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Muir Woods Shuttle Evaluation Report

2012 Seasonal Service



in partnership with:



December 17, 2012

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INTRODUCTION

This report focuses on the eighth year of operations for the Muir Woods Shuttle service to Muir Woods National Monument in Marin County, California. Shuttle service began operation in 2005 as a demonstration project, and was created and designed to provide an alternative to automobile access and parking, thus alleviating parking and traffic in this National Monument. Now after eight seasons of operation, the Shuttle has evolved to meet visitor needs and has become an integral mode of access to the park, carrying approximately 14% percent of visitors on peak summer weekends. This year, the Shuttle received the California Transit Association's (CTS) Transit Excellence Award. The CTA Award recognizes the Muir Woods Shuttle for innovative service concepts, effective problem-solving techniques, and promoting a positive image of transit in the community.

The Shuttle represents a unique partnership of government at a number of levels. The service was originally designed as a partnership of the National Park Service, County of Marin, and Golden Gate Transit. In 2009, responsibility for the Shuttle shifted to the Marin County Transit District (Marin Transit) under a funding agreement with the National Park Service. Golden Gate Transit operated the service under contract to Marin Transit, as Route 66 through 2011. This year a new contract with MV Transportation began for the operation of the Muir Woods Shuttle. The new contract has most notably allowed for increased service frequency due to its lower

hourly rate.

For the first three years of operation, ending in 2007, the service was funded primarily through a grant from the Federal Highway Administration (FHWA). Funds for the 2008 season were provided by a combination of TCSP (Transportation and Community and System Preservation Program) and PLH (Public Lands Highway Discretionary Program) funds. Having proven itself as an important access mode to the Park, the Shuttle is no longer a federally funded pilot program. Beginning in May 2009, it became a regular route operated by Marin Transit, funded partly by the Transit District and partly by the Park Service.

Passenger surveys were conducted in the 2010, 2011, and 2012 season. The results have repeatedly indicated that the primary passenger concerns are the need for more bus frequency and a new fare processing system. This 2012 season evaluation includes a summary of the results of the most recent passenger survey.

Using information collected in each of the Shuttle seasons, the evaluation report provides trends and changes over time and makes recommendations for the Shuttle's future.

Description of Current Service

Shuttle operations in 2012 provided service on weekends and holidays beginning on Saturday May 5, and continuing through Sunday October

28, 2012.

Most Shuttle routes provide direct service between the Park & Ride lot at Highway 101 and the Muir Woods Park. However, to facilitate connections with other transit operations, a limited number of trips start at either the Marin City Transit Center where connections can be made to other regional and local routes, and the Ferry Terminal in Sausalito. Throughout the summer, the first bus left Marin City at 9:30 AM, and the last scheduled departure from the park left at 7:05 PM. During the shoulder season, three (3) of 17 trips began in Marin City. During the peak season, six (6) of 28 trips began in Marin City and six (6) of 28 trips began at the Sausalito Ferry Terminal. All trips stop at the Pohono Park & Ride before continuing on to Muir Woods.

This year's routing was modified from the previous years to accommodate the greatest demand of service in the Pohono Park & Ride. A significant change to the routing included the elimination of the stop in the Manzanita Park & Ride. In prior years the route included stops at the Pohono Park & Ride lot on the way to Muir Woods and stopped at the Manzanita Park & Ride on the return trip. The original routing was time-consuming and confusing to riders, so the Manzanita stop was dropped. To allow for the bus to turnaround in the Pohono Park & Ride, a new temporary stop was located in an area set back from the street and closer to the scenic area of the Park & Ride. Way finding signage was used to help riders find the new location. Figure 1 shows the current Muir Woods Shuttle routing.

For this year's service, Marin Transit changed the frequency during the peak season and extended the service one additional month. The service operated every 30 minutes during the shoulder season of May 5 through May 20 and September 8 through October 28. Beginning on Memorial Day weekend (May 26) and continuing through the peak months of June, July, and August, frequency increased to operate every 5-20 -minute intervals, depending on time of day. Service ended on the last Sunday in October. In all, service was provided on 32 peak summer days and 22 shoulder season days (versus 33 peak summer days and 12 shoulder season days in 2011)

During the peak season, the route extends to the Sausalito Ferry Terminal. The buses were timed to meet the arrivals and departures of the Golden Gate Ferry and the Blue and Gold Ferry services in Sausalito. During both the peak and shoulder season, the route includes Marin City for options to connect by regional bus routes from San Francisco.

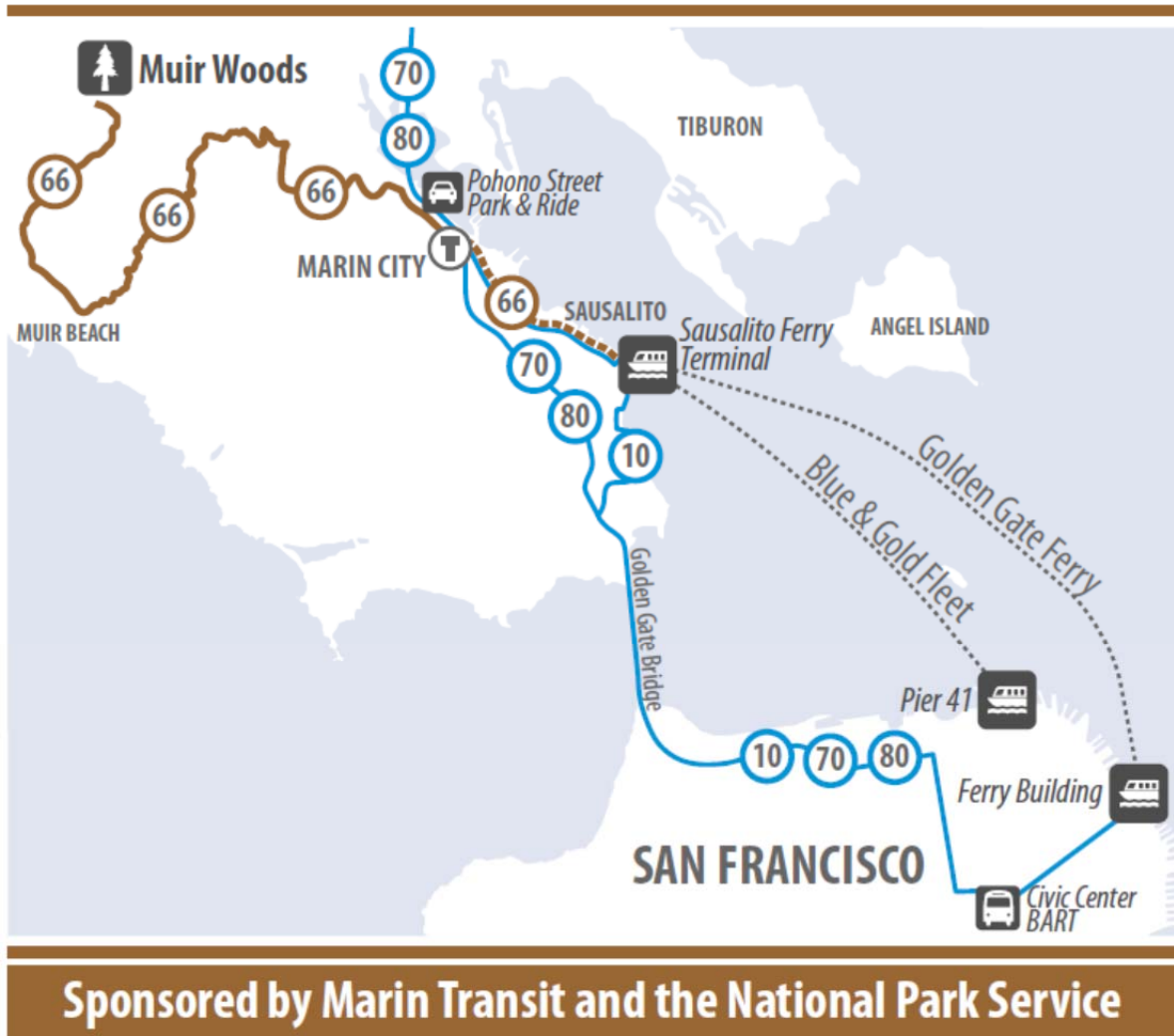
As in prior years, the 2012 round trip fare for all non-discounted riders was \$3.00 per person. The discount fare for youth ages six to 18, seniors over 65, and persons with disabilities was \$1.00.

In previous seasons, Marin Transit hired Customer Liaisons to assist passengers waiting for the Shuttle at the Pohono Street Park & Ride lot and to provide additional monitoring of service quality. This practice was continued into the 2012 season. The Customer Liaisons' assistance greatly aided passengers, especially those arriv-

ing in peak periods when heavy demand can lead to long lines and waits to catch the Shuttle at the Pohono Park & Ride. The Customer Liai-

sons also administered the passenger surveys.

Figure 1 Muir Woods Shuttle (Route 66) Map and Local Connections



During the peak season there were two Customer Liaison shifts on each service day with some overlap during the midday. The first shift started at 10:00 AM and ended at 2:30 PM. The second shift started at 11:30 AM and finished at 4:00 PM. During the shoulder season there was one shift per service day starting at 10:00 AM and finishing at 2:30 PM.

Customer Liaisons responsibilities included:

- Serving as Marin Transit and NPS “ambassadors” to Shuttle patrons.
- Providing Shuttle, Marin Transit, and NPS information to the public including next bus information, fare policy, and park program information (brochures are distributed while Shuttle passengers wait for the next bus).
- Service monitoring and reporting to Marin Transit:
 - Daily trip by trips recording arrival and departure times, number of passengers arriving on board from Sausalito and Marin City, numbers boarding at the Pohono site, and the number of passengers passed-up when each bus is full.
 - Individual observation reports recording incidents or passenger comments.
- Coordinating exact fares amongst passengers prior to boarding.

- General problem solving (helping with lost items etc.)

Figure 2 summarizes service changes over the last four years of Shuttle operations

. Figure 2 Summary of Operations, 2009–2012

	2009	2010	2011	2012
Service span	Weekends and holidays from May 2 through September 27	Weekends and holidays from May 1 through September 26	Weekends and holidays from May 7 through September 25	Weekends and holidays from May 5 through October 28
Frequency	30 minutes, May and September shoulders, 20 minutes, Memorial Day - Labor Day	30 minutes, May and September shoulders, 20 minutes, Memorial Day - Labor Day	30 minutes, May and September shoulders, 20 minutes, Memorial Day - Labor Day	30 minutes, May and September shoulders, 5-20 minutes, Memorial Day - Labor Day
Service Hours*	2,158	2,115	2,108	2,623
Standard Fare	\$3.00 round trip	\$3.00 round trip	\$3.00 round trip	\$3.00 round trip
Farebox Recovery*	16.17%	18.27%	26.8%	46.1%

*Fluctuations in service hours reflect the need to add service and/or a change in the number of weekends due to shorter/longer seasons

Marketing the Shuttle

Shuttle marketing has continued to follow a market-based approach, focusing on visitors to the Bay Area and local riders. Information was distributed at tourist sites and through San Francisco hotels, as well as published in newspapers, on the Internet, and on physical signs near the highway exits. Marketing efforts were shared by Marin Transit and the National Park Service

(NPS).

Information was distributed to the visitor market through hotel concierges, hostels, and travel services in the City of San Francisco, the area near the San Francisco Airport, and the Oakland/Berkeley area, and through Chambers of Commerce and libraries. The schedules were also available on the buses and at the Sausalito

Visitor's Center and the San Francisco Ferry Building. Schedules were posted at the Sausalito Ferry Landing and at all stops NPS provided information at Muir Woods, and information was posted on the Marin Transit website.

The most effective visible element of the marketing effort for the Muir Woods Shuttle remains the changeable message signs (CMS). The CMS were installed on Highway 101 alerting motorists about parking conditions at Muir Woods and directing them to the Shuttle stop at Pohono Street. Once on the exit ramp, drivers are further guided to the Pohono Street Park & Ride lot by permanent metal Shuttle signs on the exit off-ramps. In

the 2012 intercept passenger survey, 30% of respondents identified the CMS as how they learned about the Shuttle. In past years, passenger surveys have indicated that more than half of Shuttle riders attributed their taking the Shuttle to having seen the CMS signs on the highway. Marin Transit and NPS have since developed websites with Shuttle information which assisted 27% of those surveyed. However, CMS is still the predominant method of advertising the use of the Shuttle. Figure 3 describes the messages displayed on the CMS.

Figure 3 Changeable Message Sign Messages

Location	Operated by	Typical message
Northbound 101 between Alexander Ave. on-ramp (Waldo Grade) and Waldo Tunnel	Pacific Highway Rentals	Muir Woods Parking Full Use Muir Woods Shuttle
Northbound 101 Marin City off-ramp	Pacific Highway Rental	Muir Woods Shuttle Next Exit

Evaluation Methodology

Data on Shuttle ridership published in this report was derived from fare collection reports compiled for each day of service in 2012. Data on park visitation levels was provided by NPS staff. Financial figures and monthly service hours information were compiled by Marin Transit.

Anecdotal observations on the 2012 service were provided by the Customer Liaisons for Marin Transit, and include such commentary as the on-time performance, weather conditions, fare collection, passenger pass-ups, service strengths, services weaknesses and ways to improve ser-

vice.

In 2012, Marin Transit administered an intercept mail-back passenger survey, identical to the 2010 and 2011 survey. Questionnaires were distributed by the Muir Woods Shuttle Customer Liaisons to Shuttle passengers while they waited for Shuttle departures at the Pohono Park & Ride. Questionnaires were distributed during the period of July through September 2012. Findings are summarized in the last section, **2012 Passenger Survey Findings**, and are used to develop service recommendations.

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RIDERSHIP AND PRODUCTIVITY

This section summarizes the number of passengers the Muir Woods Shuttle carried in 2012, the productivity of the service, and the percentage of visitors to Muir Woods who chose to use the Shuttle, and then compares these figures with previous years' service. NPS has provided the number of visitors for every day from May through September 2012. Daily fare collection reports provide a daily breakdown of service hours for each service day during the peak and shoulder seasons.

Ridership

Ridership is measured as one-way passenger trips. Approximately 54,154 one-way passenger trips were made on the Muir Woods Shuttle between Saturday, May 5th, and Sunday, October 28, 2012.

Both Muir Woods visitor volumes and Shuttle ridership increased in 2012 over 2011 levels¹. While Park visitation increased by approximately two percent, reaching record high park visitation levels. Shuttle ridership had increased by 14% between 2011 and 2012, exceeding level of ridership since the service was initiated.

Figure 4 shows the total ridership for the 2010, 2011, and 2012 Shuttle seasons, by month, and

the year-over-year change from 2011 and 2012. As experienced in previous years, July was the highest ridership month, however in 2012, July was slightly lower than in 2011, while the months of May, June and August showed increases.

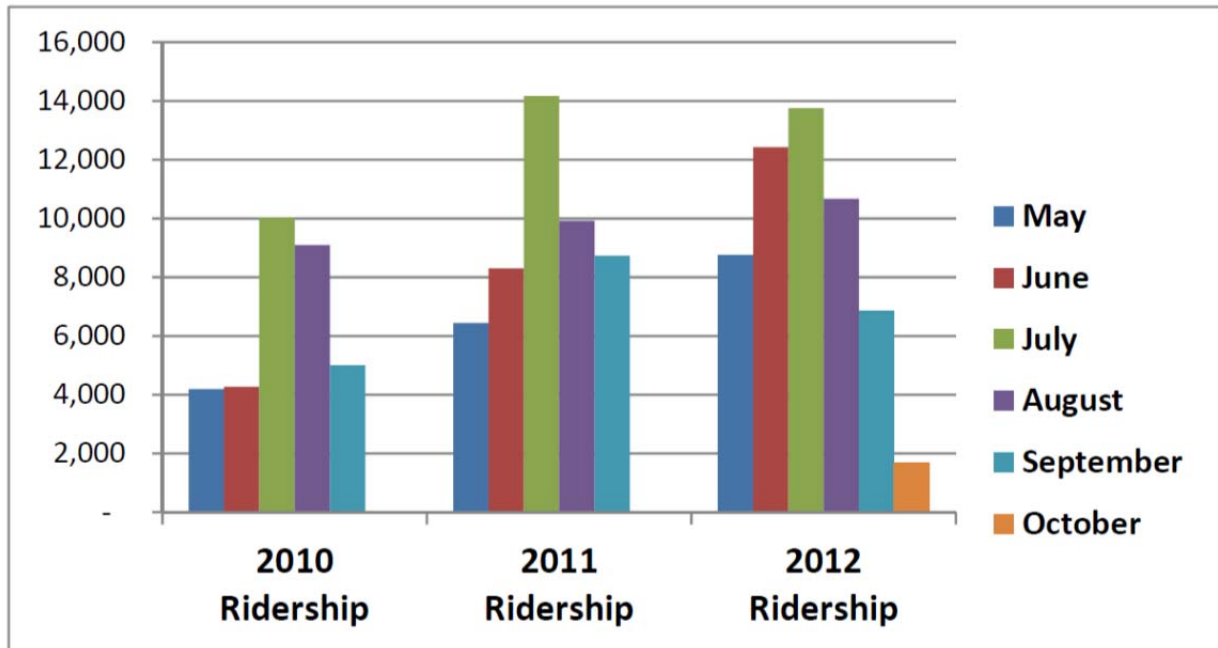
Due to difficulties with coordinating the placement of the Changeable Message Signs (CMS) along Highway 101, drivers did not receive adequate notification of the Muir Woods Shuttle pick-up location in Pohono, thereby causing ridership to fall in September and October. The communications were corrected toward the end of October, however by this time of year, ridership was beginning to wane due to the close of the tourist season. .

¹ Muir Woods had, 779,356 visitors in 2009, 834,356 in 2010 and 854,411 in 2011 (NPS). Total visitation for 2012 is not available yet.

Figure 4 Table of Shuttle Ridership by Month, 2010 – 2012

Month	2010 Ridership	2011 Ridership	2012 Ridership	Ridership Change 2010-2011	Ridership Change 2011-2012	% Change 2010-2011	% Change 2011-2012
May	4,194	6,443	8,756	2,249	2,313	54%	36%
June	4,268	8,305	12,429	4,037	4,124	95%	50%
July	10,036	14,166	13,756	4,130	(410)	41%	-3%
August	9,091	9,924	10,668	833	744	9%	7%
September	5,001	8,734	6,860	3,733	(1,874)	75%	-21%
October	NA	NA	1,685	NA	1,685	NA	NA
TOTAL	32,590	47,572	54,154	14,982	6,582	46%	14%

Figure 5 Chart of Shuttle Ridership by Month, 2010-2012



Shuttle ridership remains higher in the peak season (Memorial Day Weekend through Labor Day Weekend). In 2012, approximately 81% of total Shuttle riders were during the peak season. Figure 6 shows peak season ridership for the seven years of service since inception, along with the rate of change year-over-year. Growth in rid-

ership was 6% between the 2011 and 2012 peak seasons. Figure 7 provides total passengers for each service weekend during the 2012 Shuttle season. Figure 8 data clearly illustrates the “peaking” of Shuttle ridership between the Fourth of July Weekend and Labor Day Weekend. Figure 8 provides a more detailed ridership by indi-

vidual service day.

Figure 6 Peak Ridership, 2006 – 2012

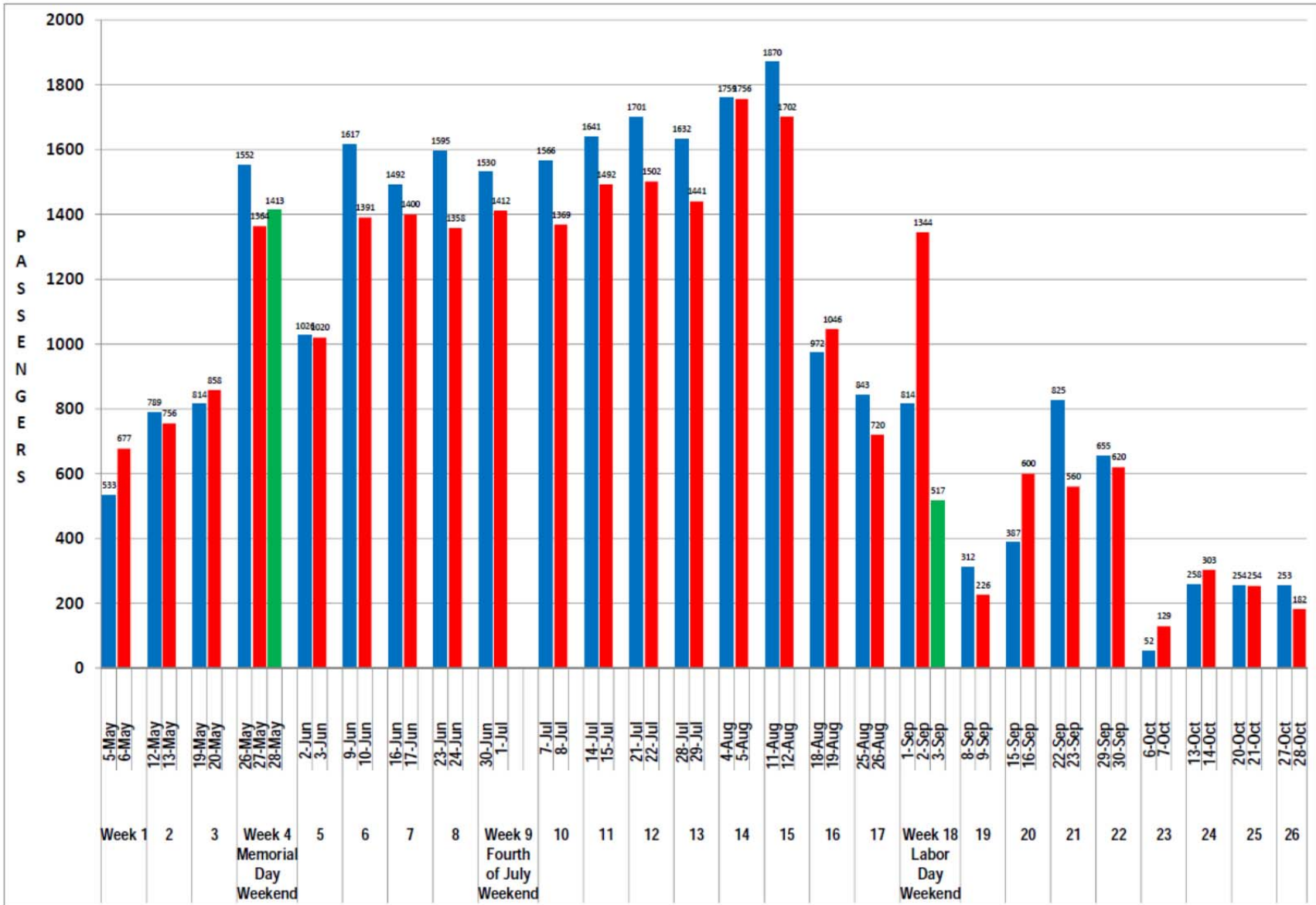
	2006	2007	2008	2009	2010	2011	2012
Riders	14,471	27,713	29,938	24,737	28,824	41,236	43,857
% Change From Previous Year		92%	8%	(17%)	17%	43%	6%

Figure 7 Daily Shuttle Ridership In 2012 Shuttle Season

Month	Day	Daily Ridership	Monthly Ridership
May	Saturday, May 5	533	8,756
	Sunday, May 6	677	
	Saturday, May 12	789	
	Sunday, May 13	756	
	Saturday, May 19	814	
	Sunday, May 20	858	
	Saturday, May 26	1552	
	Sunday, May 27	1364	
June	Monday, May 28	1413	12,429
	Saturday, June 2	1026	
	Sunday, June 3	1020	
	Saturday, June 9	1617	
	Sunday, June 10	1391	
	Saturday, June 16	1492	
	Sunday, June 17	1400	
	Saturday, June 23	1595	
July	Sunday, June 24	1358	13,756
	Saturday, June 30	1530	
	Sunday July 1	1412	
	Saturday July 7	1566	
	Sunday July 8	1369	
	Saturday July 14	1641	
	Sunday, July 15	1492	
	Saturday, July 21	1701	
	Sunday, July 22	1502	
	Saturday, July 28	1632	
	Sunday, July 29	1441	

Month	Day	Daily Ridership	Monthly Ridership
August	Saturday, Aug. 4	1759	10,668
	Sunday, Aug. 5	1756	
	Saturday, Aug. 11	1870	
	Sunday, Aug. 12	1702	
	Saturday, Aug. 18	972	
	Sunday, Aug. 19	1046	
	Saturday, Aug. 25	843	
	Sunday, Aug. 26	720	
September	Saturday, Sept. 1	814	6,860
	Sunday, Sept. 2	1344	
	Monday, Sept. 3	517	
	Saturday, Sept 8	312	
	Sunday, Sept 9	226	
	Saturday, Sept. 15	387	
	Sunday, Sept. 16	600	
	Saturday, Sept. 22	825	
	Sunday, Sept. 23	560	
	Saturday, Sept. 29	655	
October	Sunday, Sept. 30	620	1,685
	Saturday, Oct 6	52	
	Sunday, Oct 7	129	
	Saturday, Oct 13	258	
	Sunday, Oct 14	303	
	Saturday, Oct 20	254	
	Sunday, Oct 21	254	
	Saturday, Oct 27	253	
2012- Total Ridership			54,154

Figure 8 Ridership for Each Service Weekend of the 2012 Shuttle Season



Percent of Muir Woods Visitors Using the Shuttle

Another important indicator of the success of the service is the percentage of total park visitors who choose to take the Shuttle, which can be described as the Shuttle “mode share”. Although the total number of visitors for 2012 will not be available until after December 31, 2012, of the total visitors to Muir Woods in 2012, 27,077² individual visitors rode the Shuttle. To calculate a truly representative mode share impact for the Muir Woods Shuttle, the mode share measure should be calculated on the number of Park visitors and those visitors using the Shuttle on its actual service days. During 2012, there were 220,020 visitors to the Muir Woods National Monument on Shuttle service days. Twenty-seven thousand, and seventy-seven park attendees rode the Shuttle on days service was provided, representing a 14% average mode share (up from 13% in 2011). Figure 9 provides average monthly Shuttle mode share for the 2012 operating season. Figure 10 provides a list of 2012 service days when Shuttle mode share met or exceeded the 14% average. During the 2012 season, mode share met or exceeded 14% on 25 service days.

² Based on the round trip nature of the Shuttle service, the actual number of individual Park visitors is calculated by dividing the total 54,154 one-way passenger trips by two. It is assumed that each visitor makes two one-way trips per visit to the park.

Figure 9 Monthly Shuttle Mode Share Averages in 2012 Season

	May	June	July	August	September	October	Average
Shuttle Mode Share	13%	17%	15%	14%	6%	3%	14%

Figure 10 Service Days When Shuttle Mode Share Met Or Exceeded 13% In 2012 Season

Month	Day	Park Attendance	Mode Share (equal to or greater than 14%)
May	Sunday, May 20	3108	14%
	Saturday, May 26	4598	17%
	Sunday, May 27	4244	16%
	Monday, May 28	4668	15%
June	Saturday, June 2	3615	14%
	Sunday, June 3	3393	15%
	Saturday, June 9	3900	21%
	Sunday, June 10	3840	18%
	Saturday, June 16	4033	18%
	Sunday, June 17	4256	16%
	Saturday, June 23	4433	18%
	Sunday, June 24	4242	16%
	Saturday, June 30	4737	16%
	July	Sunday July 1	4997
Saturday July 7		4889	16%
Sunday July 8		4647	15%
Saturday July 14		5328	15%
Sunday, July 15		5103	15%
Saturday, July 21		4906	17%
Sunday, July 22		4793	16%
Saturday, July 28		5379	15%
August	Sunday, July 29	4930	15%
	Saturday, Aug. 4	5082	17%
	Sunday, Aug. 5	5399	16%
	Saturday, Aug. 11	5028	19%
	Sunday, Aug. 12	4868	17%

On-Time Performance

In keeping with a transit industry standard, Shuttle on-time performance is measured by the percentage of trips departing from a scheduled time point five or more minutes after the published departure time. In the case of the Shuttle, trips leaving "hot" (five or more minutes early) were not considered as a schedule adherence issue. Buses left early if they had a full passenger load. For a shuttle-type of service this is not an issue

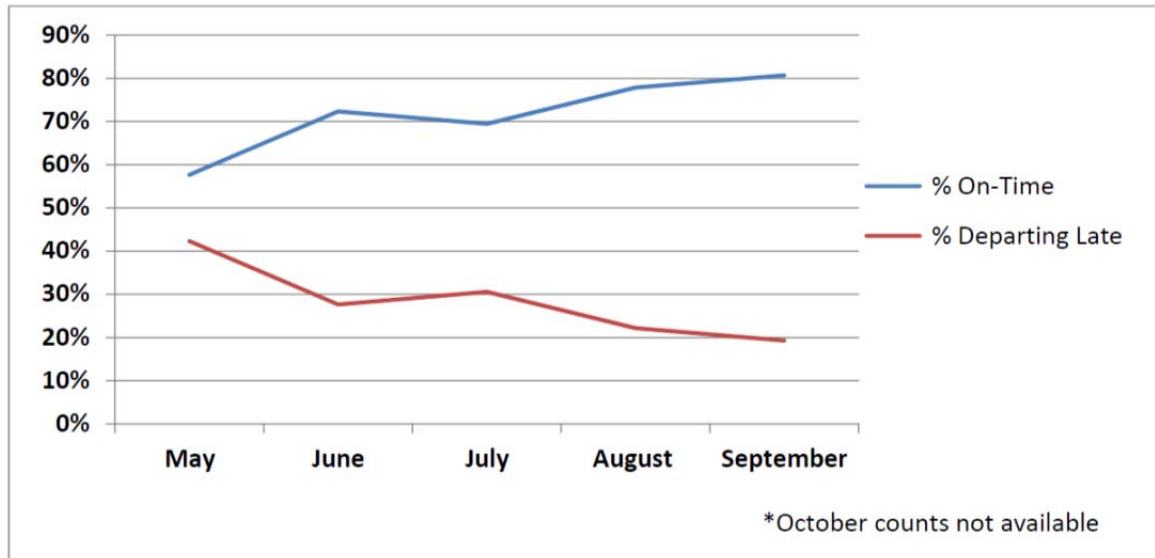
when buses are running on a 20 or 30-minute frequency.

The measurement of on-time performance was based on daily monitoring reports completed by the Shuttle Customer Liaisons at the Pohono Street Park & Ride lot. Several daily monitoring reports were only partially completed for the actual arrival and departures. Figure 13 provides a monthly summary based on a select number of

recorded trip observations. Not all trips were

monitored during the season.

Figure 13 Shuttle On-Time Performance, 2012 Season



Late departures tended to cluster midday between 11:00 AM and 2:00 PM. There were a higher proportion of late departures on holiday weekends with higher passenger volumes and traffic congestion. On-time performance is difficult to maintain under the Shuttle operating conditions. Reasons for late departures included:

- Vehicle breakdown or operators leaving the bus yard behind schedule.
- Delays in passenger boardings (arranging exact fare and actual onboard fare collection).
- Traffic congestion on-route or at the Muir Woods site.

Passenger Pass-Ups

Passenger pass-ups occur during peak periods when passenger demand exceeds bus capacity on a trip by trip basis. Bus capacity is restricted to 36 seated passengers. Standing is not permitted because of the steep and curvy roadway design. Pass-ups can occur on a regular basis during the holiday weekends. As many as 100-130 people were left standing in line after the bus arrived and departed full to capacity. Pass-ups tended to occur between 10:00 AM and 2:30 PM. On peak days, some passengers waited to board for up to three buses. Some of those waiting were discouraged and departed by car to Muir Woods instead of waiting for the Shuttle

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SERVICE COSTS AND FAREBOX RECOVERY

The total service cost for 2012 was \$396,310. This includes the operating costs, administration costs, vehicle lease costs, and the cost of marketing the service and providing information. Figure 15 identifies the service hours, costs, revenue, and a series of key performance measures for the Shuttle for the past five seasons. It should be noted that the higher number of service hours is attributed to expanded service in October.

Farebox Recovery

In its six years of service, the Muir Woods Shuttle has evolved from offering free rides in its inaugural year (2005), to charging a \$2.00 round trip cash fare in 2006 and 2007, and charging a \$3.00 round trip cash fare in 2008 through 2012. For all years where a fare was charged, seniors, youth, and disabled riders were offered a discounted \$1.00 fare. The current \$3.00 fare is not a significant barrier to ridership or mode selection as ridership continues to increase since 2009.

Marin Transit could consider raising the roundtrip

fare for the 2013 season. The current \$3.00 round trip fare is unique to this service. Marin Transit's standard fare is \$2.00 one way or \$5.00 for a day pass. As indicated by the record-high ridership, there is a unique demand for service to the Muir Woods Park. Considerations will include evaluation of an appropriate fare increase for the 2013 season.

As shown in Figure 15, a total of \$76,681 was collected in fares over the course of the 2012 season, compared to \$43,864 in 2010, \$65,802 in 2011. The 2012 season demonstrated record ridership and fare revenues.

Applying fare revenue to the full cost for service results in a net total cost for service of \$319,629 and a farebox recovery rate of 19.3%, which includes the contract and operating costs with the provider MV Transportation as well as other direct costs for Marin Transit's Customer Liaison for passenger assistance, Changeable Message Signs, and portable toilet rentals, as well as administrative expenses for management of the service.

Figure 15 Muir Woods Shuttle Service Costs, 2008 - 2012

	2008	2009	2010	2011	2012	% Change 2011- 2012
Service Hours						
TOTAL	2,112	2,159	2,115	2,108	2,623	24.4%
Ridership						
Total Annual Ridership	34,536	27,948	32,590	47,572	54,154	13.8%
Operation Costs						
Total Operating Costs	\$ 204,216	\$ 238,238	\$ 240,073	\$ 245,337	\$ 166,512	-32.1%
Lease and Preparation Costs	\$ 59,135	\$ 66,154	\$ 37,078	\$ 63,378	\$ 90,853	43.4%
Marketing and Information	\$ 14,918	\$ 13,346	\$ 3,835	\$ 5,532	\$ 25,194	355.4%
SUBTOTAL	\$ 278,269	\$ 317,738	\$ 280,986	\$ 314,248	\$ 282,559	-10.1%
Other Costs						
Consultant Contract & Data Entry (2011)	\$ 12,500	\$ -	\$ 1,302	\$ -	\$ 493	0.0%
Additional Marketing (no longer applicable)	\$ 10,000	\$ -	\$ 2,617	\$ 1,928	\$ -	NA
Passenger Assistance (Customer Liaison)	\$ 5,600	\$ 5,717	\$ 5,344	\$ 8,522	\$ 9,047	6.2%
Changeable Message Sign Rental and Operating Staff Costs	\$ 32,500	\$ 32,500	\$ 32,500	\$ 20,330	\$ 20,520	0.9%
Marin Transit Administration Costs	\$ 15,000	\$ 15,000	\$ 15,000	\$ 19,218	\$ 69,641	262.4%
Portable Restroom Rental	\$ 2,500	\$ 2,817	\$ 2,460	\$ 2,690	\$ 5,233	94.6%
Maintenance Costs (new for 2012)					\$ 8,818	NA
SUBTOTAL	\$ 78,100	\$ 56,032	\$ 59,223	\$ 52,687	\$ 113,752	115.9%
TOTAL COSTS						
	\$ 356,369	\$ 373,770	\$ 340,209	\$ 366,934	\$ 396,310	8.0%
Farebox Revenue	\$ 44,064	\$ 39,805	\$ 43,864	\$ 65,802	\$ 76,681	16.5%
NET TOTAL COST	\$ 312,305	\$ 333,965	\$ 296,345	\$ 301,133	\$ 319,629	6.2%

Figure 16 Muir Woods Shuttle Service Costs, 2008 - 2012 (Continued)

	2008	2009	2010	2011	2012	% Change 2011- 2012
Farebox Recovery Ratios						
Farebox Recovery/Total Operating Cost	21.58%	16.71%	18.27%	26.82%	46.05%	19.23%
Farebox Recovery/Contract Cost	15.84%	12.53%	15.61%	20.94%	27.14%	6.20%
Farebox Recovery/Total Cost	12.36%	10.65%	12.89%	17.93%	19.35%	1.42%
Performance Measures						
Cost/Service Hour	\$ 168.74	\$ 173.12	\$ 160.86	\$ 174.07	\$ 151.09	-13%
Cost/One Way Passenger Trip	\$ 10.32	\$ 13.37	\$ 10.44	\$ 7.71	\$ 7.32	-5%
Subsidized Cost/One Way Passenger Trip	\$ 9.04	\$ 11.95	\$ 9.09	\$ 6.33	\$ 5.90	-7%
Passengers/Revenue Hour	16.35	12.94	15.41	22.57	20.65	-9%

Cost Per Service Hour

The cost per service hour decreased 13 percent over the 2012 season. The decrease was attributed to the lower service rate with the new contract with MV Transportation.

Cost Per One-Way Passenger Trip

The cost per one-way passenger trip falls as ridership increases. As shown in Figure 15 and 16, this season represents the all-time low cost of \$7.32 per one-way passenger, primarily due to this season's Shuttle ridership increase.

Subsidized Cost Per One Way Passenger Trip

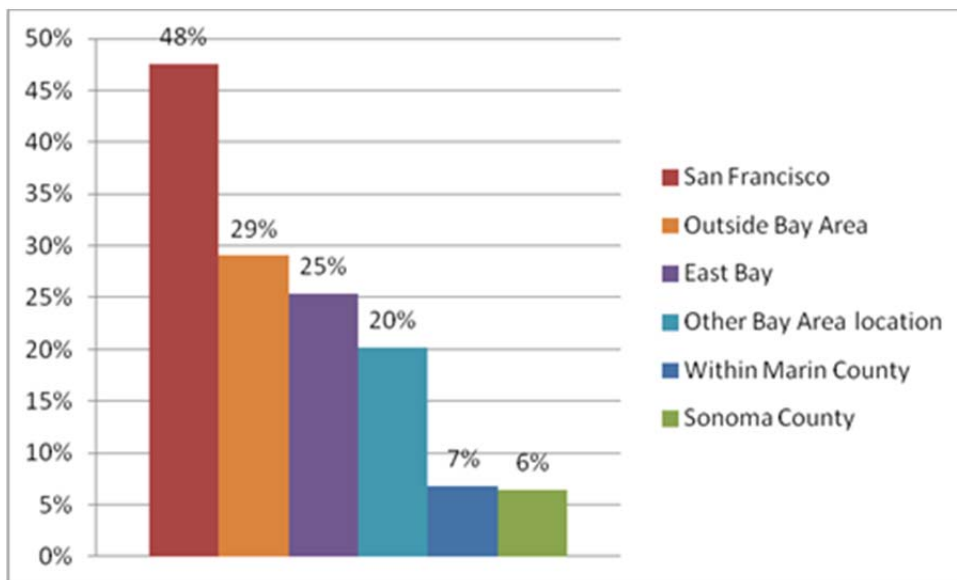
The District's subsidy per passenger performance standard for the Muir Woods Shuttle is \$5 per passenger. At \$5,90 per one way passenger, this season reached a record low.

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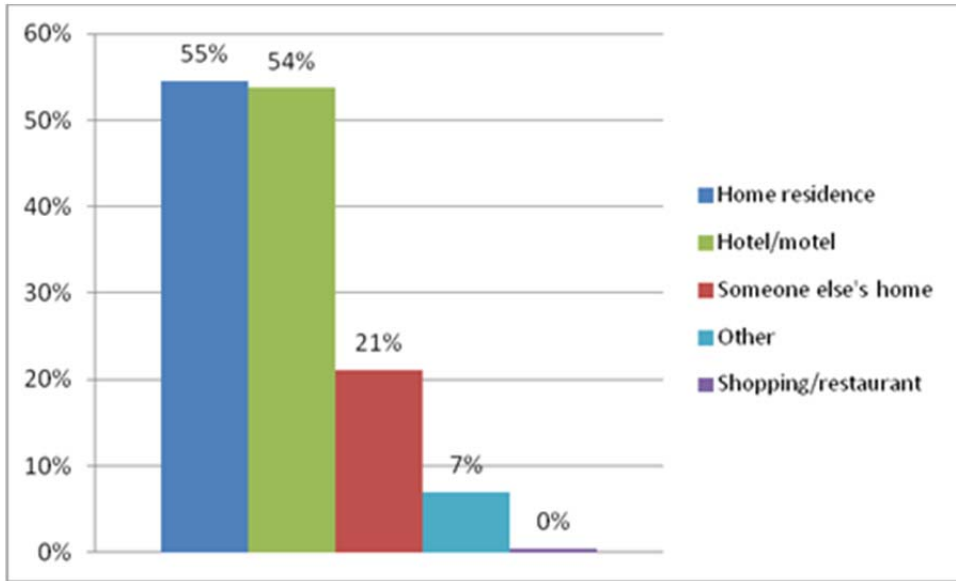
2012 PASSENGER SURVEY FINDINGS

In 2012, Marin Transit administered an intercept mail-back passenger survey. The survey was identical to the survey administered in 2010 and 2011. The Muir Woods Shuttle Customer Liaisons distributed questionnaires to Shuttle passengers while they waited for Shuttle departures at the Pohono Street Park-and-Ride lot. Questionnaires were distributed during the period July through September 2012. Three hundred and forty-one questionnaires were returned for analysis. The following provides an overview of survey findings organized by question.

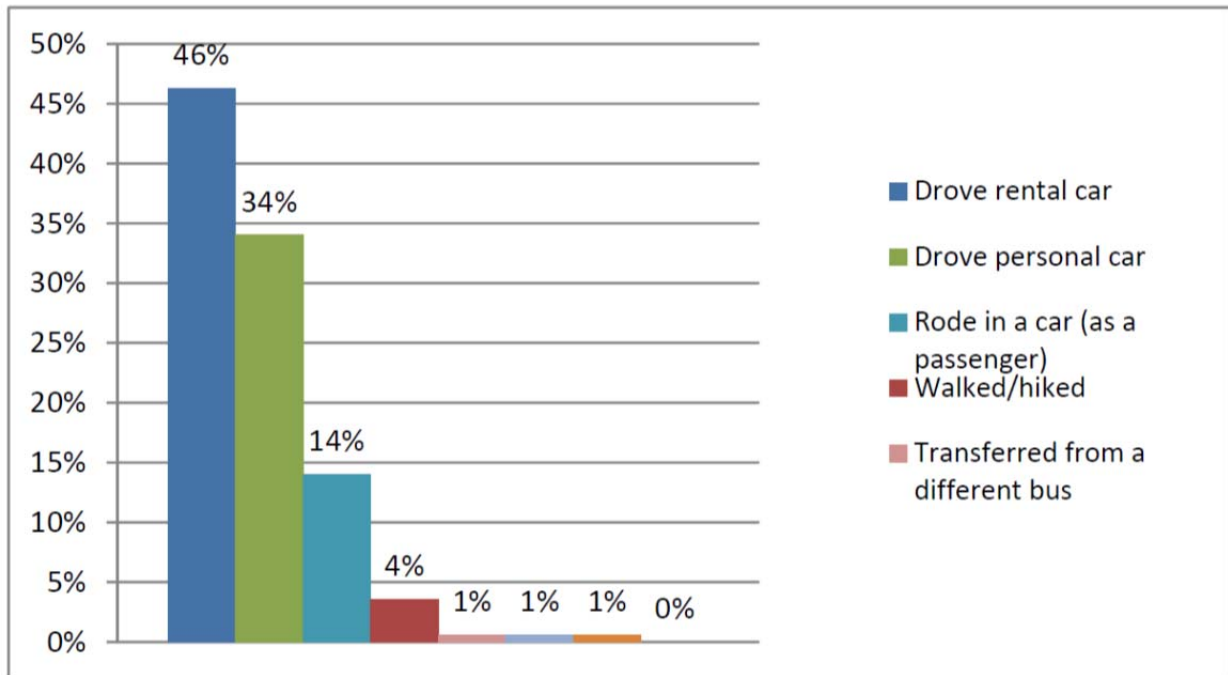
Question 3: Where did you come to Muir Woods from today?



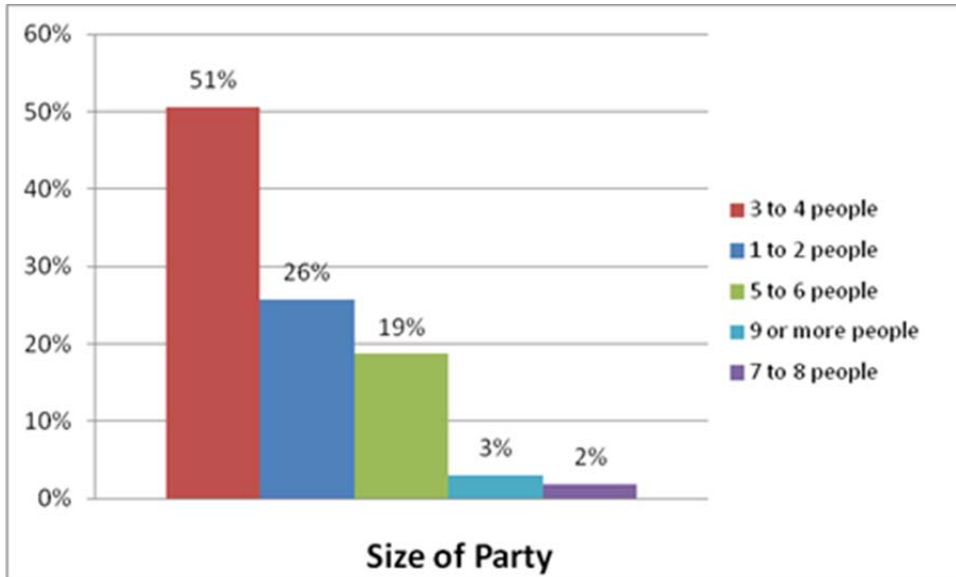
Question 4: Where did you begin your trip?



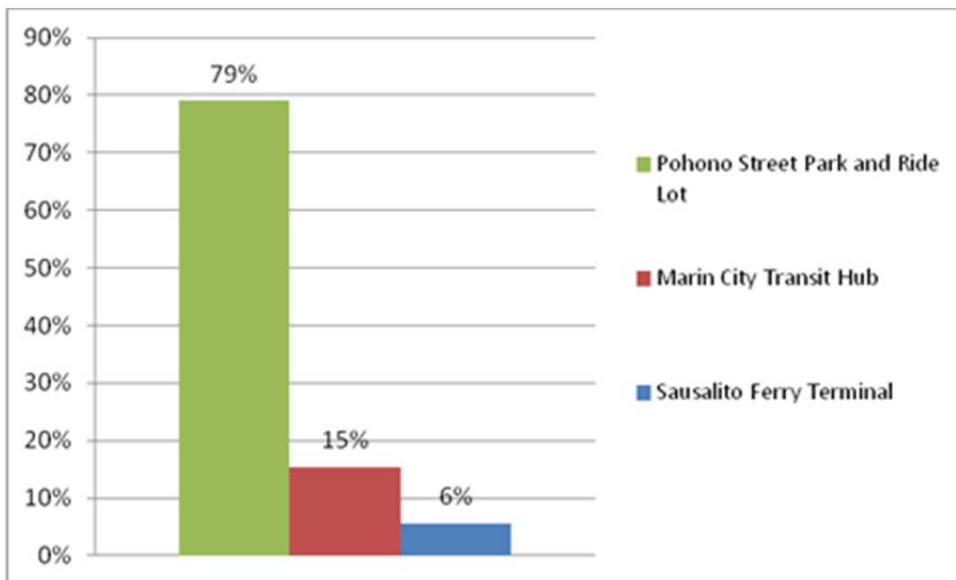
Question 5: How did you get to the Muir Woods Shuttle?



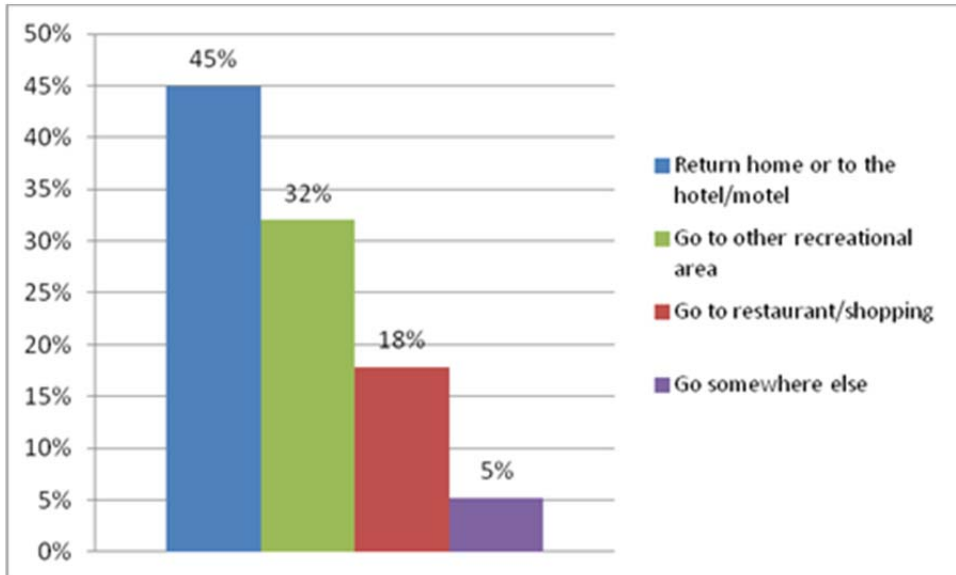
Question 6: What is the total number of people in your party?



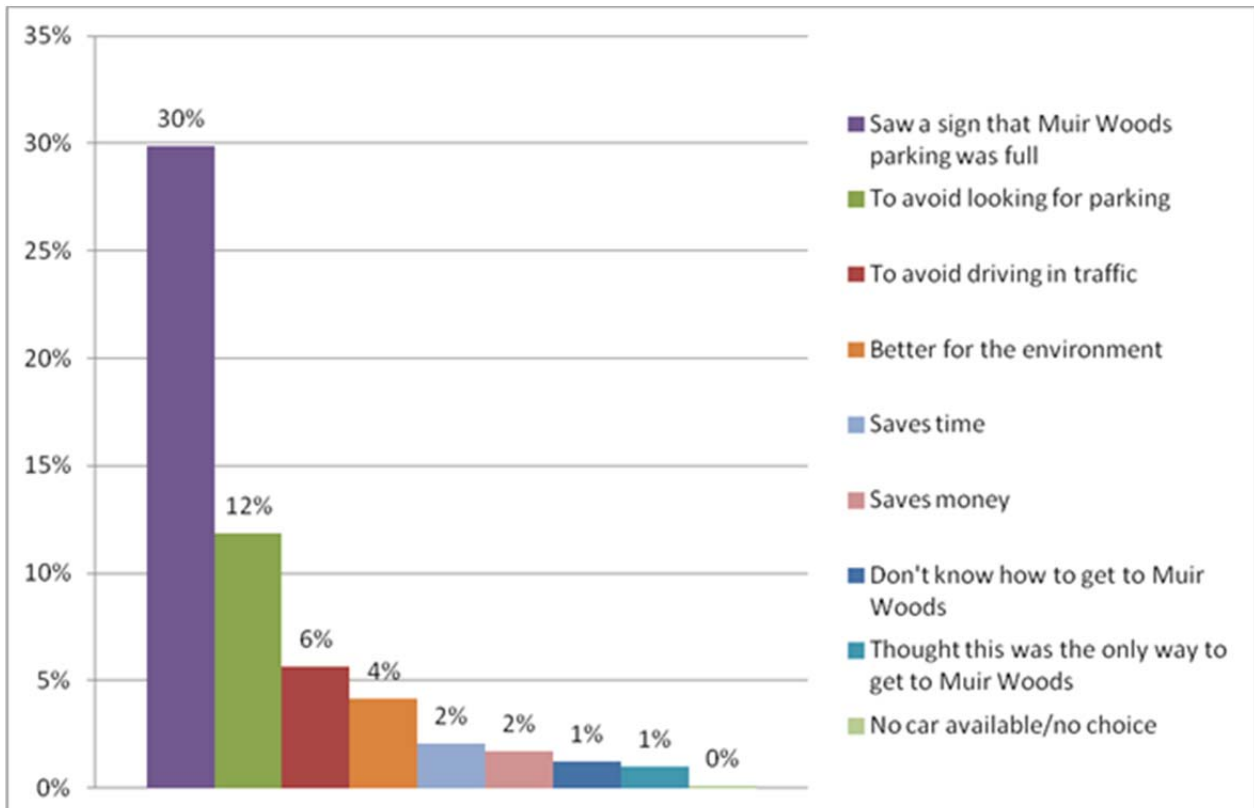
Question 7: Where did you get on the shuttle bus going to Muir Woods?



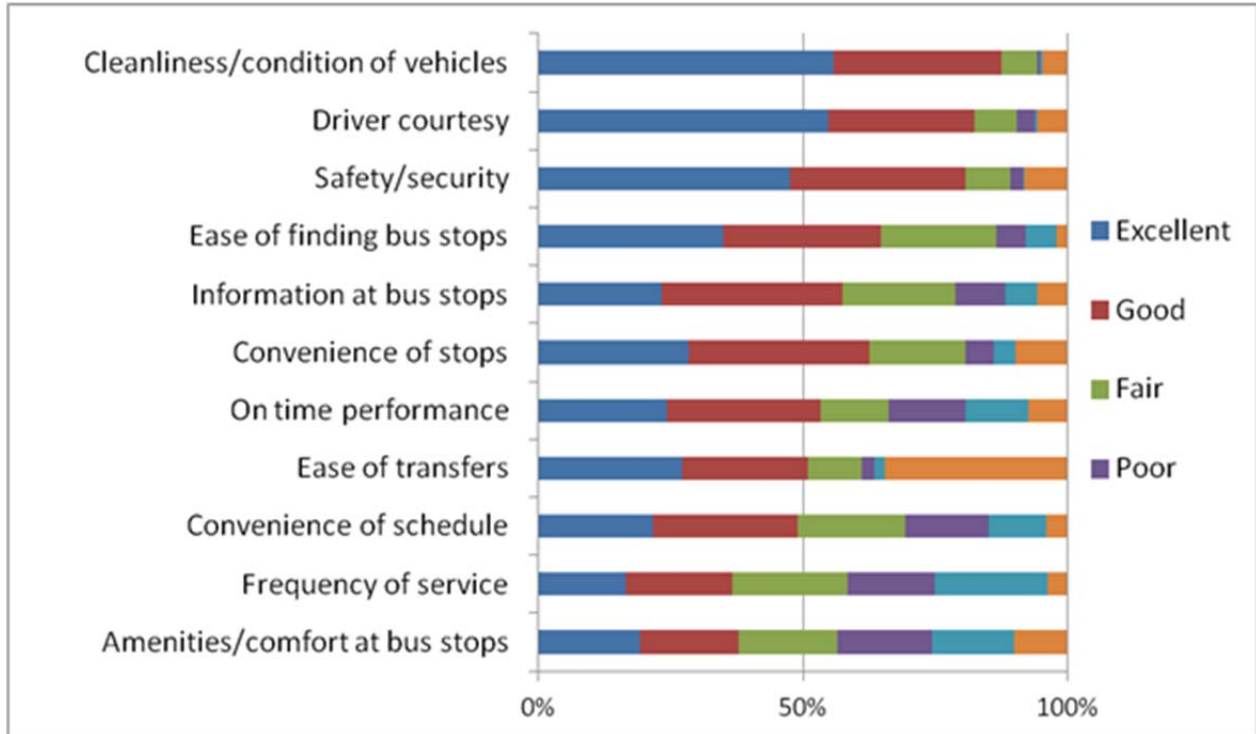
Question 8: After you leave Muir Woods today, where are you going next?



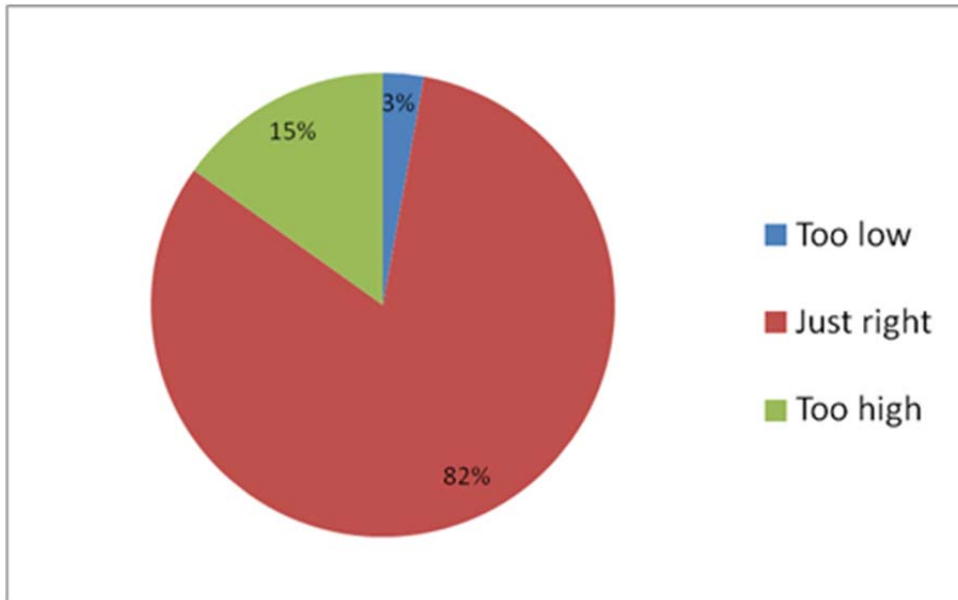
Question 9: Why did you choose to use the Muir Woods Shuttle today?



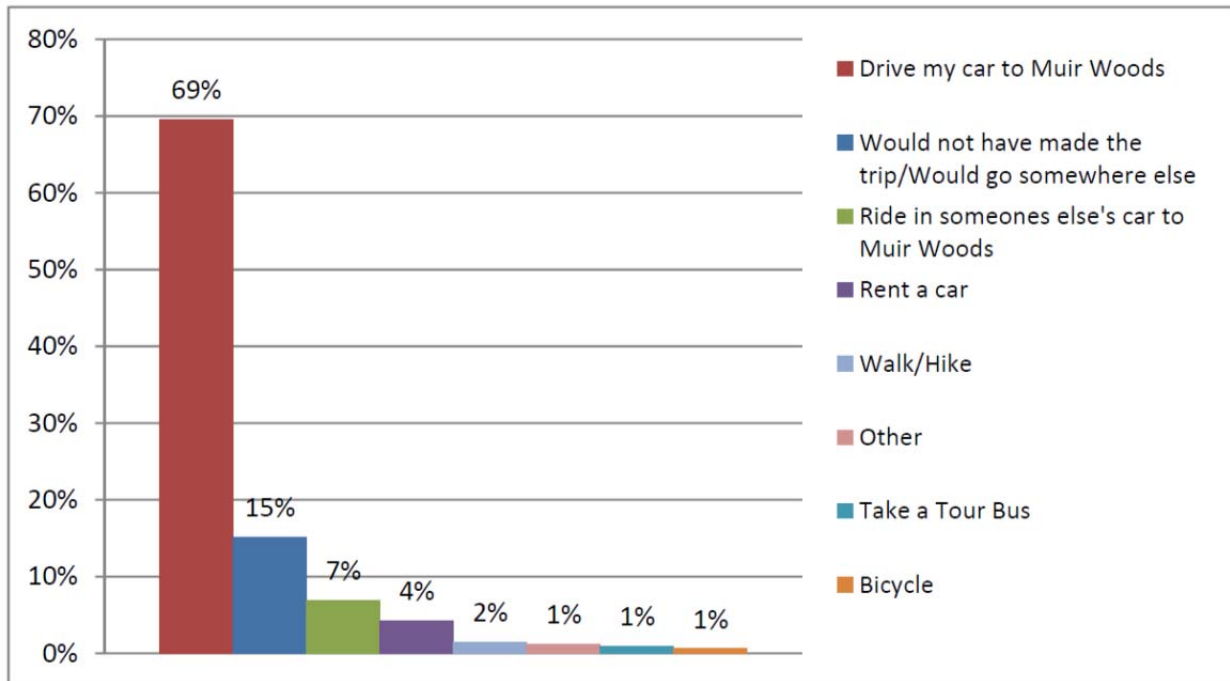
Question 10: Tell us what you think of the Shuttle Service?



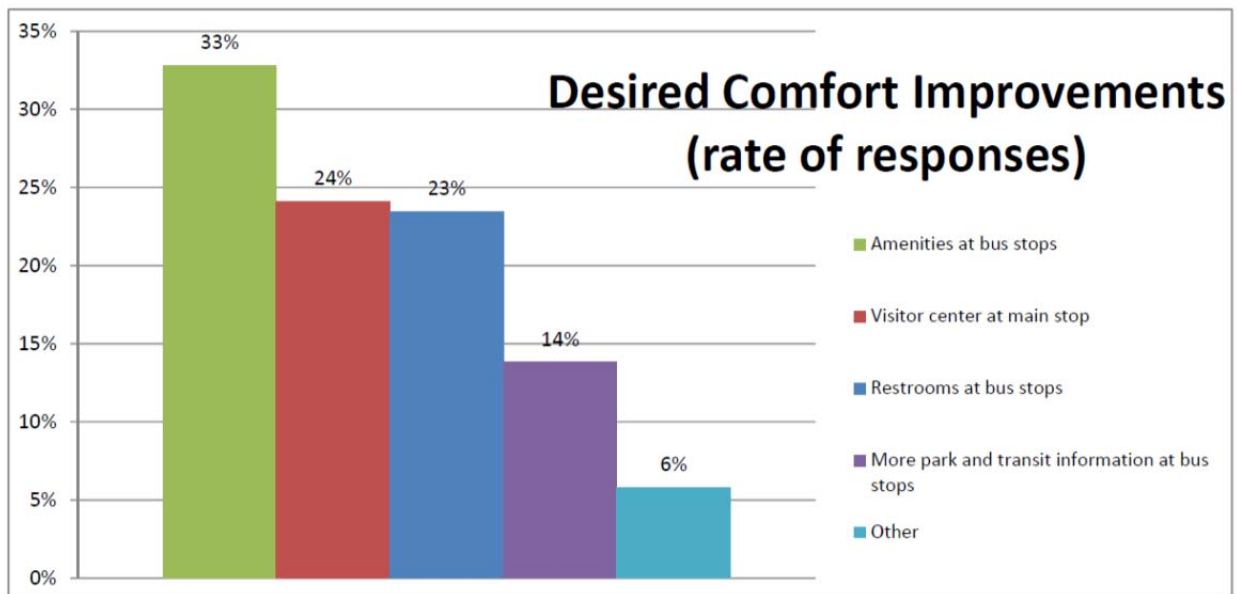
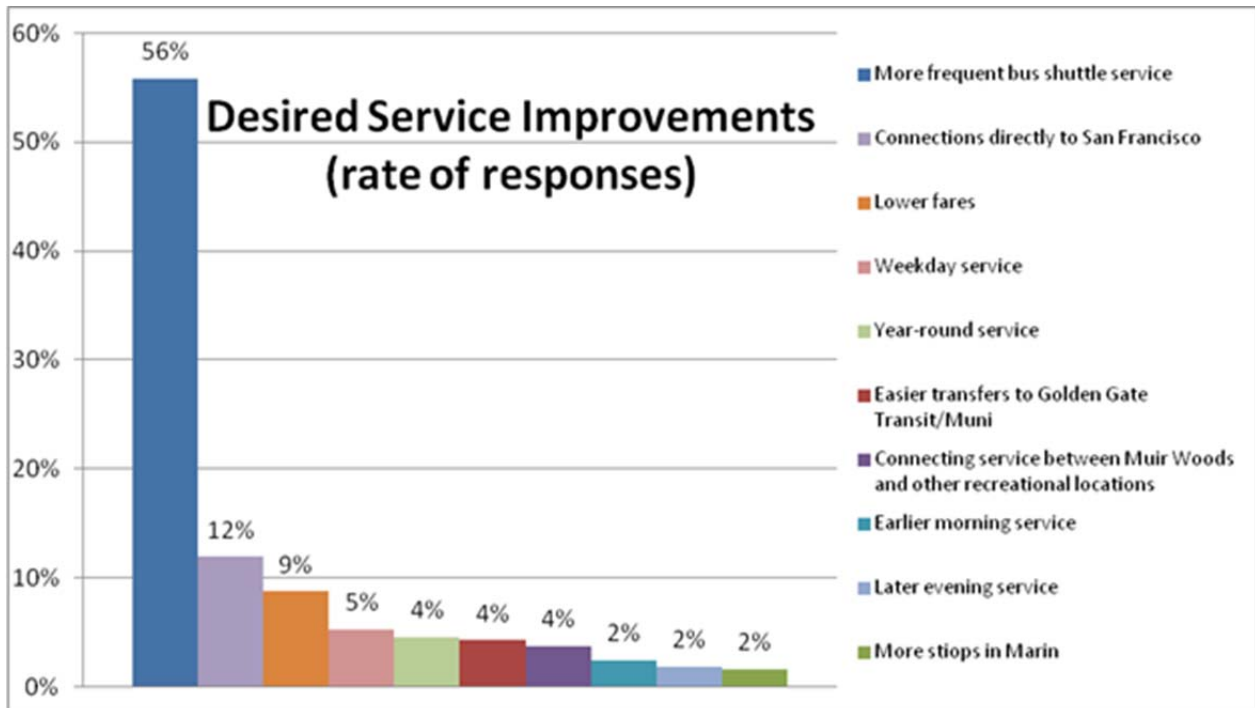
Question 12: What do you think of the fare for this service?



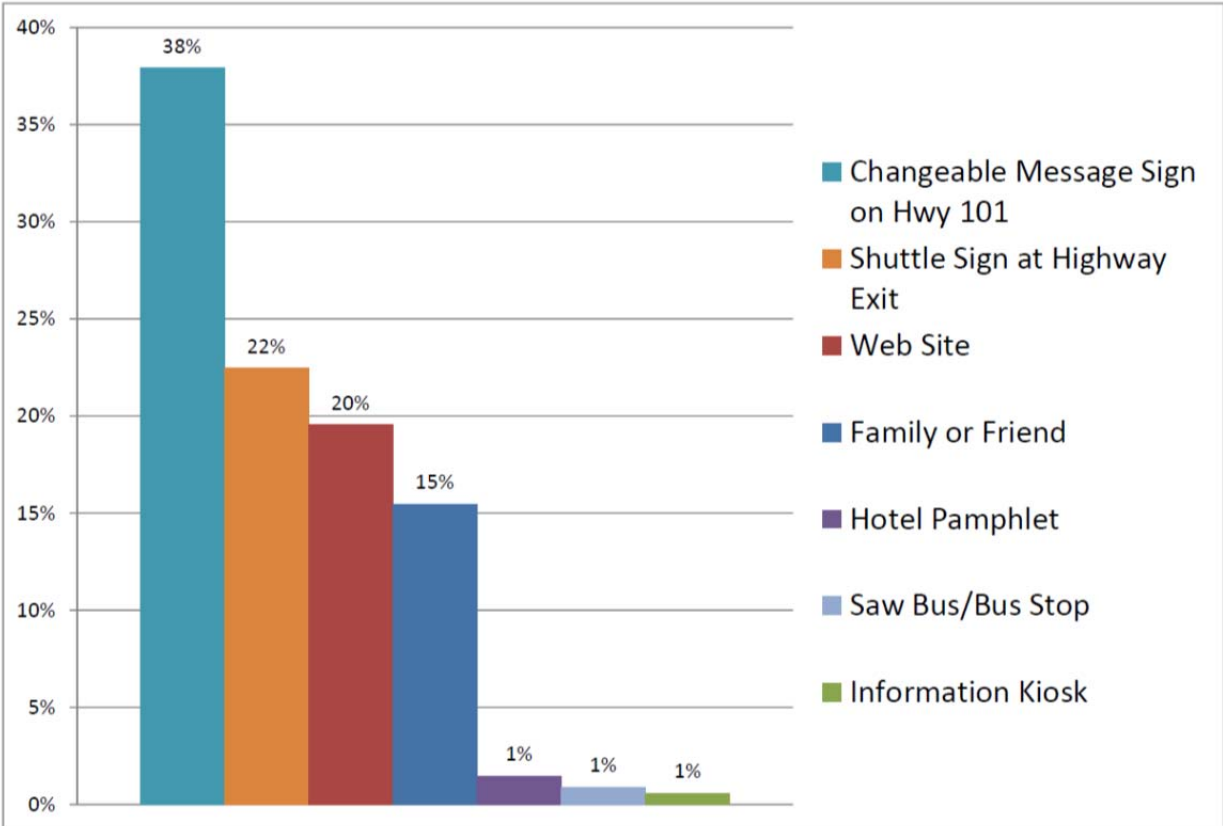
Question 13: How would you have made this trip if you couldn't ride the Shuttle?



Question14: Which of the following improvements would make you more likely to use the shuttle again in the future in terms of Service and Comfort?



Question 22: How did you learn about this Shuttle?



Question 26: Other Comments on transportation to Muir Woods?

COMMENTS (83) - grouped by category and frequency

Operations/Bus Frequency/Wait time (31)

Buses Full. Waited 45 mins.

Need more frequent bus service. (13)

Took way too long...I wish I had driven to the park. (16)

Very easy to use.

Fare System (23)

Have people pay before boarding to speed up the process. (10)

It takes too long to load the bus because of the payment method. That money machine slows everything down. (10)

Ticket can be issued while waiting for the bus.

Too expensive for a family.

We would pay more for more frequent service.

Trip Experience (9)

Freezing at the bus stop.

Got car sick.

Great Excursion! (3)

It would be nice to have the line waiting for the shuttle in the shade. Drivers should not play the radio loud, especially news of crime. It takes away from the relaxing Muir Woods experience.

More parking space.

The drive was very uncomfortable.

Very bumpy and the van kept bottoming out.

Customer Experience (8)

Bathrooms at stops please.

Confusion at muir woods on trip out.

Great staff, clean buses, running on time. (4)

Seats at the stops.

Too many people.

General (7)

Bus should stop at muir beach.

Possibly the most poorly run system I have ever encountered service from SF would be very helpful

Such a long survey. (2)

Thanks alot for the service. THE shuttle service is great. I'll come back! (4)

Weekday service.

Signage (5)

Need better signage on how to get to pohono stop. (2)

Better signs from North 101. Long lines.

Improve information and schedule.

The directions on the muir woods website on how to get to pohono are poor.

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CONCLUSIONS AND RECOMMENDATIONS

Muir Woods National Monument Congestion Management and the Muir Woods Shuttle

Demand for parking at the Muir Woods site continues to exceed onsite capacity on many weekend and summer weekdays. Private vehicles or rental vehicles remain the key modes for accessing Muir Woods. Muir Woods visitor traffic creates congestion on Marin County highways 101 and 1 leading to and from the sites. This situation will continue to worsen as annual visitation continues to increase. The Muir Woods Shuttle is playing a more significant role in congestion management, and will continue to increase as proposed service improvements can be implemented (funding permitting). Over time, additional capacity could be added on the Saturdays and Sundays of the peak season weekends. And as funding becomes available, service expansion to weekdays could be considered during the peak summer months of June and July. *However, in the near term, there are a number of areas that need to be addressed to attract more Shuttle use: improve the fare payment system, improve the bus stop amenities (at Sausalito, Marin City, and the Pohono Park & Ride), and reduce passenger pass-ups and wait times.*

Changeable Message Signs (CMS)

The changeable message signs (CMS) have proven to be the most effective means to shift visitors from driving vehicles to riding the Shuttle to Muir Woods. As in previous years, in 2012 Marin Transit leased four CMS from a private vendor. During the months of September and October, the placement of the CMS was disrupted due to a resurfacing pavement project on the shoulders of Highway 101. Ridership suffered as a result however, the experience underlined the importance of the CMS for communicating with riders.

In the upcoming 2013 season, Marin Transit and NPS will use two permanent CMS. The new permanent CMS will be maintained by Caltrans. Marin Transit has applied for grant funds to purchase two more permanent CMS along Highway 101. For the 2013 season, it may be necessary to lease two additional CMS until funding has been secured for two more permanent CMS along Highway 101.

The CMS are pre-set for automatic timed operations with over-ride control by Marin Transit and NPS. The CMS are programmed to go on at 9:30

AM and go off at 2:00 PM based on parking availability trends at Muir Woods.

Fares and Fare Collection

A new approach to fare collection is proposed for the 2013 season, which should address the delay and inefficiencies caused by the need for passengers to have exact change and cash when boarding the Shuttle. The new approach will allow passengers to board the Shuttle without paying at the fare box on the bus. However, all passengers will be required to pay for their ride with the purchase of their Muir Woods park entrance ticket. *Marin Transit, along with NPS, will develop an agreement specific to this proposed fare collection policy. Consideration should also be given to implementing a possible fare increase.*

Passenger Pass-Ups

Passenger pass-ups also remain a problem that negatively impacts the visitor experience. Road conditions limit bus size and rule out standing loads. Individual bus capacity is limited to 37 seated passengers. *An increase in the number of in-service buses is recommended to effectively address this problem.*

Coordinating with Local Events and Transportation

Southern Marin and Sausalito in particular are tourist destinations. During summer months, there is a large influx of both tourists and local residents attending special events, such as organized bicycle rides and the Mountain Play theater shows. These events and the related increase in car and pedestrian traffic require additional coordination. In 2012, Marin Transit did advance planning and provided extensive wayfinding signs for parking at the Pohono Park & Ride, increased the number of portable toilets, and provided additional signage at the passenger pick-up locations. *Confusion about where to park and where to board the buses was significantly lessened. Advance coordination and additional passenger amenities are necessary to assist during times of potential confusion.*

Customer Liaisons

The Customer Liaison (formerly referred to as Ombudsman) has been critical to improving the passenger experience and to assist with monitoring of service. However, it is possible that this position can be eliminated due to the proposed change in fare collection and by retaining a full-time supervisor at the primary pick-up location at the Pohono Park & Ride. Information about Muir

Woods and the Shuttle will be available on the bus once passengers get onboard.

Monthly Service Evaluation

On time performance remains an issue due to unforeseen delays caused by congestion or accidents on Highway 1 and delays caused by confusion with the fare payment system (specifically the need for exact change). *With the installation of vehicle tracking technology on all of the buses, passengers will be able to access bus arrival information using their smart phones and/or Real Time Information Signs at bus stops. Access to bus arrival information should ease passenger frustration when delays occur. Marin Transit also expects the new fare collection process to speed up bus boarding at the start of the trip and minimize passenger frustration over the need for exact change and the cash only requirement.*

Future Capital Funding

In 2012, Marin Transit and NPS received \$1.1 million in funds from the Paul Sarbanes Transit in Parks grant program. The funds from this grant were used to purchase three Shuttle vehicles and will allow Marin Transit to install Automatic Vehicle Location (AVL) technology on all of the buses. For the 2013 season, Marin Transit and NPS applied for additional Paul Sarbanes Transit in Parks grant funds to purchase two more Shuttle vehicles, install two more permanent CMS on Highway 101, and provide enhanced passenger amenities at bus stops including the installation of Real Time Information Signs. *With a full fleet of 10 vehicles equipped with AVL technology, Marin Transit and NPS expect to see improvements in service frequency and customer information in 2013. Marin Transit will seek funding to implement additional bus stop amenity improvements as needed.*

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APPENDIX A: 2012 SHUTTLE PASSENGER QUESTIONNAIRE

Muir Woods Shuttle Passenger Survey – 2010

2001

We appreciate your time to help improve the Shuttle Service. Please complete this postage pre-paid survey while you are on the bus and return the form to the bus operator or place in any U.S. Postal Service Mailbox.

Please complete only one survey today. Please complete all sections.

Today's Date & Time.

1. What is today's date? _____
2. At what time did you board the bus? _____

Please Describe Your Trip TO Muir Woods Today.

3. Where did you come to Muir Woods from TODAY?
 - 1 Within Marin County (City/Town) _____
 - 2 San Francisco (Neighborhood) _____
 - 3 Sonoma County (City/Town) _____
 - 4 East Bay (City/Town) _____
 - 5 Other Bay Area location (City/Town) _____
 - 6 Outside Bay Area (City/Town) _____

4. Did your trip begin from _____?
 - 1 Your home
 - 2 Someone else's home
 - 3 Hotel/motel
 - 4 Shopping/restaurant
 - 5 Other (specify): _____

Please specify the location (street/cross street): _____

5. How did you get to the Muir Woods Shuttle?
 - 1 Drove a rental car
 - 2 Walked/hiked
 - 3 Drove my own car
 - 4 Bicycled
 - 5 Rode in a car (as a passenger)
 - 6 Someone dropped me off
 - 7 Took ferry to Sausalito
 - 8 Took bus (specify route): _____
 - 9 Other (specify): _____

6. What is the total number of people in your party (including yourself?) _____ Do any use a mobility device such as a wheelchair, walker or cane? _____

7. Where did you get on the shuttle bus going to Muir Woods?
 - 1 Sausalito Ferry Terminal
 - 2 Marin City Transit Hub
 - 3 Pohono Street Park and Ride Lot

8. After you leave Muir Woods today, where are you going next?
 - 1 My home or hotel/motel
 - 2 Restaurant/shopping (where?) _____
 - 3 Recreational location (circle one or write in)

Sausalito Muir Beach Stinson Beach
 Sonoma/Napa SF-Fisherman's Wharf Other SF

- 4 Somewhere else (where?) _____

9. Why did you choose to use the Muir Woods Shuttle today? (check all that apply)
 - 1 Don't know how to get to Muir Woods myself
 - 2 To avoid driving in traffic
 - 3 To avoid looking for parking
 - 4 Saw a sign that Muir Woods parking was full
 - 5 Thought this was the only way to get to Muir Woods
 - 6 Better for the environment
 - 7 Saves time
 - 8 Saves money
 - 9 No car available/no choice
 - 10 Other (specify): _____

Tell Us What You Think of the Shuttle Service:

10. Please rate the shuttle service on each of the following:	Excellent	Good	Fair	Poor	Very Poor	No Opinion
On-time performance	1	2	3	4	5	6
Frequency of service	1	2	3	4	5	6
Convenience of Schedule	1	2	3	4	5	6
Ease of finding bus stops	1	2	3	4	5	6
Convenience of stops	1	2	3	4	5	6
Driver courtesy	1	2	3	4	5	6
Information at bus stops	1	2	3	4	5	6
Cleanliness/condition of vehicles	1	2	3	4	5	6
Safety/security	1	2	3	4	5	6
Ease of transfers	1	2	3	4	5	6
Amenities/comfort at bus stops	1	2	3	4	5	6

11. How did you pay your fare on the Muir Woods Shuttle today?
 - 1 Paid Muir Woods Shuttle round-trip cash fare
 - 2 Used Marin Local 1-Day Period Pass
 - 3 Used Marin Local 7-Day Period Pass
 - 4 Used Marin Local 31-Day Period Pass

12. What do you think of the fare for this service?
 - 1 Too Low
 - 2 Just right
 - 3 Too High

4. What is the most you would be willing to pay for for a roundtrip fare on this service? \$ _____

13. How would you have made this trip if you couldn't ride the shuttle?
 - 1 Would not have made the trip/Would go somewhere else
 - 2 Drive my car to Muir Woods
 - 3 Ride in someone else's car to Muir Woods
 - 4 Rent a car
 - 5 Take a Tour Bus
 - 6 Bicycle
 - 7 Walk/Hike
 - 8 Other (specify) _____

14. Which of the following improvements would make you more likely to use the shuttle again in the future?

Service:

- 1 More frequent bus shuttle service
- 2 Easier transfers to Golden Gate Transit/Muni
- 3 More stops in Marin (where?) _____
- 4 Connecting service between Muir Woods and other recreational locations (where?) _____

- 5 Earlier morning service
- 6 Lower fares
- 7 Later evening service
- 8 Weekday service
- 9 Year-round service
- 10 Connections directly to San Francisco

Comfort:

- 11 Visitor center at main stop (restrooms, indoor seating, cold drinks, park orientation information)
- 12 Amenities at bus stops (shelter, benches)
- 13 Restrooms at bus stops (shelter, benches)
- 14 More park and transit information at bus stops
- 15 Other (specify): _____

Continues on Reverse →

Tell us a little about yourself:

15. Where do you live?

City _____ State _____ ZIP _____
Country (if not US) _____
If within Marin County, nearest intersection
(Street and Cross Street) _____

**16. Which of the following best describes your group?
(check one)**

- 1 Family 2 Friends
- 3 Family and friends 4 Organized group/club
- 5 School and/or youth group
- 6 Other (specify) _____

17. In what year were you born? _____

18. How many in your party are:

0-12 years _____ 13-17 years _____
 18-34 years _____ 35-54 years _____
 55-64 years _____ 65 and over _____

19. Are you (check all that apply)

- 1 Employed full-time 2 Employed part-time
- 3 Not currently employed
- 4 Student 5 Retired

20. Total household income (for everyone in your household)

- 1 Under \$25,000 2 \$25,000 to \$34,999
- 3 \$35,000 to \$49,999 4 \$50,000 to \$74,999
- 5 \$75,000 to \$99,999 6 \$100,000 or more

21. How often do you visit Muir Woods?

- 1 This is my first time
- 2 Rarely (1-2 times per year or less)
- 3 Frequently (at least 3 times per year)

22. How did you learn about this Shuttle?

- 1 Family or friend
- 2 Web Site (which one?) _____
- 3 Information Kiosk (where?) _____
- 4 Hotel pamphlet or concierge
- 5 Saw changeable message sign on Hwy 101
- 6 Saw shuttle sign on highway exit
- 7 Saw bus/bus stop
- 8 TV, Radio, Newspaper (which station/paper?) _____
- 9 Other (specify): _____

23. How do you prefer to get information on the Muir Woods Shuttle?

- 1 E-mail 2 Brochure/newsletter
- 3 Web Site 4 Notice on bus
- 5 Information at bus stops
- 6 Information Kiosk 7 Newspaper/Radio
- 8 Other (explain): _____

24. Did you ride the Muir Woods Shuttle last year?

- 1 Yes 2 No

25. Would you use this Shuttle again?

- 1 Definitely yes 2 Probably yes
- 3 Don't know 4 Probably not
- 5 Definitely not 6 Will not be back

26. Other comments on transportation to Muir Woods?

Thank you for taking transit!



SPONSORSHIP OF ROUTE 66 SERVICE

Route 66 (Muir Woods Shuttle) is funded by Marin Transit and the National Park Service, and operated under a service agreement between Marin Transit and the Golden Gate Bridge, Highway and Transportation District (the operator of Golden Gate Transit).

For more information, please visit our website at www.marintransit.org or email info@marintransit.org

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 750 LINDARO STREET, #200
 SAN RAFAEL, CA 94901

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