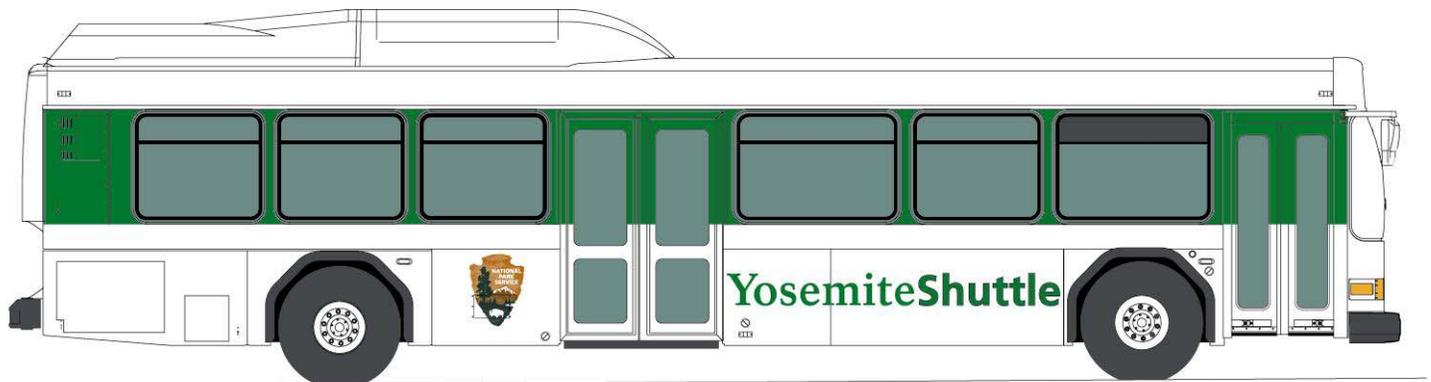




Vehicle Procurement

Lessons Learned at Yosemite National Park



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Introduction

In seeking to obtain replacement buses for its Valley Shuttle fleet, Yosemite National Park encountered numerous uncertainties in the procurement process that complicated what was intended to be a relatively straightforward purchase. The analysis that follows examines the procedural ambiguities and delays experienced at Yosemite and identifies several lessons that will enable other parks to avoid similar procurement problems in the future.

Scope and Structure of the Document

Following the Introduction, which provides an overview of the vehicle procurement process followed at Yosemite, this document is divided into three sections: (1) a narrative account, coupled with a timeline, describing the step-by-step details of the Yosemite procurement process; (2) an analysis of the strengths and challenges of that process; (3) a presentation of findings, in which lessons are gleaned from the Yosemite experience in order to improve future National Park Service (NPS) vehicle procurements.

Note. This analysis was conducted for the NPS Alternative Transportation Program by the U.S. Department of Transportation John A. Volpe National Transportation Systems Center (Volpe Center). Although the Volpe Center was involved peripherally in the Yosemite vehicle procurement process, this analysis was prepared independently by a separate team. The information used to develop this analysis was collected from available documentation and through interviews with many of the participating stakeholders. Their participation in generating this “lessons learned” document was valuable and is much appreciated.

Overview

A growing number of National Park Service units offer visitor transit services as an alternative to the private automobile; Yosemite has provided such a service since the mid-1980s. For these parks, the selection and procurement of a fleet of appropriate vehicles is of paramount concern. Not only do park transit vehicles need to be safe, reliable, comfortable, of suitable size, and capable of operating in the climate and topography of the park, they must not cause significant impact to the natural and cultural resources around which they will be operating. For all of these reasons, the process of identifying and purchasing vehicles for visitor transportation is a complex and challenging one—as well as one with which many park staff have only limited familiarity.

Created in 1998, the NPS Alternative Transportation Program (ATP) seeks to assist NPS units in planning for and managing their transportation needs through the development and implementation of transportation strategies that can enhance the visitor experience by providing options for mobility. Shuttle services of the type provided at Yosemite can be eligible for technical and financial assistance from the ATP, which provides support for planning and for the acquisition of vehicles and other necessary transportation infrastructure. Since its establishment, the ATP has been working to develop processes by which park-based alternative transportation projects of all types—including vehicle purchases—can be effectively and consistently evaluated, planned for, implemented, and monitored.

At the time that Yosemite initiated its procurement process, park staff were faced with an evolving ATP planning process and procedures (given that the ATP had only recently been established), including those governing the function of Transportation Assistance Groups (TAGs), which were meant to provide technical help to parks proposing transportation projects. Yosemite staff had never before undertaken a vehicle procurement through the ATP, and while some ATP resources were available—such as a transportation planning guidebook for NPS units—these were not effectively provided to Yosemite as guidance on efficiently navigating the vehicle procurement process. Also, since the Yosemite procurement involved funding not just

from the newly-created ATP but from other sources (Yosemite flood-recovery funds, as well as the NPS fee-demonstration program), there was uncertainty regarding the coordination of all pertinent requirements. For these reasons, NPS staff at both the park and within the ATP itself were unsure of how best to apply available planning tools to the Yosemite procurement, creating uncertainty and delays not only for the park but also for the consultants working in support of the procurement effort.

The Yosemite vehicle procurement, while unique in some ways, suggests valuable opportunities for the systemic enhancement of the transportation planning and vehicle procurement processes within the National Park Service. The Yosemite experience highlights weaknesses in the existing process, identifies junctures at which the players were uncertain of the most appropriate next steps, and pinpoints breaks in the chain of communication between those involved. From these challenges can be derived useful learning tools. Toward that end, the analysis that follows offers both specific information on the Yosemite experience and broad-based findings on the ways in which NPS transportation and procurement planning can be clarified, simplified, and enhanced not only for the benefit of NPS staff but also, ultimately, for the improvement of the visitor experience.

Narrative

Stakeholders

As the Yosemite procurement process involved a large number of stakeholders—including NPS staff at the park, program, and headquarters levels; technical contractors; and a concessionaire—it is valuable at the outset to describe their different roles in the process.

- The project manager for procurement at Yosemite was responsible for the execution and oversight of the vehicle procurement, and for acting as liaison to other park staff and to NPS regional and headquarters staff. Two different individuals held this position during the course of the procurement process.
- The NPS Alternative Transportation Program (ATP) is responsible for providing policy guidance, funding, pre-planning assistance, and other services related to alternative transportation. ATP assists parks in meeting federal requirements and can make funding available to assist parks with procuring vehicles that best meet park needs.
- The ATP regularly relies on Transportation Assistance Groups (TAG) to provide feedback, both to the program and to parks, on transportation planning and implementation activities, including procurements. TAG members can include NPS staff, transportation specialists, and other professionals with knowledge of NPS transportation needs. The Yosemite TAG included representatives of the Federal Highway Administration (Central Federal Lands Highway Division), the Volpe Center, the NPS Denver Service Center, and the ATP Washington Service Office.
- The ATP requested additional technical consultation from the Volpe Center and the Federal Transit Administration Office of Technology. In addition, the Volpe Center directly supported Yosemite staff through peer review of consultant efforts.
- Due to the high level of investment associated with the project (more than \$500,000), project approval by the NPS Development Advisory Board (DAB) was required.
- A consulting firm specializing in transportation technologies was contracted by Yosemite to complete some of the technical work needed to prepare for the vehicle procurement.
- A private concessionaire runs the shuttle service.
- The General Services Administration (GSA) is responsible for purchasing vehicles for federal agencies. GSA has available procurement specialists that facilitate the process and that work to ensure that vehicles meet specifications for government service.

Events

In 1984, Yosemite National Park purchased a fleet of shuttle buses to provide its visitors with transportation service within Yosemite Valley and to combat peak-season automobile congestion within the park. More than a decade later, the private transportation provider responsible for running the shuttle service requested permission from the park to lease new (or newer) shuttle vehicles. By that point, the Yosemite-owned fleet had aged to the point that maintenance had become a significant burden and expense for the contractor, making the leasing of new vehicles an attractive option. Yosemite management granted permission for newer vehicles to be leased and simultaneously began the process of evaluating the costs and benefits of purchasing a new vehicle fleet.

In the late 1990s, Yosemite entered into a broad-based planning process to address significant flood damage done to the park and the region in 1997. As part of this planning process, the park received a congressional appropriation of \$600,000, taken from flood-recovery funds, to purchase new shuttle vehicles. When finalized in November of 2000, the Yosemite Valley Plan endorsed the expansion of the existing shuttle service within Yosemite Valley as part of an effort to decrease the use of private automobiles within the park. In conjunction with the overall planning process, Yosemite retained a consultant in 1999¹ to perform an in-depth transportation analysis for the park, with particular emphasis on exploring a diversity of vehicle technologies for possible future use at Yosemite.

In 2000, during the initial stages of the acquisition planning process, the superintendent of Yosemite publicly announced plans for the park to expand its existing shuttle service by investing in new clean-fuel vehicles, suggesting the possibility that the park might purchase vehicles operated using fuel-cell technology. Program staff members within the ATP expressed some concern that certain innovative vehicle technologies might not be appropriate or feasible for the Yosemite environment and urged park staff to fully explore and analyze all available vehicle options. Some members of the park staff echoed the words of caution voiced by ATP staff, but park management maintained its commitment to acquiring state-of-the-art clean-fuel vehicles.

Since the procurement was expected to be significant, park staff consulted the NPS Development Advisory Board early in the process, with an initial meeting early in 2001. The procurement process proposed at this meeting is believed to have been a new type of procurement, called *pure performance specification*. Using this procurement device, manufacturers are given more leeway in the choices of vehicle technology and design, providing the park with a wider set of options than a typical procurement specification might allow.

Staff from Yosemite contacted the ATP late in 1999 to formally initiate the planning process for enhancing and expanding the park shuttle service. A request for \$3.1 million in funding was entered into the NPS Project Management Information System (PMIS) at that point to be allocated in fiscal year (FY) 2001. This request was to make possible the purchase of 10 buses at a cost of \$310,000 per bus. In addition, Yosemite planned to use \$5.6 million collected through the NPS fee-demonstration program. The use of these funds required approval from the NPS Washington Service Office.

The ATP convened a TAG at Yosemite in December of 2001 to evaluate the transportation needs facing the park, with an emphasis on reviewing the existing request for the purchase of shuttle vehicles. Separately, the park asked the Volpe Center to review a series of technical documents

¹ The consultant was actually contracted through the NPS Denver Service Center and was assigned to Yosemite. For clarity, however, the consultant is sometimes referred to herein as “the Yosemite consultant” or “Yosemite’s consultant.”

developed by Yosemite's consultant. Volpe Center staff, after reviewing the documents, raised concerns about the technical accuracy of some of the findings and conclusions.

An initial draft of the TAG report was submitted to Yosemite staff in the spring of 2002. The report, which recommended areas for further study, articulated concerns held by the members of the TAG team about perceived insufficiencies in the procurement process. In particular, the report criticized the apparent focus on a limited set of vehicle technologies and questioned whether safety and maintenance issues had been adequately analyzed. A meeting, attended by representatives of the Volpe Center, the ATP, Yosemite's planning consultant, and the park, was held shortly after the submission of the TAG report to discuss the issues it raised. Following the meeting, staff within the ATP again raised concerns about the decision-making process being followed at Yosemite, suggesting that the approach left NPS vulnerable to external criticism. These concerns were communicated to the park during a formal briefing to the NPS Regional Director in the spring of 2002.

In April 2002, Yosemite directed its technical consultant to respond to the initial findings of the TAG. The final TAG report was then submitted during the summer of 2002 and included a requirement that the decision-making process used by Yosemite be documented prior to the initiation of the procurement process and the awarding of a contract. The TAG report left ambiguous the assignment of responsibility for producing this document, however, generating some confusion and potentially causing delays. A first draft of the required document was produced collaboratively by Yosemite's consultant and the park in December of 2002.

By the middle of 2002, Yosemite was under pressure to speed the procurement process; this pressure stemmed in part from the congressional interest in seeing the 1997 flood-recovery funding put to use. Likewise, Yosemite management was increasingly eager to replace the shuttle vehicles leased by its contractor with a fleet of new, park-owned vehicles.

During late 2002 and early 2003, the technical consultant completed the final tasks designated in their contract with Yosemite, including the completion of the document analyzing the park decision-making process. Staff from the Volpe Center were called in to review the work performed by the consultant, as were staff members from the Federal Transit Administration (FTA) Office of Technology. FTA recommended that the consultant's documents be reviewed by vehicle procurement specialists at the New York City Transit Authority and the Massachusetts Bay Transportation Authority.

Many of the reviews performed in this period were critical of the work done by the consultant, particularly with regard to the vehicle specifications developed, and recommendations were provided for improving the documentation. In particular, the choice to use the pure performance specification mechanism, and the quality of the procurement documents as developed by the consultant, was criticized by several of the reviewers as being not necessarily appropriate for the needs of the park. These reviews required months to complete, with most of the reviewers not finishing their analyses until the spring of 2003. The consultant then submitted a final draft of the vehicle specifications, followed by a draft decision document. These documents were then reviewed by both the ATP and the Volpe Center.

Although the consultant initially, in moving forward on a source-selection plan, assisted Yosemite in submitting a request to the General Services Administration (GSA) for a waiver of the typical GSA vehicle procurement process, that request was verbally denied in July of 2003. The Yosemite superintendent subsequently elected to use the standard GSA procurement process. In September of that year, \$3.1 million in ATP funding was made available to support the procurement. A total of \$8.1 million was obligated to GSA to perform the purchase. The park signed a general agreement with GSA in October to move ahead with the procurement, which was

then finalized on June 29, 2004. Working together, staff from Yosemite and GSA selected the Gillig Corporation, of Hayward, California, to manufacture a new fleet of 18 hybrid diesel-electric vehicles for the park, intended to go into operation in 2005.

Timeline

The timeline presented below details the steps, from initiation to completion, required to complete the Yosemite vehicle procurement. From start to finish, the process of selecting and purchasing new vehicles for Yosemite required five years and included participation from three federal agencies and multiple private entities.

Project Timeline

Source: Volpe Center

Date	Event
1985	Previous shuttle fleet purchased
1997	Congress authorizes \$6 million in flood-recovery funding for shuttle vehicles
1999	Research and evaluation begins; initial contract with Yosemite technical consultant
2000	ATP project initiated with FMIS No. 56100 (FY 2001) for \$3.1 million
Nov. 2000	Yosemite Valley Plan completed
Jan. 2001	Initial DAB meeting
Nov.–Dec. 2001	Change of project managers at Yosemite
Dec. 2001	Initial TAG visit to Yosemite
Mar. 6, 2002	Initial TAG report generated
Mar. 26–28, 2002	Follow up TAG meeting in Estes Park
Spring 2002	Task order with Yosemite consultant initiated; 17 tasks
May 2002	Briefing held for the NPS Regional Director
June 27, 2002	1st draft of the TAG report completed
July 25, 2002	2nd draft of the TAG report completed
Aug. 27, 2002	Bus procurement workshop/management briefing held
Aug. 28, 2002	Final TAG report submitted to Yosemite
Sept. 2002	Yosemite consultant begins preparing GSA waiver request
Nov. 12, 2002	Consultant provides first draft of decisions/lessons, as requested in TAG report
Dec. 12, 2002	Consultant submits draft procurement specifications
Dec. 2002	Documented lessons reviewed by FTA
Dec. 2002	Change of superintendents at Yosemite
Dec. 2002–	Volpe Center, NYC Transit, and Massachusetts Bay Transportation Authority review
Jan. 2003	Yosemite procurement specifications
Jan. 2003	2nd draft of decision document completed by park, Volpe Center, and ATP
Mar. 17–21, 2003	VA/CBA workshop
Mar. 31, 2003	VA/CBA report completed; status report submitted to DAB
Apr. 14, 2003	Yosemite consultant submits final procurement specifications
May 12, 2003	3rd draft of decision document completed by the Volpe Center
May 2003	Volpe Center comments on final procurement specifications
June 18, 2003	Yosemite submits waiver request to GSA
June 20, 2003	Yosemite finalizes decision document
July 10, 2003	GSA verbally denies waiver
July 14, 2003	NEPA requirements cleared
July 24, 2003	Yosemite agrees to have GSA manage procurement
Aug. 7, 2003	Director's approval received
Aug. 28, 2003	\$3.1 million ATP funds approved (FMIS No. 56100)
Sept. 4, 2003	\$8.1 million obligated to GSA
Sept. 4, 2003	GSA agreement finalized
Sept. 22, 2003	GSA begins refining procurement specifications
Sept. 26, 2003	Congressional approval for use of fee demonstration funds (\$5.6 million)
June 29, 2004	GSA awards Gillig Corporation of California contract to manufacture a fleet of hybrid electric vehicles for Yosemite

Analysis

The parties interviewed for this document generally agreed that the Yosemite vehicle procurement process encountered unexpected delays and confusion, required more time to complete than anticipated, involved an inordinately large number of individuals and organizations, and caused frustration and anxiety on all sides. It seems that Yosemite entered into a large and costly vehicle procurement without clear guidance or direction on what steps needed to be followed, and in what order they needed to be followed, so as to produce an outcome that would be acceptable to all of the interested parties and would, ultimately, enable the park to enhance transportation services for its visitors.

The procedural challenges encountered by Yosemite as it moved through its vehicle procurement can be delineated as follows:

- **Unclear Vehicle Procurement Process**
Without a clear understanding of a standardized and well-defined procedure for purchasing vehicles within the National Park Service, the staff at Yosemite initiated a controversial process unaided by an established and effective set of guidelines. The situation was complicated further because three funding sources (ATP, flood-recovery, and fee-demonstration) were involved; the question as to whether ATP requirements apply regardless of funding source(s) was not definitively answered until the procurement was well underway. Without the help of a procedural roadmap to help put into context guidance received from the TAG, the park made decisions that later required re-consideration, causing delays.
- **Undefined Project Schedule**
Without an established step-by-step schedule for completing vehicle procurements, the Yosemite procurement effort became increasingly lengthy and more complex. As each new task or participant was added, the schedule for completing the project became less clear, causing tasks to slip out of sequence. As a result, tasks that should have been done in parallel were handled separately, generating inefficiencies, extra effort, and more delays; enough time passed that personnel and organizational authority also changed. The process actually took so long that vehicle availability through GSA and even vehicle technology changed—creating further complications and delays.
- **Too Many Participants**
With no clear guidance on who should be involved with a vehicle procurement, the Yosemite situation suffered from confusion as to participants' roles, especially without written program guidelines that could be used to better understand feedback received from the TAG. While the large number of participants brought valuable experience and expertise to the procurement process, it also created a situation in which the chain of authority was ambiguous, the process for reviewing documents became lengthy and unwieldy, and communication between parties was compromised. It also raised questions—perhaps too late in the process for such questions to lead to effective outcomes—about whether Yosemite had recruited the appropriate skills for the project, thereby causing second-guessing and conflict among the participants. Notable, too, was a lack of an established policy that could have helped to arbitrate between conflicting sources of technical advice.
- **Uncertain Document Review Procedure**
As draft documents were produced and reviewed by various parties, it became unclear how the input of the various reviewers should be weighed and incorporated, how the document authors should act upon the requested modifications, and when the review process could be considered complete. With months of delay between versions, many documents were altered

significantly, became outdated during the review process, or never reached their intended recipients. As a result, time was lost and effort spent that could have been avoided.

- **Unclear Vehicle Requirements**

Once the staff and management of Yosemite had made the decision to expand the existing shuttle service by purchasing new vehicles, they lacked the planning tools necessary to select the type of vehicle that would be most appropriate for the Yosemite environment. The desire to focus on innovative vehicle technologies, while well-intentioned, would have been more effective had it been the product of a comprehensive study of available vehicle types. Instead, focus on particular alternative-fuel technology slowed the overall procurement by raising concerns that the process was being conducted without grounding in sound planning and analysis. The pure-performance vehicle specification was also a contributing factor.

As is clear from the description above, at the heart of the challenges faced by the individuals involved in the Yosemite vehicle procurement was the lack of a formal, established National Park Service process for executing the selection and purchase of vehicles by park units. This was a problem not of any individual or single agency, but an NPS-wide uncertainty about the best way to approach a vehicle procurement of the type proposed by Yosemite, an uncertainty which left the individuals and agencies involved in the position of doing their best with little written program guidance that could be used to place their efforts in a broader procedural context. Although this situation produced delays and stumbling blocks at Yosemite, it now provides an opportunity to the National Park Service as a whole: to articulate, define, and widely distribute guidelines for the transportation planning process, with particular emphasis on vehicle procurement.

Findings and Next Steps

Since the period of the Yosemite vehicle procurement, the ATP has made significant strides toward formally adopting systematic transportation and vehicle-procurement planning processes that will be widely applicable to different parks with different transportation needs and varying transportation strategies. Grounded in the evaluatory review provided by the TAG, the integrated planning/procurement process allows for staged decision-making and sufficient planning prior to an investment of funds or the commitment of management support.

Based on the analysis of the vehicle procurement at Yosemite National Park presented in this document, the following next steps are suggested as valuable components in the development and dissemination of effective, consistent transportation-planning and vehicle-procurement processes:

Develop and Distribute Planning and Procurement Guidelines

- Complete the development of comprehensive transportation procurement guidelines, grounded in a systematic planning process that covers all aspects of transportation planning and implementation.
- Make all procurement- and transportation-related procedural and policy documents widely available both within the NPS and to contractors and consultants, and ensure that appropriate NPS staff certify that they are familiar with such documents prior to beginning a new project.
- Offer training and technical assistance to ensure proper application of the guidelines.

Clarify Roles and Responsibilities

- Establish the chain of authority for each project, clearly delineating decision-making responsibility.
- Clearly define the role to be played by TAG and ATP staff—e.g., making recommendations, monitoring progress, providing feedback and technical assistance.
- Note any additional procedural requirements that come into play when more than one funding source (that is, besides ATP itself) is involved.
- Define the role to be played by park staff—e.g., identifying transportation needs, collaborating with the TAG to define effective strategies, executing the established planning tasks, overseeing contractors and consultants as appropriate, ensuring adherence to the process and timetable developed by the ATP.

Strive for Clear Communication

- Develop mechanisms for clear, open, and regular communication between park staff, ATP staff, consultants, and other agencies at the outset of a project.
- Require careful documentation of planning choices.

Collaborate with Other Agencies

- Encourage early participation by GSA as a valuable source of information on planning and procurement.
- Look to the U.S. Department of Transportation for technical assistance with planning and procurement projects.

In conjunction with the development of this analysis, ATP has initiated the creation of a vehicle procurement guide to assist National Park Service units in procuring vehicles for visitor transportation. This guide, being developed in partnership with the Volpe Center and GSA, will provide an important means to further the definition and communication of an effective, efficient, and responsive National Park Service transportation procurement process.

Participants

The following agencies and organizations participated in the Yosemite vehicle procurement process.

General Services Administration

National Park Service

- Alternative Transportation Program
- Denver Service Center
- Development Advisory Board
- Yosemite National Park

U.S. Department of Transportation

- Federal Highway Administration—Central Federal Lands Highway Division
- Federal Transit Administration—Office of Technology
- John A. Volpe National Transportation Systems Center