

# Muir Woods Shuttle Evaluation Report

*2013 Season*



**marin transit**

*November 18, 2013  
final*

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# Introduction

The Muir Woods Shuttle provides service to Muir Woods National Monument in Marin County, California. The Shuttle service began operation in 2005 as a demonstration project to provide an alternative to automobile access and alleviate parking demand and traffic congestion. After nine seasons of operation, the Shuttle has become an integral mode of access to the park, carrying approximately 18% percent of all visitors during summer weekends.

## Shuttle History

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 (NPS), 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. In 2012, a new contract began with MV Transportation for the operation of the service. The new contract has most notably allowed for increased service frequency due to its lower hourly rate.

For the 2013 season, an additional partnership was formed with the Golden Gate National Parks Conservancy (Conservancy) to administer the new fare collection process.

## Funding

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. In May 2009, the Shuttle became a regular Marin Transit route, funded partly by the Transit District and partly by the Park Service.

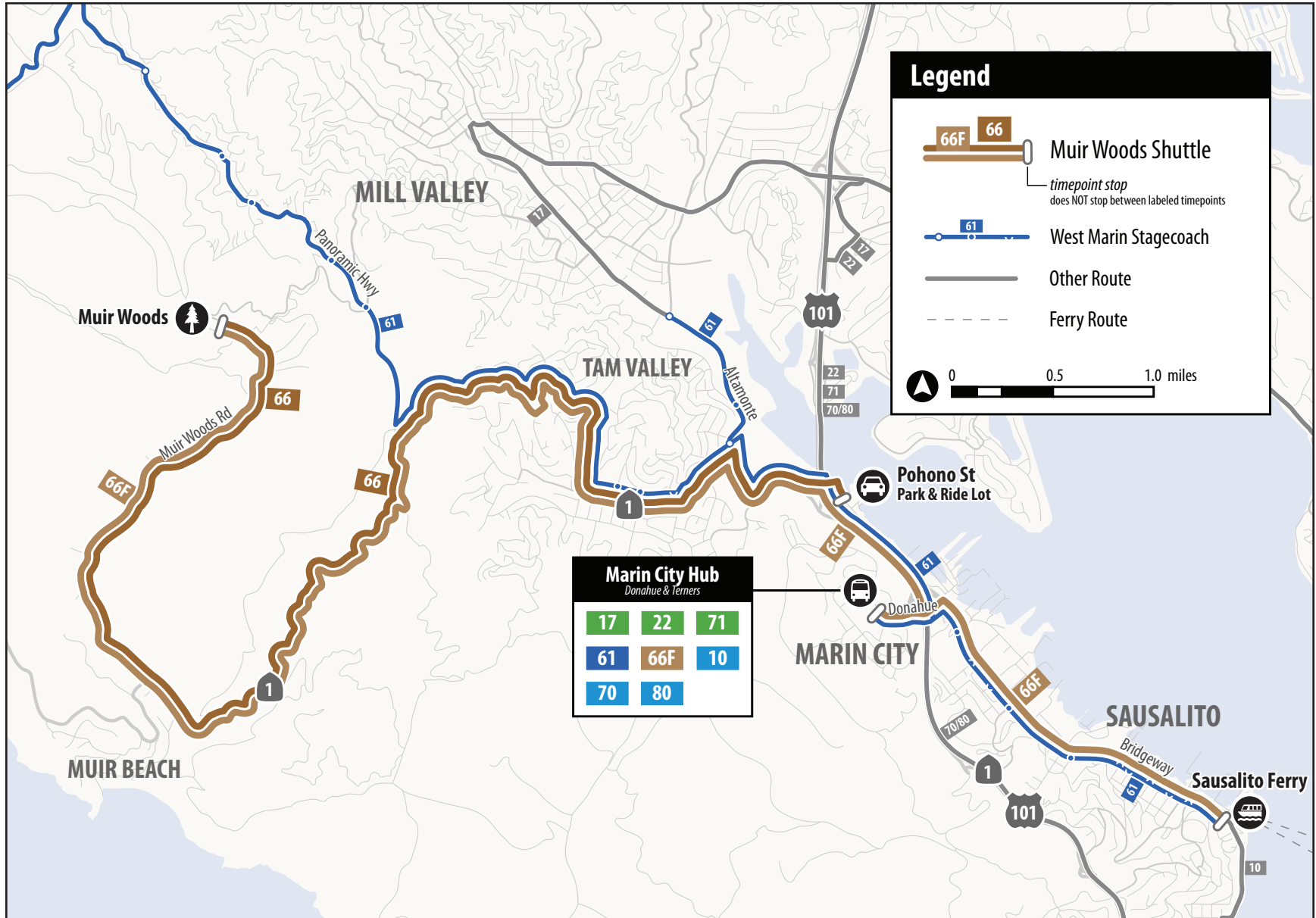
## Description of Service

For the 2013 season, shuttle service was provided on weekends and holidays, beginning on Saturday, May 4 and continuing through Sunday, October 27. Service operated on three holidays, including Memorial Day and Labor Day, as well as the 4<sup>th</sup> of July, which fell on a Thursday this year. The District was unable to provide service on the Friday following July 4<sup>th</sup> due to the Pohono Park & Ride Lot being unavailable for Shuttle operations.

In response to customer feedback and service evaluations over previous years, the District took additional steps to improve service, including efforts to minimize passenger wait times, accommodate increasing demand during peak travel times, and reduce customer confusion.

Figure 1 shows the routing for the Shuttle for the 2013 season.

Figure 1: 2013 Muir Woods Shuttle Map



## Changes for the 2013 Season

### Additional Vehicles

**Issue: Passenger pass-ups, leasing costs**

Five additional XHF vehicles were purchased by the District, each with a capacity of 37 seated passengers. These vehicles replaced the leased vehicles used in previous years, which only carried 28 passengers.

### Increased Frequency

**Issue: Passenger pass-ups, waiting time**

Schedules were revised to provide service every 10 minutes during peak travel times to and from the Pohono Park & Ride Lot.

### Additional Service to Sausalito

**Issue: Passenger confusion, waiting time**

Service to and from Sausalito and Marin City was separated from the primary route, serving Pohono Park & Ride Lot and given a different route number, Route 66F, to help reduce passenger confusion. This also enabled the District to provide hourly service throughout the entire season to both destinations.

### Fare Payment Process

**Issue: Passenger inconvenience, boarding delays**

A new fare payment process allowed passengers to pay for their round-trip shuttle ride at the Muir Woods Visitor Center along with their park entrance fee. Passengers were able to get change or use credit cards when paying their fare thus speeding up the boarding process.

### Changeable Message Signs (CMS)

**Issue: Malfunctions, sign leasing costs**

Two new permanent CMS have been installed along Highway 101. In addition to two leased CMS, these signs have proven to be the most effective means of shifting park visitors from driving to taking the Shuttle.

During the peak season, which runs from Memorial Day weekend to Labor Day weekend, service between Pohono and Muir Woods was provided about every 10 minutes, with the first trip departing at 9:00 am and the last return trip leaving the Park at 7:30 pm. During the shoulder season, service was provided every 20 minutes with the same span of hours.

Service on Route 66F to and from Sausalito was provided about every hour, with 8 trips going to the Park and 10 trips returning. These trips were scheduled to meet arrivals and departures of Golden Gate Ferry and Blue and Gold Fleet services. The route also serves Marin City to allow for connections to and from regional and local buses.

In all, service was scheduled to be provided on 33 peak summer days and 22 shoulder season days. However, the federal government shutdown caused the park to be closed from October 1 through October 16, and the service was operated on only 18 days in the shoulder season.

The route brochure for the 2013 season, which includes schedules and other passenger information, is included as Appendix A.

### Fares

For the 2013 season, the round-trip adult fare was increased from \$3.00 to \$5.00 per person. In order to accommodate the new fare payment process, the fare categories for the service were also adapted to match those of the Park. This structure includes one fare for anyone age 16 and over. Youth ages 15 and younger, seniors with a Lifetime Pass, and disabled individuals with a Lands Access Pass were not charged a fee.

## Customer Liaisons

Two Customer Liaisons were hired to assist passengers waiting for the Shuttle at the Pohono Park & Ride Lot. In previous seasons, the Liaisons helped to manage lines, organize fare payment, and monitor system performance.

With the new fare payment procedure and increased service frequency, the Liaisons' role focused more on providing information on the fare process. All vehicles were also equipped this year with Automated Vehicle Location (AVL) technology, which allowed the Liaisons to track

buses and provide passengers with real-time arrival information. The Liaisons also helped to administer the passenger surveys to those boarding at Pohono.

Because of this shift in the Liaisons' role, only one person was scheduled each day from the start of the season until mid-September. During the peak season, the shift started at 9:30 am and ended at 3:30 pm, and during the shoulder season, the shift ended one hour earlier.

Table 1 summarizes service changes over the last five years of operations.

**Table 1: Summary of Operations, 2009–2013**

	2009	2010	2011	2012	2013
Season Start	May 2	May 1	May 7	May 5	May 4
Season End	September 27	September 26	September 25	October 28	October 27
Avg. Frequency (Shoulder/Peak)	30 min/20 min	30 min/20 min	30 min/20 min	30 min/15 min	20 min/10 min
Service Hours	2,158	2,115	2,108	2,623	3,038 <sup>(2)</sup>
Standard Fare (adult round-trip)	\$3.00	\$3.00	\$3.00	\$3.00	\$5.00
Farebox Recovery	10.6%	12.9%	17.9%	19.3%	35.8% <sup>(1)</sup>

Notes:

(1) Estimated based on actuals from May 2013 through September 2013.

(2) Actual operated hours, which differed from planned hours due to the federal government shutdown.

## Marketing

Marketing the Shuttle service has primarily been focused on visitors to the Bay Area, with an emphasis on those coming from San Francisco. Information on the Shuttle was mostly distributed through visitor information centers, newspapers, online, and on signs near the highway exits.

Schedule brochures were made available through hotel concierges, as well as through visitor centers, such as the Sausalito Visitor's Center, the Marin County Convention Center and Visitor's Bureau, and Bay Crossings at the San Francisco Ferry Building. Schedules and signs were also posted at the stops, including the Sausalito Ferry Terminal. Finally, information was provided to customers online and over the phone by both Marin Transit and National Park Service staff, and visitors were able to plan their trips in advance using Google Transit and 511.

As in previous years, the Shuttle service was advertised locally through the Marin Independent Journal and Pacific Sun newspapers. This year, ads were also placed in the San Francisco Chronicle in an effort to expand the Shuttle's market reach and capitalize on visitors coming to the Bay Area for America's Cup.

The most effective means of advertising the Muir Woods Shuttle remains the changeable message signs (CMS). Two permanent CMS and two additional leased signs were installed along Highway 101 to alert motorists about parking conditions at Muir Woods, directing them to the Pohono Park & Ride Lot exit. Blue road signs closer to the exit guide drivers further along the off-ramp and into the parking lot.

Whereas more than half of passenger survey respondents in previous years indicated that they found out about the Shuttle through the CMS, an increasing number of passengers in the 2013 season initially found Shuttle information online.

## Evaluation Methodology

With the new fare collection process, data on Shuttle ridership and fare revenues was obtained through a combination of farebox reports and weekly fare collection reports provided by the Conservancy. Data on park visitation levels was also provided by Conservancy staff. Financial numbers and service hours information was compiled by Marin Transit staff.

Qualitative observations of the service were provided by the Customer Liaisons, MV Transportation operations staff, and Marin Transit staff, and include commentary on on-time performance, weather conditions, fare collection, passengers having to wait for the next bus due to limited capacity, service strengths and weaknesses, and comments on other ways to improve service.

Passenger surveys have been conducted over the past four seasons. Prior to this season, the results repeatedly indicated that the primary passenger concerns were the need for more frequent service and a new fare processing system. A number of improvements were made prior to the start of the 2013 season to further address these issues.

This evaluation report provides an overview of trends and changes over time and makes recommendations for the Shuttle's future.



# Ridership and Productivity

This section summarizes the number of passengers the Muir Woods Shuttle carried in 2013; the productivity of the service, measured in passengers per revenue hour; and the percentage of total visitors to Muir Woods who chose to use the Shuttle. These figures are also compared with previous years.

### Ridership

Ridership is measured as one-way, unlinked passenger trips. Approximately 77,486 one-way passenger trips were made on the Muir Woods Shuttle during the 2013 season, representing a 43% increase in ridership compared to 2012.

Table 2 shows total ridership trends over the past four seasons, by month. Generally, ridership has

continually increased over past years. Similar to previous years, July had the highest total monthly ridership. However, ridership in August and September showed significant growth compared to previous years.

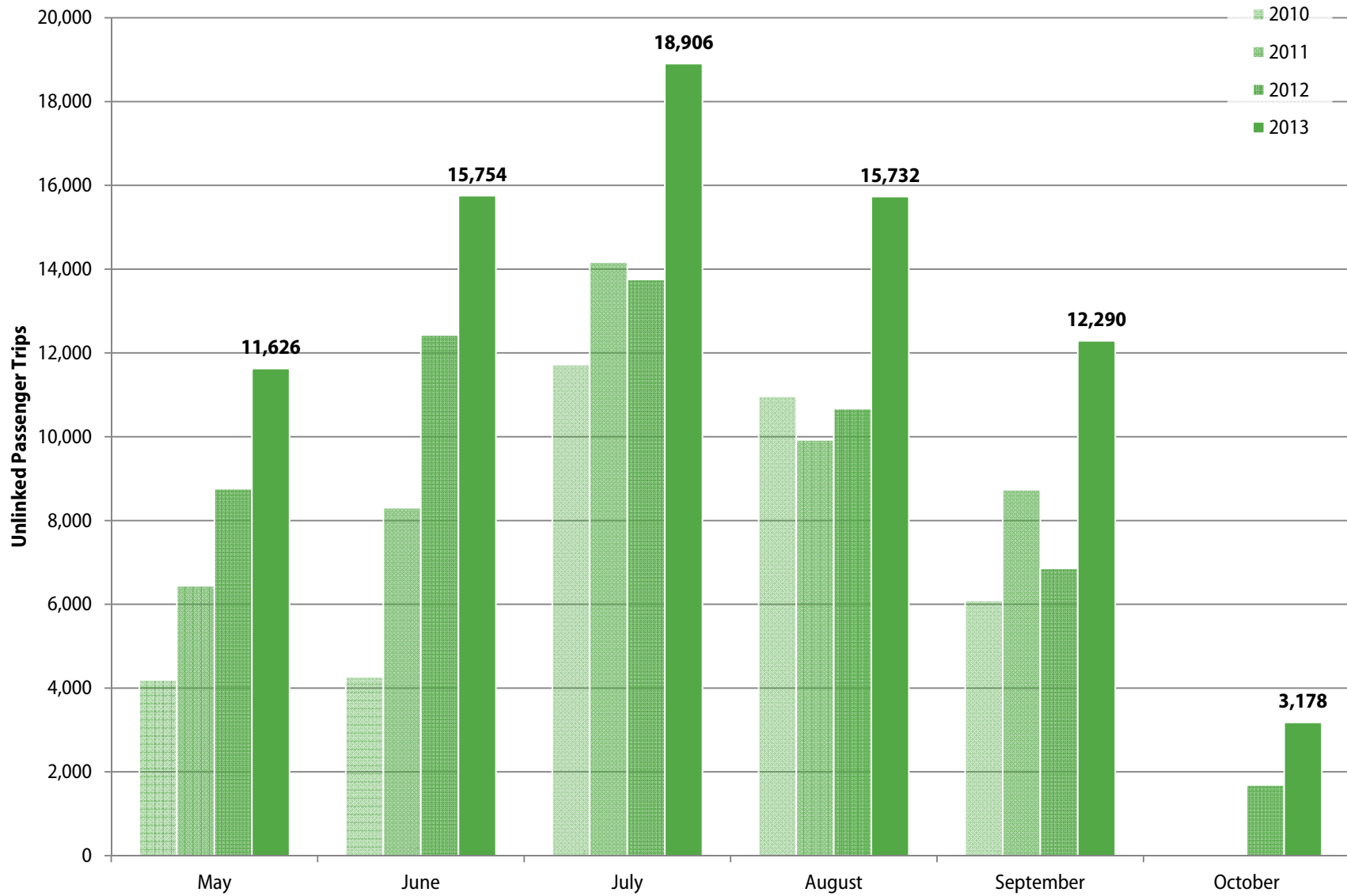
Despite the federal government shutdown, which caused Muir Woods to be closed from October 1<sup>st</sup> through October 16<sup>th</sup>, total ridership for the month increased significantly over last year.

Figure 3 shows ridership by day for the 2013 season. On the Saturday following the July 4<sup>th</sup> holiday, the Shuttle hit a record high daily ridership level of 2,782 trips. There were also 14 additional days this season where daily ridership surpassed 2,000 unlinked trips.

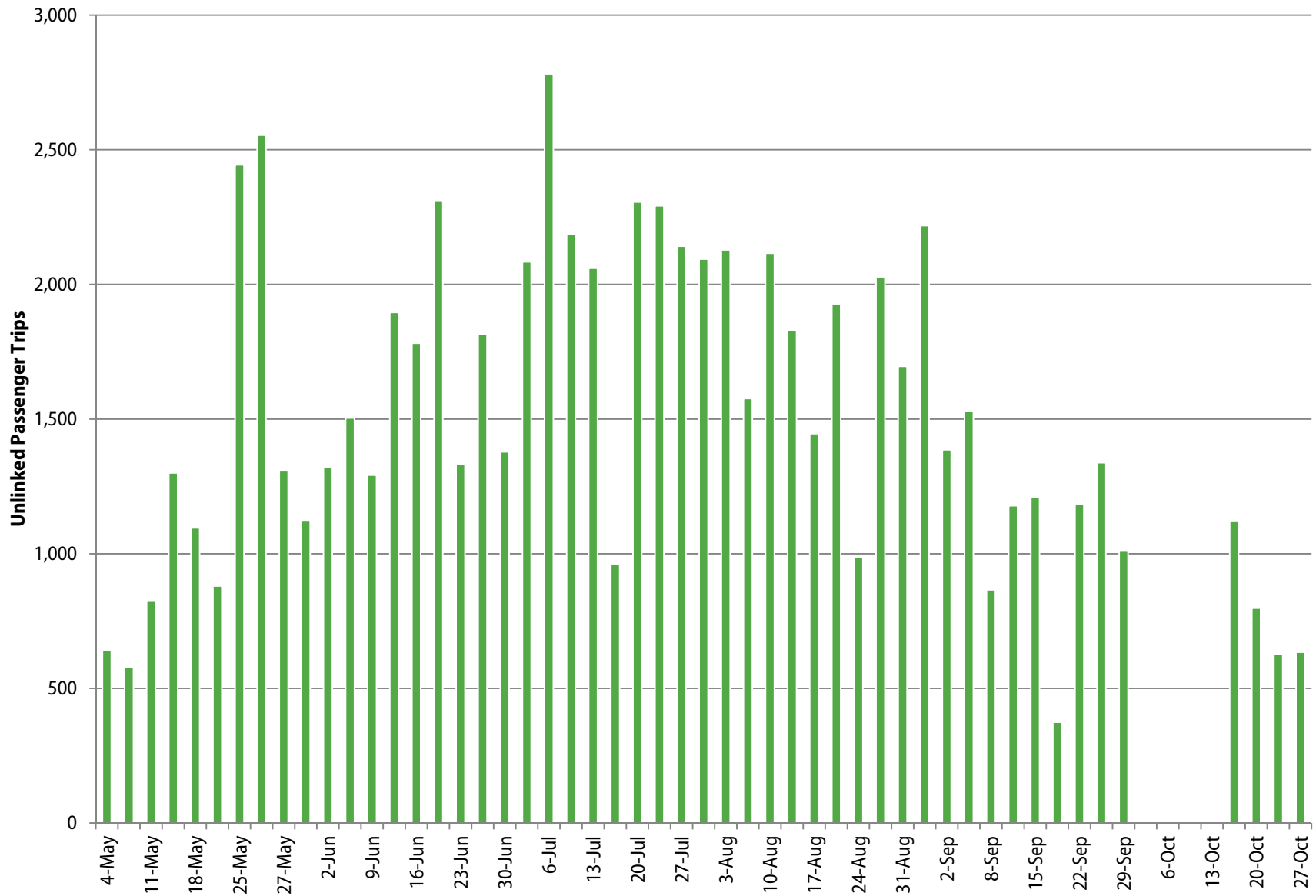
**Table 2: Shuttle Ridership by Month, 2010 – 2013** (unlinked passenger trips)

Month	2010	2011	2012	2013	% Change 2012–2013
May	4,194	6,443	8,756	11,626	32.8%
June	4,268	8,305	12,429	15,754	26.8%
July	11,722	14,166	13,756	18,906	37.4%
August	10,965	9,924	10,668	15,732	47.5%
September	6,090	8,734	6,860	12,290	79.2%
October	–	–	1,685	3,178	88.6%
<b>Total</b>	<b>37,239</b>	<b>47,572</b>	<b>54,154</b>	<b>77,486</b>	<b>43.1%</b>

**Figure 2: Shuttle Ridership by Month, 2010 – 2013 (unlinked passenger trips)**



**Figure 3: Daily Ridership, 2013** (unlinked passenger trips)



## Productivity

Service productivity is measured in passengers per revenue hour or per trip. Service for the 2013 season averaged 25.1 passengers per hour, or about 16.0 passengers per trip. Table 3 below shows productivity measures by month, compared to the 2012 season.

While productivity measured in passengers per hour increased over the previous season by approximately 26%, the number of average passengers per trip decreased. This trend is reflective of changes in scheduling that improved efficiency and allowed for more trips per revenue hour. Thus while total revenue hours increased by only 13%, the total number of trips increased by 68%.

## Mode Share

Another important indicator of the success of the Shuttle service is the mode share, or the percentage of total park visitors who choose to take the Shuttle. During the days that the Shuttle was in service, there were a total of 214,837 visitors to Muir Woods. During the 2013 Shuttle season, 38,743 individual visitors chose to ride the Shuttle<sup>1</sup>. This represents an 18.0% average mode share, up from 12% reported in 2012.

Figure 4 shows percentage mode share of the Shuttle by day. On some of the busiest days, the Shuttle carried up to 25% of all park visitors.

The CMS in particular had a significant effect on the Shuttle's mode share. On days when the CMS were not functioning properly, mode share tended to drop to around 10%. This is especially notable

during the peak season. On July 14 and August 24, for example, Shuttle ridership and mode share dropped while total park visitation levels remained high.

## On-Time Performance

In previous seasons, on-time performance has been measured based on daily monitoring reports completed by the Customer Liaisons at the Pohono Park & Ride Lot. Since the role of the Liaisons shifted and service was running at high frequencies, on-time performance was not evaluated as part of this report.

## Pass-Ups

Passenger pass-ups continued to occur during peak periods when passenger demand exceeded bus capacity, which is restricted to 37 seated passengers. Standees are not permitted due to the steep and winding nature of the roadway. Despite an increased frequency of service, the irregularity of passenger arrivals coupled with the concentrations in the midday resulted in lines and wait times for passengers. Compared to previous years, the lines tended to dissipate much more quickly resulting in shorter passenger wait times. This led to fewer people becoming discouraged and deciding to drive to Muir Woods instead.

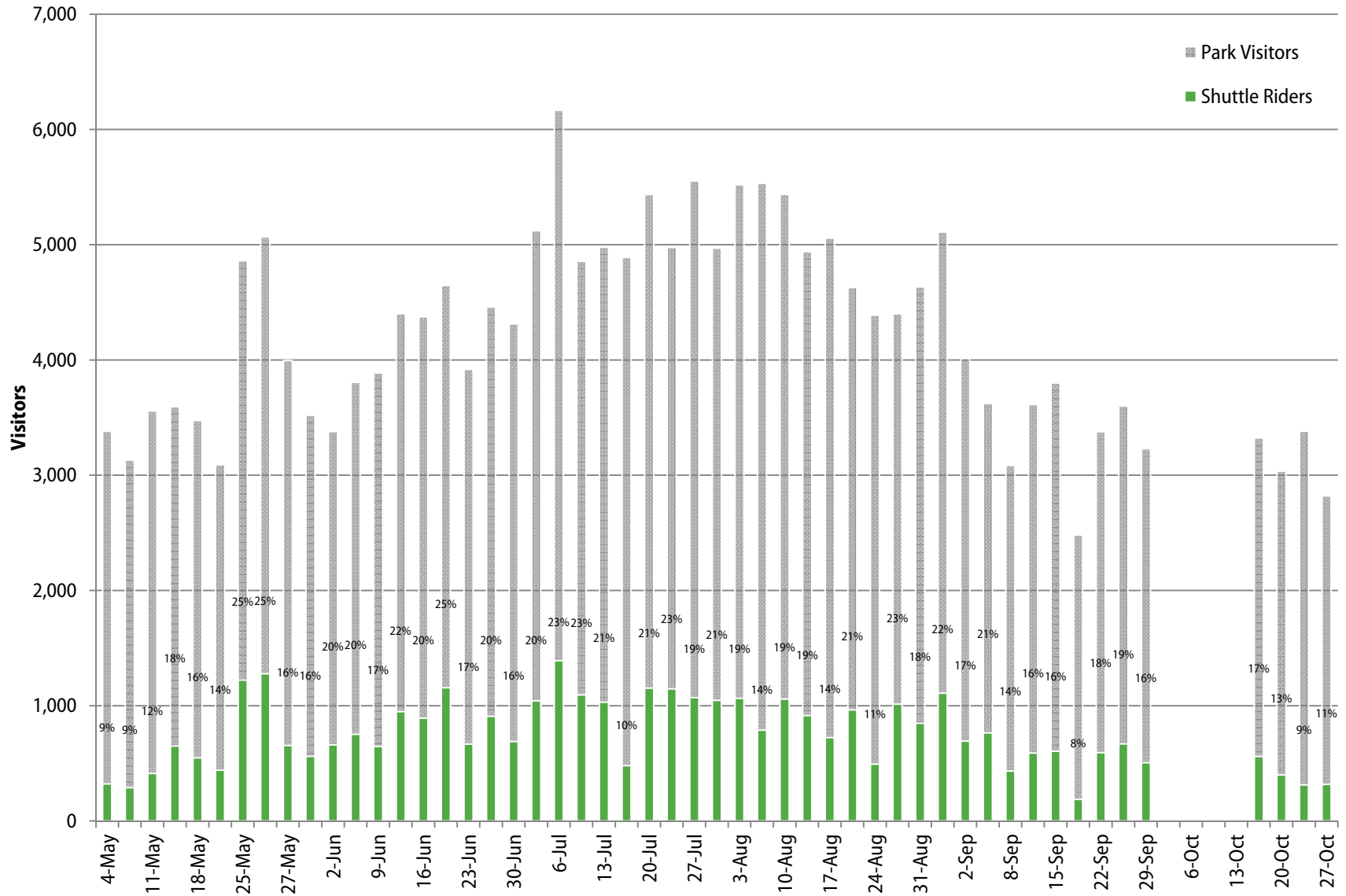
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<sup>1</sup> Assumes that each visitor took a round trip

**Table 3: Shuttle Productivity, 2012 – 2013**

Month	Passengers per Trip			Passengers per Hour		
	2012	2013	% Change	2012	2013	% Change
May	22.2	15.6	-28.7%	23.4	23.2	-0.7%
June	21.3	14.3	-32.0%	23.6	23.8	1.0%
July	21.2	19.1	-9.8%	25.7	31.3	31.9%
August	20.5	15.9	-22.5%	21.6	26.3	21.8%
September	14.9	16.2	8.7%	15.7	23.2	48.0%
October	6.4	12.0	88.6%	6.7	22.2	231.4%
<b>Total</b>	<b>18.8</b>	<b>16.0</b>	<b>-14.8%</b>	<b>20.6</b>	<b>25.5</b>	<b>23.5%</b>

Figure 4: Daily Shuttle Mode Share, 2013



# Service Cost and Farebox Recovery

The total service cost for the 2013 season was \$417,097, about a 5% increase over last year. This includes operating, administration, vehicle lease, and marketing costs. Table 4 shows a breakdown of the total cost and revenue for the Shuttle compared to the past three seasons, and Table 5 summarizes key cost performance measures.

Although service hours were significantly increased, resulting in a higher contractor operating cost, a number of other costs were reduced, which led to the relatively small increase in overall total cost. These reductions can be attributed to the procurement of five additional XHF vehicles, reducing costs associated with leased equipment, and installation of two permanent changeable message signs.

Administrative and marketing costs also dropped back to levels comparable to the 2011 season. The spike in these costs during the 2012 season was partially a result of startup costs associated with the new contract.

## Farebox Recovery

A new fare policy and collection process was implemented for the 2013 season to speed up operations, increase service levels, and improve passenger convenience. The regular adult fare was raised from \$3.00 to \$5.00 per round-trip,

consistent with an adult day pass. The fare categories were also adapted to match those of NPS, which allows youth ages 15 and under, as well as special pass holders, to visit for free. Thus youth under 16, seniors with a Lifetime Pass, and disabled individuals with an Access Pass were all allowed to ride the Shuttle for free as well.

As shown in Table 4, a total of \$149,140 was collected in fares during the 2013 season, an increase of about 94% over last year, primarily due to the increased fare and ridership growth. This represents a farebox recovery rate of 35.8%.

## Cost per Service Hour

The average cost per service hour for the 2013 season was \$137.29, a 9.1% decrease over the previous season. As mentioned previously, this was due to eliminating the need to lease vehicles and other costs that were reduced.

## Cost per Trip

The cost per one-way passenger trip also decreased as ridership increased. The average cost per trip for the 2013 season was \$5.38.

## Subsidized Cost per Trip

The District's subsidy per passenger performance standard for the Muir Woods Shuttle is \$3.00 per passenger. This season, average subsidy reached a record low at \$3.46 per passenger.

**Table 4: Shuttle Service Costs, 2010 – 2013**

	2010	2011	2012	2013	% Change 2012–2013
Operating Costs	\$240,073	\$245,337	\$166,512	\$294,437	76.8%
Vehicle Lease	\$37,078	\$63,378	\$90,853	\$20,988	-76.9%
Marketing	\$6,452	\$7,460	\$25,194	\$13,179	-47.7%
Maintenance & Equipment	\$2,460	\$2,690	\$14,051	\$30,749	118.8%
Customer Liaisons	\$5,344	\$8,522	\$9,047	\$6,503	-28.1%
Changeable Message Signs	\$32,500	\$20,330	\$20,520	\$14,402	-29.8%
Marin Transit Admin Costs	\$16,302	\$19,218	\$70,134	\$22,390	-68.1%
Fare Collection <sup>(1)</sup>	–	–	–	\$14,450	–
<b>Subtotal</b>	<b>\$340,209</b>	<b>\$366,934</b>	<b>\$396,310</b>	<b>\$417,097</b>	<b>5.2%</b>
Farebox Revenue	\$43,864	\$65,802	\$76,681	\$149,140	94.5%
<b>Net Total Cost</b>	<b>\$296,345</b>	<b>\$301,133</b>	<b>\$319,629</b>	<b>\$267,957</b>	<b>-16.2%</b>

Notes:

(1) As part of the new fare collection process, a 10% administrative fee based on total ticket sales was included to cover the costs of fare collection services provided by the Golden Gate National Parks Conservancy.

**Table 5: Shuttle Cost Effectiveness Measures, 2010 – 2013**

	2010	2011	2012	2013	% Change 2012–2013
Farebox Recovery	12.9%	17.9%	19.3%	35.8%	84.8%
Cost per Service Hour	\$160.86	\$174.07	\$151.09	\$137.29	-9.1%
Cost per Trip	\$10.44	\$7.71	\$7.32	\$5.38	-26.4%
Subsidy per Passenger	\$9.09	\$6.33	\$5.90	\$3.46	-41.4%



# Passenger Survey

From August through September of the 2013 season, surveys were distributed to passengers upon boarding the Shuttle. The survey for this season was greatly condensed from the previous years' version, with a focus on the aspects of the service that had changed since the last season.

The Customer Liaisons were responsible for distributing surveys to Shuttle passengers at the Pohono Park & Ride Lot, and drivers handed out surveys to passengers boarding in Sausalito and Marin City. Passengers could either mail back the survey using a prepaid postage frank or hand the completed survey to a driver, a Customer Liaison, or Muir Woods Visitor Center staff.

A total of 175 responses were collected. Some of the highlights are described the following sections. A complete summary of responses is included in Appendix B.

## Mode Choice

Figure 5 shows the responses to Question 1, which asked passengers why they chose to use the Shuttle that day.

As in previous years, most passengers (29%) indicated that they chose to take the Shuttle because parking at Muir Woods was full, suggesting that these passengers would probably have driven if they had not seen the changeable message signs on the highway. However, this percentage dropped slightly compared to last year,

with more passengers indicating that they chose to ride the Shuttle for other reasons, such as to avoid traffic and looking for parking. This suggests that more passengers may have planned on taking the Shuttle before they made their trip.

## Access Mode

Figure 6 shows the responses to Question 4, which asked passengers how they accessed the Shuttle.

Whereas the majority of respondents (84%) indicated that they drove in either a personal or rental car, a larger percentage of passengers (15%) said they took a bus or ferry to connect to the Shuttle compared to last year. This is again consistent with the idea that more passengers are planning their trip on the Shuttle in advance.

## Wait Time

Since Customer Liaisons were not responsible for monitoring passenger lines, a question was included in the survey to give a sense of average wait times at Pohono. As shown in Figure 7Figure 8, over 80% of survey respondents said they waited at Pohono for more than 10 minutes, and only about 2% waited more than 20 minutes. No one indicated having to wait more than 40 minutes.

It should be noted, however, that this does not reflect wait times on some of the busiest days of the season, which occurred between May and July. Nonetheless, it generally shows how well service supply is meeting average passenger demands.

## Customer Satisfaction

A number of questions were included in the survey relating to customer experience and satisfaction.

### Service Delivery

In terms of service frequency and on-time performance, passengers rated the service significantly higher compared to last year, as shown in Figure 8 and Figure 9.

On-time performance was rated good or excellent by 95% of passengers, compared to 53% in 2012. Since schedules were not published for the service to Pohono, which ran every 10 minutes during the peak, passenger perception of on-time performance becomes more focused on consistent headways (i.e., a bus comes in 10 minutes or less). The availability of real-time vehicle tracking information through the Customer Liaisons also helped to alleviate anxiety among passengers about next bus arrivals and reduce perceived wait times.

Service frequency was rated as good or excellent by 91% of survey respondents, compared to 37% in 2012.

### Bus Stops

The ease of finding bus stops was also rated higher this year compared to 2012, with 86% rating it as good or excellent (Figure 10). This result was also generally consistent among passengers boarding at the three different stops. Improvements were made this season to the signage at Pohono and Marin City, and additional signage at Sausalito will be considered for future seasons.

Although amenities and comfort at the bus stops was rated as good or excellent by 74% of

respondents, this aspect of the service was rated the lowest overall, as shown in Figure 11.

Recommendations on ways to address this particular issue are included in a later section of the report.

### Fare Payment

In recognition of the new fare collection process, a new question was included in the survey asking passengers to rate the ease of fare payment. As shown in Figure 12, this aspect was rated as good or excellent by 86% of passengers.

However, the survey identified two main issues regarding the fare payment process. The first was simply passengers being unaware of the fare and how to pay it. This was usually an issue on busy days as the Customer Liaisons or drivers would not be able to relay this information to each passenger individually. The second more common issue was confusion between the Shuttle fare and the park entrance fee. Some passengers did not realize there was a park entrance fee or thought that the two fees were the same.

### Shuttle Marketing

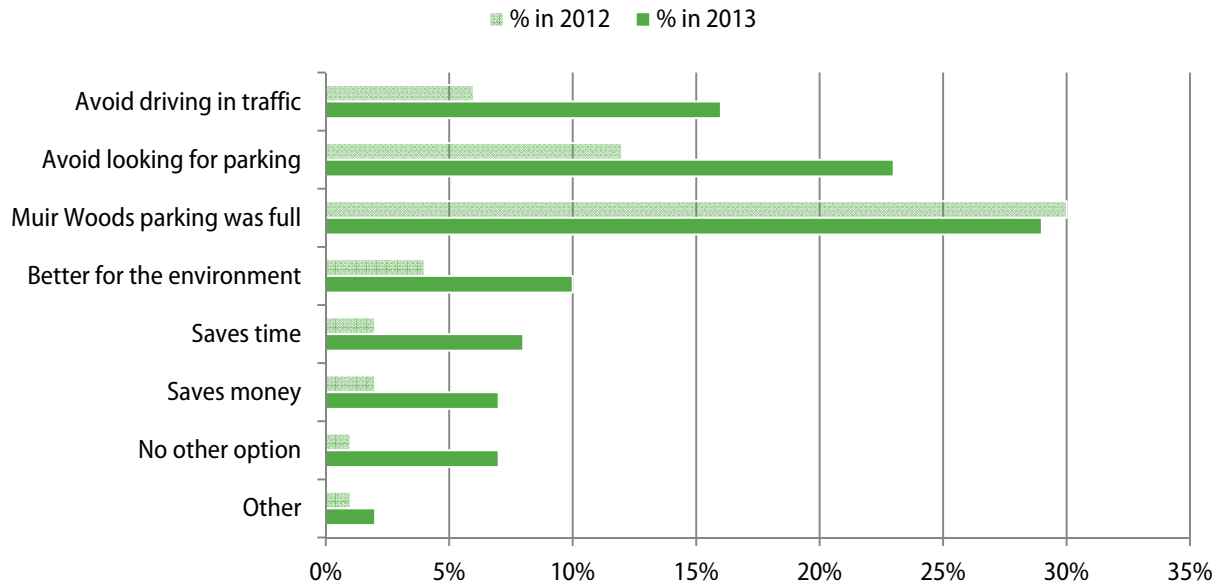
In previous years, most passengers found out about the Shuttle only once they had seen the changeable message signs alerting them that the parking lot at Muir Woods is full. This year a slight majority of survey respondents, about 32%, indicated that they learned about the Shuttle online, as shown in Figure 13. This is consistent with the idea suggested previously that more passengers are planning their trip on the Shuttle in advance. A part of this is a reflection of the additional information made available on both the NPS and Marin Transit websites. Shuttle

information and schedules were also available through trip planning tools, including Google Transit and 511.

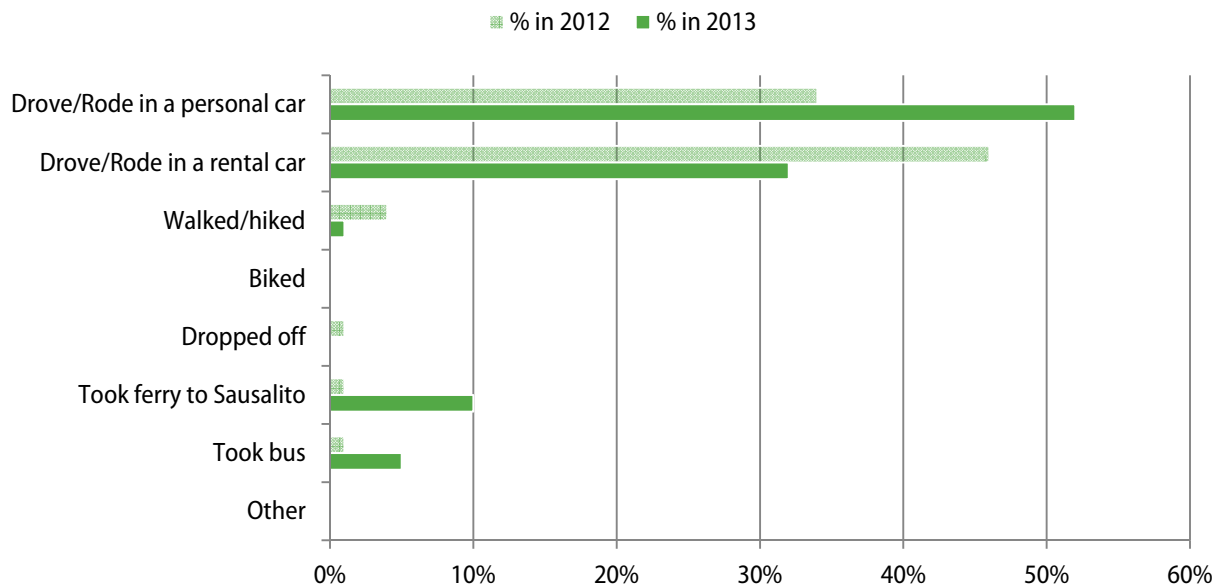
During the Muir Woods Shuttle season, Marin Transit webpage hits to the Shuttle schedule page

generally comprise about 22% of total website hits. On days when the service was running, this percentage increased to up to 40% of website views. This season also saw an increase of about 31% in total webpage views compared to the 2012 season.

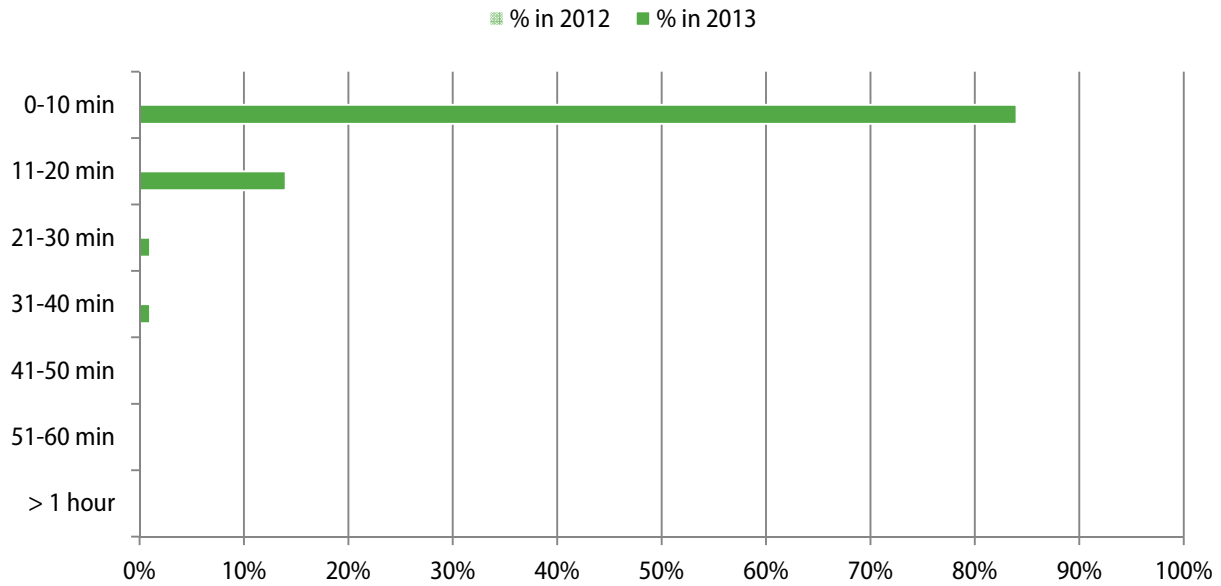
**Figure 5: Survey Question 1 – Why did you choose to use the Muir Woods Shuttle today?**



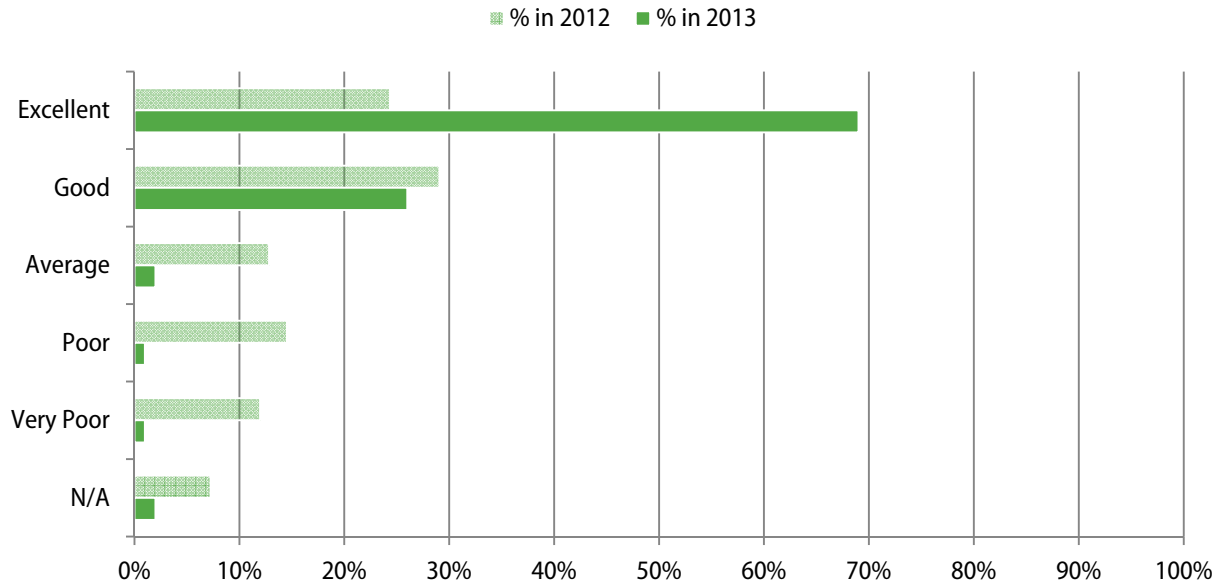
**Figure 6: Survey Question 4 – How did you get to the Muir Woods Shuttle?**



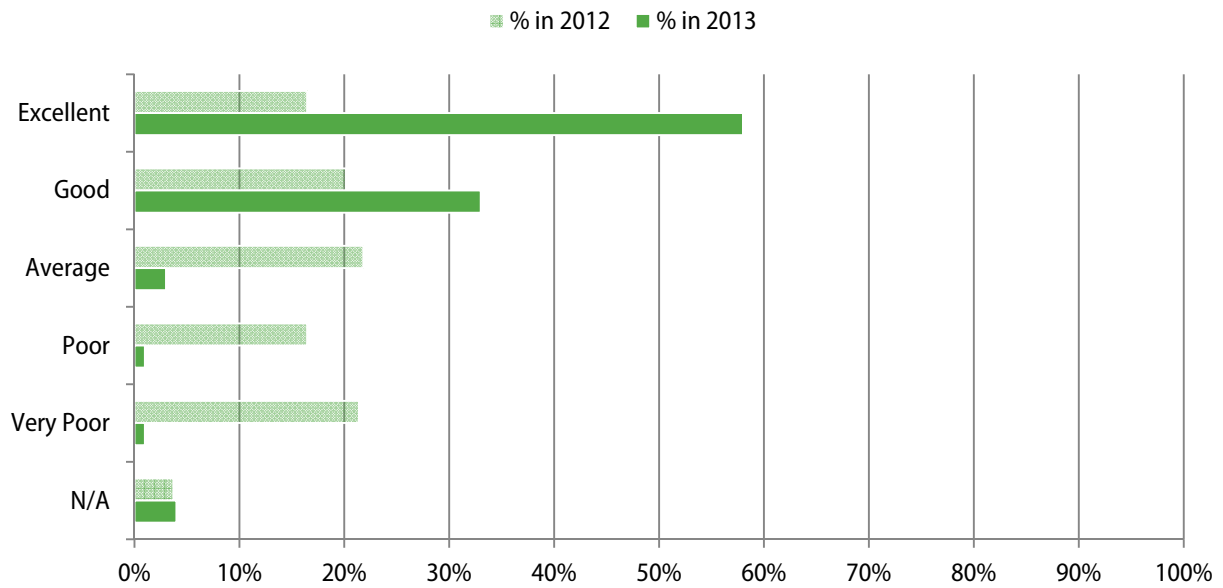
**Figure 7: Survey Question 3 – If you got on at Pohono, how long did you wait before you were able to board the Shuttle?**



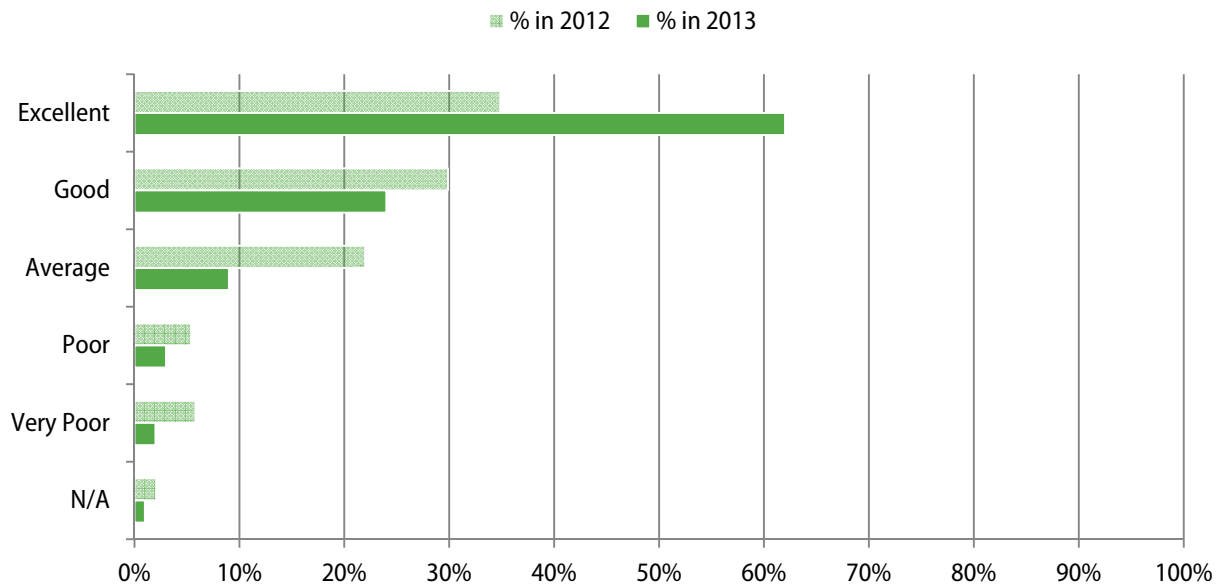
**Figure 8: Survey Question 6a – On-Time Performance**



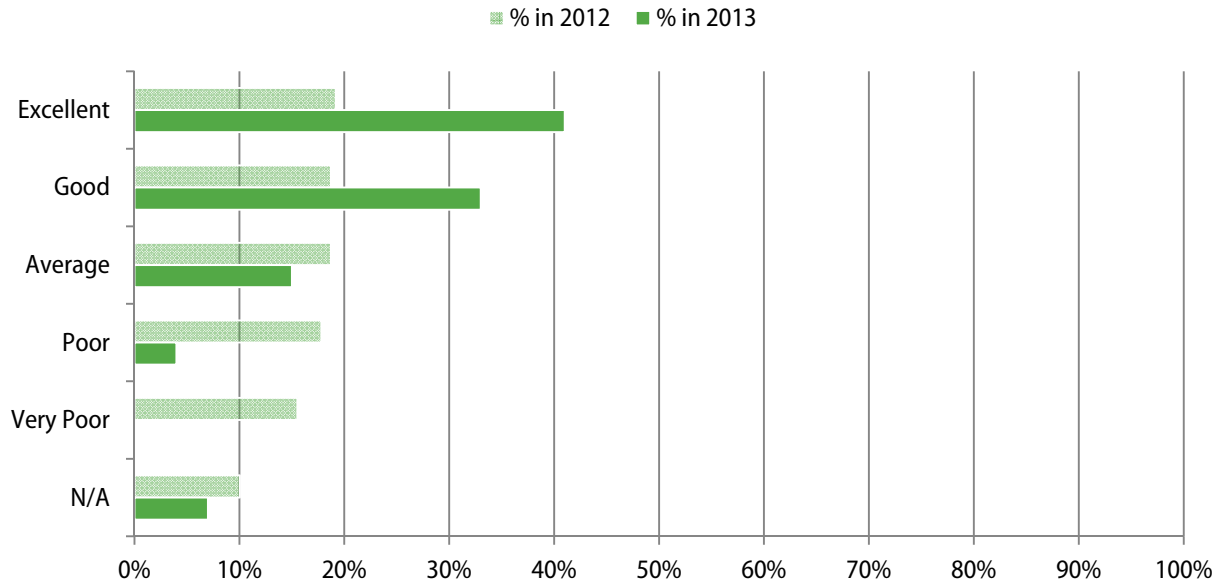
**Figure 9: Survey Question 6b – Frequency of Service**



**Figure 10: Survey Question 6c – Ease of Finding Bus Stops**



**Figure 11: Survey Question 6g – Amenities/Comfort at Bus Stops**



**Figure 12: Survey Question 6h – Ease of Fare Payment**

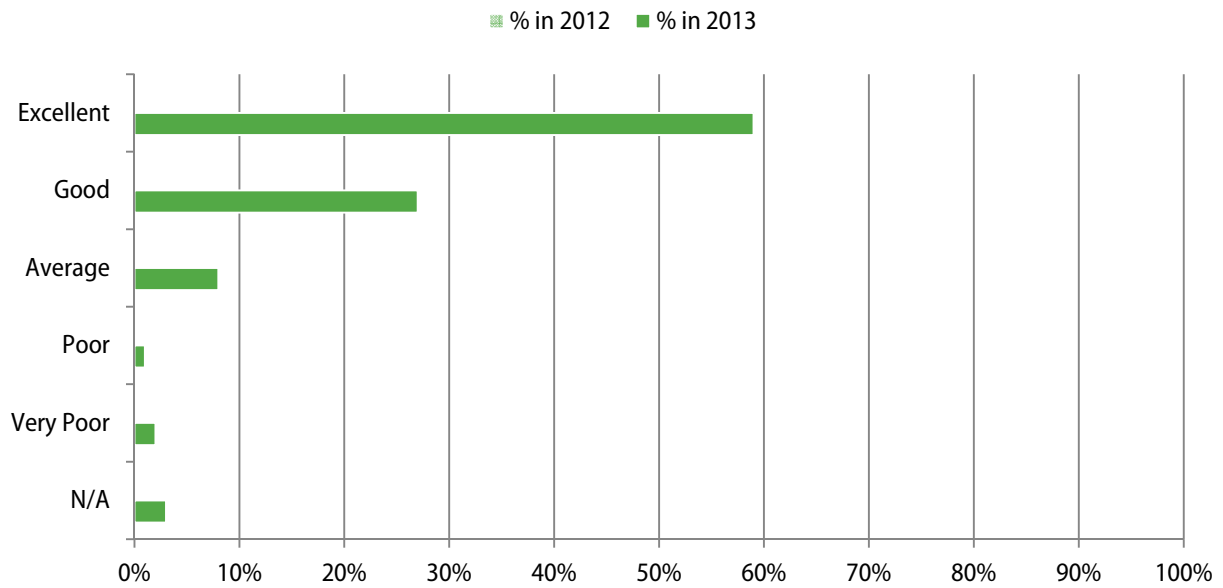
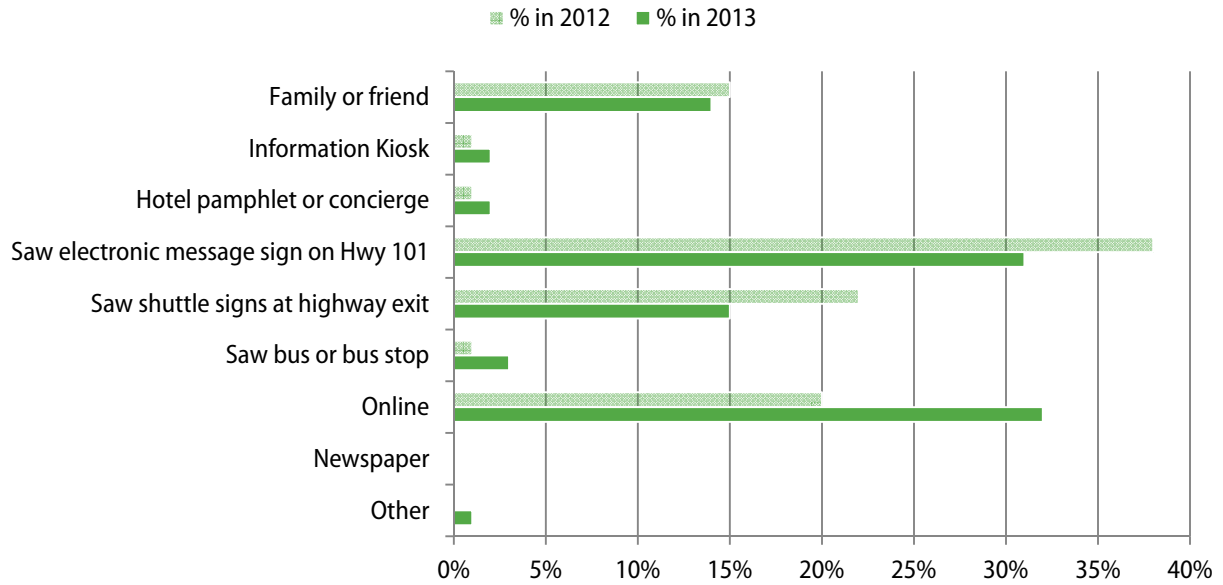


Figure 13: Survey Question 7 – How did you learn about the Shuttle?



# Conclusions and Recommendations

The Muir Woods Shuttle has continued to play an increasingly more significant role in reducing congestion and providing a viable alternative transportation option to the park. As park visitation levels continue to increase, mitigating traffic and parking congestion becomes even more important.

Although a number of improvements were made for this season to address long-standing issues and further attract additional Shuttle riders, there are still opportunities to make the Shuttle a more competitive option.

## Changeable Message Signs

The changeable message signs (CMS) along the highway continue to be one of the most effective ways of advertising the Shuttle and, in particular, shifting visitors from driving to taking transit. This season two permanent CMS were installed, which reduced the number of signs leased from a private vendor from two to four.

Issues with both the permanent and leased signs continued to occur throughout the season. Complicating the matter there were now two different contacts for each of the signs that staff needed to coordinate with when problems occurred.

Additional funding has been secured through the FY2012 Paul Sarbanes Transit in the Parks grant program to purchase and install two additional permanent CMS.

## Bus Stop Amenities

Although average wait times were reduced due to increased service frequency, additional passenger amenities at the bus stops would help to improve the overall visitor experience. Increased visibility, especially at the Pohono Park & Ride Lot, would help passengers find the Shuttle stops and further market the service.

Funding has also been secured through the FY2012 Sarbanes grant for bus stop improvements at the Pohono Park & Ride Lot and Sausalito Ferry Shuttle stops. These improvements include additional seating and shade, bike racks or lockers, signage to improve visibility, and passenger information as well as sidewalk and accessibility improvements.

## Days of Service

Despite high service frequency, long lines and passengers pass-ups occurred when vehicle capacity limitations require a passenger to wait through multiple bus arrivals before being able to board. This can mainly be attributed to two external factors—traffic congestion and the



unpredictable arrival of passengers. Pass-ups occurred during very concentrated peak periods, usually when a combination of heavy traffic was causing delays and a number of large groups arrived to the stop at the same time.

Significant resources, including additional equipment and drivers, would be required to try and accommodate this concentrated peak demand period. Adding more service capacity during this time would not be a practical or cost effective solution. However, there could be opportunities to expand days of service and encourage more visitors to come on weekdays or during the off-season.

The Shuttle has continued to operate on weekends and holidays only, but the length of the season has expanded into later months. This year additional service will be provided during select off-season holiday periods, including around Thanksgiving, Christmas, and New Year's Day. This service was programmed following last season's year-end review and included in the FY 2013-14 budget.

The past few seasons have seen continually increasing demand in the earlier months of the season. In coordination with partners, staff will evaluate a Shuttle season that starts as early as the last weekend of March for the 2014 season.

Future opportunities to provide service to Muir Woods during weekdays will also be explored. This could include running a variation of the current Shuttle service on select weekdays or providing service through a modified Stagecoach program.

## Staffing

In the 2013 season, the role of the Customer Liaisons shifted from operations monitoring to more of a customer service position providing passengers with information about the Shuttle and the fare payment process.

The previous year's evaluation suggested that once the new fare collection process was in place these positions could be eliminated. However, the Liaisons continued to be an invaluable resource to passengers. While a full-time operations supervisor was also stationed at the Pohono Park & Ride Lot, the Liaisons were the ones primarily responsible for providing information to customers and answering questions, allowing the supervisor to focus on operations and attend to any issues as needed.

A full-time supervisor was also stationed up at Muir Woods to facilitate vehicle circulation and check for proof of payment. This supervisor also helped to ensure that passengers boarded the correct bus on their return trip (i.e., to Sausalito or Pohono).

Staff recommends that these staffing levels are maintained for future seasons to ensure operational efficiency and a quality passenger experience.

# Appendix A

Route Brochure

## ADDITIONAL INFORMATION

### PHONE NUMBERS

Muir Woods Shuttle (415) 526-3239  
daily 8:00am – 5:00pm  
shuttle information, lost & found

West Marin Stagecoach (415) 526-3239

operated by:  *We Provide Freedom™*

under contract with: 

visit [www.marintransit.org](http://www.marintransit.org)

### SPONSORSHIP OF SERVICE

Muir Woods Shuttle Route 66 is funded by Marin Transit and the National Park Service, and operated under a service agreement between Marin Transit and MV Transportation, Inc.



### COMMENTS

info@marintransit.org  
[www.marintransit.org/contact.html](http://www.marintransit.org/contact.html)



scan QR code for schedules or go to [www.marintransit.org/mws](http://www.marintransit.org/mws)

## Weekend & Holiday | Off-Peak 66

May 4 – May 19, 2013  
September 7 – October 27, 2013

to Muir Woods		from Muir Woods	
Westbound		Eastbound	
Pohono St (Park & Ride Lot)	Muir Woods (Main Entrance)	Muir Woods (Main Entrance)	Pohono St (Park & Ride Lot)
9:00	9:30	11:10	11:40
every 20 minutes			
5:00	5:30	7:30	8:00

1 After September 15<sup>th</sup> the last return trip from Muir Woods leaves at 6:30 pm.

## Weekend & Holiday | Peak 66

May 25 – September 2, 2013

to Muir Woods		from Muir Woods	
Westbound		Eastbound	
Pohono St (Park & Ride Lot)	Muir Woods (Main Entrance)	Muir Woods (Main Entrance)	Pohono St (Park & Ride Lot)
9:00	9:30	11:00	11:30
9:20	9:50	every 10 minutes	
9:40	10:10	6:30	7:00
10:00	10:30	6:50	7:20
every 10 minutes			
5:00	5:30	7:30	8:00

## Weekend & Holiday 66F

May 4 – October 27, 2013

to Muir Woods			from Muir Woods		
Westbound			Eastbound		
Sausalito (Bag & Bridgeway)	Marin City Hub (Downtown & Remes)	Muir Woods (Main Entrance)	Muir Woods (Main Entrance)	Marin City Hub (Downtown & Remes)	Sausalito (Bag & Bridgeway)
10:55	11:10	11:45	11:45	12:20	12:30
11:20	11:35	12:10	12:10	12:45	12:55
12:10	12:25	1:00	1:15	1:50	2:00
12:40	12:55	1:30	2:05	2:40	2:50
1:00	1:15	1:50	1:50	2:25	2:35
2:05	2:20	2:55	2:55	3:30	3:40
3:00	3:15	3:50	4:00	4:35	4:45
3:30	3:45	4:20	4:40	5:15	5:25
–	–	–	5:10	5:45	5:55
–	–	–	5:50	6:25	6:35

### Special Notes

All times PM times  
Times are approximate and dependent on traffic conditions.  
The last bus leaving Muir Woods is often full. Plan your trip to leave on an earlier bus.  
Check destination signs when boarding on your return trip.

### Days of Operation

Service runs Saturdays and Sundays, from May 4, 2013 to October 27, 2013, as well as on Memorial Day (Monday, May 27, 2013), Independence Day (Thursday, July 4, 2013), and Labor Day (Monday, September 2, 2013).

### Fares

Round-trip fares are collected at the Muir Woods Visitor Center, and your receipt must be shown upon boarding as proof of payment on your return trip from Muir Woods. Fares may be paid at the Visitor Center using cash or most major credit cards along with your park entrance fee. **Retain your receipt to present to the driver on your return trip.**

### Round-Trip Fares

Adults (ages 16+)	\$5
Youth (ages 15 and under)	Free

Marin Transit Passes and Value Cards are also accepted. Clipper is not accepted on the Muir Woods Shuttle.

No one-way fares are available. Passengers wishing to ride one-way must pay the full round-trip fare.

### Transfers

If transferring from another Marin Transit, West Marin Stagecoach, or Golden Gate Transit route, advise the driver that your final destination is Muir Woods and purchase a Day Pass upon boarding. The Day Pass can then be used to pay your round-trip fare for the Muir Woods Shuttle.

Local transfers are not valid on the Muir Woods Shuttle.

### Ferry Connections

Golden Gate Ferry provides service between the San Francisco Ferry Building and Sausalito. Please visit [www.goldengateferry.org](http://www.goldengateferry.org) for schedule and fare information.

Blue & Gold Fleet provides service between San Francisco Pier 41 and Sausalito. Please visit [www.blueandgoldfleet.com](http://www.blueandgoldfleet.com) for schedule and fare information.



For trip planning and additional information on transit connections, visit [www.transitandtrails.org](http://www.transitandtrails.org)

### Bikes

Vehicles are not equipped with bike racks, and bikes are not allowed inside buses or in Muir Woods. Bike parking is available at the Pohono Park & Ride Lot and near the Sausalito Ferry Terminal.

**Pohono Park & Ride Lot:** Take the Mill Valley-Sausalito Path, which starts from Bridgeway & Gate 5 Rd in Sausalito. Or from Tiburon, follow the Bay Trail along the Tiburon Linear Park and through Strawberry. Turn onto Pohono St, which leads directly into the park & ride lot. Bike racks are located at the end of the main lot.

**Sausalito Ferry Terminal:** From San Francisco, ride across the Golden Gate Bridge to Sausalito (about 4 miles) or take your bike with you on the ferry (reservations can be made at the Ferry Terminal during peak times). Bike racks are available in several bike parking zones in downtown Sausalito.

### Vehicles

Due to safety considerations, standees will not be carried on the Muir Woods Shuttle. Arrive at the bus stop early to ensure a seat on the bus.

All vehicles can accommodate wheelchairs.

Smoking, eating, and drinking are NOT permitted aboard buses. California State Law prohibits alcoholic beverages aboard public transit buses. Refreshments are available at Muir Woods.

### Stagecoach Route 61

West Marin Stagecoach Route 61 provides year-round access to many additional hiking trailheads and recreational areas in West Marin, including Pantoll Ranger Station, Bootjack, Mountain Home Inn, and Stinson Beach (see map on reverse).

Service is provided from Marin City (daily) and Sausalito (weekends & holidays). For schedules and more information, visit [www.marintransit.org](http://www.marintransit.org).

## Muir Woods Shuttle

# 66 | 66F

schedules effective may 4 – october 27, 2013

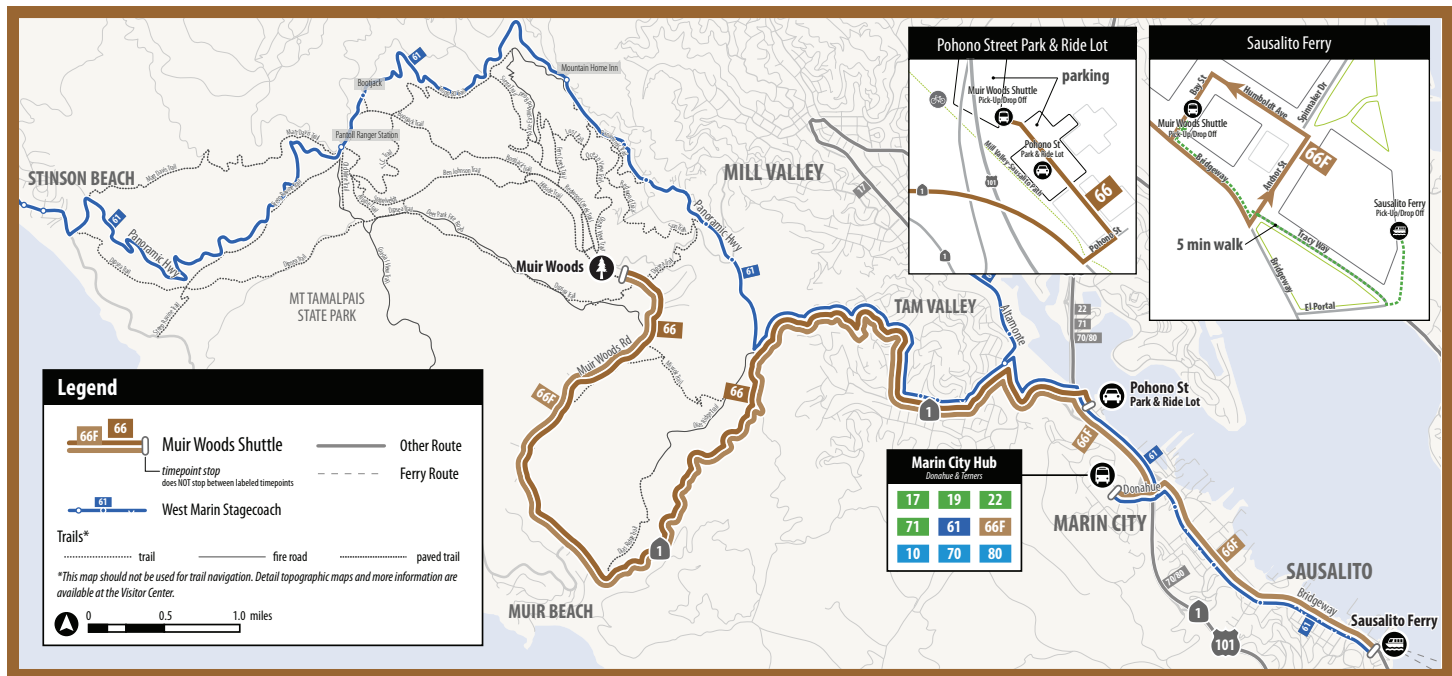


### weekend & holiday service to:

muir woods  
pohono park & ride  
marin city  
sausalito ferry terminal



information subject to change  
información sujeta a cambios



**MUIR WOODS INFORMATION**

**Summer 2013 Park Hours**

8:00 am – 8:00 pm daily  
 8:00 am – 7:00 pm beginning Sep 15  
 8:00 am – 6:00 pm beginning Oct 13

The Visitor Center closes 30 minutes before the park.

Note: The last bus leaving Muir Woods is often full. Plan your trip to leave on an earlier bus.

**Park Entrance Fees**

Adults (ages 16+) \$7  
 Youth (ages 15 and under) FREE

**Important!** Remember to pay your round-trip shuttle fare in addition to your entrance fee at the Visitor Center and keep your receipt to show to the driver on your return trip.

**Additional Information**

Visitor Information: (415) 388-2595  
 (Recorded Message)  
 Muir Woods Headquarters: (415) 388-2596  
 Hearing Impaired (TTY): (415) 556-2766

[www.nps.gov/muwo](http://www.nps.gov/muwo) and [www.parksconservancy.org](http://www.parksconservancy.org)

**Trails**

Within the Muir Woods National Monument, there is a 1/2 mile loop, a 1 mile loop, and a 1 1/2 mile loop, as well as longer hikes on trails that extend into surrounding Mount Tamalpais State Park. All of these walks afford views of old-growth coast redwoods, the tallest living things in the world.

Stop by the Visitor Center for more trail information, including a self-guided nature tour and a historic walking tour.

# Appendix B

Passenger Survey & Results

# 2013 Muir Woods Shuttle Passenger Survey

Date of Trip: \_\_\_\_\_ Time of Trip: \_\_\_\_\_ No. in Party: \_\_\_\_\_

- Why did you choose to use the Muir Woods Shuttle today? *(check all that apply)*

<input type="checkbox"/> Avoid driving in traffic	<input type="checkbox"/> Saves time
<input type="checkbox"/> Avoid looking for parking	<input type="checkbox"/> Saves money
<input type="checkbox"/> Muir Woods parking was full	<input type="checkbox"/> No other option
<input type="checkbox"/> Better for the environment	<input type="checkbox"/> Other: _____
- Where did you get on the Shuttle going to Muir Woods?
 

<input type="checkbox"/> Sausalito Ferry Terminal <i>(skip to #4)</i>	<input type="checkbox"/> Pohono Street Park and Ride Lot
<input type="checkbox"/> Marin City Transit Hub <i>(skip to #4)</i>	
- If you got on at Pohono**, how long did you wait before you were able to board the Shuttle?
 

<input type="checkbox"/> 0-10 min	<input type="checkbox"/> 21-30 min	<input type="checkbox"/> 41-50 min	<input type="checkbox"/> > 1 hour
<input type="checkbox"/> 11-20 min	<input type="checkbox"/> 31-40 min	<input type="checkbox"/> 51-60 min	
- How did you get to the Muir Woods Shuttle?
 

<input type="checkbox"/> Drove/Rode in a personal car	<input type="checkbox"/> Dropped off
<input type="checkbox"/> Drove/Rode in a rental car	<input type="checkbox"/> Took ferry to Sausalito
<input type="checkbox"/> Walked/hiked	<input type="checkbox"/> Took bus <i>route(s)</i> : _____
<input type="checkbox"/> Biked	<input type="checkbox"/> Other: _____
- Where did you come from **today**?
 

<input type="checkbox"/> Within Marin County	<input type="checkbox"/> East Bay
<input type="checkbox"/> San Francisco	<input type="checkbox"/> Other Bay Area location
<input type="checkbox"/> Sonoma County	<input type="checkbox"/> Other: _____
- Please rate the Shuttle service on each of the following:
 

	Excellent	Good	Average	Poor	Very Poor	N/A
On-time performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frequency of service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ease of finding bus stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Driver courtesy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information/staff at bus stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleanliness/condition of vehicles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amenities/comfort at bus stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ease of fare payment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

continued on back →

- How did you learn about the Shuttle?
 

<input type="checkbox"/> Family or friend	<input type="checkbox"/> Saw bus or bus stop
<input type="checkbox"/> Information Kiosk	<input type="checkbox"/> Online <i>specify</i> : _____
<input type="checkbox"/> Hotel pamphlet or concierge	<input type="checkbox"/> Newspaper <i>specify</i> : _____
<input type="checkbox"/> Saw electronic message sign on Hwy 101	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Saw shuttle signs at highway exit	

8. What improvements would make the Shuttle more convenient?

9. Other comments on transportation to Muir Woods:



**Thanks for riding!** Please hand completed surveys to your bus operator, drop off at the Muir Woods Visitor Center, or submit to: Marin Transit, 711 Grand Ave, Ste 110, San Rafael, CA 94901

FOLD HERE

FIRST CLASS MAIL  
U.S. POSTAGE  
PAID  
COUNTY OF MARIN

**BUSINESS REPLY MAIL**  
FIRST-CLASS MAIL PERMIT NO. 171 SAN RAFAEL, CA

**MARIN TRANSIT**  
711 Grand Avenue, Suite 110  
San Rafael CA 94901-3511

### Q1. Why did you choose to use the Muir Woods Shuttle today?

	2013 # responses	2013 % of responses	2012 % of responses
Avoid driving in traffic	51	16%	6%
Avoid looking for parking	74	23%	12%
Muir Woods parking was full	94	29%	30%
Better for the environment	31	10%	4%
Saves time	25	8%	2%
Saves money	21	7%	2%
No other option	21	7%	1%
Other	6	2%	1%
<b>Total</b>	<b>323</b>	<b>102%</b>	<b>58%</b>

### Q2. Where did you get on the Shuttle going to Muir Woods?

	2013 # responses	2013 % of responses	2012 % of responses
Sausalito Ferry Terminal	26	15%	6%
Marin City Transit Hub	7	4%	15%
Pohono Street Park and Ride Lot	140	81%	79%
<b>Total</b>	<b>173</b>	<b>100%</b>	<b>100%</b>

### Q3. If you got on at Pohono, how long did you wait before you were able to board the Shuttle?

	2013 # responses	2013 % of responses	2012 % of responses
0-10 min	116	84%	–
11-20 min	19	14%	–
21-30 min	2	1%	–
31-40 min	1	1%	–
41-50 min	0	0%	–
51-60 min	0	0%	–
> 1 hour	0	0%	–
<b>Total</b>	<b>138</b>	<b>100%</b>	<b>–</b>

#### Q4. How did you get to the Muir Woods Shuttle?

	2013 # responses	2013 % of responses	2012 % of responses
Drove/Rode in a personal car	90	52%	34%
Drove/Rode in a rental car	55	32%	46%
Walked/hiked	1	1%	4%
Biked	0	0%	0%
Dropped off	0	0%	1%
Took ferry to Sausalito	18	10%	1%
Took bus	8	5%	1%
Other	0	0%	0%
<b>Total</b>	<b>172</b>	<b>100%</b>	<b>87%</b>

#### Q5. Where did you come from today?

	2013 # responses	2013 % of responses	2012 % of responses
Within Marin County	6	4%	7%
San Francisco	61	37%	48%
Sonoma County	4	2%	6%
East Bay	33	20%	25%
Other Bay Area location	38	23%	20%
Other	23	14%	29%
<b>Total</b>	<b>165</b>	<b>100%</b>	<b>135%</b>



**Q6a. Please rate the Shuttle service on each of the following: On-time performance**

	2013 # responses	2013 % of responses	2012 % of responses
Excellent	109	69%	24%
Good	42	26%	29%
Average	3	2%	13%
Poor	1	1%	15%
Very Poor	1	1%	12%
N/A	3	2%	7%
<b>Total</b>	<b>159</b>	<b>100%</b>	<b>135%</b>

**Q6b. Please rate the Shuttle service on each of the following: Frequency of service**

	2013 # responses	2013 % of responses	2012 % of responses
Excellent	94	58%	16%
Good	54	33%	20%
Average	5	3%	22%
Poor	2	1%	16%
Very Poor	1	1%	21%
N/A	6	4%	4%
<b>Total</b>	<b>162</b>	<b>100%</b>	<b>135%</b>

**Q6c. Please rate the Shuttle service on each of the following: Ease of finding bus stops**

	2013 # responses	2013 % of responses	2012 % of responses
Excellent	101	62%	35%
Good	39	24%	30%
Average	15	9%	22%
Poor	5	3%	5%
Very Poor	3	2%	6%
N/A	1	1%	2%
<b>Total</b>	<b>164</b>	<b>100%</b>	<b>135%</b>

**Q6d. Please rate the Shuttle service on each of the following: Driver courtesy**

	2013 # responses	2013 % of responses	2012 % of responses
Excellent	121	76%	55%
Good	29	18%	28%
Average	9	6%	8%
Poor	0	0%	3%
Very Poor	0	0%	0%
N/A	1	1%	6%
<b>Total</b>	<b>160</b>	<b>100%</b>	<b>135%</b>

**Q6e. Please rate the Shuttle service on each of the following: Information/staff at bus stops**

	2013 # responses	2013 % of responses	2012 % of responses
Excellent	106	65%	23%
Good	43	27%	34%
Average	10	6%	21%
Poor	2	1%	10%
Very Poor	0	0%	6%
N/A	1	1%	6%
<b>Total</b>	<b>162</b>	<b>100%</b>	<b>135%</b>

**Q6f. Please rate the Shuttle service on each of the following: Cleanliness/condition of vehicles**

	2013 # responses	2013 % of responses	2012 % of responses
Excellent	129	78%	56%
Good	34	20%	32%
Average	3	2%	7%
Poor	0	0%	0%
Very Poor	0	0%	0%
N/A	0	0%	5%
<b>Total</b>	<b>166</b>	<b>100%</b>	<b>135%</b>

**Q6g. Please rate the Shuttle service on each of the following: Amenities/comfort at bus stops**

	2013 # responses	2013 % of responses	2012 % of responses
Excellent	65	41%	19%
Good	52	33%	19%
Average	24	15%	19%
Poor	7	4%	18%
Very Poor	0	0%	16%
N/A	11	7%	10%
<b>Total</b>	<b>159</b>	<b>100%</b>	<b>135%</b>

**Q6h. Please rate the Shuttle service on each of the following: Ease of fare payment**

	2013 # responses	2013 % of responses	2012 % of responses
Excellent	93	59%	–
Good	42	27%	–
Average	13	8%	–
Poor	1	1%	–
Very Poor	3	2%	–
N/A	5	3%	–
<b>Total</b>	<b>157</b>	<b>100%</b>	<b>–</b>

### Q7. How did you learn about the Shuttle?

	2013 # responses	2013 % of responses	2012 % of responses
Family or friend	27	14%	15%
Information Kiosk	3	2%	1%
Hotel pamphlet or concierge	3	2%	1%
Saw electronic message sign on Hwy 101	59	31%	38%
Saw shuttle signs at highway exit	29	15%	22%
Saw bus or bus stop	6	3%	1%
Online	61	32%	20%
Newspaper	0	0%	0%
Other	2	1%	0%
<b>Total</b>	<b>190</b>	<b>100%</b>	<b>98%</b>