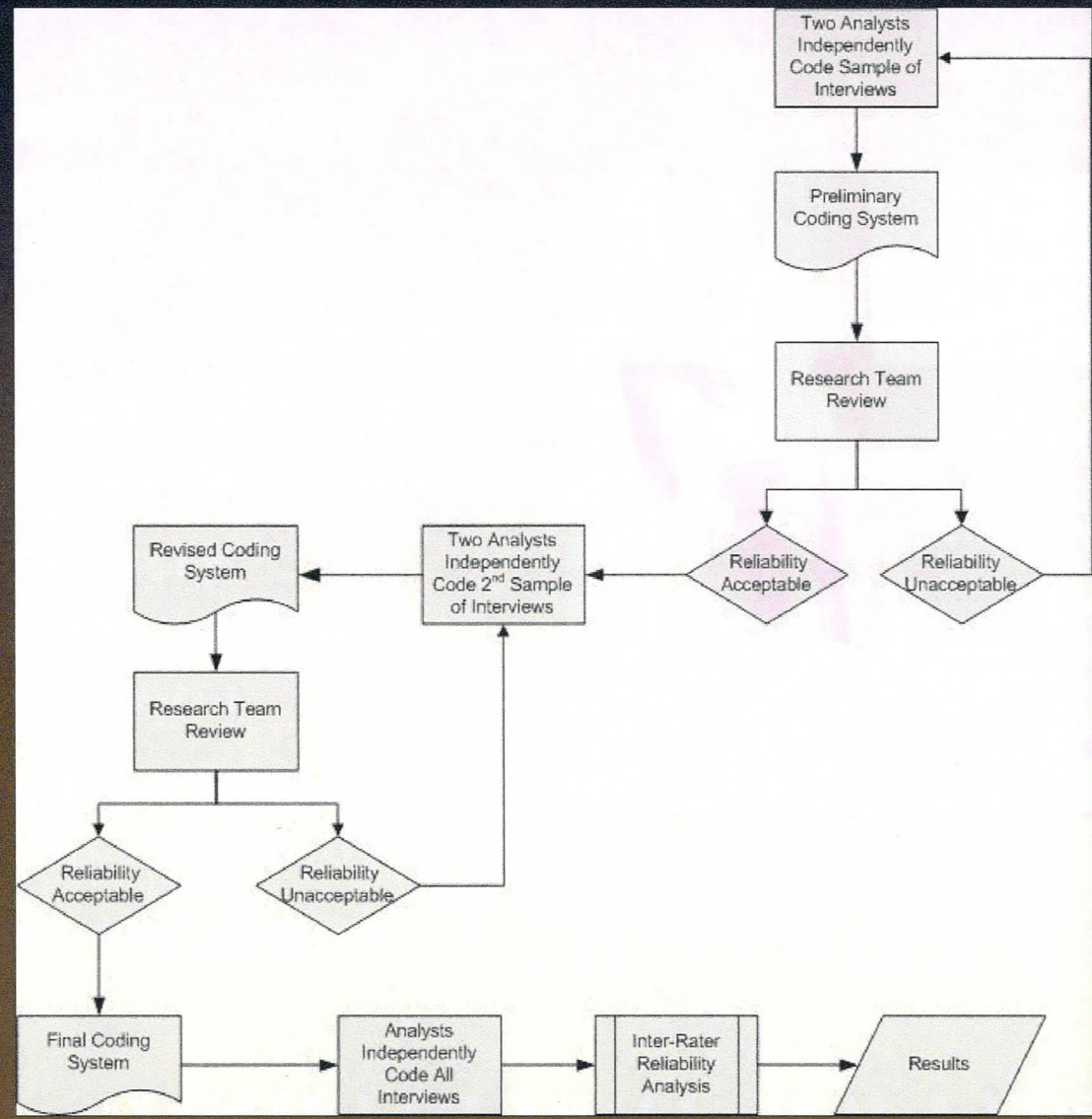
# Semi-structured Interview Protocol

- **Experience-use-history**
- **Visitor preferences for transportation modes**
- **Significant visitor experiences *while traveling* through the park**
- **Impact of transportation on meaningful experiences and learning experiences**
- **Visitors' preferences for transportation management in YOSE**





# Qualitative Data Analysis: Team-based Coding





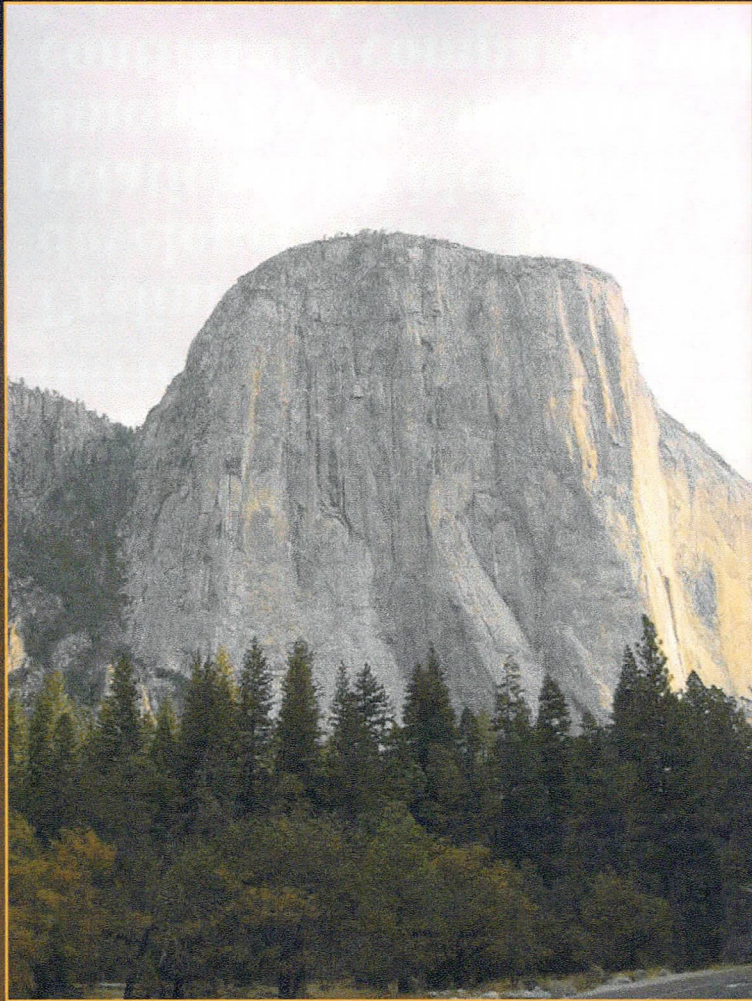
# Codebook Development

- **Approximately 400 categories were developed to code the 100 interviews from the high-use season**
- **Coding categories include the range of meaningful responses given by a visitor during the interview**
- **Preliminary themes developed and refined, relationships identified among key themes and continually compared with interview data**

- 5.7. Why did you choose [mode of travel]?
- What are the advantages of traveling though the park by [mode of travel]?
- 5.7.1. Individual benefits
    - 5.7.1.1. Personal freedom / choice
      - 5.7.1.1.1. Able to see more
      - 5.7.1.1.2. Ability to go specific places
      - 5.7.1.1.3. Ability to stop when and where you want
    - 5.7.1.2. Physical fitness
    - 5.7.1.3. Convenience
      - 5.7.1.3.1. Fast / quick
      - 5.7.1.3.2. Makes park more accessible
      - 5.7.1.3.3. Don't have to deal with parking
      - 5.7.1.3.4. To avoid driving
      - 5.7.1.3.5. Simple
  - 5.7.2. Environmental benefits
    - 5.7.2.1. Conservation / protection of park resources
    - 5.7.2.2. Development of environmental ethic
  - 5.7.3. Social and cultural benefits
    - 5.7.3.1. Family bonding
    - 5.7.3.2. Pride in community / park
  - 5.7.4. Curiosity
    - 5.7.4.1. Kids are curious
  - 5.7.5. Economic benefits
    - 5.7.5.1. Price or cost
  - 5.7.6. Other
  - 5.7.7. None / no advantages
  - 5.7.8. DK
- 5.8. What are the disadvantages of traveling though the park by [mode of travel]?
- 5.8.1. Inconvenience
    - 5.8.1.1. Slower than traveling on own
    - 5.8.1.2. Too frequent stops
    - 5.8.1.3. Dealing with bike locks
  - 5.8.2. Physical exhaustion
  - 5.8.3. Conflict with other visitors
  - 5.8.4. Crowding
  - 5.8.5. Getting lost
  - 5.8.6. None
  - 5.8.7. Other
  - 5.8.8. DK



# Study Findings





# Experience-Use-History

- **Number of prior visits to Yosemite and other NPs**
  - 55 of 86 visitors had been to Yosemite before, with an average of 1.28 visits in the last five years
  - Experience ranged from some who had visited no other national parks in the past five years, to some visitors who had been to as many as nine in the past five years
  - Most frequently visited NPs: Grand Canyon, Zion, and Yellowstone National Parks



# Visitor Preferences for Transportation Modes

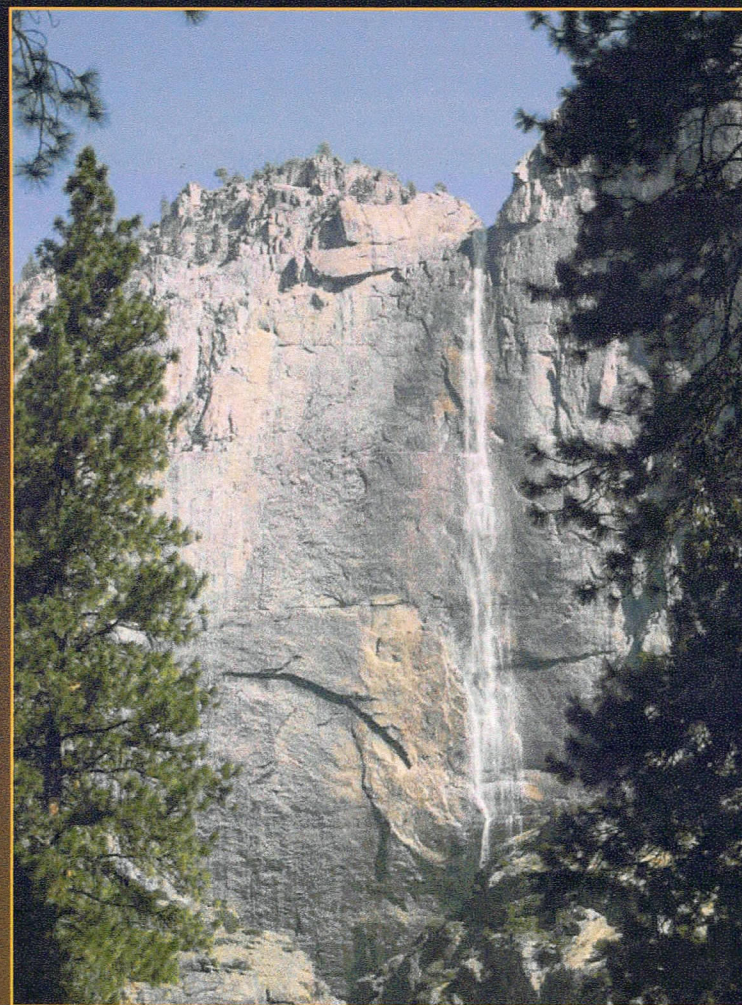
- **How visitors traveled to and through the park during this visit**
  - About two thirds of visitors traveled to the park in a personal vehicle (not including RVs)
  - About one quarter traveled to the park in rental vehicles
  - Once in the park, most visitors preferred to ride the shuttle bus or walk/hike





# Significant Visitor Experiences

- **Viewing natural landscape, scenery, and wildlife were most memorable and significant aspects of experience for visitors**
  - Pleasurable emotions and mood inspired by viewing the spectacular waterfalls
  - Sense of wonder or awe when viewing dramatic granite features such as Half Dome
- **Natural features provided the context or anchor for individuals to consider past experiences, learn about natural processes, and discuss experience with social group**
- **Transportation provided context for social construction of experience as for visitors to tell “stories” of the day**





# Significant Visitor Experiences

- Viewing wildlife, such as bears, deer, and coyotes in their natural environments was meaningful to visitors
  - Feelings of excitement, fear, and novelty





# Impact of Transportation on Visitor Experiences

- **Shuttle Bus**
  - Enhanced experiences because huge windows, air-conditioned and allow visitors to feel safer
- **Car**
  - Enhanced experiences by allowing visitors unique access and opportunity, as well as the ability to travel at own pace, or had no effect at all
- **Foot**
  - Enhanced experiences by allowing visitors unique access and opportunity, as well as the ability to travel at own pace

*“[The park shuttle] is much easier, and I’ve read there are all sorts of problems with pollution here, and I think that [the shuttle] is clean powered. That’s great.”*

- 41 year old, female visitor on environmental advantages using the shuttle park

*“You can stop, you can look at the views, you’re not rushing around, if you are tired you can have a break...walking you experience it better, particularly the smells of the trees and the floor.”*

- 56 year old, female visitor on advantages of walking through the park



# Learning Experiences

- Visitors found it meaningful to learn about the park's natural history and environment through signage, observation, or interpretive tours

*“Oh, just how the park was made. We did the moonlight thing and the park ranger had a very good speech/story about the history of the park and how it was made, and the last 500 years of history. It was very interesting.”*

– 49 year old, male visitor on learning experience



# Least Enjoyable Experiences

- Although most visitors reported no negative experiences, the most commonly reported least enjoyable experience was perceptions of *crowding* while traveling through the park
- The negative impact of the transportation system on the natural scenery was also noted
  - This is particularly concerning because it is affecting the most meaningful experiences

*“Because I guess all the tour buses take off from out in front here, so I guess there’s just a ton of people. [Interviewer: do you feel that detracts from your overall experience in any way?] Yeah, just buses and bus fumes and you know, tons of people, and it just kind of takes away from some of the nature.”*

- 41 year old female visitor on effects of tour buses



# Visitor Preferences for Transportation Management

- How the park should manage transportation services in the future
  - More than half wanted the park to focus on providing more shuttle bus services
  - Many visitors believe the park should discourage the use of personal vehicles to travel through the park, mostly to reduce crowding

*“Yes, highly, yes. [Interviewer: Any particular reasons you feel that way?] Just to preserve what we have, so my grandkids and their grandkids can still see it.”*

- 49 year old, male visitor when asked about discouraging use of personal vehicles



# Discussion and Conclusion





# Discussion and Conclusion

- Visitors to Yosemite National Park said viewing dramatic natural scenery, unique landscapes, and protected wildlife provided unique and meaningful experiences
- The transportation system seem to have a moderately positive impact on experiences for visitors; very few visitors mentioned any negative impact of transportation system on their most meaningful experiences
- However, some visitors noted traffic and crowding as negatively impacting their overall park experience
- Most visitors value the opportunity to use personal vehicles to travel *to* the park, but agree that the park should *encourage* the use of the shuttle to travel in the park



# Future Research

- **Complete qualitative analysis of interview data to identify relationships among themes, differences between high-use and lower-use seasons, and effect of use-history and other visitor characteristics**
- **Produce a concept map and hypotheses about influence of specific modes of transportation on specific experiences that may be tested with a survey of random visitors**
- **Present study to Yosemite National Park planners to inform transpiration policy**



# Thank You

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