

# 2017 Muir Woods Shuttle Evaluation Report



# Table of Contents

| Introduction                      | 4  |
|-----------------------------------|----|
| Shuttle History                   | 4  |
| Description of Service            | 4  |
| Marketing                         | 9  |
| Evaluation Methodology            | 10 |
| Ridership and Productivity        | 11 |
| Ridership                         | 11 |
| Productivity                      | 13 |
| Mode Share                        | 16 |
| Pass-Ups                          | 16 |
| Service Cost and Farebox Recovery | 19 |
| Farebox Recovery                  | 19 |
| Cost per Service Hour             | 20 |
| Cost per Trip                     | 20 |
| Subsidized Cost per Trip          | 20 |
| Conclusions and Recommendations   | 22 |
| Reservation System                | 22 |
| Bus Stops                         | 23 |
| Staffing                          | 23 |
| Appendix A                        | 25 |

# List of Tables

| Table 1: Summary of Operations, 2012–2017   |          | 7   |
|---|----------|-----|
| Table 2: Shuttle Ridership by Month, 2013 – 2017 (unlinked passenger trips) <b>Error!</b> | Bookmark | not |
| defined.  |          |     |
| Table 3: Shuttle Productivity, 2016 – 2017  |          | 13  |
| Table 4: Shuttle Service Costs, 2013 – 2017   |          | 20  |
| Table 5: Shuttle Cost Effectiveness Measures, 2013 – 2017                                 |          | 21  |

# **List of Figures**

| Figure 1: 2017 Muir Woods Shuttle Map   | 6  |
|---|----|
| Figure 2: Pohono Park & Ride Lot Improvements   | 7  |
| Figure 3: Muir Woods Shuttle Mobile Information Kiosk                                 | 8  |
| Figure 4: MWS Reservation System  | 8  |
| Figure 5: Shuttle Ridership by Month, 2013 – 2017 (unlinked passenger trips)          | 12 |
| Figure 6: Daily Weekend & Holiday Ridership, 2017 (unlinked passenger trips)          | 14 |
| Figure 7: Daily Weekday and Winter Holiday Ridership, 2017 (unlinked passenger trips) | 15 |
| Figure 8: Daily Weekend & Holiday Shuttle Mode Share, 2017                            | 17 |

# 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 to alleviate parking demand and traffic congestion. After thirteen seasons of operation, the Shuttle has become an integral mode of access to the park, carrying almost 17 percent of all visitors during summer weekends.

### **Shuttle History**

The Shuttle represents a unique partnership of governments on 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. In the 2013 season, Marin Transit formed an additional partnership with the Golden Gate National Parks Conservancy to administer a new fare collection process. The change in how fares are collected has eased boarding delays and provided additional convenience to customers.

# Funding

The first three years of operation were funded primarily through a grant from the Federal Highway Administration (FHWA), through 2007. Funds for the 2008 season were provided by a combination of federal TCSP (Transportation and Community and System Preservation Program) and PLH (Public Lands Highway Discretionary Program) funds. In May 2009, the Shuttle became a permanent Marin Transit route funded partly by the Transit District and partly by NPS.

# **Description of Service**

For the 2017 season, shuttle service was provided on weekends and holidays as well as weekdays. Service began on Saturday, May 13 and continued through Sunday, October 29. The service operated on three holidays: Memorial Day, Independence Day, and Labor Day. Marin Transit introduced weekday service as a pilot during the 2015 season. In the 2017 season, weekday service operated from Monday, June 19 through Friday, August 11.

Marin Transit first introduced winter holiday service in 2013, and it has typically operated winter service around Thanksgiving weekend and between Christmas and New Year's Day. In 2017, service was also provided Veteran's Day weekend. Winter holiday service dates sometimes vary due to weather conditions. In summary, winter shuttle service 2017 was provided from Friday, November 10 through Sunday, November 12, Friday, November 23 through Sunday, November 26, and Tuesday, December 26 through Monday, January 1.

Figure 1 shows the routing of the Shuttle for the 2017 season. Service is provided along two routes: Route 66 serves the Pohono Park & Ride lot, and Route 66F serves downtown Sausalito and Marin City.

Weekend and holiday service during the regular season (May – October) is split into peak and shoulder periods, which correspond to different levels of service. The peak period runs from Memorial Day weekend through Labor Day weekend. The shoulder season runs from early May up until the start of the peak season and from the end of the peak season through October.

During the peak season, service on Route 66 between the Pohono Park & Ride Lot and Muir Woods is provided approximately every ten minutes. The first trip departs at 9:05 am and the last return trip leaves the park at 7:20 pm. During the shoulder season, service is provided every 20 minutes on Route 66 with generally the same span of hours as the peak season. Beginning in mid-September, service ends earlier to coincide with the park's closing time.

Service on Route 66F to and from Sausalito is provided every hour during the shoulder season. The route also serves Marin City to allow for connections to and from regional and local buses. During the peak season, an additional bus is added to provide half-hourly service to and from Sausalito.

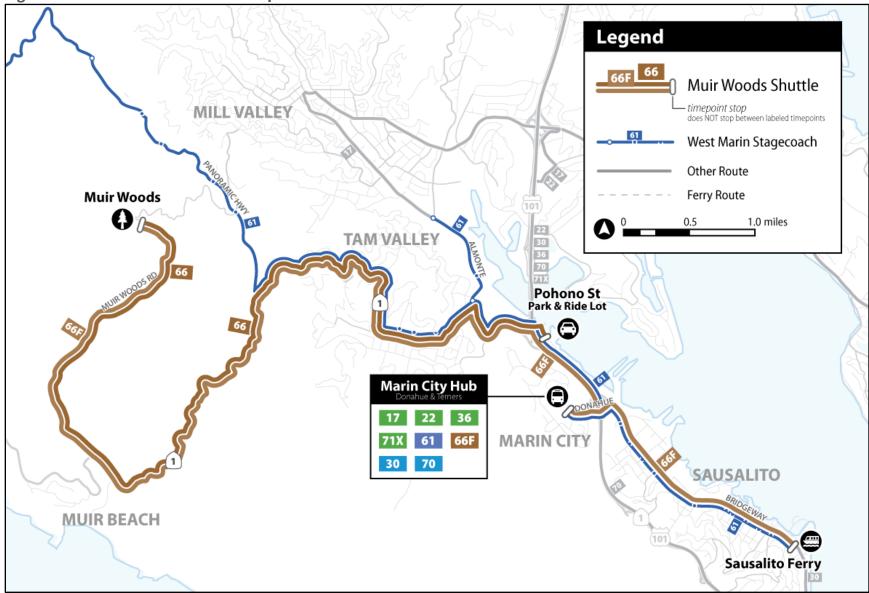
During the winter holiday season, schedules are similar to those operated during the shoulder season with a shorter service span that aligns with the park's earlier closing time.

Weekday service is provided every half hour on Route 66F. The tenants of the adjacent office building utilize the Pohono Park & Ride lot during the work week (Monday-Friday). Therefore, the Shuttle does not operate the Route 66 alignment on weekdays.

In total, the Shuttle provided service on 72 peak summer days (including 44 weekdays), 20 shoulder season days, and 14 days during the winter holiday season. Table 1 summarizes service changes over the last six years of operations.

The District has continually taken steps to improve the service in response to customer feedback and service evaluations. The 2017 efforts focused on improving signage and wayfinding at the Pohono Park & Ride lot, including adding permanent signage at the entry of the Pohono Park & Ride (Figure 2), procurement, and design and fabrication of mobile information kiosk (Figure 3). The partners also prepared for the new web-based reservation system that allows visitors to plan their trip in advance and reserve shuttle seats and a parking space.

Figure 1: 2017 Muir Woods Shuttle Map



# Table 1: Summary of Operations, 2012–2017

|   | 2012           | 2013           | 2014           | 2015            | 2016            | 2017                  |
|---|----------------|----------------|----------------|-----------------|-----------------|-----------------------|
| Season Start                              | May 5          | May 4          | March 29       | April 4         | April 2         | May 13 <sup>(3)</sup> |
| Season End                                | October 28     | October 27     | October 26     | October 25      | October 30      | October<br>29         |
| Winter Holiday <sup>(1)</sup>             | -              | 12 days        | 5 days         | 9 days          | 11 days         | 13 days               |
| Avg. Frequency<br>(Shoulder/Peak/Weekday) | 30/15/–<br>min | 20/10/-<br>min | 20/10/-<br>min | 20/10/30<br>min | 20/10/30<br>min | 20/10/30<br>min       |
| Service Hours <sup>(2)</sup>              | 2,623          | 3,468          | 3,762          | 4,724           | 4,741           | 4,411                 |
| Standard Fare<br>(adult round-trip)       | \$3.00         | \$5.00         | \$5.00         | \$5.00          | \$5.00          | \$5.00                |

Notes:

(1) Winter Holiday includes service on Veteran's Day weekend (Nov10-12)

(2) Actual operated hours may differ from planned hours due to canceled or added service. Includes hours for winter holiday service, which began in 2013.

(3) Season start delayed due to closure of Highway 1.

# Figure 2: Pohono Park & Ride Lot Improvements



# Figure 3: Muir Woods Shuttle Mobile Information Kiosk



#### Fares

For the 2017 season, the fare payment process that was first implemented in the 2013 season remained in place. The round-trip adult fare is \$5.00 per person. No fare is charged for youth ages 15 and younger, seniors with a Lifetime Pass, and disabled individuals with a Federal Lands Access Pass. One-way fares are not available.

Passengers transferring from another local Marin Transit route can purchase a Day Pass that can also be used on the Shuttle.

# **Reservation System**

To manage visitation and parking demand, NPS completed a concessionaire procurement process to implement a new reservation system for Muir Woods in late 2017. The effort included marketing and outreach and developing one-stop, web-based system for parking and transit reservations. The system requires visitors to purchase their reservation for a parking space or Shuttle seats in advance. The reservation system will help to alleviate current capacity issues on the Shuttle by balancing out the peaks and making arrival patterns more predictable. Requiring visitors to plan and reserve their trip in advance makes them aware of the Shuttle as an option before starting their trip. The pricing structure of \$8 for a parking reservation and \$3 for a Shuttle seat reservation also incentivizes use of the Shuttle over driving.

# **Figure 4: MWS Reservation System**



# **Customer Liaisons**

Customer Liaisons are hired to assist passengers waiting for the Shuttle at the Pohono Park & Ride Lot and at the Sausalito Ferry. The Liaisons are responsible for providing information to passengers on the park and the Shuttle service, particularly on the fare payment process.

This season, one liaison was scheduled at Pohono on weekends from June through September and their shift started at 9:30 am and ended at 3:30 pm. An additional staff member was stationed in Sausalito to perform similar duties as the Pohono greeter and to assist passengers transferring from the ferry. After the last bus from Sausalito, staff typically relocated to Muir Woods to assist with loading returning passengers.

Customer Liaisons have continually proven to be an integral part of the service and significantly enhanced the customer experience. Many passengers who take the Shuttle are tourists and not familiar with the area. A number of them are also unfamiliar with using public transit. The more recent addition of Customer Liaisons in Sausalito has been extremely valuable. As demand from that location has grown, the service is beginning to face challenges that were typically only experienced at Pohono, such as overcrowding and passenger confusion.

# Marketing

Marketing for the Shuttle service has primarily focused on visitors to the Bay Area, with an emphasis on travelers based in San Francisco. Information on the Shuttle is distributed through visitor information centers, online, and on signs near the highway exits.

Marketing materials for the 2017 season are included in Appendix A. These consist of a route schedule brochure with timetables, information about the park, and a map with points of interest along the way. The Customer Liaisons hand out the brochure to passengers at the bus stop, on the bus, or at the park. A separate "visitor" brochure focuses on information about getting to the Shuttle stops and is generally made available through hotel concierges and visitor centers including the Sausalito Visitor's Center, the Marin County Convention Center and Visitor's Bureau, and the San Francisco Ferry Building. Finally, a "mini" brochure is printed specifically for the winter holiday service.

Schedules and signs are posted at each stop, including the Sausalito Ferry Terminal. Information is also provided to customers online and over the phone by both Marin Transit and National Park Service staff, and visitors are able to plan their trips in advance using Google Transit and 511.

One of the most effective means of advertising the Muir Woods Shuttle continues to be the Changeable Message Signs (CMS). Three permanent CMS are installed along Highway 101 to alert motorists about parking conditions at Muir Woods and direct them to the Pohono Park & Ride Lot exit. Blue road signs installed closer to the exit guide drivers further along the off-ramp and into the parking lot.

Historically, more than half of passenger survey respondents indicated that they found out about the Shuttle through the CMS. Increasing numbers of passengers are finding information about the Shuttle online through both web searches and transit trip planners. In particular, most weekday riders find information about the Shuttle in advance since the CMS are not used on those days.

# **Evaluation Methodology**

Due to the off-board fare collection process, data on Shuttle ridership and fare revenues is provided through a combination of farebox data and weekly fare collection reports from the Conservancy. Data on park visitation levels are also provided by Conservancy staff. Marin Transit staff compile the Shuttles financial numbers and operating statistics.

Customer Liaisons, NPS and Conservancy staff, and MV Transportation operations staff provide qualitative observations of the service. Observations include commentary on on-time performance, weather conditions, traffic circulation, fare collection, pass ups, service strengths and weaknesses, and ways to improve the service.

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 2017; the productivity of the service measured in passengers per revenue hour; and the percentage of total visitors to Muir Woods who chose to ride the Shuttle. These figures are also compared with prior years.

# Ridership

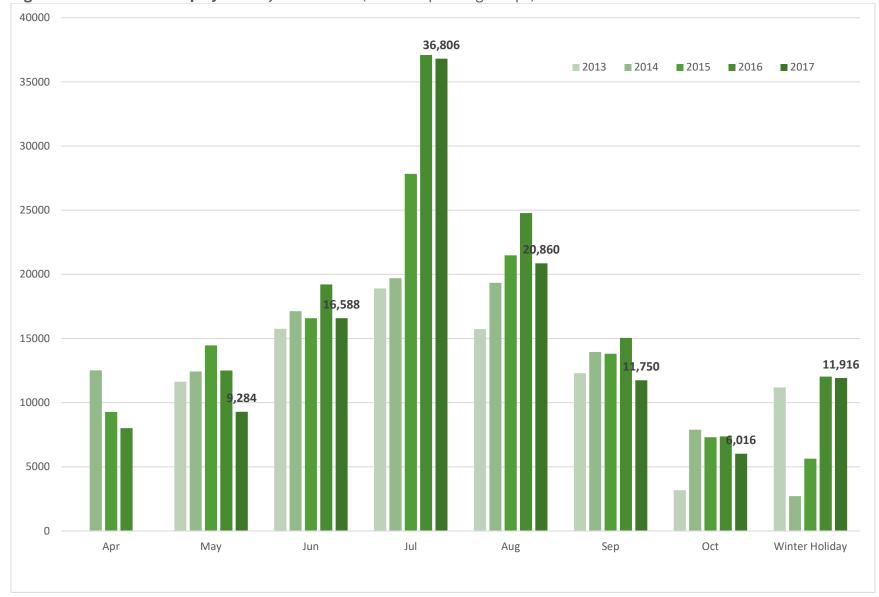
Ridership is measured as one-way, unlinked passenger trips. During the regular 2017 season, 101,304 one-way passenger trips were made on the Muir Woods Shuttle representing an 18.3% decrease in ridership compared to 2016. The 2017 winter holiday service was also slightly reduced by 1.0% to 11,916 passenger trips. Table 2 shows total ridership trends over the past five seasons, by month, and for winter holiday service.

July had the highest total monthly ridership, largely due to the additional weekday service. Generally, ridership has continued to climb each year. The decrease from 2016 to 2017 due to two factors: the Highway 1 closure that delayed the start of the season and frequent failure of the CMS.

The Muir Woods Shuttle service typically begins on the first weekend in April. The closure of Highway 1 resulted in the Muir Woods Shuttle regular season start on May 13, 2017. This delay led to eight fewer days of service compared to 2016.

| Table 2: Shuttle Ridershi | hv  | Month   | 2013 -   | 2017 | (unlinked | nassenger trins) |
|---------------------------|-----|---------|----------|------|-----------|------------------|
| Table 2: Shulle Rivershi  | JUY | MOTICIT | , 2013 - | 2011 | lunninkeu | passenger unps)  |

| Month          | 2013   | 2014    | 2015    | 2016    | 2017    | <b>% Change</b><br>2016–2017 |
|----------------|--------|---------|---------|---------|---------|------------------------------|
| April          | -      | 11,042  | 9,278   | 8,018   | -       | -100%                        |
| Мау            | 11,626 | 13,820  | 14,462  | 12,506  | 9,284   | -25.8%                       |
| June           | 16,188 | 15,740  | 16,586  | 19,216  | 16,588  | -13.7%                       |
| July           | 18,906 | 19,700  | 27,832  | 37,103  | 36,806  | -0.8%                        |
| August         | 15,732 | 21,538  | 21,484  | 24,780  | 20,860  | -15.8%                       |
| September      | 12,290 | 11,760  | 13,820  | 15,050  | 11,750  | -21.9%                       |
| October        | 3,178  | 7,886   | 7,302   | 7,370   | 6,016   | -18.4%                       |
| Total          | 77,920 | 103,132 | 110,764 | 124,043 | 101,304 | -18.3%                       |
| Winter Holiday | 10,698 | 2,720   | 5,777   | 12,033  | 11,916  | -1.0%                        |



# Figure 5: Shuttle Ridership by Month, 2013 – 2017 (unlinked passenger trips)

As stated in the introduction, ridership on the Muir Woods Shuttle depends heavily on three changeable message signs (CMS) along Highway 101. The signs alert drivers that parking at Muir Woods is full and direct them to use the Shuttle. After the start of the season in May, two of the three signs were regularly inoperable for the first few months. These equipment problems partially contributed to the decline in ridership in 2017.

In addition, the amount of missed or canceled services on the Muir Woods Shuttle increased. This also had a negative impact on the ridership numbers. Particularly during the peak season, canceled trips on the Muir Woods Shuttle caused significantly longer lines and wait times. This led visitors to use alternate means of getting to the park.

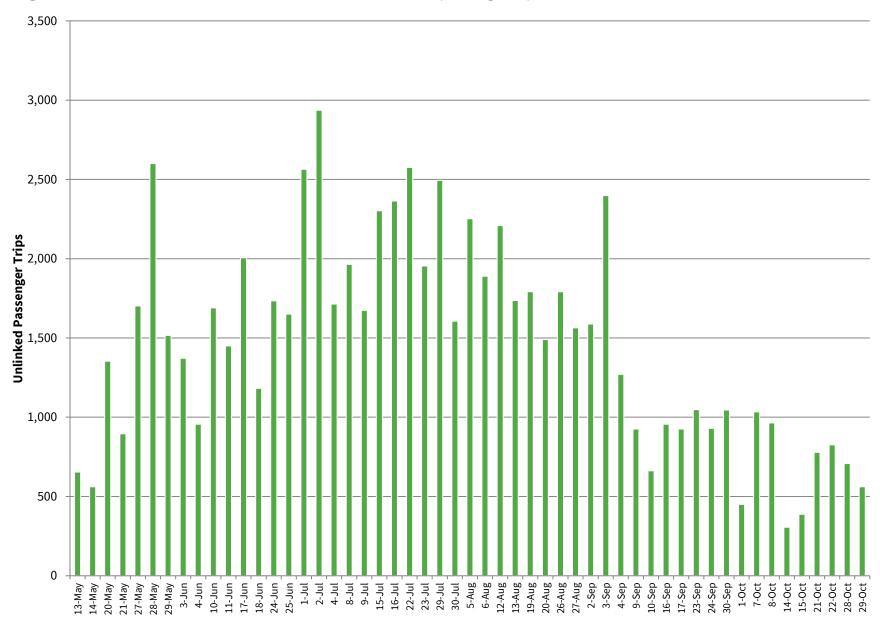
Figure 6 and Figure 7 show ridership by day on weekends and weekdays including winter holiday service, respectively, for the 2017 season. Sunday, July 2 had the highest daily **Table 3: Shuttle Productivity, 2016 – 2017**  ridership at 2,936 trips. There were an additional eleven days this season when daily ridership surpassed 2,000 unlinked trips.

### Productivity

Service productivity is measured in passengers per revenue hour or per trip. Overall, the service carried an average of 25.7 passengers per hour and 16.2 passengers per trip for the regular 2017 season. Weekend and holiday service alone averaged 25.8 passengers per hour, or about 15.8 passengers per trip, while weekday service averaged 30.7 passengers per hour and 27.2 passengers per trip. Winter holiday service averaged 24.5 passengers per hour and 19.8 passengers per trip. Table 3 below shows productivity measures by month and for the winter holiday service compared to 2016.

Overall, productivity measured in passengers per hour and passengers per trip decreased compared to the previous season.

| Month          | P    | assengers p | er Trip  | Passengers per Hour |      |                |  |
|----------------|------|-------------|----------|---------------------|------|----------------|--|
| Month          | 2016 | 2017        | % Change | 2016                | 2017 | % Change       |  |
| April          | 14.7 | -           | -        | 21.6                | -    | -              |  |
| Мау            | 17.5 | 13.2        | -24.9%   | 26.3                | 24.1 | -8.4%          |  |
| June           | 18.0 | 15.0        | -16.9%   | 25.9                | 21.5 | -17.2%         |  |
| July           | 22.8 | 22.2        | -2.9%    | 31.9                | 31.1 | -2.6%          |  |
| August         | 22.3 | 19.2        | -13.8%   | 32.0                | 27.7 | -13.5%         |  |
| September      | 21.7 | 15.6        | -28.0%   | 32.5                | 23.4 | -28.1%         |  |
| October        | 13.9 | 12.7        | -8.4%    | 20.2                | 18.5 | -8.4%          |  |
| Total          | 19.7 | 15.8        | -19.8%   | 28.5                | 25.8 | - <b>9.4</b> % |  |
| Winter Holiday | 24.9 | 19.8        | -20.4%   | 31.0                | 24.5 | -20.9%         |  |



# Figure 6: Daily Weekend & Holiday Ridership, 2017 (unlinked passenger trips)

2017 Muir Woods Shuttle Evaluation Report

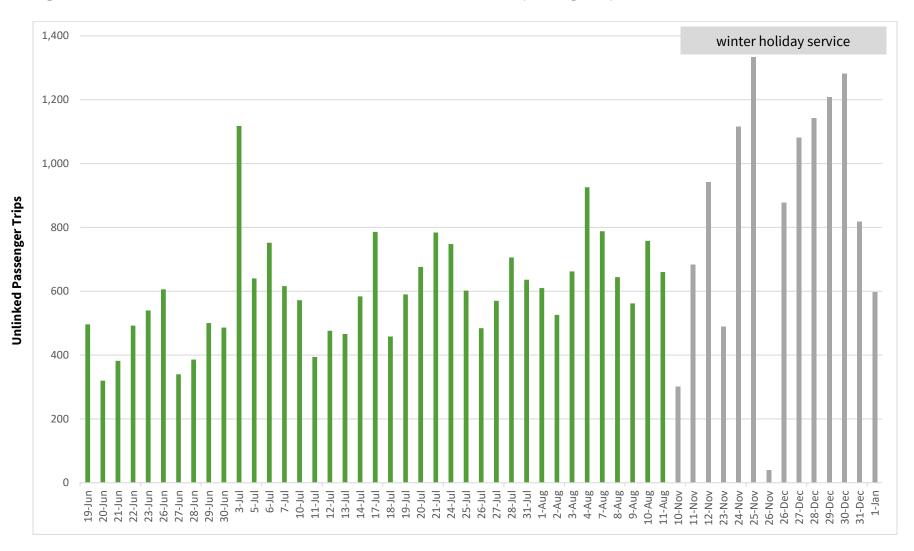


Figure 7: Daily Weekday and Winter Holiday Ridership, 2017 (unlinked passenger trips)

### **Mode Share**

Another important indicator of Shuttle service success is the mode share 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 446,620 visitors to Muir Woods and 56,610 individual visitors chose to ride the Shuttle<sup>1</sup>. This represents a 12.7% average mode share overall. On regular season weekends and holidays, the Shuttle carried an average of 16.7% of park visitors - slightly lower than the prior year.

Figure 8 and Figure 9 show percentage mode share of the Shuttle by day on weekends and weekdays, including winter holiday service, respectively. On some of the busiest days, the Shuttle carried up to 24% of all park visitors.

While weather tends to have a significant impact on park visitation, it has an even greater effect on Shuttle ridership and mode share. This is likely due to less traffic and more parking available on lower visitation days, making driving to the park less of a hassle than on busy days. On rainy days, mode share tends to drop by 10%.

### Pass-Ups

Passenger pass-ups continued to occur during peak periods when passenger demand exceeded bus capacity. The Shuttle buses carry no more than 37 seated passengers. Standees are not permitted due to the steep and winding nature of the roadway. There were lines and wait times for many passengers despite the high frequency of service at Pohono and additional service from Sausalito. This was due to the irregularity of passenger arrivals coupled with concentrations in the midday.

One of the notable trends in the 2017 season was the continued increase in demand for service from Sausalito. Since service on Route 66F runs only once or twice an hour, a pass-up at this location has a much larger impact on the customer experience than at Pohono where the next bus is usually only ten minutes away. In case a pass-up occurred, the Customer Liaison stationed in Sausalito played a pivotal part in helping customers find alternate options. These include taking Stagecoach Route 61 or another local Marin Transit route to transfer to the Muir Woods Shuttle at Pohono.

<sup>&</sup>lt;sup>1</sup> Assumes that each visitor using the Shuttle took a round trip

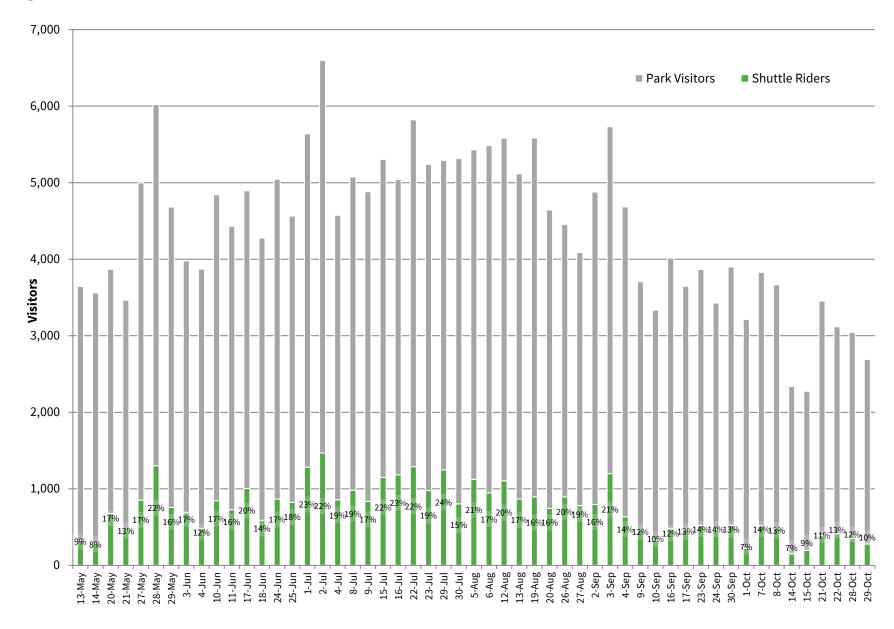


Figure 8: Daily Weekend & Holiday Shuttle Mode Share, 2017

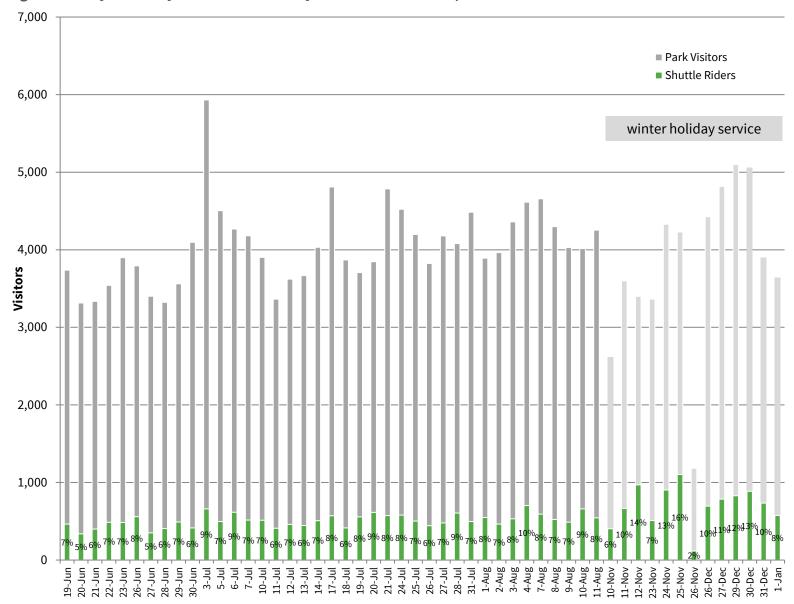


Figure 9: Daily Weekday and Winter Holiday Shuttle Mode Share, 2017

# Service Cost and Farebox Recovery

This section of the report summarizes expenses and revenues for the regular 2017 season and winter holiday service and compares them to the prior year.

The total service cost for the regular 2017 season was \$410,173, approximately 3.3% higher than last year. This includes operating, administration, and marketing costs.

Table 4 provides a breakdown of the total cost and revenue for the Shuttle compared to the past four seasons, and Table 5 summarizes key cost performance measures. Note that all costs reflected in these tables are total program costs that are shared 50/50 with the National Park Services.

One of the main cost savings for the 2017 season over 2016 was the installation of a third permanent changeable message sign. This eliminated the need to lease portable signage and saved about \$15,000 per sign over the course of the season.

Marketing costs in 2017 continued to decrease compared to previous years. The lack of major changes to the service for the 2017 season enabled staff to reuse most marketing materials.

The administrative costs were significantly higher compared to the 2016 season. This increase was primarily due to the staff time dedicated to preparing for the upcoming reservation system, implementing the mobile information kiosk, and making signage and wayfinding improvements at the Pohono Park & Ride.

# **Farebox Recovery**

The regular adult fare is \$5.00 per round-trip, consistent with an adult day pass. Youth under 16, seniors with a Lifetime Pass, and disabled individuals with an Access Pass are all allowed to ride the Shuttle for free.

As shown in Table 4, a total of \$186,368 was collected in fares during the regular 2017 season - a decrease of about 24.3%. This decline in fare revenue is comparable to the ridership decline in 2017 season. The amount collected represents a farebox recovery rate of 45.4%, which is about 21.7% lower than in 2016.

# **Cost per Service Hour**

The average cost per service hour for the regular 2017 season was \$104.53, a 7.2% increase over the previous season. An increase in administrative costs was the primary reason for the increase.

# **Cost per Trip**

The cost per one-way passenger trip increased to \$4.05, about 18.4% higher than the previous year. In addition to higher overall costs, this **Table 4: Shuttle Service Costs, 2013 – 2017**  can be attributed to lower ridership on the weekend and holiday services.

# **Subsidized Cost per Trip**

The average subsidy increased to \$2.21 per passenger in 2017 season, which was a 54.0% subsidy increase compared to the 2016 season. The average subsidy in 2017 met the District's cost effectiveness target of \$3.00 per passenger.

|                                   | 2013      | 2014                    | 2015      | 2016      | 2017      | <b>% Change</b><br>2016–2017 |
|-----------------------------------|-----------|-------------------------|-----------|-----------|-----------|------------------------------|
| Operating Costs                   | \$295,608 | \$323,825               | \$356,249 | \$334,728 | \$303,603 | -9.3%                        |
| Vehicle Lease                     | \$20,988  | -                       | -         | -         | -         |                              |
| Marketing                         | \$13,978  | \$26,422                | \$6,910   | \$4,897   | \$2,609   | -46.7%                       |
| Maintenance &<br>Equipment        | \$31,463  | \$45,075                | \$35,243  | \$46,130  | \$47,736  | 3.5%                         |
| Customer<br>Liaisons              | \$7,430   | \$3,346                 | \$9,589   | \$3,688   | \$2,390   | -35.2%                       |
| Changeable<br>Message Signs       | \$14,402  | \$14,105                | \$16,198  | -         | -         | -                            |
| Marin Transit<br>Admin Costs      | \$22,390  | \$25,123                | \$26,773  | \$10,391  | \$31,740  | 205.5%                       |
| Fare Collection <sup>(1)</sup>    | \$14,933  | \$19,969                | \$22,039  | \$24,444  | \$18,580  | -24.0%                       |
| Cost Subtotal                     | \$421,192 | \$457,865               | \$473,001 | \$424,278 | \$410,173 | -3.3%                        |
| Farebox Revenue                   | \$154,934 | \$205,533               | \$227,355 | \$246,309 | \$186,368 | -24.3%                       |
| Net Total Cost                    | \$266,258 | \$252,331               | \$245,646 | \$177,969 | \$223,805 | 25.8%                        |
| Winter Holiday<br>Cost Subtotal   | \$25,861  | \$34,475 <sup>(2)</sup> | \$39,014  | \$37,688  | \$56,195  | 49.1%                        |
| Winter Holiday<br>Farebox Revenue | \$20,181  | \$4,969 <sup>(2)</sup>  | \$11,187  | \$22,520  | \$33,048  | 46.7%                        |
| Winter Holiday<br>Net Total Cost  | \$5,679   | \$29,506 <sup>(2)</sup> | \$27,826  | \$15,168  | \$23,148  | 52.6%                        |

(1) As part of the fare collection process implemented in 2013, a 10% administrative fee based on total ticket sales is included to cover the costs of fare collection services provided by the Golden Gate National Parks Conservancy.

(2) In 2014, some winter holiday service was canceled due to the closure of Highway 1.

|   | 2013     | 2014     | 2015     | 2016    | 2017     | <b>% Change</b><br>2016–2017 |
|---|----------|----------|----------|---------|----------|------------------------------|
| Farebox Recovery                        | 35.8%    | 44.9%    | 48.1%    | 58.1%   | 45.4%    | -21.7%                       |
| Cost per Service Hour                   | \$137.29 | \$127.49 | \$107.26 | \$97.48 | \$104.53 | 7.2%                         |
| Cost per Trip                           | \$5.38   | \$4.45   | \$4.27   | \$3.42  | \$4.05   | 18.4%                        |
| Subsidy per Passenger                   | \$3.46   | \$2.45   | \$2.22   | \$1.43  | \$2.21   | 54.0%                        |
|   |          |          |          |         |          |                              |
| Winter Holiday<br>Farebox Recovery      | 78.0%    | 14.4%    | 28.7%    | 59.8%   | 58.8%    | -1.6%                        |
| Winter Holiday<br>Cost per Service Hour | \$60.17  | \$241.42 | \$124.13 | \$96.98 | \$115.51 | 19.1%                        |
| Winter Holiday<br>Cost per Trip         | \$2.42   | \$12.67  | \$6.75   | \$3.13  | \$4.72   | 50.6%                        |
| Winter Holiday<br>Subsidy per Passenger | \$0.53   | \$10.85  | \$4.82   | \$1.26  | \$1.94   | 54.1%                        |

# Table 5: Shuttle Cost Effectiveness Measures, 2013 – 2017

# Conclusions and Recommendations

The Muir Woods Shuttle plays an increasing 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 more and more important. At the same time, the Shuttle has reached its maximum capacity during the peak season, and there are currently no additional vehicles available to add service.

In January 2016, the County gradually began restricting parking along sections of Muir Woods Road. In previous years, as many as 400 vehicles have parked along the roadway's narrow shoulder during busy weekends. This has led to environmental issues, including erosion, as well as safety and congestion issues due to visitors walking in the roadway from their cars to the park entrance. In the next few years, all parking along the roadway will ultimately be eliminated.

#### **Reservation System**

To better manage visitation and parking demands in and around Muir Woods, NPS implemented a parking and shuttle reservation system in January 2018. Parking reservations started on January 15, 2018, and shuttle reservations started on January 20, 2018. The transition to requesting visitors to reserve in advance was a significant operational change. District staff worked closely with NPS to adapt many elements of the Shuttle program to support the new reservation model. The following changes to the program were planned during the 2017 season and implemented in 2018 with the new reservation procedures.

#### Year-Round Schedules

Under the new reservation model, NPS agreed to pay for service expansion to allow the service to run every weekend of the year. This is expected to add an additional 35 days of service annually. Operating year-round has advantages for operations. These include reducing the need to end and start each season and related emphasis on increased mobilization for driver training, signage, and marketing materials.

#### Ticket Sales and Validation

The new online reservations system (gomuirwoods.com) allows shuttle riders to pre-purchase shuttle tickets on specific buses (Sausalito route) or specific time slots (Pohono route). Since many riders continue to walk up to access the services, some seats are held back from the reservation process to accommodate walk-up riders.

Validation of passes has also changed under the new model. Dedicated staff members use handheld scanners to validate pre-purchased tickets and sell walk-up tickets. This differs from previous years when patrons simply boarded buses at either Sausalito or Pohono and purchased their ticket at the park entry booth. The new validation process has reduced passenger wait time and led to increased administrative costs associated with ticket validation and customer service.

#### Marketing and Passenger Information

The Shuttle marketing strategy has changed with the emphasis on having visitors pre-plan and pre-purchase their shuttle seats and parking. Historically, the CMS warned of full parking at the Woods. This was visitors first notification that they should taking the shuttle. Other riders found out about the shuttle through the NPS website or touristfocused brochures.

Messaging has now changed across all marketing platforms to inform visitors to preplan and pre-purchase their shuttle seats or parking. The new strategy relies less on intercepting visitors as they travel to the Woods and more on educating them before they go. Thus, the CMS messaging now simply states that reservations are required at Muir Woods. Shuttle marketing materials are focused on redirecting riders to the gomuirwoods.com site to pre-purchase shuttle seats.

#### **Bus Stops**

Although average wait times have reduced due to increased service frequency, providing additional passenger amenities at the bus stops has long been the focus to improve the overall visitor experience. The Mobile Information Kiosk was designed and purchased in 2017 and went into service in March 2018. This vehicle doubles as a passenger amenity and a driver support/rest area. In addition to the mobile kiosk, permanent signage has been installed to provide a more permanent and professional appearance.

#### Staffing

Customer Liaisons continue to be an invaluable resource to passengers. While a fulltime operations supervisor is stationed at the Pohono Park & Ride Lot, the Liaisons are primarily responsible for providing information to customers and answering questions. This enables the supervisor to focus on operations and attend to any issues as needed.

One Customer Liaison has traditionally been located at Pohono with another Liaison near the Sausalito Ferry. On weekdays, one person is staffed at the Sausalito location only

A full-time operations supervisor is stationed at Muir Woods to facilitate vehicle circulation and check for proof of payment. This supervisor also ensures that passengers board the correct bus on their return trip (to Sausalito or Pohono). After the last bus going to the park leaves Sausalito, one of the Customer Liaisons typically relocates to Muir Woods to assist the supervisor.

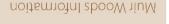
These staffing levels help to ensure efficient operations and a quality passenger experience. In the 2017 season, there was significant difficulty in hiring enough staff to serve as Customer Liaisons. The temporary part-time role typically appeals to college students who are in the Bay Area for the summer however the position is a less desirable option due to the lack of full-time hours and the requirement to work mostly weekends and holidays.

For 2018, the additional dedicated position to support the ticket validation system is expected to increase stability and reliability to the staffing at Pohono. This new position was requested as part of the new operations contract with MV Transportation for Rural and Seasonal Services that started on July 1, 2018.



Route Schedule Brochure

Winter Holiday Brochure



pro.yonevietneshing.www.parksconservancy.org

Hearing Impaired (TTY):

Visitor Information:

Muir Woods Headquarters:

Additional Information

(red to be and under) (red to be a contract)

Park Entrance Fees

Viteb mq 00:8 - me 00:8 2017 Park Hours

addition to the Shuttle fare. Please note that park entrance fees are <u>in</u>

> and closes 30 minutes before the park. The Visitor Center opens at 9:00 am <sup>v</sup>2 voN prinniped mq 00:2 – ms 00:8  $^{\rm TT}$  qeS prinniped mq 00:7 – mis 00:8 bs 100 prinniped mq 00:3 – mis 00:8 co 00:2 – ms 00:3 – ms 00:

(+91 sege) stlubA

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

9927-955 (517)

9652-888 (514)

5652-885 (514)

**EBEE** 01\$

# Shuttle Information

#### 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

| nound-mp rules            |      |
|---------------------------|------|
| 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.

#### Vehicles

Due to safety considerations, standing is not allowed 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.

#### **Days of Operation**

Service runs Saturdays and Sundays, from May 13, 2017 to October 29, 2017, as well as on Memorial Day (Monday, May 29, 2017), Independence Day (Tuesday, July 4, 2017), and Labor Day (Monday, September 4, 2017). Service also runs Monday through Friday, from Monday, June 19, 2017 to Friday, August 11, 2017.

Muir Woods Shuttle (415) 526-3239 daily office hours 8:00 am - 5:00 pm

**TRANSIT INFORMATION** 

West Marin Stagecoach (415) 526-3239

visit www.marintransit.org

shuttle information, lost & found

#### 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







marin/transit

information subject to change

Appendix A 26



#### Additional Information

| from Muir Woods                |                                      |                               | to Muir Woods                 |                                      |                                |
|--------------------------------|--------------------------------------|-------------------------------|-------------------------------|--------------------------------------|--------------------------------|
|                                | pu                                   | Eastbou                       |                               | pun                                  | Westbo                         |
| Sausalito<br>(Bay & Bridgeway) | Marin City Hub<br>(Donahue & Temers) | Muir Woods<br>(Main Entrance) | Muir Woods<br>(Main Entrance) | Marin City Hub<br>(Donahue & Temers) | Sausalito<br>(Bay & Bridgeway) |
|                                | 0                                    | •                             | Ð                             | 0                                    |                                |
|                                |                                      |                               |                               | <del>o zz</del><br>Aeekdays          |                                |
| 05:21                          | 12:40                                | 12:45                         | 11:00<br>10:30                | 55:6                                 | 51.01                          |
| 05:L                           | 01:1<br>02:1                         | 1:02<br>15:42                 | 05:11                         | 10:22<br>\$7:01                      | 51:01                          |
| 5:20                           | 01:2                                 | 1:32                          | 12:00                         | SZ:LL                                | SUIL                           |
| 3:00                           | 2:50                                 | 51:2                          | 12:30                         | 55:11                                | 57:11                          |
| 3:30                           | 3:20                                 | 54:2                          | 00:1                          | 52:21                                | 51:21                          |
| 4:00                           | 3:50                                 | 3:12                          | 1:30                          | 13:22                                | 12:45                          |
| 04:40                          | 4:30                                 | 3:55                          | 50:2                          | 1:30                                 | 1:20                           |
| 2:00                           | 05:17                                | 51:15                         | 52:2                          | 05:1                                 | 04:1                           |
| 04:2                           | 95:30                                | 52:4                          | 3:05                          | 2:30                                 | 02:20                          |
| 01:9                           | 00:9                                 | 52:2                          | -                             | -                                    | -                              |
| 07:9                           | 05:9                                 | 55:5                          | -                             | -                                    | -                              |
|                                |                                      | (sbiloH &                     | spuəyəə,                      |                                      |                                |
| 52:21                          | -                                    | 51:21                         | รเน                           | -                                    | 05:01                          |
| 1:32                           | 52:1                                 | 15:50                         | 05:11                         | รเ:เเ                                | 00:11                          |
| SS:L                           | -                                    | st:t                          | SLIZE                         | -                                    | 05:11                          |
| 55:25                          | 52:25                                | 05:1                          | 12:50                         | 51:21                                | 13:00                          |
| 3:00                           | -                                    | 5:20                          | SL:L                          | -                                    | 12:30                          |
| 3:32                           | 3:25                                 | 05:2                          | 05:L                          | stit                                 | 00:L                           |
| 4:32                           | 4:25                                 | 3:50                          | 02:20                         | -                                    | 35:1                           |
| 2:32                           | 52:2                                 | 02:4                          | 05:2                          | 51:2                                 | 00:Z                           |

| -suoțipu                       | оо зијрад ио дигр             |                               | xorqqa sua eaniT<br>N laibed2  |  |  |
|--------------------------------|-------------------------------|-------------------------------|--------------------------------|--|--|
| 55:7                           | 07:L                          | 01/:5                         | 50:5                           |  |  |
| 55:7                           | 00:7                          | sə‡nuim                       | οι κιθνθ                       |  |  |
| SI:2                           | 04:9                          | 10:40                         | 10:02                          |  |  |
| 55:9                           | 07:9                          | 07:0L                         | 54:6                           |  |  |
| səşnujur                       | every 10                      | 00:01                         | 52:6                           |  |  |
| 11:32                          | 00:11                         | 04:6                          | S0:6                           |  |  |
|                                | eptember 4                    | is – 75 yeM                   |                                |  |  |
| 55:7                           | 02:7 🖬                        | 04:2                          | S0:2 M                         |  |  |
| səşnujur                       | 6761Y 20                      | every 20 minutes              |                                |  |  |
| 35:11                          | 00:11                         | 04:0                          | S0:6                           |  |  |
| es neder 29                    | oO – 8 redmet                 | qə2 \ 12 YeM                  | – ET YeM                       |  |  |
| Θ                              | 0                             | Ø                             | Θ                              |  |  |
| Pohono St<br>(Park & Ride Lot) | Muir Woods<br>(Main Entrance) | Muir Woods<br>(Main Entrance) | Pohono St<br>(Park & Ride Lot) |  |  |
|                                | Mestbound                     |                               |                                |  |  |
| to Muir Woods from Muir Woods  |                               |                               |                                |  |  |
|                                |                               |                               |                                |  |  |

to leave on an earlier bus.

October 8

The last bus leaving Muir Woods is often full. Plan your trip

East return trip to Saussito at 4:50 pm beginning September 17 and at 5:20 pm beginning October 8 B Last return trip to Pohono at 6:20 pm beginning Last trip from Pohono at 4:45 pm beginning October 8 September 17 and at 3:45 pm beginning October 8

(May 27 – September 4) Trip operates peak season only

səmit **M**9 səmit MA

abeeigu worea



#### **ON YOUR WAY**

The Shuttle ride to Muir Woods will take approximately 35 minutes from Pohono or 50 minutes from Sausalito, depending on traffic conditions. Redwood Creek is home to some of California's last remaining native Here are a few things to look for on your way to Muir Woods:

#### **1** Richardson Bay

Home to the Richardson Bay Audubon Center & Sanctuary, this ecologically-rich arm of San Francisco Bay is one of the most pristine estuaries on the Pacific Coast, supporting extensive eelgrass areas and inter-tidal habitats.

#### **2** Green Gulch Farm Zen Center

Green Gulch Farm Zen Center, also known as Green Dragon Temple (Soryu-ji), is a Buddhist practice center in the Japanese Soto Zen tradition offering training in Zen meditation and ordinary work.

#### 8 Redwood Creek

run of Coho Salmon and Steelhead Trout. Each year, after the first heavy winter rains, the adult fish return from the Pacific Ocean to spawn.

#### O Muir Beach

Three miles west of Muir Woods along the coastline, this quiet cove, beach and lagoon are home to numerous shorebirds, amphibians, salmon and trout, and marshy, water-loving plants called rushes (Juncus).

#### 6 Golden Gate Dairy/Stables

Located on the Southern Marin Coast, the preservation of this historic dairy shares the richness of horses, wildlife, and the land with visitors.

#### PLANNING YOUR VISIT

Muir Woods National Monument contains 6 miles of trails. There is a ½ hour loop, a 1 hour loop, and a 11/2 hour 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 livings things in the world.

Many trails to and from Muir Woods connect with Mount Tamalpais State Park trails. If you are planning to exit the monument via a state park trail, it is recommended that you purchase a Muir Woods National Park Map for \$1. Ask the Visitor Center for more information.

#### **Daily Programs**

Rangers and volunteers present 15-minute talks and guided one-hour tours when staffing permits. Check the program board at the park entrance for times and locations of talks and tours. No reservations necessary.

#### **Self-Guided Tours**

Muir Woods offers two self-guided programs-the Nature Trail and the Historic Walking Tour-that may be purchased for \$1 each at the Visitor Center or the self-serve map box at Bridge 2.

#### Junior Ranger Program (ages 8-12)

Learn what park rangers do to help protect Muir Woods. As a Junior Ranger, you'll care for our national parks, teach others what you learn, and discover new ways to experience your environment. Pick up a free copy at the Visitor Center.

Allow 1-2 hours for completion

#### **Dates of Operation**

Winter holiday service will operate between the following dates:

- » November 10, 2017 November 12, 2017
- » November 23, 2017 November 26, 2017
- » December 26, 2017 January 1, 2018

#### **Shuttle Fares & Entrance Fees**

#### Round-trip fares are collected at the Muir Woods Visitor Center.

|                         | Shuttle | Entrance |
|-------------------------|---------|----------|
| Adults (ages 16+)       | \$5     | \$10     |
| Youth (ages 15 & under) | Free    | 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.

Fares may be paid at the Visitor Center using cash or most major credit cards along with your entrance fee. Retain your receipt to present to the driver on your return trip.

# Additional Information

P

| PHONE NUMBERS  |                |
|--|----------------|
| Muir Woods Shuttle<br>daily 8:00am – 5:00pm<br>shuttle information, lost & found | (415) 526-3239 |
| Visitor Information<br>(Recorded Message)  | (415) 388-2595 |

#### SPONSORSHIP OF SERVICE

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



www.marintransit.org/contact.html visit www.marintransit.org



information subject to change

| Pohono Park & Ride – <b>66</b> |                            |                               |                                |  |  |  |
|--------------------------------|----------------------------|-------------------------------|--------------------------------|--|--|--|
| to Muir V                      | Voods                      | from Muir Woods               |                                |  |  |  |
| Westbound                      |                            | Eastbound                     |                                |  |  |  |
| Pohono St<br>(Park & Ride Lot) | Muir Woods (Main Entrance) | Muir Woods<br>(Main Entrance) | Pohono St<br>(Park & Ride Lot) |  |  |  |
| 9:05                           | 9:40                       | 11:00                         | 11:35                          |  |  |  |
| every 20                       | minutes                    | every 20                      | minutes                        |  |  |  |
| 2:45                           | 3:20                       | 4:20                          | 4:55                           |  |  |  |
|                                |                            | AM times                      | S PM times                     |  |  |  |

#### Last bus to Pohono Park & Ride leaves Muir Woods at 4:20 pm

Please be sure to check destination signs when boarding on your return trip

| Sausalito Ferry – Marin <b>66F</b>                           |                                   |                            |                            |                                   |                                |  |
|--|-----------------------------------|----------------------------|----------------------------|-----------------------------------|--------------------------------|--|
| to Mu  | to Muir Woods from Muir Woods     |                            |                            |                                   |                                |  |
| Westbound  |                                   |                            | Eastbound                  |                                   |                                |  |
| <ul> <li>Sausalito</li> <li>(Bay &amp; Bridgeway)</li> </ul> | Marin City     (Donahue & Temers) | Muir Woods (Main Entrance) | Muir Woods (Main Entrance) | Marin City     (Donahue & Temers) | Sausalito<br>(Bay & Bridgeway) |  |
| 10:00  | 10:10                             | 10:45                      | 11:50                      | 12:25                             | 12:35                          |  |
| 11:00  | 11:10                             | 11:45                      | 12:50                      | 1:25                              | 1:35                           |  |
| 12:00  | 12:10                             | 12:45                      | 1:50                       | 2:25                              | 2:35                           |  |
| 1:00   | 1:10                              | 1:45                       | 2:50                       | 3:25                              | 3:35                           |  |
| 2:00   | 2:10                              | 2:45                       | 3:50                       | 4:25                              | 4:35                           |  |

AM times PM times

Last bus to Sausalito & Marin City leaves Muir Woods at 3:50 pm

#### **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 roundtrip fare for the Muir Woods Shuttle.

Local transfers are not valid on the Muir Woods Shuttle.

#### Vehicles

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

All vehicles can accommodate wheelchairs.

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.

#### **Park Hours**

During the winter season, the Park closes at 5:00 pm and the Visitor Center closes at 4:30 pm.

The last bus is often full. Plan your trip to leave on an earlier bus.