



# Columbia River Gorge Transit Study

## Final Report

May 2016





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## Acronyms

ACS – American Community Survey  
ADA – Americans with Disabilities Act  
CAT—Columbia Area Transit  
CRG – Columbia River Gorge  
HCRH – Historic Columbia River Highway  
FLAP – Federal Lands Access Program  
FTA – Federal Transit Administration  
FY – Fiscal Year  
HRCTD—Hood River County Transportation District  
LEHD – Longitudinal Employer-Household Dynamics  
MCCOG – Mid-Columbia Council of Governments  
MCEDD - Mid-Columbia Economic Development District  
ODOT – Oregon Department of Transportation  
OPRD – Oregon Parks and Recreation Department  
STF – Special Transportation Fund  
TDM- Transportation Demand Management

# 1 EXECUTIVE SUMMARY

## BACKGROUND

The beauty of the Columbia River Gorge attracts thousands of visitors each day, particularly on weekends when the sun is shining. During these times, parking demand often meets or exceeds capacity and access to picturesque sites such as Multnomah Falls can be challenging. Constrained parking also creates safety concerns when vehicles backup on I-84 or park illegally on the Historic Columbia River Highway. With the 100th anniversary of the Historic Highway occurring in 2016, local communities, public agencies, and land managers are looking for ways to better manage congestion and provide expanded transportation options.

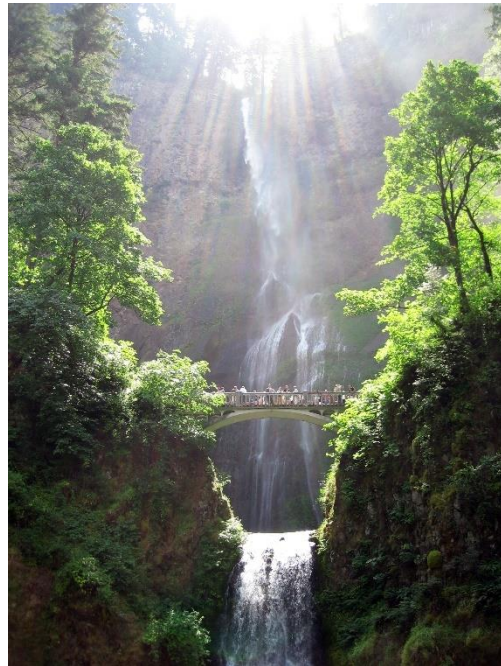
The Columbia River Gorge Transit Study was undertaken to understand existing transportation conditions in the Columbia River Gorge (CRG) area, assess the market for transit to serve visitors and residents, and develop and recommend transit service options for two distinct timeframes:

- **Summer 2016 and summer 2017** – Pilot service to coincide with Historic Columbia River Highway 100<sup>th</sup> Anniversary and summertime parking congestion at Multnomah Falls.
- **2018-2020** – Near term service expansion between Portland and Hood River with stops at key Gorge destinations to serve a broader market and additional needs.

## Project Goals

Today, there are few public transit choices in the Gorge, and none that connect recreational and tourist attractions such as Multnomah Falls with population centers (e.g., Portland, Hood River). The Columbia River Gorge Transit Study was guided by the following goals, which all service options aim to fulfill:

- Improve transit access and options to recreational destinations in the Columbia River Gorge and between East Multnomah County and The Dalles.
- Enhance Gorge mobility and safety.



Source: Woo on Wikimedia Commons

- Address congestion and limited parking capacity at Multnomah Falls.
- Protect natural and cultural resources by reducing illegal parking.

## Study Area

The study area extends eastward from the Portland Metro Area to The Dalles along the I-84 Corridor (Oregon side of the Gorge). A study area map is presented in Figure 1-1.

**Figure 1-1 Study Area Map**



## KEY FINDINGS FROM EXISTING CONDITIONS AND MARKET ANALYSIS

This study reviewed relevant planning documents, the existing conditions of transit service in the Columbia River Gorge, and assessed the market for future transit utilizing stakeholder and general public feedback. The market analysis was informed by three primary sources of input:

- Comprehensive review of existing studies and plans with relevance to Gorge transportation issues and an analysis of transit service operating in the Gorge today
- Eight focus group meetings with 40 stakeholders in December 2015
- A general public survey distributed in January 2016

Chapters 2 through 4 present the results of these efforts in detail. The findings from this analysis highlighted several key themes that directed the development of future transit service alternatives in the Columbia River Gorge. These themes are outlined below:



- **Increasing visitation to Gorge recreation areas has resulted in negative externalities.** Recent increases in visitation to Columbia River Gorge area destinations have been an economic boon for Gorge communities, but have produced negative effects for the natural environment, contributed to traffic congestion issues, and decreased visitor satisfaction due to resource competition. Visitation is expected to continue to increase, and the associated increased economic activity will further benefit Gorge communities, but demand needs to be managed effectively to maintain access to resources and promote sustainable growth.



Source: Nelson\Nygaard

- **Congestion issues on the Historic Columbia River Highway.** As a result of the increased visitation and a constrained transportation network, traffic and parking congestion have become increasingly frequent occurrences. Numerous plans and stakeholders have recommended transit service to address congestion issues, preserve a quality visitor experience, and better manage access to Gorge destinations.
- **Visitors want transit service.** Visitors overwhelmingly indicated they would consider using public transit to reach Gorge area destinations, yet current transit services are very limited. Skamania County has offered a weekend bus service to reach trailheads on the Washington side of the Gorge since 2014, but performance and ridership have been relatively low. Columbia Area Transit (CAT) offers infrequent intercity transit in the Gorge area, but this is not useful for visitors or residents visiting recreational destinations. There is a clear desire for more accessible, convenient, and frequent transit service in the Gorge, and existing services can be leveraged to support this future service.
- **Multnomah Falls is the key destination for transit in the Gorge and is also the location of the most acute congestion issues.** Transit service in the Gorge that serves the visitor market must make a stop at Multnomah Falls in order to provide access to this top visitor destination and address congestion issues.

- **Hood River is a key destination for transit in the Gorge, and can also be utilized as a transfer point.** Hood River was the second most highly ranked destination for transit (after Multnomah Falls) among both visitors and residents. Regular service to Hood River also represents an opportunity to connect to Mt. Adams Transportation Service (for transportation across the Hood River Bridge to White Salmon/Bingen) and CAT service to The Dalles. If the Mt.



Source: Sam Beebe on Wikimedia Commons

- **Gateway Transit Center is the key connection to Portland area transit.** Gateway Transit Center was ranked the most convenient location for connecting to Gorge transit routes with existing Portland area transit. A Gorge area transit service could connect with TriMet buses and light rail at Gateway Transit Center, which would then allow riders to connect with other local and regional services around the Portland area. Additionally, parking is readily available on weekends and holidays, making it another viable option for park-and-ride.

## SERVICE CONCEPT DEVELOPMENT PROCESS

Chapter 5 details the Pilot and Near-Term service concept development process. At the outset of the study, ODOT decided that transit service in the Gorge would be split into two timelines:

- A Pilot service to begin operations in summer 2016 aimed primarily at addressing transportation demand management issues at Multnomah Falls.
- A Near-Term service to begin operations in 2018 that will more holistically address the need for transit services in the Gorge area.

A funding workshop in February 2016 enabled the project team to understand the funding landscape and consider options for financing transit service in the Gorge. Key stakeholders (including current Gorge area transit operators) were then engaged in two separate service planning workshops:

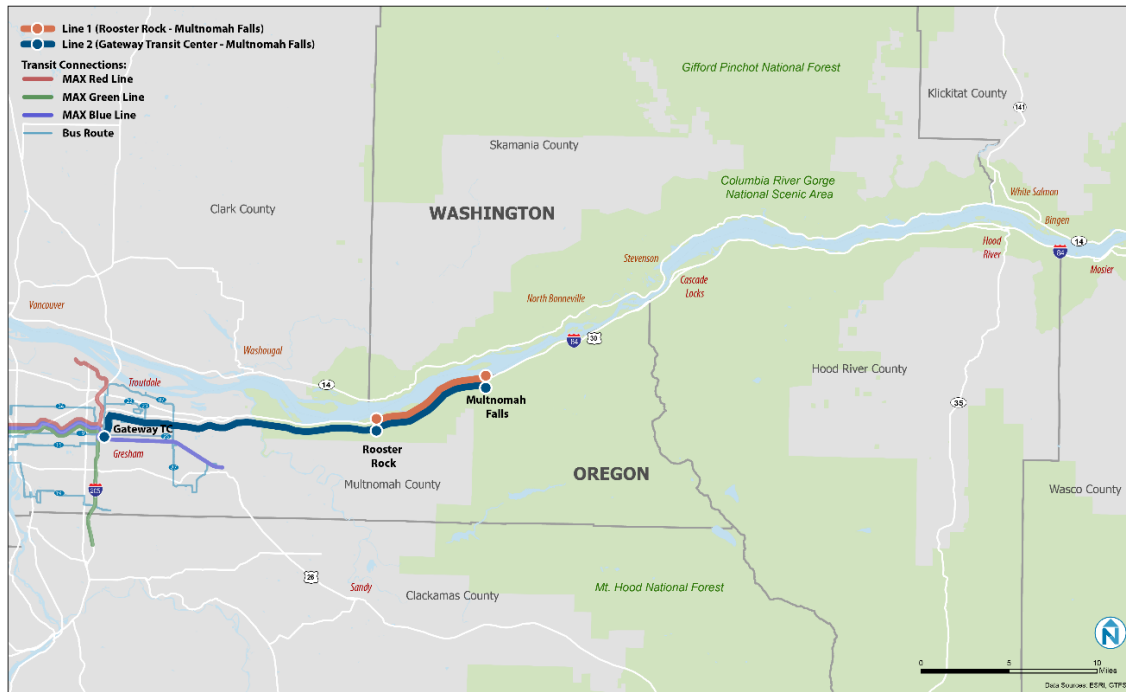
- An initial service planning workshop, held in February 2016, refined the initial service concepts developed for the Pilot service and explored possibilities for the Near-Term service
- A second service planning workshop, held in March 2016, finalized the preferred Pilot alternative, and further refined the service concepts for the Near-Term service.

While a preferred alternative for the Near-Term service is recommended in this study, it is expected to be further refined through the upcoming Hood River County Transportation District (HRCTD) Transit Master Plan (TMP).

## PROPOSED PILOT SERVICE PLAN

The Pilot Service Plan (Chapter 6) presents the stops, routing, and service levels for the Pilot service. Cost estimates, a conceptual schedule, and a ridership estimation are also presented to inform the operations of the service in summer 2016. Funding has been secured to operate the Pilot service during summer 2016 and 2017. The route map is presented in Figure 1-2.

Figure 1-2 Preferred Pilot Service Route Map



## NEAR-TERM SERVICE CONCEPTS

The Near-Term service concepts were refined into a preferred Near-Term alternative, which is presented in Chapter 7. The Near-Term service is anticipated to begin operations in 2018, funding dependent. The route and stop structure is shown in Figure 1-3. It could serve Portland, Hood River, and key destinations in-between using a long-line/short-line transit service configuration, and will likely maintain the parking shuttle service from Rooster Rock to Multnomah Falls.

Figure 1-3 Preferred Near-Term Alternative Service Map



## FUNDING STRATEGY

Chapter 8 reviews options for funding the Pilot and Near-Term services and provides detail on available sources and strategies for securing them. While a variety of programs and strategies are available to fund public transportation, constraints on eligible uses can affect how the traditional public transit and the transportation demand management elements of the Gorge transit service qualify for and receive funding. Alternative funding strategies, such as Transportation Management Association incorporation and parking pricing, are also considered.

## REPORT PURPOSE & ORGANIZATION

The Columbia River Gorge Transit Study consists of eight chapters in addition to this Executive Summary:

- Chapter 2 reviews recently completed and in-progress planning and policy documents.
- Chapter 3 analyzes existing public and private transit services operating in the CRG area.
- Chapter 4 summarizes the market analysis conducted for this study utilizing stakeholder and general public outreach.
- Chapter 5 describes the process of transit service concept development utilized and the alternatives considered for both the Pilot and the Near-Term services.
- Chapter 6 describes the Pilot Service plan, which details the preferred service design, estimates ridership, and discusses governance and operations of the service.
- Chapter 7 presents the preferred alternative for the Near-Term service.
- Chapter 8 details funding strategies that will support the future implementation and operations of the Pilot and Near-Term services.

- Chapter 9 briefly discusses the next steps for implementation of the recommended services and opportunities for future work on Gorge transportation issues.

## 2 DOCUMENT/PLAN REVIEW

The review of plans, projects, and studies described in this section is intended to support and provide direction to the transit development efforts in the Columbia River Gorge study area. The documents reviewed in the following section are outlined in Figure 2-1.

**Figure 2-1 Document Review Overview**

Year	Document Title	Reference (see Appendix A for full citation)
<b>Ongoing Planning Efforts</b>		
2016	Mount Hood Transit Implementation Plan	(LSC Transportation Consultants, 2015a, 2015b)
2016	Gorge Tourism Studio	(Travel Oregon, 2015)
2016	Oregon Solutions: Historic Columbia River Highway Collaborative Assessment	(Oregon Solutions, 2015)
<b>Published Documents</b>		
2016	Columbia River Gorge Visitor Opportunities Study	(ECONorthwest & Travel Oregon, 2016)
2015	Columbia River Gorge Management Units Plan	(Oregon State Parks, 2015)
2015	Oregon Travel Impacts, 1991-2014p	(Dean Runyan Associates, 2015)
2014	Columbia River Gorge National Scenic Area Interagency Recreation Strategy	(Columbia River Gorge National Scenic Area Interagency Recreation Strategy Team, 2014)
2014	Columbia River Gorge Bicycle Recreation: Economic Impact Forecast for the Communities Along the Historic Columbia River Highway	(Dean Runyan Associates, 2014)
2013	Columbia River Gorge Meta-Analysis: A Spatial and Temporal Examination of Outdoor Recreation	(Burns, Chuprinko, & Shrestha, 2013)
2011	Management Plan for the Columbia River Gorge National Scenic Area	(Columbia River Gorge Commission, 2011)
2011	Columbia River Gorge Vital Signs Indicators Resident and Visitor Study	(Burns, 2011)
2011	Oregon 2011 Regional Visitor Report, Mt. Hood – Columbia River Gorge	(Longwoods Travel USA, 2011)
2011	Visitor Use Report – Columbia River Gorge National Scenic Area	(USDA Forest Service Region 6, 2011)

Year	Document Title	Reference (see Appendix A for full citation)
2008	Gorge TransLink Coordination Project	(Nelson\Nygaard Consulting Associates, 2008)

## ONGOING PLANNING EFFORTS

In addition to the Columbia River Gorge Transit Study, a number of concurrent planning efforts are currently underway. These studies are addressing other opportunities for coordination on transportation, visitation, and economic development in the Gorge.

### **Mount Hood Transit Implementation Plan (2016)**

Drafts of two reports were made available to the study team by LSC Transportation Consultants in December 2015:

- Mount Hood Express Service Expansion Analysis
- Service and Sustainable Operations Plan

These two reports are reviewed below.

#### **Mount Hood Express Service Expansion Analysis**

The Mountain Express bus transit service operated on the US-26 corridor between the City of Sandy and Rhododendron between 2004 and 2013. In 2013, with the aid of a Federal Lands Access Program (FLAP) grant, the service was expanded to reach Timberline lodge, a popular Mt. Hood recreation destination, and was renamed ‘The Mt. Hood Express’. Continuing growth in ridership and desire from stakeholder agencies prompted Clackamas County (the manager of Mt. Hood Express) to investigate long-term funding solutions to sustain and possibly expand the service. LSC Transportation Consultants is working under the guidance of Clackamas County and the Mt. Hood Transportation Alliance (MHTA) Advisory Committee to evaluate existing conditions and propose future service and funding options.

The report considered several sources of information in making service recommendations:

- An on-board rider survey
- An on-board ridership data collection
- A survey of residents in the study area and visitors to the Mt. Hood region
- Public outreach meetings in Mt. Hood Area communities
- Market analysis using census data
- Peer review

Several service alternatives were proposed, ranging from a curtailing of operations if a sustainable funding source is not identified to an expansion of bus service north to Hood River and/or south to Warm Springs. A recommended alternative was not yet proposed in this draft report.

#### **Mount Hood Service and Sustainable Operations Plan**

This separate report addresses funding and governance for continuing and possibly expanding the Mt. Hood Express transit service. Several different governance options are reviewed (e.g., maintaining governance by Clackamas County, creating a transportation district, creating and

intergovernmental transit agency) and the recommendation to continue governance and operations under Clackamas County is made. The report recommends operating the service through the Transportation Department as a Division of Public Transit; it is currently operated by Clackamas County's Department of Social Services. The report outlines a financial plan that recommends pursuing as many different funding sources as possible, including continuing to apply for federal funding (like the FLAP grant, FTA 5310 and 5311 grant programs which are currently being used), continuing to utilize ODOT's Special Transportation Fund (STF), soliciting private sector contributions, continuing to receive funding from the county, and pursuing new taxation opportunities.

## **Gorge Tourism Studio (2016)**

The Gorge Tourism Studio program is a series of tourism development workshops designed to assist communities interested in stimulating their local economies through sustainable tourism development, while protecting and enhancing local resources<sup>1</sup>. The program is offered by Travel Oregon in partnership with 26 agencies and organizations. The Gorge Tourism Studio plans to develop the skills of communities and stakeholders in addressing these key transportation-related challenges:

- Heavy seasonality of visitation
- Congestion at key attractions during peak season
- Capitalizing on and making the most of visionary projects underway in the Gorge
- Connecting resources for marketing the area as a destination

In April 2016, the Gorge Tourism Studio published a vision<sup>2</sup> for the future of tourism in the Gorge. It highlighted the importance of car-free access to Gorge resources and congestion mitigation. The vision also calls for a coordinated transit strategy between the Gorge and Mt. Hood.

## **Oregon Solutions: Historic Columbia River Highway Collaborative Assessment (2016)**

Oregon Solutions is an organization tasked by the Oregon Governor's office with resolving interagency conflicts related to sustainability and communities. The Historic Columbia River Highway Collaborative was designated by Governor Kate Brown as an Oregon Solutions project in October 2015 with the focus of resolving congestion issues in the CRG while encouraging increasing levels of tourism and recreation.

## **PUBLISHED DOCUMENTS**

### **Columbia River Gorge Visitor Opportunities Study (2016)**

Travel Oregon and ECONorthwest conducted a public survey of Gorge visitors in order to examine motivating factors and activities for visiting the Gorge, location of visitation, satisfaction

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<sup>1</sup> <http://industry.traveloregon.com/industry-resources/destination-development/rural-tourism-studio/columbia-gorge/>

<sup>2</sup> <http://industry.traveloregon.com/content/uploads/2016/04/Gorge-RTS-Vision-Action-Teams.pdf>



with Gorge activities, and strengths and constraints for Gorge tourism. Several findings from the survey were pertinent to transit planning in the Gorge:

- One-third of respondents traveled to the Gorge infrequently (1-2) within the previous year, while another third visited very frequently (10 or more times) within in the previous year.
- Nearly half of respondents traveled to the Gorge in groups of two. Only 12% of respondents traveled to the Gorge alone. The remainder (approximately 40%) traveled in groups of three or larger.
- Crowding in the Gorge was cited as a limiting factor for visits among 20% of regular Gorge visitors.

Overall, the study's findings were consistent with those from the market analysis survey conducted for the Gorge Transit Study (see Chapter 4).

## **Columbia River Gorge Management Units Plan (2015)**

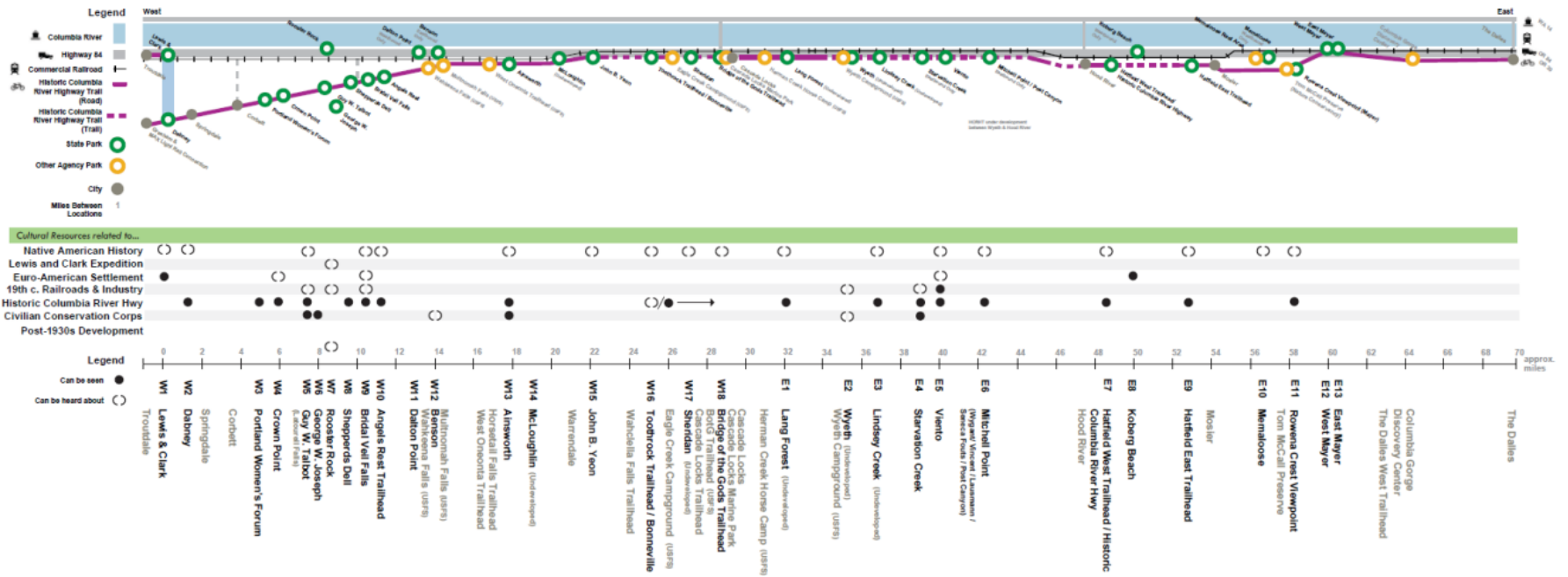
### **Plan Overview**

The Columbia River Gorge Management Units Plan was facilitated by the Oregon Parks and Recreation Department (OPRD), combining the inputs of federal agencies, state agencies, counties, cities, tribes, and stakeholders in the CRG area to agree upon common resource management and planning goals. The plan particularly addressed several factors in its update of the last plan (1994):

- Incorporation of ongoing Historic Columbia River Highway planning efforts into the Plan
- Increasing visitation to the CRG
- Economic opportunity sought via increased recreation
- Increased sophistication in natural resource understanding and management

As part of a unifying vision in the Plan, a Cultural Resources Inventory was developed and a corresponding map of the resources and how they are connected was created, as illustrated in Figure 2-2. This diagram provides a useful overview of the wide variety of recreational, cultural, and other physical destinations on the Oregon side of the Gorge.

Figure 2-2 Cultural Resources Network Diagram



Source: (Oregon State Parks, 2015)

The plan proposes specific improvements throughout the CRG corresponding to five different recreation types it identifies: hiking, cycling, water recreation, camping, and automobile touring. Automobile touring is identified as one cause of traffic congestion in the CRG, and the need to facilitate multi-modal transportation is mentioned, but no specific recommendations are made.

Public outreach efforts are reviewed within the plan, and several key themes were drawn from discussions with stakeholders and the public. One of those themes is identified as “Transportation and Congestion”. The results of the public outreach process indicated a consensus on the following ideas:

- A partnership with Gorge stakeholders and organizations should be developed to study Gorge-wide transportation alternatives, including the potential for ferries and shuttles using National Park Service models. Such a study should consider the following:
  - Design capacity of parks relative to maintaining a quality recreation experience.
  - Development of a shuttle to operate on a regular interval schedule and make stops in some parks
  - Options for transit service in the CRG
  - Partnerships with ODOT to consider developing a safer bike route from the Gresham MAX station to Dabney State Park and the rest of the Historic Columbia River Highway
- Promotion of carpooling, rideshare, and public transportation options for accessing CRG parks. The following details regarding these alternative modes are identified:
  - Support development of electric car charging stations at parks and reserved parking spaces for using green energy vehicles or a carpool
  - Explore providing discount day and overnight use fees for those arriving via car share or public transportation.

Additional comments from the public outreach process indicated that transit access should be provided to the Gorge. Service with stops in Cascade Locks and Hood River should be provided to facilitate this, including trips on the weekends to serve visitor traffic.

## **Rooster Rock**

The Management Units Plan investigated each cultural resource area in the CRG separately to assess existing conditions and plans/opportunities for improvements. Rooster Rock has a very large parking area with minimal pedestrian amenities and large expanses of pavement. Rooster Rock has the potential to serve as a park and ride location for a shuttle service, but parking capacity may be an issue at some peak demand times. Parking demand is significantly less than capacity during most of the year, but large gatherings during the summer can utilize the lot to capacity.

## **Oregon Travel Impacts, 1991-2014p (2015)**

This report examines the economic impacts of travel at the state, region, and county levels across Oregon from 1991 to 2014. ‘Mt. Hood/The Gorge’ is one of the regions examined – pages 57-60 summarize the following economic indicators regarding travel:

- Visitor spending
- Visitor volume

- Revenues from travel expenditures
- Employment supporting travel
- Tax receipts at the local and state levels from expenditures in travel

These metrics are also categorized by consumer commodity (e.g., accommodations, food, retail sales), by temporal trip span, and accommodation type. Finally, these metrics are also aggregated by county to discern differences in economic indicators between the four Oregon counties in the Gorge area. Findings indicated visitation and spending in the Gorge area increased rapidly over the study period.

## **Columbia River Gorge National Scenic Area Interagency Recreation Strategy (2014)**

The growth in recreation demand in the CRG and its associated negative externalities (e.g., natural resource impacts, traffic congestion) as well as the decline in available financial resources prompted the forming of a team of public recreation managers to coordinate in addressing the challenges of balancing recreation opportunities and resource management. The team is called the Columbia River Gorge Interagency Recreation Strategy team, and is composed of members from the following organizations:

- U.S. Forest Service Columbia River Gorge National Scenic Area Office
- U.S. Army Corps of Engineers
- U.S. National Park Service Lewis and Clark National Historic Trail
- U.S. Fish and Wildlife Service
- Oregon Parks and Recreation Department
- Washington State Parks and Recreation Commission
- Washington Department of Natural Resources
- Oregon Department of Transportation
- Washington Department of Transportation
- Oregon Department of Fish and Wildlife
- Washington Department of Fish and Wildlife
- Confederated Tribes of the Yakima Nation
- Columbia River Gorge Commission

The report contains an overview of natural resource conditions, recreation activities, trends in use and access (citing the results of (Burns et al., 2013; Burns, 2011)), and a discussion of growing concerns of the organizations. The plan proposes the following goals and corresponding strategies outlined in Figure 2-3.

**Figure 2-3 CRG National Scenic Area Interagency Recreation Strategy Goals and Strategies**

Goal	Strategy
Create a common vision for recreation in the Columbia River Gorge.	Ensure the existing regional plan is clearly understood and develop an interagency vision for regional recreation.
Clarify roles and identify the strengths and focus areas of each agency.	Meet with agencies to clearly define roles, strengths, and opportunities to leverage collective strengths through enhanced partnerships.
Practice working collaboratively toward recreation sustainability.	Improve communication and interagency collaboration through regular meetings, explore agreements and grant opportunities, and consider an annual recreation summit to address recreation demand and resource impacts.
Develop management strategies to address increasing demand, unmanaged recreation, and the capacity needs to meet current and future demand.	Address demand and unmanaged recreation through early engagement; map critical resources, existing and proposed recreation, and unmanaged recreation areas to provide context for management and planning efforts; formalize a stakeholder engagement process for added collaboration; and explore a trail master plan to address demand, management and unauthorized use. Strategies to build capacity include partnership and grant opportunities and developing a clearing house of volunteers.
Increase citizen stewardship.	Foster existing partnerships and volunteers while growing new relationships; develop a communications strategy to actively educate recreation users and improve stewardship.

## **Columbia River Gorge Meta-Analysis: A Spatial and Temporal Examination of Outdoor Recreation (2013)**

This study expands on the analysis published in 2011 (Burns, 2011). Similar to that study, intercept survey methods were used to examine visitor demographics, preferences, and trip characteristics; activity levels and types; and economic outcomes.

Survey results indicated that the majority (53%) of visitors traveled from relatively nearby locations (50 miles or less) to visit the CRG. 64% of the visitors indicated they visited the CRG on day trips and spent an average of three hours recreating. These results indicate that a majority of visitors come from nearby locations to spend a portion of their day recreating in the CRG; long-term or overnight trips and visitors from farther locations do utilize the CRG but are less common.

Time series analyses conducted using the survey results also revealed an increase in recreation activities in the CRG and a corresponding increase in the perception of crowding. Several spatial subsets (called ‘niches’ – discrete areas of the CRG such as the ‘Wall and Falls’) were used to compare the above survey results across areas of the CRG.

## **Management Plan for the Columbia River Gorge National Scenic Area (2011)**

The U.S. Congress commissioned the Management Plan for the Columbia River Gorge National Scenic Area, and the original plan was adopted in 1992. Revisions (adopted in 2004) were

incorporated in 2007, amendments and updates to the plan have been approved through September 2011. Transportation related policies stipulated in the plan are reviewed below.

### **Management Plan Goals**

- Provide transportation facilities that meet the needs of the traveling public and implement this plan's recreation goals and objectives while protecting scenic, natural, cultural, and recreation resources.
- Promote alternative modes of transportation to improve the safety and enjoyment of the traveling public and to help alleviate future traffic demand.

### **Management Plan Objectives**

- Encourage the provision of alternate modes of transportation to recreation destinations to reduce resource impacts and facilitate visitation by all segments of the public. Such alternate modes include, but are not limited to, shuttles, buses, bicycles, and boat access.
- Encourage tour boat and tour train access to important recreation facilities (such as the Gorge Discovery Center) as mass transportation alternatives that offer both access to such sites and recreational experiences in themselves.
- Improve linkages between different modes of transportation at major recreation sites in the Scenic Area.
- Improve access to recreation opportunities in the Scenic Area for the physically-challenged, less affluent, and other underrepresented user groups.

### **Management Plan Policies**

- Accommodation of facilities for mass transportation (e.g., bus turnarounds) shall be required for all new high-intensity day-use recreation sites, except for sites predominantly devoted to boat access. These facilities are also encouraged for all new moderate-intensity day-use recreation sites where practicable.
- All transportation facilities or improvements associated with public recreation shall be designed to minimize impacts to scenic, natural, cultural, and recreation resources to the maximum extent practicable.

### **Management Plan Strategies**

- Encourage provision of alternative modes of transportation (including bus, shuttles, rail, and boat) to recreation destinations in order to reduce resource impacts and to facilitate visitation by all segments of the public.
- Encourage provision of transportation modes that are recreational in nature.
- Improve linkages between different modes of transportation at major recreation sites in the Scenic Area.
- Encourage comprehensive recreation planning that fosters a unified, regional approach.
- Provide additional opportunities and facilities for recreational access to the Columbia River and its tributaries, scenic appreciation, and other resource-based recreation uses.

## **Columbia River Gorge Vital Signs Indicators Resident and Visitor Study (2011)**

This study focused on assessing the following aspects of visits to the CRG using intercept survey methods to assess demographic, socioeconomic, and trip characteristics; consumer satisfaction and visitor preferences; and economic outcomes.

The survey indicated that 62% of visitors arrived to the CRG via I-84, 22% arrived via SR-14, and 12% arrived via the Historic Columbia River Highway. The most visited cultural attractions in the CRG (as measured by the survey) were the Historic Columbia River Highway, Multnomah Falls, and Vista House. Non-local visitors were over three times as likely to visit these sites as local visitors. The majority of survey respondents did not feel the CRG was too crowded on their trip.

## **Oregon 2011 Regional Visitor Report, Mt. Hood – Columbia River Gorge (2011)**

A representative sample of survey respondents was drawn from 2010-2011 visitors to the Mt. Hood-Columbia River Gorge region, and these respondents were asked a series of questions regarding economic indicators, visitor profiles, and activity preferences. Transportation mode shares are identified for overnight trips to the CRG on page 25 with a breakdown of the personal (e.g., personal/rental car, bicycle) and commercial (e.g., plane, train, bus) vehicle types used. Personal vehicles were the primary mode of transport for 75% of respondents, while 14% of travelers visited using a rented vehicle, and 9% visited using Campers or RVs. All of the statistics for the Mt. Hood-CRG trips are compared with statewide statistics to illustrate differences in the proportions between the CRG and Oregon State. This comparison indicated that a higher proportion of visitors used rental cars, which points to the higher proportion of visitors from outside of the state to Gorge relative to other Oregon tourism destinations.

## **Visitor Use Report, Columbia River Gorge National Scenic Area (2011)**

The National Visitor User Monitoring (NVUM) program collects and publishes data describing visitors, their preferences, and their behaviors at the national, regional, and forest level. The most recent published report (2011) indicated that a majority of visitors came from nearby locations; primarily from the Portland metro area. Demographic and socioeconomic characteristics regarding the visitors are also available, as well as data regarding economic outcomes (e.g., spending patterns).

## **Gorge TransLink Coordination Project (2008)**

A report summarizing the results of the Gorge TransLink Coordination Project was completed by Nelson\Nygaard in 2008. Gorge TransLink is an alliance of rural transportation providers in the Gorge Skamania and Klickitat Counties, WA and Hood River, Wasco, and Sherman Counties, OR. This project reviewed previous coordinated transportation planning efforts and proposed interagency guidelines for Gorge TransLink partners to more seamlessly connect different transit services in the CRG. The proposed guidelines were as follows:

- Transfers
  - Clearly identify transfer locations.

- Coordinate schedules for timed transfers to the greatest extent possible.
- Interagency operator communication should occur to facilitate system transfers.
- Passengers are expected to transfer by their own means or with assistance from a personal aide or companion.
- Fares
  - Develop a consistent fare policy that allows fares to be transferred among different services.
  - Develop a universal fare instrument to be recognized by all services.
- Transit operators will make information available on how to utilize one or more transit services in the CRG.

Recommendations were also made regarding opportunities for vanpool programs. Finally, recommendations were made to designate the Mid-Columbia Economic Development District (MCEDD) as ‘Lead Agency’ and enable MCEDD to coordinate among the agencies to reach strategic goals, such as applying for grant funding for new or improved services.

## **KEY FINDINGS**

The following are key findings from the published and ongoing planning efforts that demonstrate the need for expanded transportation options, including improved transit mobility and access, in the Columbia River Gorge.

### **Increases in Visitation and Activity**

Economic activity (e.g., visitation, spending) has increased rapidly in the CRG area. While this increase in activity has resulted in economic benefits for the agencies, communities, and businesses in and around the CRG area, associated negative externalities (e.g., traffic congestion, crowding) are becoming increasingly apparent. Many of the planning efforts reviewed herein are grappling with the challenge of encouraging increasing levels of economic activity while still maintaining a quality recreation experience and minimizing natural resource impacts. Transportation planning is one tool that can be used to address these seemingly conflicting objectives.

### **Transportation Options**

Increased economic activity in the CRG area motivated an increased desire from agencies, stakeholders, and members of the public for improved transportation options in the Gorge. Ideas for transportation options in the Gorge included:

- Encouragement of carpool, rideshare, and car sharing programs for travel to and within the CRG area. These options could be incentivized using reduced fees for park visitation or reserved parking spaces for high occupancy vehicles.
- Shuttle/bus service circulating throughout CRG destinations
- Bus service connecting nearby regional transit systems with CRG destinations
- Possible expansion of Mt. Hood Express bus transit service north to Hood River



## **Bicycle Recreation/Travel**

Increasing levels of bicycle recreation in the Gorge (Dean Runyan Associates, 2014) could present an opportunity for increased transit use in the CRG area. It is estimated that bicycle recreation and travel in the CRG will continue to grow as the new sections of the Historic Columbia River Highway continue to open to bicyclists in the future. Bicyclists may be able to utilize transit for some portion of their trip. Transit service could enable some bicyclists to park their vehicles further from areas of the CRG overburdened by parking demand; or negate the necessity of a vehicle altogether for those traveling from nearby areas.

New transportation services in the CRG should accommodate bicyclists to the best extent possible by providing bicycle racks on vehicles, bicycle parking areas at transit stops and destinations, and being cognizant of sharing the roadway with bicyclists. Improving the accommodation of bicycle travel in the CRG can have a positive impact on the growth in economic activity related to bicycle travel and could potentially decrease reliance on automobiles in the Gorge.

## **3 REVIEW OF EXISTING SERVICES**

This section reviews the existing transit and transportation services in the Columbia River Gorge area. The reviewed services are separated into public and private transportation providers. A map of the study area denoting fixed route services, transfer locations, and destinations is shown in Figure 3-1.

**Columbia River Gorge Transit Study | Final Report**  
Oregon Department of Transportation

**Figure 3-1 Study Area Map of Transit Services and Destinations**



## PUBLIC TRANSPORTATION PROVIDERS

This section provides a detailed review of public transportation providers operating within the Columbia River Gorge study area. Public transportation providers are separated into (1) primary services providing transportation within the CRG study area and (2) services that connect to these primary providers from other areas around the CRG. The providers reviewed are summarized in Figure 3-2.

**Figure 3-2 Public Transportation Providers Summary**

Transportation Provider	Area Served (relative to CRG area)	Type of Service (relative to CRG Area)
<b>Primary Services based in CRG area</b>		
Columbia Area Transit (Hood River County Transportation District) <sup>3</sup>	The Dalles, Hood River, Portland	Fixed-route and Demand-response
Mid-Columbia Council of Governments	The Dalles, Hood River, Portland	Fixed-route and Demand-response
Skamania County Public Transportation <sup>4</sup>	Skamania County	Fixed-route and Demand-response
Mt. Adams Transportation Service (MATS) <sup>5</sup>	Klickitat County	Fixed-route and Demand-response
<b>Connecting Services based outside of CRG area</b>		
Sandy Area Metro (City of Sandy) <sup>6</sup>	Gresham Transit Center and City of Sandy	Fixed-route and Demand-response
Mt. Hood Express (Clackamas County) <sup>7</sup>	US-26 from City of Sandy to Mt. Hood	Fixed-route
C-TRAN <sup>8</sup>	Clark County	Fixed-route and Demand-response
Ride Connection <sup>9</sup>	Eastern Multnomah County	Demand-response
TriMet <sup>10</sup>	Eastern Multnomah County	Fixed-route and Demand-response

<sup>3</sup> <http://community.gorge.net/hrctd/>

<sup>4</sup> <http://www.skamaniacounty.org/senior-services/homepage/services/public-transportation/>

<sup>5</sup>

<http://www.klickitatcounty.org/senior/ContentROne.asp?fContentIdSelected=1835930300&fCategoryIdSelected=1478042651&fX=X>

<sup>6</sup> <http://www.ci.sandy.or.us/Transit/>

<sup>7</sup> <http://www.mthoodexpress.com/>

<sup>8</sup> <http://www.c-tran.com/>

<sup>9</sup> <http://www.rideconnection.org/Ride/Home.aspx>

<sup>10</sup> <http://trimet.org/>

## Primary Services

The following public transportation services operate within the CRG study area.

### Columbia Area Transit (Hood River County Transportation District)

#### Service Summary

The Hood River County Transportation District provides transit service in Hood River County and beyond under the name of Columbia Area Transit (CAT). Fixed route service between Hood River and Portland is provided once per day (round trip) on Tuesdays and Thursdays. This service is timed to connect with Mid-Columbia Council of Governments' The Dalles-Hood River service (discussed in later in the chapter), which brings passengers from The Dalles to CAT's office in Hood River in the morning, and brings them from Hood River to The Dalles on the return trip in the evening. CAT provides a separate fixed-route service between The Dalles and Hood River three times per day (round trip), Monday through Friday. Demand-response service is provided to the Hood River County general public to reach destinations in Portland, Hood River, Odell, Parkdale, and Cascade Locks Monday through Friday. CAT's fixed-route and demand-response fares are summarized in Figure 3-3.

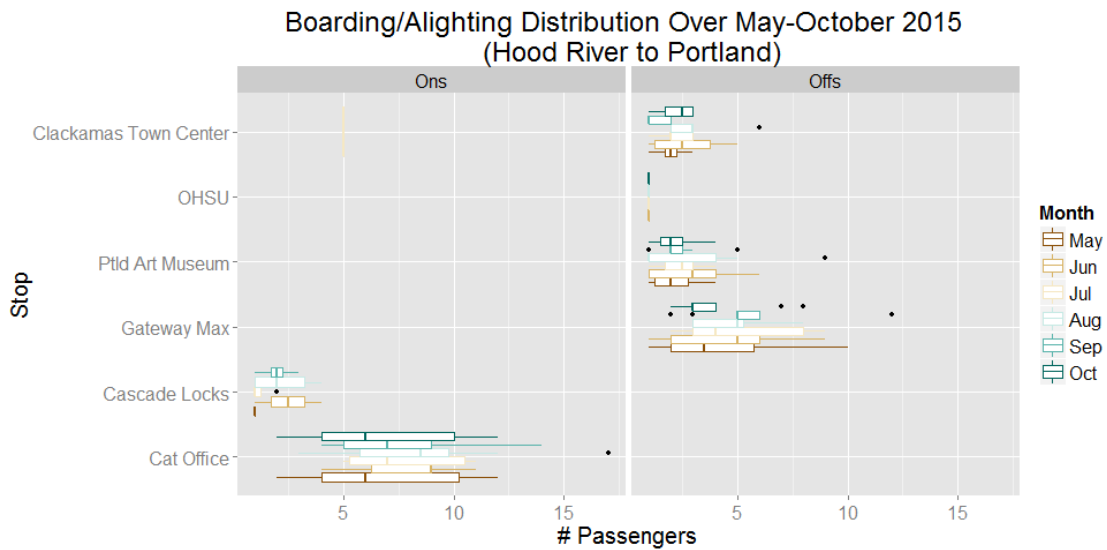
**Figure 3-3 Columbia Area Transit Fares**

Fare Type (all prices one-way)		Fare Cost
<b>Fixed Route</b>		
Hood River – The Dalles	General Public - One Way Trip	\$3.00
Hood River - Portland	General Public - One Way Trip	\$8.00
<b>Demand-Response</b>		
Hood River	General Public	\$1.25
Odell	General Public	\$1.50
Parkdale	General Public	\$2.00
Cascade Locks	General Public	\$2.25
<b>Shopping Trip Fares (special days for shopping - the fare takes care of all stops for shopping)</b>		
Hood River	Wednesdays	\$2.50
Odell	Fridays	\$3.00
Parkdale	Fridays	\$4.00

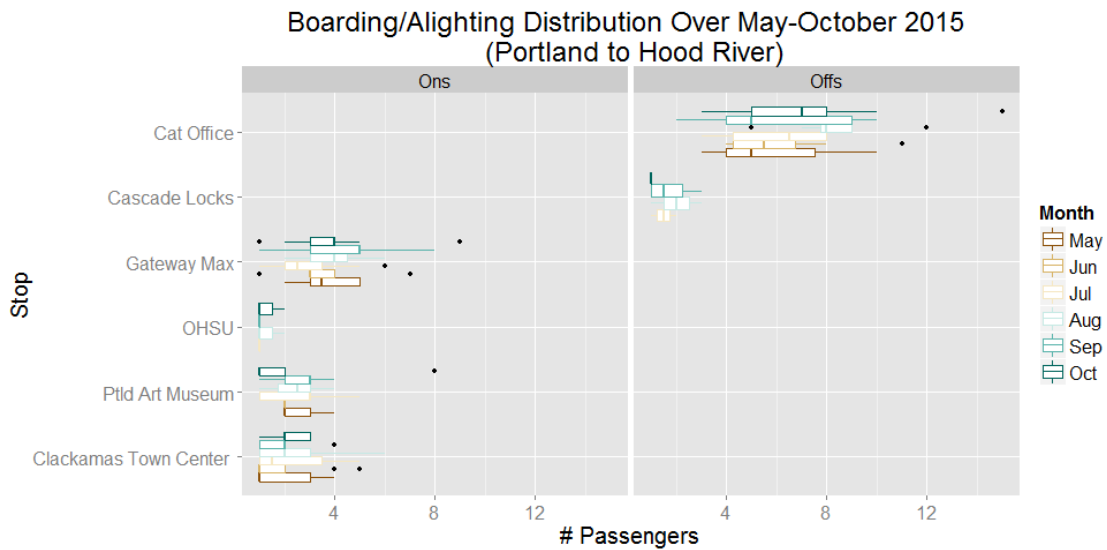
#### Ridership

Ridership data were received for May-October 2015 from Columbia Area Transit. This ridership data is illustrated in Figure 3-4 (Hood River to Portland) and Figure 3-5 (Portland to Hood River) using boxplots to show the distribution of ons (boardings) and offs (alightings) by stop and month. The boxplots indicate the median number of passengers boarding or alighting as well as the spread of the data.

**Figure 3-4 CAT Boarding/Alighting Distributions by Stop and Month (Hood River to Portland)**



**Figure 3-5 CAT Boarding/Alighting Distributions by Stop and Month (Portland to Hood River)**



The data indicate that most passengers heading from Hood River to Portland board CAT in Hood River at the CAT office, some passengers board in Cascade Locks. Alightings are distributed throughout the Portland area stops, with the least alightings occurring at Oregon Health Science University (OHSU). The opposite trends hold regarding the trips heading from Portland to Hood River, indicating that it is likely many riders use the service in both directions. There does seem to be some variation in ridership between months, suggesting there may be some small amount of discretionary ridership using the service during the middle of the summer. This is corroborated by the increase in ridership in the middle summer months shown in Figure 3-6.

**Figure 3-6 Columbia Area Transit Hood River to Portland Fixed Route Monthly Ridership (May-October 2015)**

Month	Passengers
<b>May</b>	104
<b>Jun</b>	143
<b>Jul</b>	148
<b>Aug</b>	148
<b>Sep</b>	141
<b>Oct</b>	125
<b>Total</b>	809

**Operations and Productivity**

Operations and productivity data were received for May-October 2015 from Columbia Area Transit. Monthly averages for the operations data were calculated and are presented in Figure 3-7. There is currently considerably more demand for the demand-response service, suggesting that the majority of riders on CAT are not discretionary riders.

**Figure 3-7 Operations Data for Columbia Area Transit (Averaged for May-October 2015)**

Attribute	Monthly Averages (May-Oct)
<b>Demand-response</b>	
Passenger Trips	1,857
Revenue Miles	11,696
Revenue Hours	640
Down-Time (deadhead) Miles	1,137
Down-Time (deadhead) Hours	72
Passengers per Revenue Hour	2.9
Passengers per Revenue Mile	0.2
<b>Hood River to Portland Fixed-route</b>	
Passenger Trips	135
Revenue Miles	1,638
Revenue Hours	77
Passengers per Revenue Hour	1.8
Passengers per Revenue Mile	0.1
<b>Hood River to The Dalles Fixed-route</b>	
Passenger Trips	256
Revenue Miles	3,276
Revenue Hours	299
Passengers per Revenue Hour	0.9
Passengers per Revenue Mile	0.1

Monthly averages for the productivity measures received from CAT were calculated and are presented in Figure 3-8.

**Figure 3-8 Columbia Area Transit Productivity Measures (Averaged for May-October 2015)**

Attribute	Six Month Average (May-Oct)
Cost per Passenger Trip	\$22.97
Cost per Vehicle-Hour	\$82.52
Cost per Vehicle-Mile	\$4.51
Passengers per Vehicle-Hour	2.2
Farebox Recovery	6.2%

**Funding**

Funding data were received for the 2015-2017 fiscal year from Columbia Area Transit. CAT is financed through a combination of grant and local funding. The breakdown of grants and local funding sources utilized by CAT is presented in Figure 3-9.

**Figure 3-9 Columbia Area Transit Grant Funding (FY 15-17)**

Funding Type	Grant	Amount	Percent of Total
Grant	5311 Formula Operations	\$ 320,564	39.3%
	5311 F (Inter-City HR-TD)	\$ 93,156	11.4%
	5311 F (Inter-City) Admin	\$ 5,200	0.6%
	5310 Capital Maintenance	\$ 39,481	4.8%
	5311 Capital Vehicle Replacement	\$ 116,220	14.3%
	pass-thru for MCEDD	\$ 25,000	3.1%
	STF Formula	\$ 160,000	19.6%
	Medicaid (disbursed from MCCOG)	\$ 15,462	1.9%
Local Revenues	Local Taxes and Fees	\$ 669	0.1%
	Interest Earnings	\$ 351	0.0%
	Intergovernmental	\$ 16,361	2.0%
	Service Contract Revenue	\$ 21,741	2.7%
	Advertising	\$ 1,350	0.2%
Total		\$ 815,556	100%

**Mid-Columbia Council of Governments**

The Mid-Columbia Council of Governments (MCCOG) is the regional planning organization for Hood River, Wasco, Gilliam, Sherman, and Wheeler Counties. MCCOG provides a fixed route bus service between The Dalles and Hood River on Tuesdays and Thursdays to allow riders originating in The Dalles to utilize CAT’s Hood River to Portland service. The trip takes place on either end of the round trip between Hood River and Portland, allowing passengers to transfer to CAT’s service at CAT’s office in Hood River.



MCCOG also provides dial-a-ride transportation services (called ‘The LINK’) in Wasco County. It is available to the general public, and operates Monday through Friday. Fares range from \$1.50 to \$5.00, and trips must be scheduled at least 24 hours in advance.

MCCOG also acts as the Medicaid brokerage for Gorge area counties (Hood River, Wasco, and Sherman) as well as 11 other counties in eastern Oregon. They coordinate reimbursements for riders (covered under the Oregon Health Plan) of various private and public demand-response transportation providers. Reimbursement funds are received through Eastern Oregon Community Care Organization.

## **Skamania County**

### **Service Summary**

Skamania County Senior Services (the transportation operator) operates three transit services in the Skamania County area within the CRG: (1) a weekday fixed-route bus service, (2) a weekend seasonal fixed-route bus service (called the West End Transit (WET) bus) to trailheads along SR-14, and (3) a demand-response (dial-a-ride) service.

#### Daily Fixed-Route

Skamania County operates a fixed bus route service along the SR-14 corridor between Fisher’s Landing Transit Center (Vancouver) and Carson year-round, Monday through Friday. Two trips per day are made Monday through Thursday – an AM and a PM trip – and three trips per day are made on Fridays with the inclusion of a mid-day trip. Fares are outlined in Figure 3-10. Buses are ADA accessible. Leashed or well-controlled dogs are allowed on the bus. Bicycles are hauled via two-bike racks on the buses.

**Figure 3-10 Skamania County WET Bus Fares**

Age	Zone 1 (within Skamania County)	Zone 2 (outside of Skamania County)
12 and younger	Free	Free
12-17	\$0.50	\$1.00
18 and older	\$1.00	\$2.00
All Day Pass (all ages)	\$4.00	\$4.00

#### WET Bus – Weekend Trail Service

Skamania County operates a seasonal (May through Mid-October) weekend fixed-route service (called the WET bus) stopping at nine trailheads along the SR-14 corridor between Fisher’s Landing Transit Center (Vancouver) and Dog Mountain (Skamania County). The WET bus runs three trips per day and is also ADA accessible. The same fares and rules (regarding dogs and bicycles) cited above apply to the WET bus. Skamania County Senior Services employs nine drivers to drive the weekend WET bus who regularly drive the demand-response vans (discussed below). Drivers were “spread thin” during the 2015 season and the agency hopes to hire at least one additional driver for 2016. The WET bus weekend trailhead service is funded in partnership with US Western Federal lands, WSDOT, local agencies (tourism funds), and Friends of the Gorge.

Safety concerns became apparent in May 2015 when two people were killed while trying to park a vehicle at Dog Mountain. Parking is limited at this trailhead, and consequently many people park in dangerous locations along SR-14 to access the trail. These issues motivated the following proposed mitigations:

- A United States Forest Service (USFS) employee will staff the Dog Mountain trailhead to oversee parking and traffic control.
- A shuttle was proposed to provide loop service between Stevenson and the Dog Mountain trailhead so that visitors could park in alternate locations during times of heavy traffic.

Skamania County Senior Services is now in the process of applying for further funding from the Western Federal Lands Access Program (FLAP) to finance its 2016-2017 WET weekend bus operations. As part of this application for funding, Skamania County Senior Services has received letters of support from Mid-Columbia Economic Development District, the Skamania County Chamber of Commerce, and Friends of the Columbia River Gorge.

Demand-Response

Skamania County Senior Services operates a demand-response service available for all users, but targeted towards seniors, persons with disabilities, and low income populations. Rides are provided Monday through Friday. Special priority is given to rides for medical appointments, social services appointments, and essential shopping (e.g., pharmacies). Rides are also provided for transportation to meal sites, general shopping trips, and ‘Meals on Wheels’ trips.

Fares are charged to the general public as outlined in Figure 3-11. For seniors (persons 60 years of age or greater) service is provided on a free (but donations accepted) basis. Medicaid authorized trips are reimbursed by the regional Medicaid brokerage.

**Figure 3-11 Skamania County Demand-Response Fares (General Public)**

Age	Zone 1 (within Skamania County)	Zone 2 (outside of Skamania County)
12 and younger	Free	Free
12-17	\$1.00	\$2.00
18-59	\$2.00	\$4.00
60 and older	Donations accepted	Donations accepted

**Weekend WET Bus Funding/Operations**

Aggregated funding and operations data were available for Skamania County’s weekend WET bus for the two operating periods of 2014 and 2015. This data is presented in Figure 3-12.

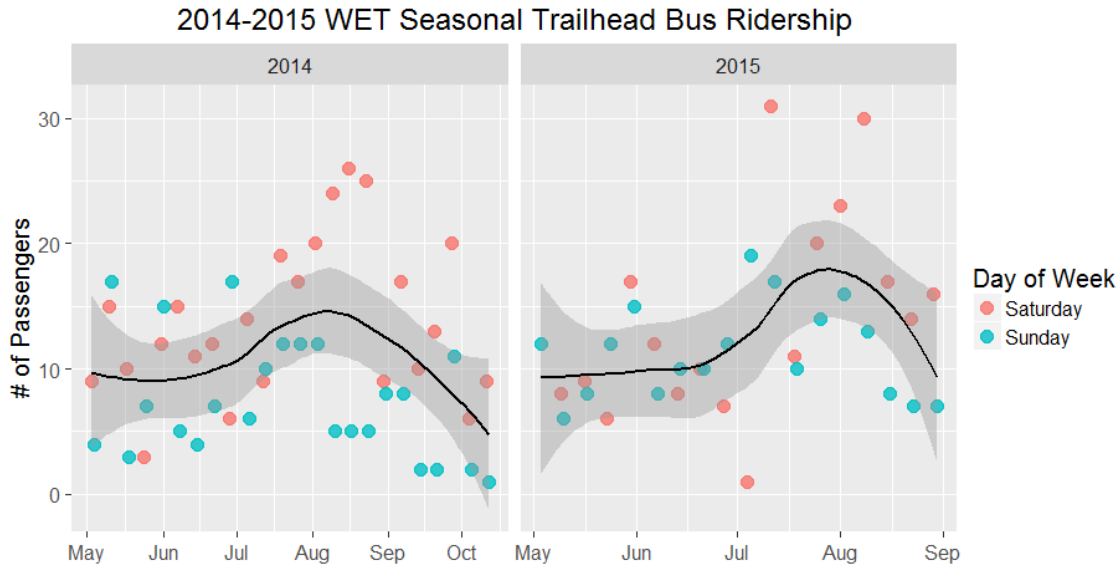
**Figure 3-12 Weekend WET Bus Funding, Operations, and Productivity (2014-2015)**

Attribute	Quantity
<b>Funding</b>	
Skamania County Match	\$9,147
Western Federal Lands Grant	\$52,609
Total Cost	\$61,756
<b>Operations</b>	
Revenue Miles	39,974
Revenue Hours	1,400
Revenue Days	96 (48 per year)
Total Ridership	1,073 boardings
<b>Productivity</b>	
Passengers per Revenue Hour	0.77
Cost per Passenger	\$57.56

**Weekend Ridership Data**

Ridership data were obtained for Skamania County’s WET weekend bus service during 2014 and 2015. These data were aggregated to calculate total number of riders per day and are illustrated in Figure 3-13. Different days of the week are highlighted by point color and a moving average curve (with a confidence interval to illustrate spread) was plotted for each year. Saturdays appear to be the highest ridership days, with an average of 14 riders per day across the sample, a minimum of 1 rider, and a maximum of 31 riders. Ridership peaks in August, with approximately 30 riders using the service on some Saturdays. Ridership has increased slightly overall from 2014 to 2015, as illustrated by the average curves. The data indicate that the total ridership increased from 444 in 2014 to 511 in 2015 (a 15% increase).

**Figure 3-13 2014-2015 Weekend WET Bus Ridership**



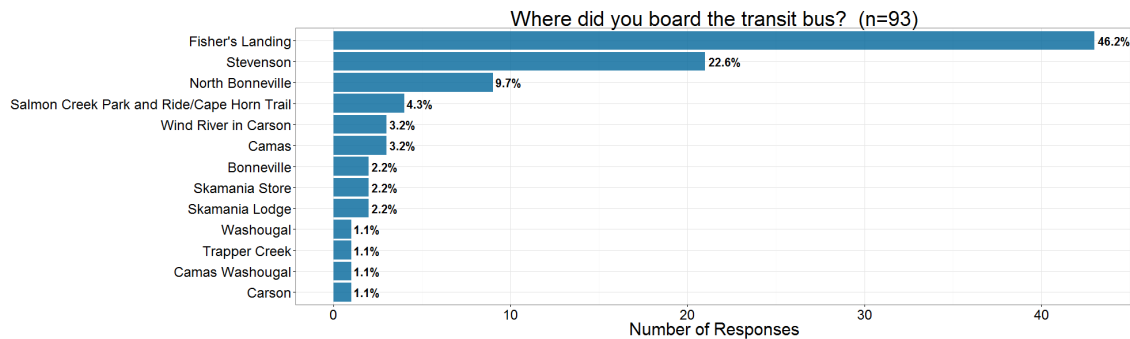
**Weekend Rider Survey**

An annual on-board survey was conducted on the weekend WET bus service in July through mid-August during 2014 and 2015. Every rider was given the survey and asked to fill it out. Ninety-seven transit riders completed the survey over the two-year period. The results of the following three survey questions during 2014 and 2015 (samples pooled) are shown in the figures below.

- Question 1: Where did you board the transit bus? (Figure 3-14)
- Question 2: What is your destination? (Figure 3-15)
- Question 3: How often do you ride the bus? (Figure 3-16)

Results indicate that the largest proportions of riders (46%) are boarding WET bus at Fisher’s Landing Transit Center. This proportion of riders is likely parking at the transit center and riding the WET bus into the CRG, or used C-TRAN to connect with the WET bus.

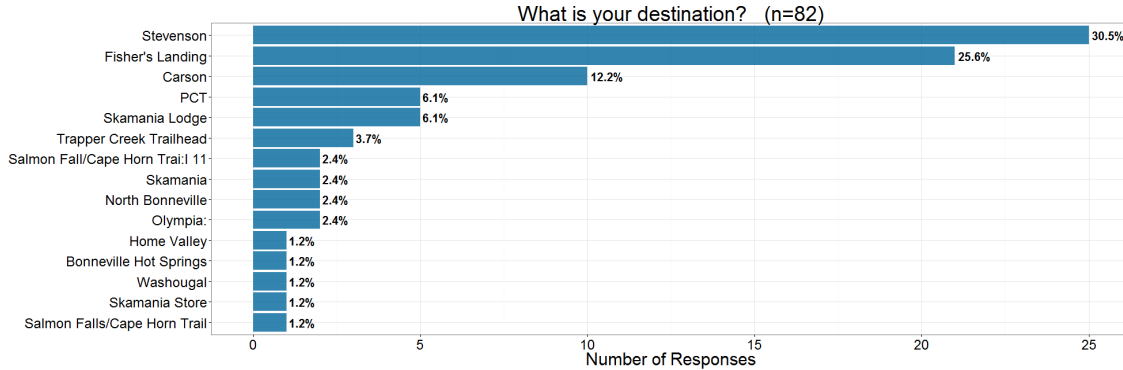
**Figure 3-14 Skamania County Ride Survey Results – Question 1**



Approximately one third of riders are using the WET bus to travel to Stevenson (31%) and 26% are traveling to Fisher’s Landing. The patterns observed in this origin-destination survey indicate that the majority of travel is occurring between Fisher’s Landing and Stevenson. This could

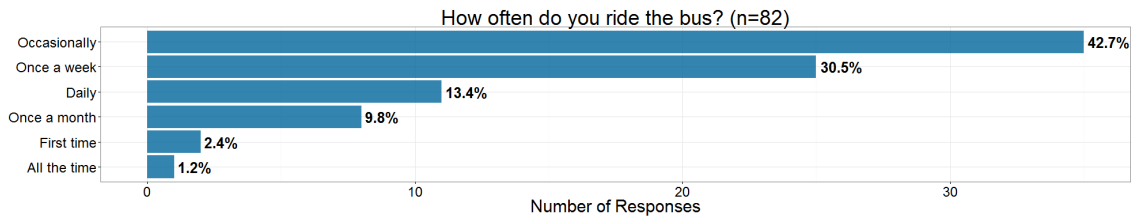
indicate residents nearby Stevenson are utilizing the WET bus to reach the C-TRAN network (Vancouver area) and/or the TriMet network (Portland area).

**Figure 3-15 Skamania County Ride Survey Results – Question 2**



The majority of riders are using the WET bus sparingly, with 43% of riders indicating they are riding occasionally and 31% of riders indicating they ride once per week.

**Figure 3-16 Skamania County Ride Survey Results – Question 8**



### **Mt. Adams Transportation Service**

Mt. Adams Transportation Service (MATS – operated by Klickitat County in Washington) provides fixed route service connecting Hood River (OR) with White Salmon (WA), and Bingen (WA) across the Columbia River via Hood River Bridge. This service is critical because no non-motorized travel is allowed across the Hood River Bridge. This service runs four times per day on Mondays, Wednesdays, and Fridays. Fares are \$1.00 each way (for passengers 12 and older). Bicycles can be hauled on the vehicle via bicycle racks.

MATS also operates a dial-a-ride service throughout Klickitat County for seniors, low-income persons, and persons with disabilities. Fares vary by length of trip; seniors are only asked to make a suggested donation. Routine trips are provided to senior meal sites, local shopping, and shopping in Hood River.

### **Connecting Services**

The following services connect with public and private transportation providers in the CRG.

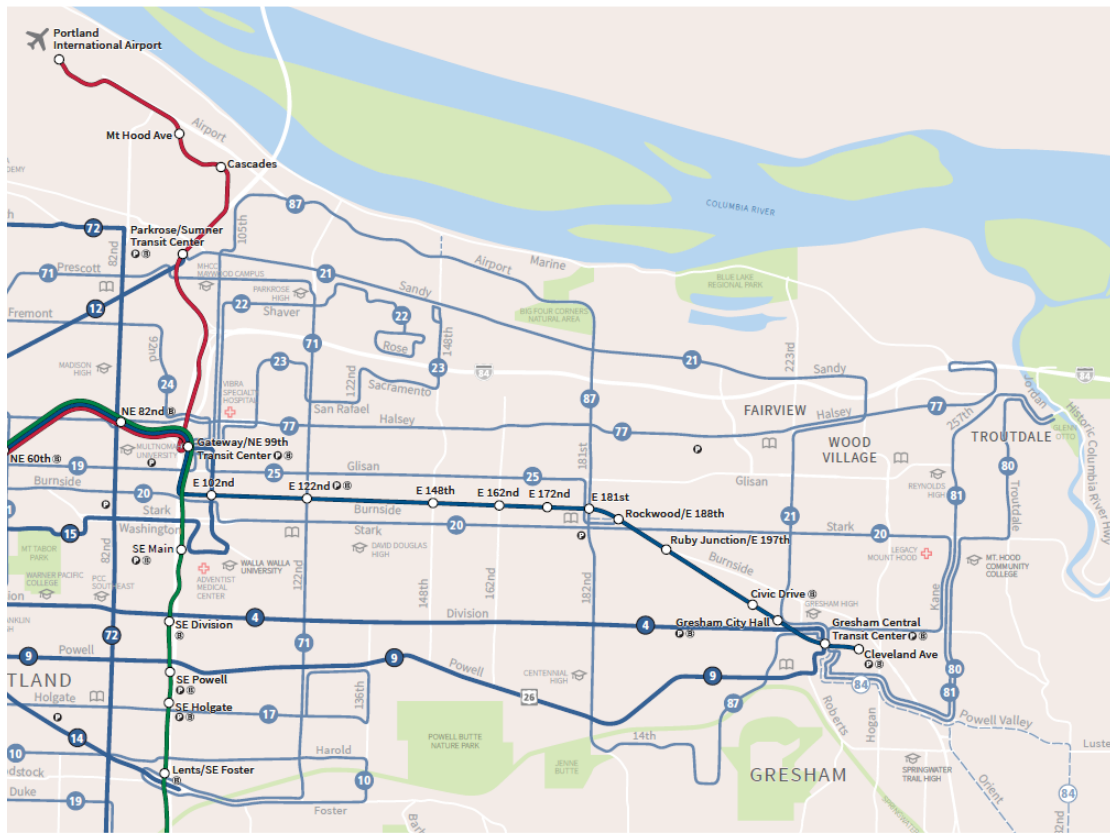
#### **TriMet**

##### **Service Summary**

TriMet provides fixed route service throughout Gresham, Troutdale, Wood Village, and Fairview. Bus lines and MAX (light rail) lines heading into these areas (illustrated for eastern Multnomah

County in the map presented in Figure 3-17) could potentially connect with another service utilizing I-84 or the Historic Columbia River Highway to reach the CRG. TriMet currently connects with C-Tran at several locations throughout the Portland Metro Area (including Portland City Center and Gateway Transit Center), which can be used to reach Skamania County’s bus services to provide service to the Washington side of the CRG. Gateway Transit Center also offers the opportunity to connect with Columbia Area Transit and private transportation providers. TriMet also connects with the Sandy Area Metro bus service at Gresham Transit Center, which can be used to connect with Clackamas County’s Mt. Hood Express bus service. TriMet fares are outlined in Figure 3-18.

**Figure 3-17 TriMet System Map in Eastern Multnomah County**



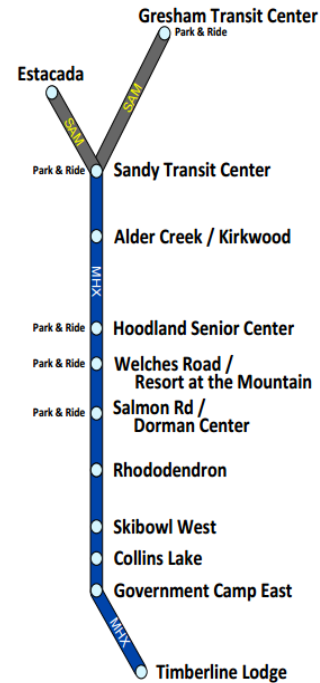
**Figure 3-18 TriMet Fares**

Fare Type	2.5 Hour Pass	All Day Pass
Adult	\$2.50	\$5.00
65+, Medicare, or Disability	\$1.25	\$2.50
7-17 or High School/GED	\$1.25	\$2.50

## Clackamas County (Mt. Hood Express)

### Service Summary

The Mt. Hood Express is a bus transit service administrated by Clackamas County. The Mt. Hood Express runs fixed route service along US-26 between the City of Sandy and Timberline Lodge at Mt. Hood (known as The Mt. Hood Express) and a point-deviated fixed route shuttle service called the ‘Villages Shuttle’ in the communities immediately surrounding Mt. Hood. It has been operating since 2004 and formerly operated as the “Mountain Express” (prior to a 2013 service expansion). Service has expanded geographically and temporally during this period of operation. The service operates daily and year-round (with the exception of Thanksgiving and Christmas Day). Connection to the Sandy Area Metro bus service is available at Sandy Transit Center. The Mt. Hood Express Service is diagrammed in the picture to the right.<sup>11</sup> Fares for the Mt. Hood Express are summarized in Figure 3-19.



**Mt. Hood Express Service**

**Figure 3-19 Mt. Hood Express Fares**

Fare Type	Fare Cost
One-Way	\$2.00
All Day Pass	\$5.00

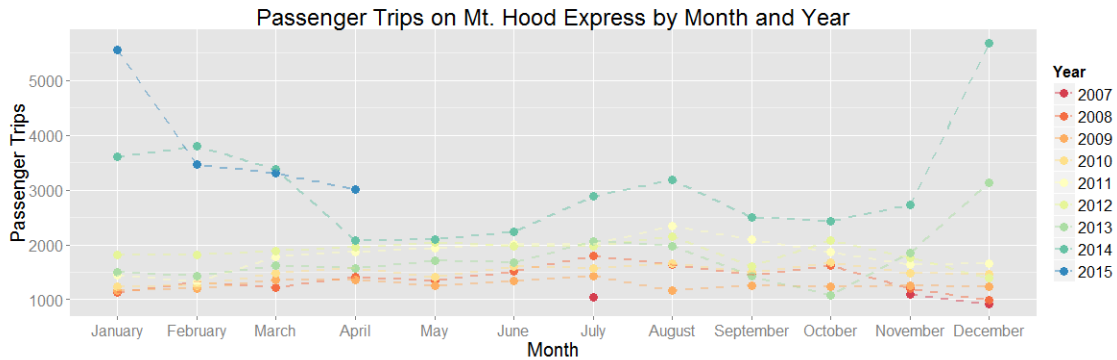
Two recent planning efforts, the Alternative Transit and Transportation Demand Management Study in the Mt Hood area (ATTDMS, USFS, 2012) and the Mt Hood Multimodal Transportation Plan (2014), both identified public transit as an essential component of short and long term transportation planning (Clackamas County, 2014). Clackamas County is currently updating its transit master plan, which could expand service to connect Mt. Hood to Hood River and Warm Springs. A draft service expansion analysis considering these alternatives is reviewed in Chapter 2 of this report.

### Ridership

Monthly ridership data were available from January 2007 through April 2015; these data are illustrated in Figure 3-20. Overall ridership has substantially increased since 2007, with the maximum ridership observed in December 2014 being 5,687 passenger trips. Ridership typically peaks in the winter between December-January and a smaller peak is observed in the summer in August. Winter ridership is associated with recreational snow sport tourism, while summer ridership is associated with hiking and bicycling. In August 2014, bicycle trailers were added to Mt. Hood Express buses.

<sup>11</sup> [http://media.wix.com/ugd/b4f0b4\\_0d0a2c3ddd964591ab9bfd148e3b3808.pdf](http://media.wix.com/ugd/b4f0b4_0d0a2c3ddd964591ab9bfd148e3b3808.pdf)

**Figure 3-20 Monthly Passenger Trips on Mt. Hood Express (2007-2015)**



**Rider Profile**

In September 2013, the Mt. Hood Express conducted a survey of 219 riders to gather information regarding rider profiles and preferences (Clackamas County, 2014). The rider sample surveyed was split into two sub-samples based on trip purpose: commuting (35%) and recreation/social (47%).

Recreation/Social

The majority (59%) of recreation/social users are traveling from the cities of Portland and further to use the service and reach Mt. Hood. 43% of riders are driving to park and ride locations nearby and riding the service to the terminus at Timberline Lodge.

Commute

The Mt. Hood Express is regularly used to reach employment at the resorts and businesses in the Mt. Hood communities. 80% of these commuters have a household income below \$40k annually, and of these, 72% do not have access to a vehicle, resulting in 58% of the commuters using the Mt. Hood Express residing in low-income (<\$40k per year) households without access to a vehicle.

**Performance**

Aggregated performance statistics were presented in Clackamas County’s Mt. Hood Express 2014 Annual Report (Clackamas County, 2014). These measures are presented in Figure 3-21.

**Figure 3-21 Mt. Hood Express Performance Statistics**

Attribute	Quantity
Total Ridership	32,285 boardings
Average Passengers per Vehicle-Hour	4.9
Average Cost per Revenue Hour	\$72.48
Cost per Passenger	\$14.77
Average Cost per Vehicle-Mile	\$2.68
Total Expenses	\$476,390
Farebox Revenue	\$59,798
Fare Box Recovery	12.6%



Source: (Clackamas County, 2014)

## Funding

The Mt. Hood Express Transit Service is funded through a public-private partnership between Clackamas County, Timberline Lodge, Mt. Hood Ski Bowl, and The Resort at the Mountain to provide financial support for the operation of services (LSC Transportation Consultants, 2015a). The area resorts contribute on a voluntary basis, with a total of \$50,000 contributed per year to the Mt. Hood Express. Clackamas County contributes approximately \$27,000 in direct funding and an additional \$39,000 in in-kind services.

The service was re-branded from ‘The Mountain Express’ to the ‘Mt. Hood Express’ in 2013 due to a service expansion (from Rhododendron to Timberline Lodge) made possible by a Federal Lands Access Program (FLAP) grant.

Funding source proportions are outlined in Figure 3-22.

**Figure 3-22 Mt. Hood Express Transit Revenue Sources\* (FY 2015)**

Revenue Source	Proportion
Oregon Department of Transportation 5311	20%
Federal Lands Access Program	37%
ODOT 5310 Preventative	2%
Special Transportation Fund (STF) Formula	5%
Fares	14%
Private Partners and County	15%
County In-Kind Administrative Services (Estimated)	8%

*Note: As the revenue contracts cross over multiple years and sometimes even fall on a different fiscal year (such as FLAP), the annual revenue totals were calculated using best estimates.*

*Source: Mt. Hood Express, 2015.*

## C-TRAN

### Service Summary

The Clark County Public Transit Benefit Area Authority (C-TRAN) is a transit service operating in Clark County, WA, which includes the cities of Battle Ground, Camas, Vancouver, and Washington. C-TRAN provides fixed route bus services throughout these areas in addition to a demand-response van service. C-TRAN’s fares for both services are outlined in Figure 3-23.

**Figure 3-23 C-TRAN Fares**

Fare Type	Fixed Route (regular bus service)			C-VAN (Paratransit)	
	C-Zone	All-Zone	Express To Portland	C-Zone	All-Zone
Adult & Reduced	\$1.80	\$2.50	\$3.85	\$1.80	\$2.50
Honored Citizens (65+, Medicare, disability) & Youth	\$0.90	\$1.25	\$3.85	\$1.80	\$2.50

## City of Sandy (Sandy Area Metro)

### Service Summary

The Sandy Area Metro (SAM) is a fixed-route bus service operated by the City of Sandy. Bus service is provided between Gresham and Sandy and between Sandy and Estacada. Riders can connect to the Mt. Hood Express service (provided by Clackamas County) at the Sandy Transit Center. STAR demand-response service to the general public, with fares waived for ADA-eligible riders. Fares for SAM and STAR are outlined in Figure 3-24.

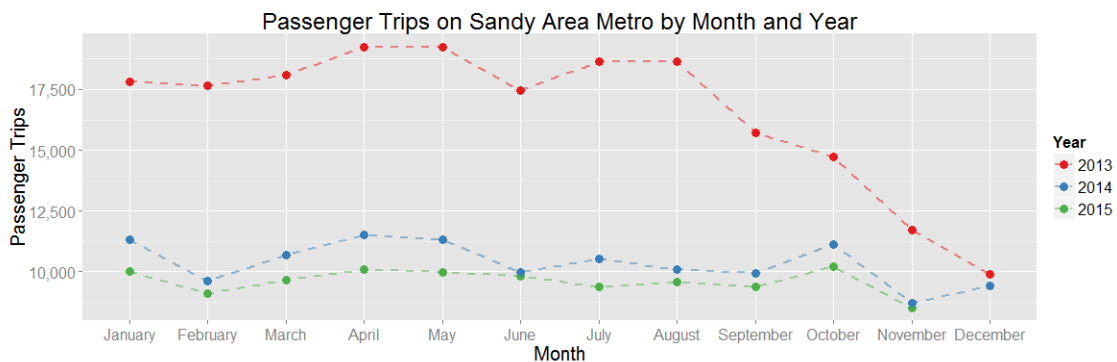
**Figure 3-24 SAM and STAR Fares**

Fare Type	Fare Cost	Fare Comments
SAM Gresham & Estacada	\$1.00	One-Way
Senior (60+) or Person with a Disability	\$1.00	Round-Trip
STAR General Public	\$1.00	One-Way
ED (by eligibility)	\$2.00	One-Way

### Ridership

Ridership data were available from Sandy Area Metro during 2013—2015; these data are illustrated in Figure 3-25. Ridership for the system appears to have dropped considerably since 2013. Fares were introduced in October 2013 along with increases in Saturday service and the introduction of Sunday service. SAM has coordinated with Mt. Hood Express since 2013 to better enable transfers between services.

**Figure 3-25 Sandy Area Metro System Ridership by Month and Year**



### Rider Survey

An on-board rider survey was conducted during September 2014. The largest proportions of passengers using the service (50%) were starting or ending their trips in Sandy, while significant proportions were using the service for Portland (14% origin, 18 % destination) and Gresham (24% origin, 27% destination) based trips. Most riders used transit often (52% every day, 37% once or more per week). The largest proportion of trips was commute trips (43%), and most riders lived in Sandy (57%). Riders generally had low household incomes, with 42% reporting household income under \$10k annually, and 15% reporting household income between \$10k and \$20k annually.

## Ride Connection

### Service Summary

Ride Connection is a non-profit transportation provider that operates several types of transit services (fixed-route, deviated-fixed-route, and demand-response) throughout Washington, Clackamas, and Multnomah Counties with an emphasis on service in the western portion of the Portland metro area. Fares are not charged, but donations are accepted. The only service provided by Ride Connection that could potentially connect with transit services in the CRG area is a demand-response service in Multnomah County for older adults (greater than 60 years of age) and persons with disabilities.

## PRIVATE TRANSPORTATION PROVIDERS

The following is a summary of private transportation providers operating within the study area. The providers reviewed are summarized in Figure 3-26.

**Figure 3-26 Private Transportation Providers Summary**

Transportation Provider	Type of Service
NW Navigator <sup>12</sup>	Charter Bus
Greyhound <sup>13</sup>	Intercity Bus
Amtrak <sup>14</sup>	Intercity Rail
Explore the Gorge <sup>15</sup>	Limo Service
American Empress <sup>16</sup>	River Boat Cruise
Sea to Summit <sup>17</sup>	Shuttle Bus Tour
Grey Line Tours <sup>18</sup>	Shuttle Bus Tour
Martin's Gorge Tours <sup>19</sup>	Shuttle Bus/Van Tour
America's Hub World Tours <sup>20</sup>	Shuttle Bus/Van Tour

<sup>12</sup> <http://www.nwnavigator.com/>

<sup>13</sup> <http://www.gorgetranslink.com/regional-greyhound.html>

<sup>14</sup> <http://www.gorgetranslink.com/regional-amtrak.html>

<sup>15</sup> <http://www.hoodriverlimousines.com/>

<sup>16</sup> <http://www.americanqueensteamboatcompany.com/our-vessels/american-empress/>

<sup>17</sup> <http://www.seatosummit.net/tour/columbia-river-gorge-tours/>

<sup>18</sup> [http://www.grayline.com/tours/portland/multnomah-falls-columbia-river-gorge-tour-5917\\_6/](http://www.grayline.com/tours/portland/multnomah-falls-columbia-river-gorge-tour-5917_6/)

<sup>19</sup> <http://www.martinsgorgetours.com/index.html>

<sup>20</sup> <http://www.americashubworldtours.com/Newsite/products-page/featured-tours/multnomah-falls-shuttle/>

## Intercity Service

The following services operate on intercity routes with service to many major cities across the U.S. and Canada.

### Amtrak

Amtrak operates its Empire Builder intercity (Portland/Seattle to Chicago) rail service with stops in Portland, Vancouver, and Bingen on the Washington side of the CRG parallel to SR-14. One train heads west from Bingen to Portland in the morning (8:04-10:10 AM) and one train heads east from Portland to Bingen (4:45 PM – 6:21 PM) each day. This service is not useful for visitors on a day trip to the CRG but could potentially be used for overnight trips. Fares retrieved in November 2015 are outlined in Figure 3-27. Riders could potentially connect with MATS in Bingen for further service in the CRG.

Figure 3-27 Amtrak Fares in Study Area (November 2015)

Fare Type	One-Way Fare
Vancouver-Bingen	\$11.00
Portland-Bingen	\$13.00

### Greyhound

Greyhound operates an intercity bus service on following I-84 with stops in Portland, Hood River, The Dalles, and points east. There are three trips per day each direction and fares retrieved in November 2015 are outlined in Figure 3-28. Riders using the Greyhound service can potentially connect with MATS and CAT in Hood River for further service in the CRG.

Figure 3-28 Greyhound Fares in Study Area (November 2015)

Fare Type	One-Way Fare
Portland-Hood River	\$21.00
Portland-The Dalles	\$25.00
Hood River-The Dalles	\$12.00

## Shuttle Tour Services

The following services provide shuttle bus/van tours of the CRG area that can be booked individually or in groups of varying sizes. Tours are shared with other patrons.

### Martin's Gorge Tours

Martin's Gorge Tours provides guided shuttle tour service to hiking, waterfall, and winery destinations in the CRG. Service also includes guided walking tours at sites. Prices range from \$49 to \$99 per person depending on the service. Patrons can be picked up from various hotels in the CRG. The tour buses are not wheelchair accessible.

## **Sea to Summit**

Sea to Summit provides multiple CRG tours of natural/hiking destinations (e.g., waterfalls, Vista House, Bonneville Dam) and wineries. CRG tours can be combined with tours of Mt. Hood. Tours are between 4-9 hours and cost between \$75-\$125 per person.

## **America's Hub World Tours Multnomah Falls Shuttle**

America's Hub World Tours offers the 'Multnomah Falls Shuttle' service, which operates six trips per day between Portland and Multnomah Falls Saturday—Monday during the low season (November—April) and Saturday--Wednesday during the high season (May—October). The service stops at four locations. Prices and the number of stops at each location are outlined below

- Northwest Portland Hostel (1 stop per day)
  - \$40 per person
- Oregon Convention Center (6 stops per day)
  - \$40 per person
- Columbia Gorge Premium Outlet (5 stops per day)
  - \$25 per person
- Multnomah Falls (6 stops per day)

The shuttle tours are not guided, but guided tours of Multnomah Falls and several other waterfall locations are available to be booked separately.

## **Gray Line Tours**

### **Existing Tour Service**

Gray Line Tours operates a tour bus service departing from downtown Portland and stopping at five locations in the CRG:

- Crown Point and Vista House
- Latourell Falls, Oneonta Gorge, Horsetails Falls
- Multnomah Falls
- Bonneville Dam
- Dam Fish Hatchery

The tour is narrated by a guide with information on each site visited. The tour operates daily in the middle of the summer; Saturday, Sunday, Tuesday and Thursday in late Spring and early Fall; and Saturday only in late Fall and early Spring. The tour costs \$56 per person.

### **Proposed Tour Service Expansion (2016)**

Gray Line Tours plans to expand their services by offering a shuttle service on Thursdays – Sundays between mid-June and early-September. The shuttle service will circulate along the Historic Columbia River Highway between Troutdale (McMenamin's Edgefield) and Horsetail Falls from 9 AM-3 PM at roughly 1.5-2 hour headways. On either end of the circulation, it will depart from downtown Portland at 8:30 AM and arrive back in downtown Portland at 3:30 PM. The shuttle service is not narrated (as opposed to the tour bus) and is instead a circulator service aimed specifically at patrons wishing "to avoid the parking and traffic hassles that come with a trip to the Gorge trail heads". Proposed prices for the service are outlined in Figure 3-29.

**Figure 3-29 Gray Line Shuttle Service Proposed Pricing**

Ticket Type	Price
From/to Portland – Full Day Pass	\$39.00 per adult, \$20.00 per youth (6-12)
From/to Troutdale – Full Day Pass	\$25.00 per adult, \$13.00 per youth (6-12)
From/to Troutdale – Half Day Pass	\$19.00 per adult, \$10.00 per youth (6-12)

## Other Services

These services are either high-cost tour or charter transportation. They are not likely to be integrated into a transit plan in the CRG, but are relevant to be aware of.

### Explore the Gorge

Hood River Limousines operates an ‘Explore the Gorge’ service, which is chartered individually for group sightseeing trips or other transportation services.

### NW Navigator

NW Navigator is a charter bus service that can be reserved for group transportation in Oregon. Several tour ideas are offered on the website, with several including excursions in the CRG.

### American Empress

American Empress is a riverboat cruise business operating along the Columbia River through the CRG. Tours are nine days and cost approximately \$3,000.

## KEY FINDINGS

Key findings from this review of existing services that provide context for and help inform the planning efforts of new Columbia River Gorge transit service concepts are summarized below:

- Columbia Area Transit currently runs an underutilized transit service between Portland and Hood River. The Mt. Hood Express runs a well-utilized transit service between the City of Sandy and Mt. Hood, and has considered expanding service to Hood River. These two services represent an opportunity for expansion and/or collaboration to provide a transit service in the CRG area.
- Gray Line Tours plans to offer a new tourist-focused shuttle service in the CRG in 2016. It is important to take this service into account when planning for the general public transit and congestion mitigation shuttle service considered in this study; inasmuch as to consider how to best complement and thus avoid duplication. America’s Hub World Tours currently offers a similar circulator shuttle service as well.
- Skamania County runs a relatively new, underutilized transit service from Fisher’s Landing to Stevenson, WA. If there is growing interest in more utilized transit service on the Washington side of the CRG, this service may be important to leverage. Safety issues related to a lack of parking near Dog Mountain necessitated the use of shuttles from Stevenson. Similarly, the lack of parking at key destinations along the Historic Columbia River Highway supports development of a new transit service.

## 4 MARKET ANALYSIS

The existing and potential markets for transit in the Columbia River Gorge area were analyzed using two methods: (1) a series of stakeholder focus groups and (2) an online survey distributed to the general public. The results from each outreach effort are described below and key findings are summarized.

### STAKEHOLDER FOCUS GROUPS

The project team conducted eight focus group meetings on December 8<sup>th</sup> and 9<sup>th</sup>, 2015 with key stakeholders interested in the Columbia River Gorge and the potential for new transit service in the area. The goal of the meetings was to collect information and develop a better understanding of the region’s perspective on the following topics:

- Current transportation challenges and opportunities
- Effectiveness of current transit services
- Potential markets for transit to, from, and within the region
- Components of a successful transit service

A total of 40 stakeholders participated in the focus group meetings. Meeting participants were identified by Oregon Department of Transportation staff or referred by other participants during the invitation process. Not all stakeholders who were invited were able to participate. Participants with similar backgrounds were grouped into the same meeting to focus the discussion. The types of focus groups and organizations interviewed are outlined in Figure 4-1.

**Figure 4-1 Focus Group Outline**

#	Focus Group Name	Organizations Represented
1	Public Transit Providers	TriMet
		Clackamas County Mt. Hood Express
		Ride Connection, Inc.
		Hood River County Transportation District (Columbia Area Transit)
		Skamania County Public Transportation
2	Recreation / Tourism	Port of Cascade Locks
		Travel Portland
		Trail Keepers of Oregon
		U.S. Forest Service
		Travel Portland
3	Local Government / Elected Officials	City of Troutdale

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#	Focus Group Name	Organizations Represented
		City of Cascade Locks
		Regional Solutions, Governor's Office
		City of Hood River
		City of The Dalles
		Senator Merkley's Office
4	Regional Planning	Mid-Columbia Economic Development District
		FHWA, Western Federal Lands Division
		USFS, Columbia River Gorge National Scenic Area
5	Tourism	West Columbia Gorge Chamber of Commerce
		USACE, Bonneville Dam
		Friends of the Historic Columbia River Highway
		Multnomah Falls Lodge
		Oregon State Parks
		Mid-Columbia Bus Company
6	Local Government / Elected Officials	Hood River County
		City Manager of Mosier
		City of Hood River
		Senator Wyden's Office
7	Private Transit Providers	Gray Line Tours
		Greyhound
		Martin's Gorge Tours
8	East Gorge Congestion	Northeast Multnomah County Community Association
		Historic Columbia River Highway Advisory Committee
		Friends of the Gorge / Towns to Trails
		Historic Columbia River Highway Advisory Committee
		Multnomah County Sheriff

## Key Findings

Key findings from the stakeholder focus group sessions are documented below; a complete account of the focus groups can be found in Appendix B.

### Gorge Transportation Issues

Stakeholder focus groups identified issues that are partially motivating the development of transit service and/or are important to be cognizant of in the development of transit service.



### **Congestion and Capacity**

- The Columbia River Gorge is an increasingly popular destination with growing traffic congestion
- Recreation facilities are over capacity for visitors, which is threatening to damage the facilities and natural resources and negatively impact the visitor experience
- Multnomah Falls gets the most attention and advertising in the Gorge, which may contribute to congestion; people may not be aware of other recreation opportunities available
- Viaducts are choke points on Historic Columbia River Highway
- The busy season used to be limited to the summer months, but the season has recently expanded to February – October, due in part to unusually warm and dry weather in 2015. Before recent growth in popularity, busy season in the Gorge was considered to be Memorial Day – Labor Day
- Parking facilities in popular areas are over capacity and people are parking illegally along the Historic Columbia River Highway and State Route 14, which exacerbates congestion
- Capacity at recreation facilities has historically been controlled by limiting parking spaces; if transit increases the number of people visiting a site, stakeholders expressed a concern that the resource could be damaged further; other capacity controls may need to be implemented
- ODOT’s variable message sign at Troutdale notifies people when the Multnomah Falls parking lot is full
- It is difficult to manage parking in the Gorge because parking rules are different depending on which agency manages the land; people may avoid parking in areas where there is a parking fee
- Traffic is worse eastbound than westbound – people tend to use the Historic Columbia River Highway to reach the waterfalls then take I-84 back to Portland
- There is a lack of parking and growing congestion in downtown Hood River

### **Access**

- Transit services get requests to cross the Hood River Bridge because there is no pedestrian traffic allowed on the bridge
- It is difficult to manage access to recreational destinations in the Gorge because important transportation corridors run through it (e.g., I-84)

### **Safety and Enforcement**

- There is not enough enforcement of parking and traffic violations on the Historic Columbia River Highway
- Sheriffs used to tow illegally parked vehicles, but that caused more problems as people were stranded in the Gorge
- Cars are broken into in parking lots
- Illegal parking along the Historic Highway creates a safety hazard due to limited pedestrian infrastructure
- Parking tickets does not seem to discourage illegal parking

## **Gorge Transit Challenges**

Stakeholder focus groups identified key challenges that will need to be addressed during the development of Gorge transit service alternatives.

### **Desired Services**

- Locals using transit for the commute or to access services have different destination preferences than recreationist/tourist markets – locals likely would not want to spend time stopping at recreation locations
- Transit schedules need to be appropriate for the destination – people do not want to feel stuck
- Stops need to be accommodating to people without cars who are waiting for a bus – restrooms, lights, shelters, benches
- Transit should have the ability to carry recreation gear like bicycles
- Park and ride locations are needed

### **Funding**

- There is limited availability of funding for both short term and long term transit solutions
- Cost per rider is high in rural areas due to lower population density and higher number of miles driven

### **Awareness and Information Distribution**

- People do not know what transit services are available
- Resources need to be put into marketing transit service so people know how to use it
- Capitalize on existing communications channels such as Travel Oregon, Travel Portland, MCEDD, and Friends of the Gorge

### **Barriers to Transit**

- It is difficult to increase ridership if people do not have to pay for parking at their destination
- People do not have a compelling reason to give up individual flexibility that comes with driving their own car
- Jurisdictional boundaries of transit systems could pose a challenge
- People in rural areas may not want to transfer service lines to reach their destinations
- People with disabilities have trouble planning trips with transit – they need to know every barrier they may face from starting point to destination

### **Transit Logistics**

- The Gorge has small roads, steep hills, and sometimes icy conditions
- Large buses cannot access some tourist sites like Vista House or could add to congestion on Historic Columbia River Highway
- Bonneville Dam area may be a challenging place to find a bus stop and turnaround point
- Need to identify potential park and ride locations for riders from Portland metro area and inter-city stops in the Gorge

- Services that depend on cellular data do not function well in the Gorge due to lack of data coverage

## **Opportunities**

Stakeholders identified opportunities for transit service alternative development and implementation.

## **Funding**

- New transportation funding is available through Federal Lands Access Program
- Tourism organizations, recreation groups, and local businesses may be willing to contribute to congestion solution

## **Awareness and Information Distribution**

- Find a venue for real-time information that will help people plan their trips – tell people which parking areas are full, which areas are busy, and recommend where they should go and how they should get there
- Gorge TransLink compiles information on transit service in the Gorge and could be a venue for future Gorge transit information
- Positive messaging can be used to provide travel information when people are planning their trips while simultaneously reminding people to be a good steward when they recreate
- The Gorge should be marketed as a single region – do not divide it into two states
- Park and rides could also have a “Trail Concierge” to help guide people to less busy areas of the Gorge

## **Desired Outcomes**

- Use transit as a tool to spread out congestion and avoid heavy use of single areas
- Avoid damaging Gorge facilities and natural resources by relieving capacity issues
- Increase mobility and access of low income populations
- Limit private cars on Historic Columbia River Highway at particular times

## **Service Requests and Destinations**

- The region could be served by an express transit service that travels along I-84 and stops at hub points, where smaller shuttles with more frequency could deliver people to sites along Historic Columbia River Highway. Hubs could be designed as a place where people can wait comfortably for less frequent service.
- There may be an opportunity for the private sector to fill the transit gap on the Historic Columbia River Highway that could connect to Gorge transit on I-84.
- People want to get from Portland International Airport to the Gorge without a car.
- People want to get dropped off at trailheads, do a multi-day hike through the Gorge, and get a ride back.
- People want to cycle through the Gorge and take a one-way transit trip back.
- People want better connection throughout the Gorge on both sides of the Columbia River.

- Troutdale is at the hub of several trail systems between the Portland metro region and the Gorge.
- Historic Columbia River Highway Advisory Committee is trying to get people to start their Gorge trips from urban centers through Gorge Hubs program, primarily serving cyclists; proposed hubs: The Dalles, Mosier, Hood River, Cascade Locks, Troutdale, Wood Village
- Towns to Trails is developing a network of European style trails connecting urban areas in the Gorge. Most waterfalls are already connected, working on connections between Washougal – Stevenson and Hood River – The Dalles
- Park and ride locations should also have good access to other transit so people do not have to drive
- There is seasonal employment on Mt. Hood in the winter – Mt. Hood Meadows operates a shuttle from Hood River for employees; people in Hood River want a shuttle to Mt. Hood Meadows for recreation

**Potential Starting Points (Regional transit connectivity and park and ride)**

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>▪ Gateway Transit Center</li><li>▪ Gresham Transit Center</li><li>▪ Halsey-Weidler Corridor locations</li><li>▪ McMenasins Edgefield</li><li>▪ Troutdale Airport</li><li>▪ Columbia Gorge Outlet Mall</li><li>▪ Troutdale</li><li>▪ Rooster Rock State Park</li><li>▪ Gorge urban centers</li><li>▪ Dodson/Ainsworth</li><li>▪ Benson State Recreation Area</li><li>▪ Potential Destinations (Stops)<br/>Historic Columbia River Highway<br/>State Trail</li><li>▪ Portland Women’s Forum</li><li>▪ Vista House</li><li>▪ Latourell Falls</li><li>▪ Bridal Veil Falls</li><li>▪ Angel’s Rest</li><li>▪ Rowena Crest Trailhead</li></ul> | <ul style="list-style-type: none"><li>▪ Multnomah Falls</li><li>▪ Ainsworth State Park</li><li>▪ John B. Yeon Trailhead</li><li>▪ Larch Mountain</li><li>▪ Bonneville Dam and Fish Hatchery</li><li>▪ Eagle Creek</li><li>▪ Cascade Locks – Pacific Crest Trail connection</li><li>▪ Hood River</li><li>▪ Mt. Hood Meadows</li><li>▪ Starvation Creek</li><li>▪ The Dalles</li><li>▪ One-way trips: John Yeon to Cascade Locks, Starvation Creek to Viento State Park, Hood River to Mosier</li><li>▪ Connection to Fruit Loop</li><li>▪ Line between Hood River and The Dalles</li></ul> |
|---|---|

**Potential Rider Markets to Serve**

- Senior citizens
- Persons with disabilities
- Low income populations
- Commuters traveling to urban centers

- Millennials who do not want to use cars
- Hikers trying to reach trailheads
- Cyclists
- Recreationists
- Tourists who do not want to drive
- Families

## **PUBLIC SURVEY**

As part of this study effort, an online survey was conducted during January 2016 to understand the market for transit in the Columbia River Gorge. 1,732 total responses were received between January 11<sup>th</sup> and January 31<sup>st</sup>, 2016. Responses to all questions are summarized and analyzed below; key market findings from the analysis are then presented. Question and answer text for the survey is documented in Appendix C.

### **Respondents Description**

The following results describe the types of people that took the survey. The survey was non-scientific<sup>21</sup> and so the group of respondents that took the survey was partially a result of the outreach methods used and self-selection bias<sup>22</sup>. This could affect the interpretation of the results, and so it is first important to describe the respondents that took the survey.

### **Survey Distribution**

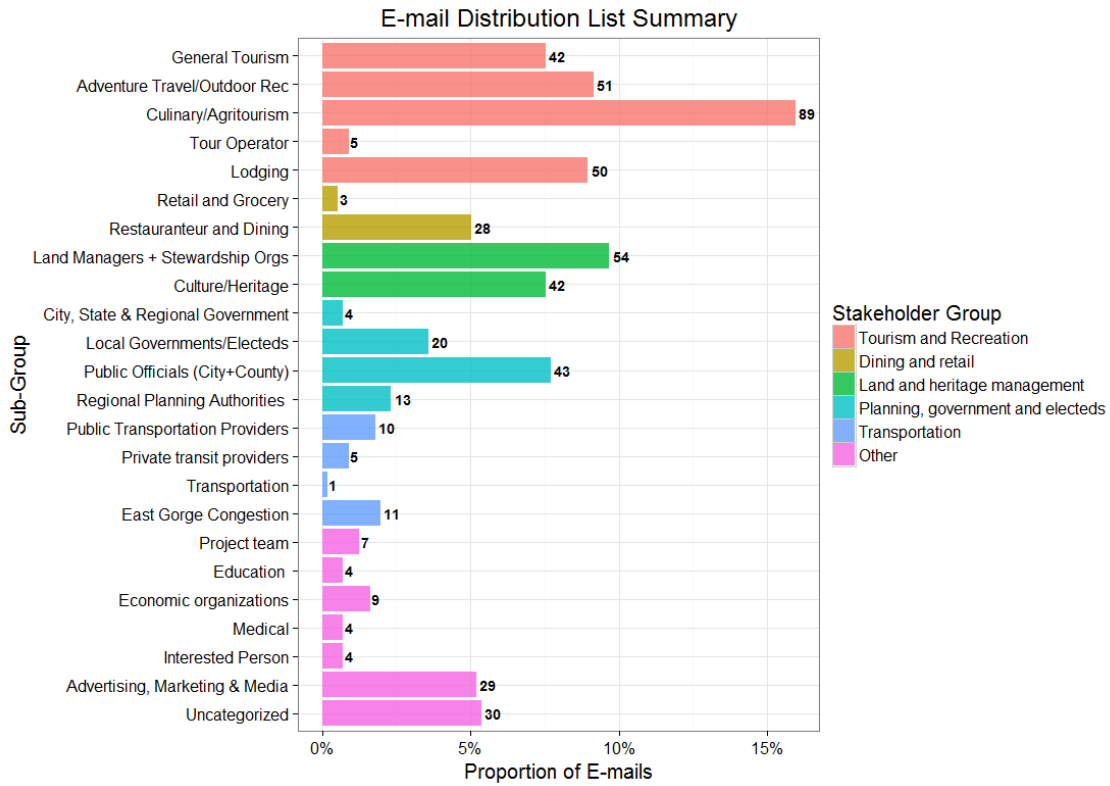
The survey was distributed by ODOT to the general public using e-mail lists, a news release, social media, and physical mailers. The numbers of different e-mails (i.e. contacts) that were in each stakeholder group distribution list utilized are illustrated in Figure 4-2. Tourism and recreation comprise the largest group of e-mails the survey was distributed to.

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<sup>21</sup> The sample of respondents was a convenience sample (obtained using ODOT's outreach channels) and not wholly representative of the population of Gorge visitors and residents.

<sup>22</sup> Those that took the survey were likely more interested in the Columbia River Gorge and/or transit and so results may be biased towards the interests of that group.

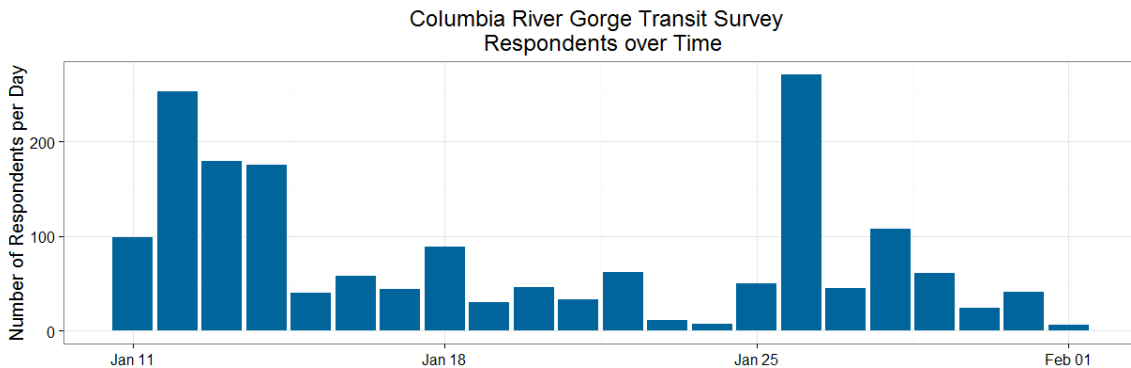
**Figure 4-2 E-mail Distribution List Breakdown by Stakeholder Group**



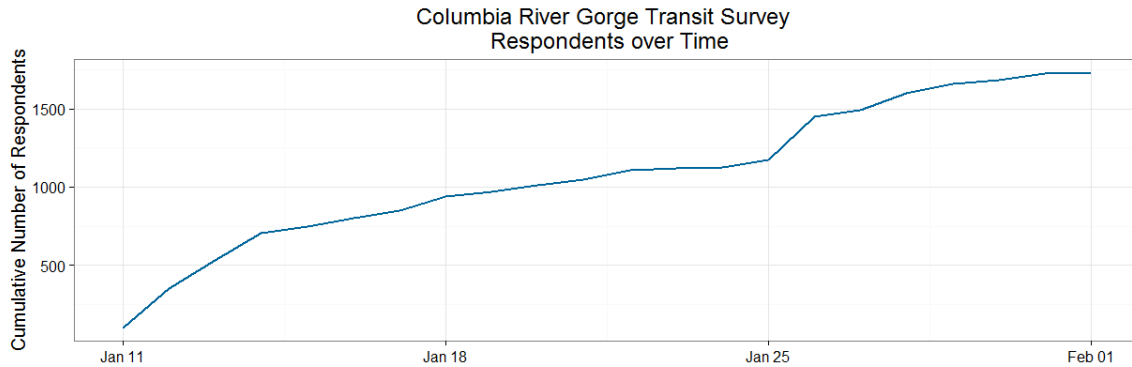
**Responses over Time**

Figure 4-3 and Figure 4-4 illustrate the number of responses received over the survey period. Survey responses were received in two significant spikes: (1) the days around January 12<sup>th</sup> when the survey was initially distributed and (2) the days around January 26<sup>th</sup> when ODOT implemented additional outreach efforts.

**Figure 4-3 Responses per Day over Survey Period**



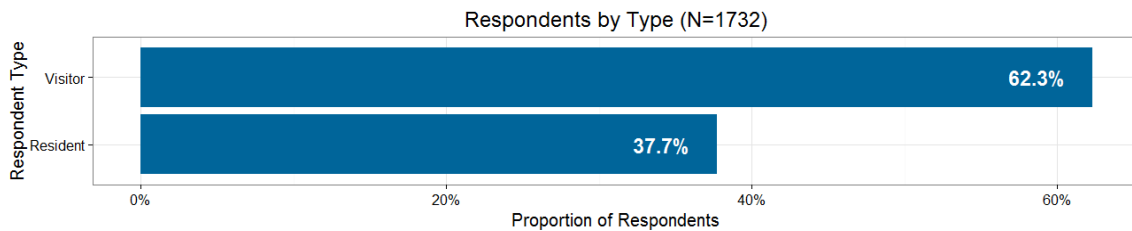
**Figure 4-4 Response Pool Growth over Survey Period**



**Respondent Types**

Survey respondents were asked if they primarily identified as a visitor or a resident of the Columbia River Gorge. The distribution of respondent types is illustrated in Figure 4-5. Visitors (tourists, recreationalists) comprised a larger portion of the respondent pool at 62%.

**Figure 4-5 Types of Survey Respondents**

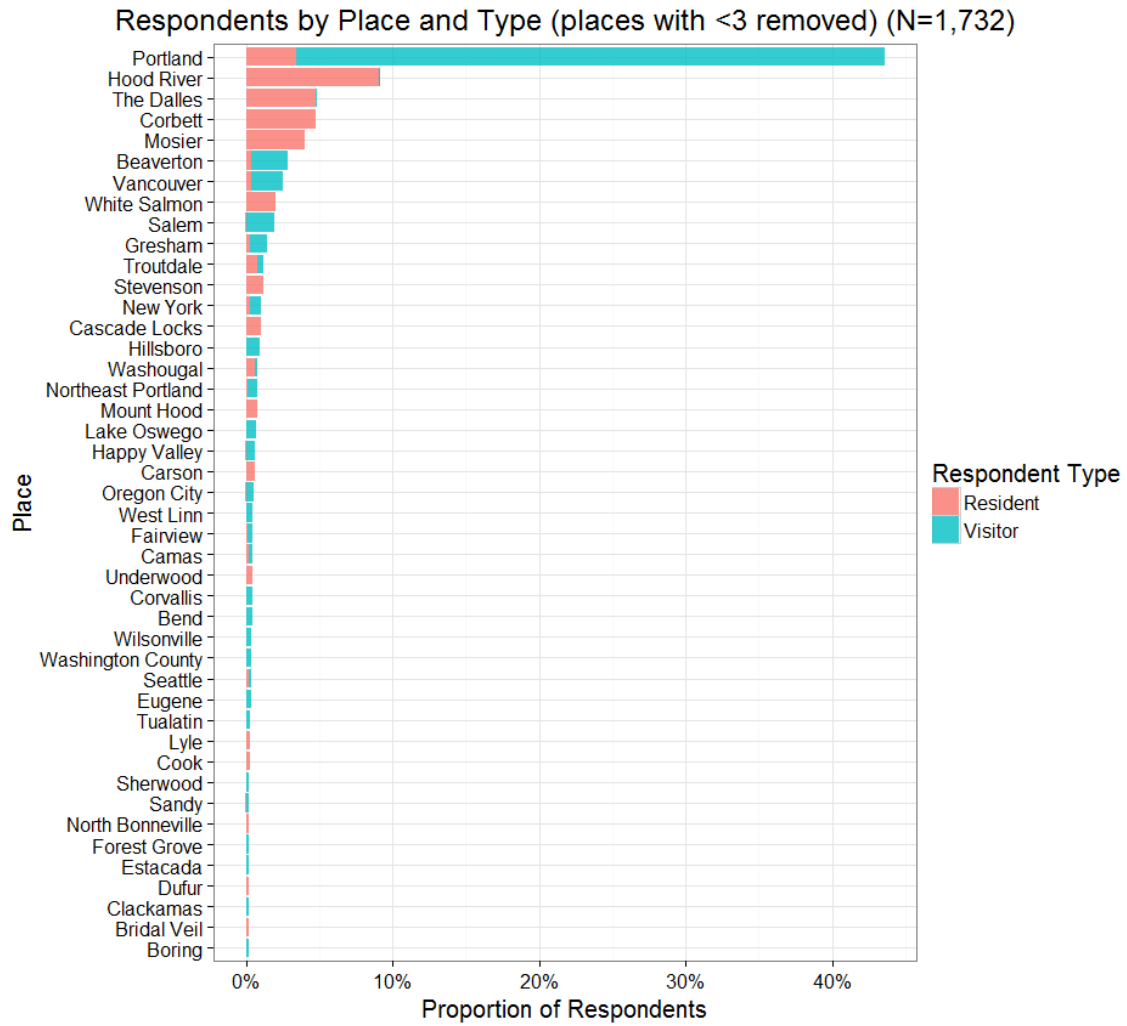


**Respondents by Geography**

Respondents were asked which ZIP code they currently reside in, which could be used to identify approximate geographic locations of respondents. The distribution of respondents by place (as geocoded using the Google geocoding API) is presented in Figure 4-5; respondent types are also identified within each place. Over 40% of respondents resided in Portland. Twenty-five percent of respondents resided within the Gorge communities of Hood River, Corbett, Mosier, The Dalles, or White Salmon. The remainder of respondents generally resided in other Oregon and Washington communities, with a small proportion of respondents living in other states or countries.

Some respondents either did not understand the resident/visitor question or answered incorrectly, as illustrated by the proportion of Portland, Beaverton, and Gresham residents who indicated they were residents of the Columbia River Gorge.

**Figure 4-6 Respondent Distribution by Place and Type**



The distribution of respondents by place is illustrated geographically by maps in Figure 4-7 and Figure 4-8. Respondents were concentrated in the Portland metropolitan area and the Columbia River Gorge area communities.



Figure 4-7 Geographic Respondent Distribution

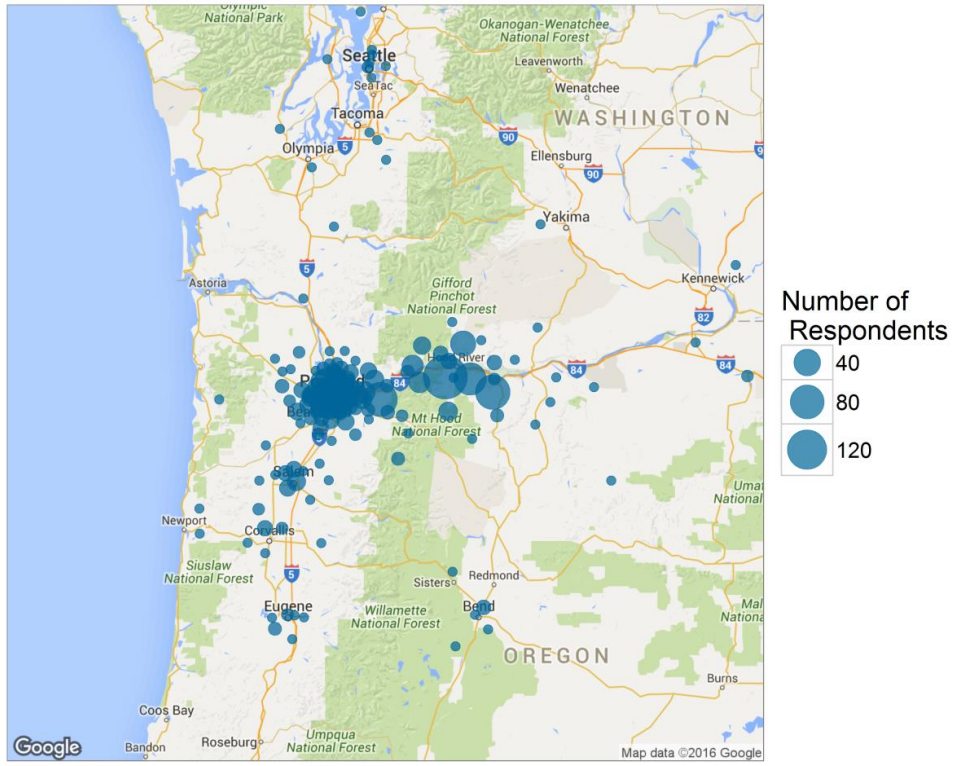
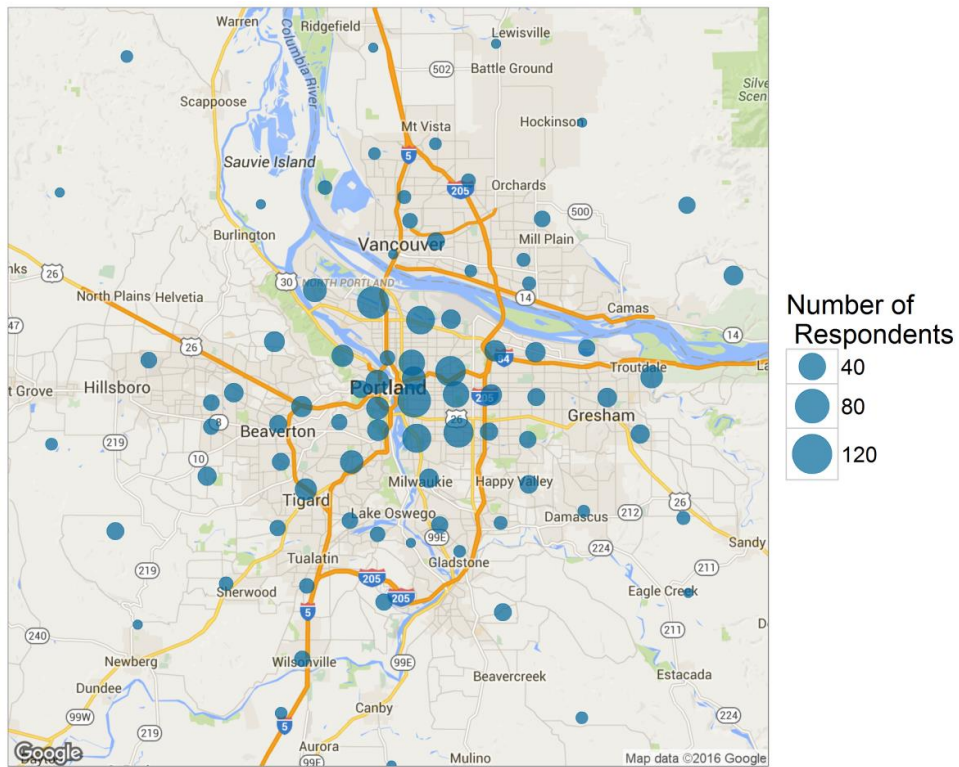


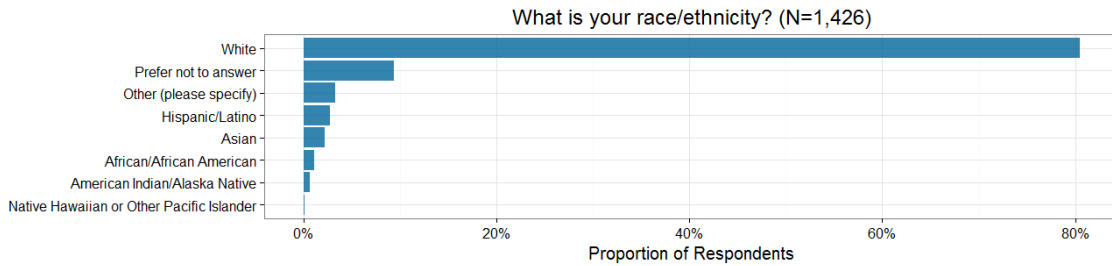
Figure 4-8 Geographic Respondent Distribution (Portland Area)



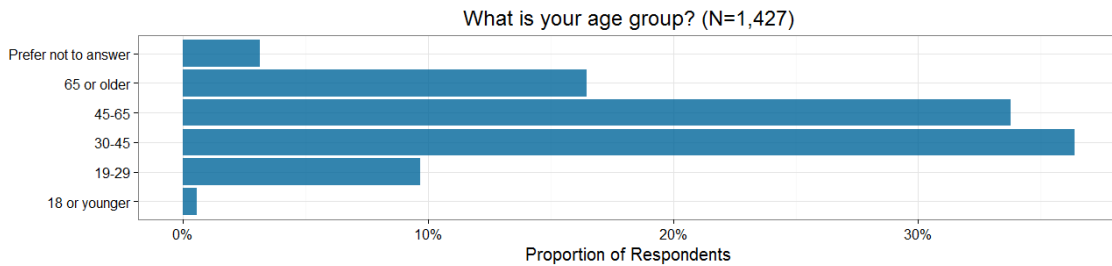
## Respondent Demographics

Respondents were asked a series of demographics questions in order to understand the types of people taking the survey. Respondents were primarily white and concentrated in the 30-65 year age range. They also generally belonged to higher-income households and the majority were not disabled.

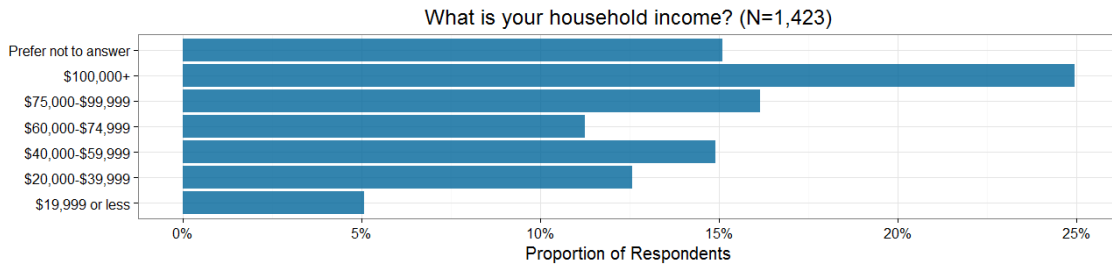
**Figure 4-9 Respondent Ethnicity**



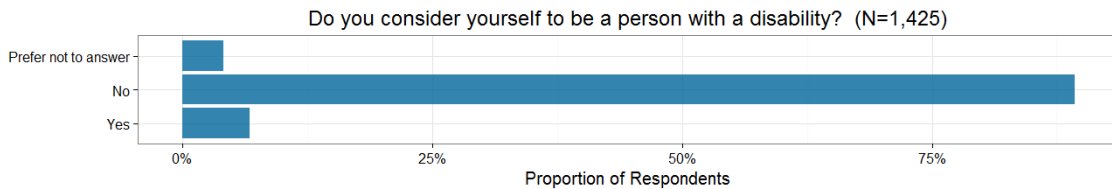
**Figure 4-10 Respondent Age**



**Figure 4-11 Respondent Income**



**Figure 4-12 Respondent Disability Status**



## Visitors

### Trip Preferences

Visitors were asked to describe their typical trips to the Gorge through a series of questions.

Figure 4-13 shows the distribution of visit duration among respondents who visit a particular location. The majority of visitors to Multnomah Falls stay at least one hour, which was surprising given the anecdotal knowledge that most Multnomah Falls visits are short – this may be a result of the respondent pool.

**Figure 4-13 Visitor Destinations and Length of Visit**

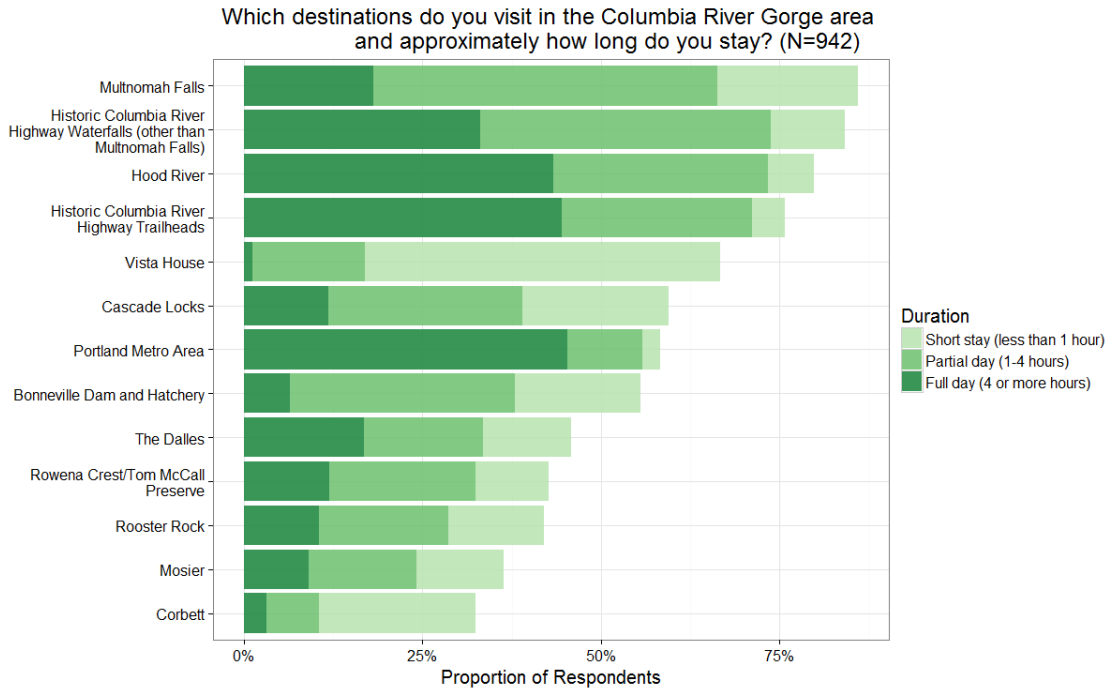
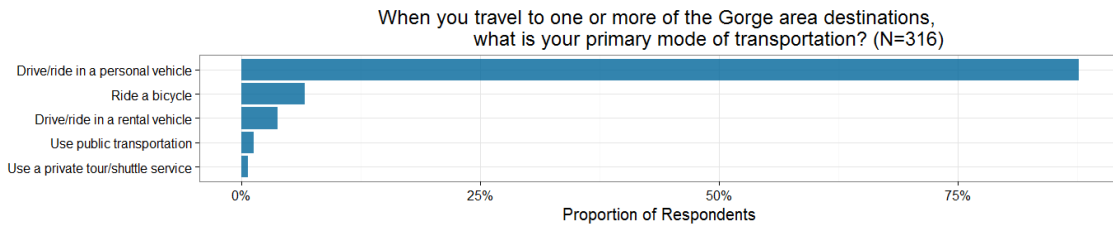


Figure 4-14 shows the mode of transportation that respondents identifying as visitors generally use to visit the Gorge. Eighty-eight percent of respondents typically drove in a personal vehicle. Seven percent of respondents indicated they rode a bicycle, which is likely inflated due to bias in the respondent pool (Portland’s commute bicycle mode share is ~7%<sup>23</sup> for comparison), but nonetheless illustrates the desire for bicycle access in the Gorge.

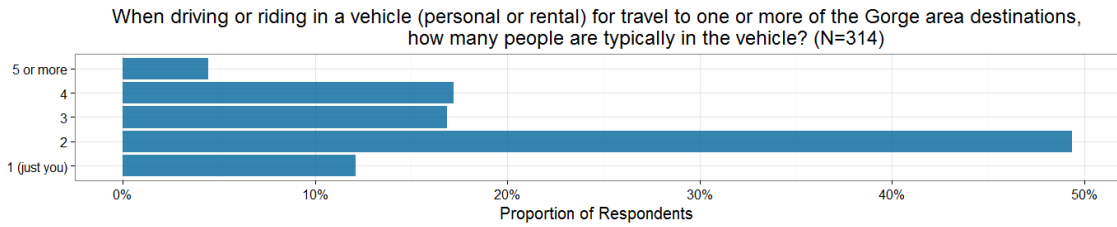
**Figure 4-14 Mode of Transportation (Visitors)**



Nearly half of respondents travel in groups of two, as illustrated in Figure 4-15. Only 12% of respondents travel alone, with the remainder traveling in groups of three or more.

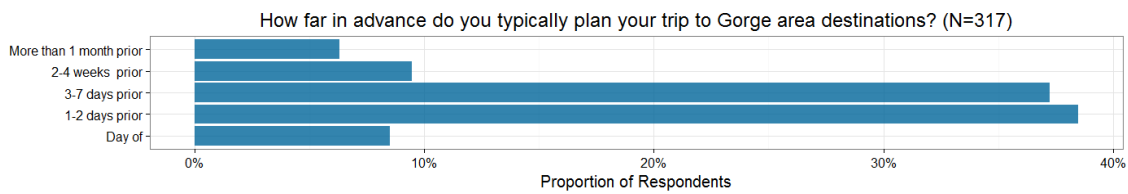
<sup>23</sup> 2014 American Community Survey 1-Year Estimate

**Figure 4-15 Group Size (Visitors)**



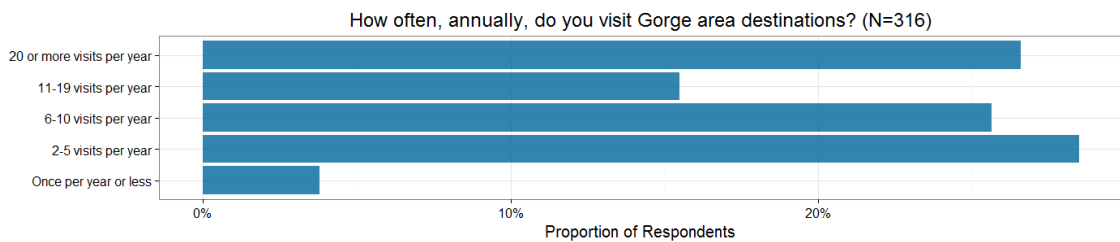
The majority of Gorge visits (84%) are planned seven days or less in advance as illustrated in Figure 4-16. This result shows that many Gorge visits (within the respondent pool) are relatively casual or spontaneous occurrences, rather than trips planned weeks or months in advance.

**Figure 4-16 Visit Lead Time (Visitors)**



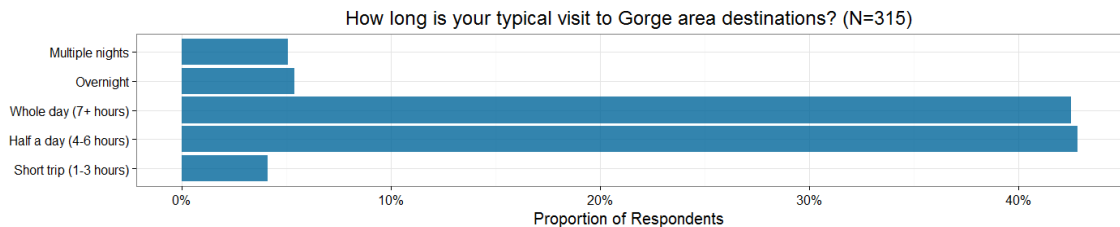
Many of the respondents visited the Gorge frequently as illustrated in Figure 4-17; approximately one quarter each fell into the 2-5, 6-10, or 20 or more visits per year categories. With such a high average number of visits per year, there is a greater potential for some of those auto trips to be replaced by transit.

**Figure 4-17 Visit Frequency (Visitors)**



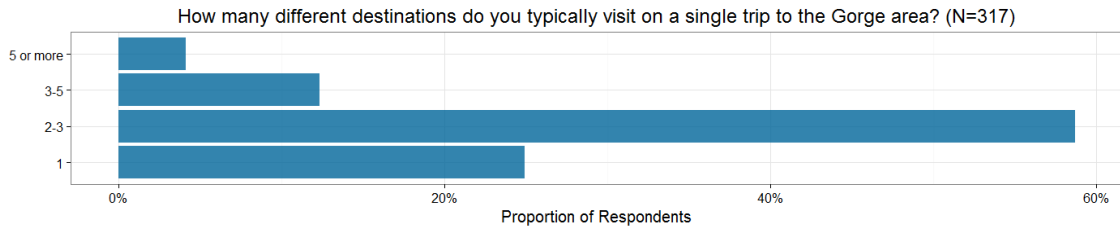
Most respondents spent at least four hours on a trip to Gorge area destinations, as illustrated in Figure 4-18.

**Figure 4-18 Visit Duration (Visitors)**



More than three quarters of respondents visit multiple destinations on a trip to the Gorge, as illustrated in Figure 4-19. This indicates that trip chaining is a prevalent behavior among Gorge visitors in the respondent pool.

Figure 4-19 Number of Destinations per Visit (Visitors)



## Congestion Issues

Respondents were asked to describe the location and nature of congestion related issues they experienced while traveling in the Gorge. A word frequency analysis (illustrated using a word cloud in Figure 4-20) reflects congestion issues related to traffic congestion and parking availability, especially near Multnomah Falls (and other waterfalls) and trailheads.

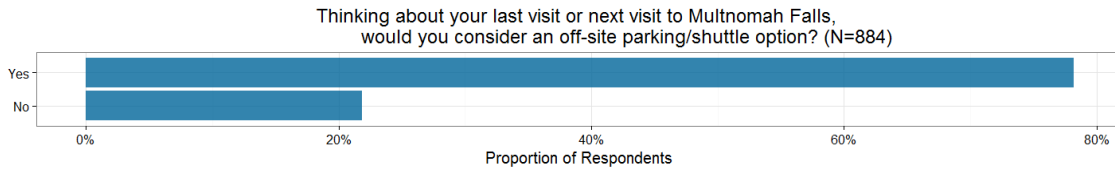
Figure 4-20 Congestion Issues Word Cloud (Visitors)<sup>24</sup>



Directly after asking about congestion issues, survey participants were asked if they would consider using parking shuttle to reach Multnomah Falls; approximately 80% of respondents indicated they would (Figure 4-21).

<sup>24</sup> Size and color of words are scaled to word frequency. Larger words with darker colors indicate higher frequency words in the survey responses.

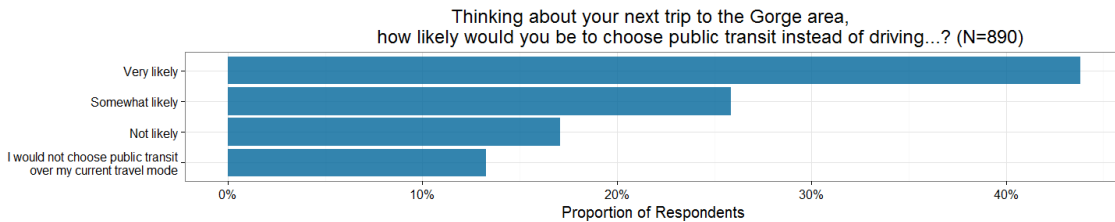
**Figure 4-21 Parking Shuttle Willingness (Visitors)**



**Transit Service**

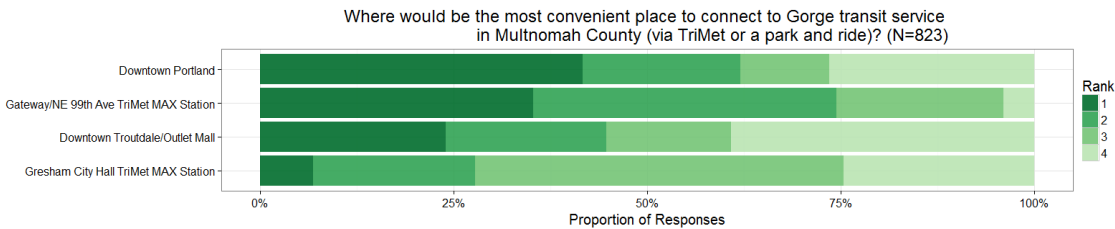
Respondents were asked how likely they would be to use public transit; approximately 70% of respondents (Figure 4-22) were very or somewhat likely to use public transit instead of driving if it were available.

**Figure 4-22 Public Transit Willingness (Visitors)**



Respondents ranked potential locations for accessing Gorge transit service based on convenience; the results are illustrated in Figure 4-23. Respondents gave Downtown Portland the most ‘1’ convenience rankings, but (as presented in Figure 4-24), Gateway Transit Center was the highest potential connection location ranked on average.

**Figure 4-23 Stop Convenience Ranking (Visitors)**



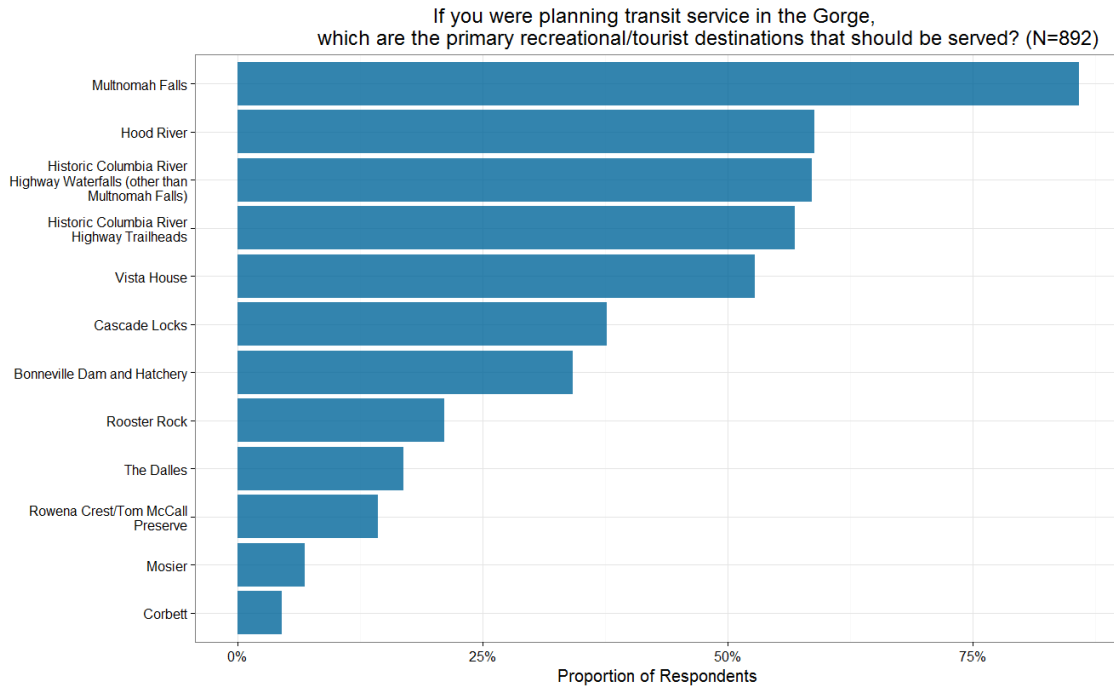
**Figure 4-24 Stop Convenience Ranking – Average Scores (Visitors)**

Location	Average Score <sup>25</sup>
Gateway/NE 99th Ave TriMet MAX Station	3.06
Downtown Portland	2.77
Downtown Troutdale/Outlet Mall	2.30
Gresham City Hall TriMet MAX Station	2.10

<sup>25</sup> Rank 1 = 4 Points, Rank 2 = 3 Points, Rank 3 = 2 Points, Rank 4 = 1 Point

Respondents also selected the primary destinations that they would like to see served by transit, as illustrated in Figure 4-25. Multnomah Falls, Hood River, and the Historic Columbia River Highway waterfalls and trailheads were the top four destinations.

**Figure 4-25 Destination Preferences (Visitors)**

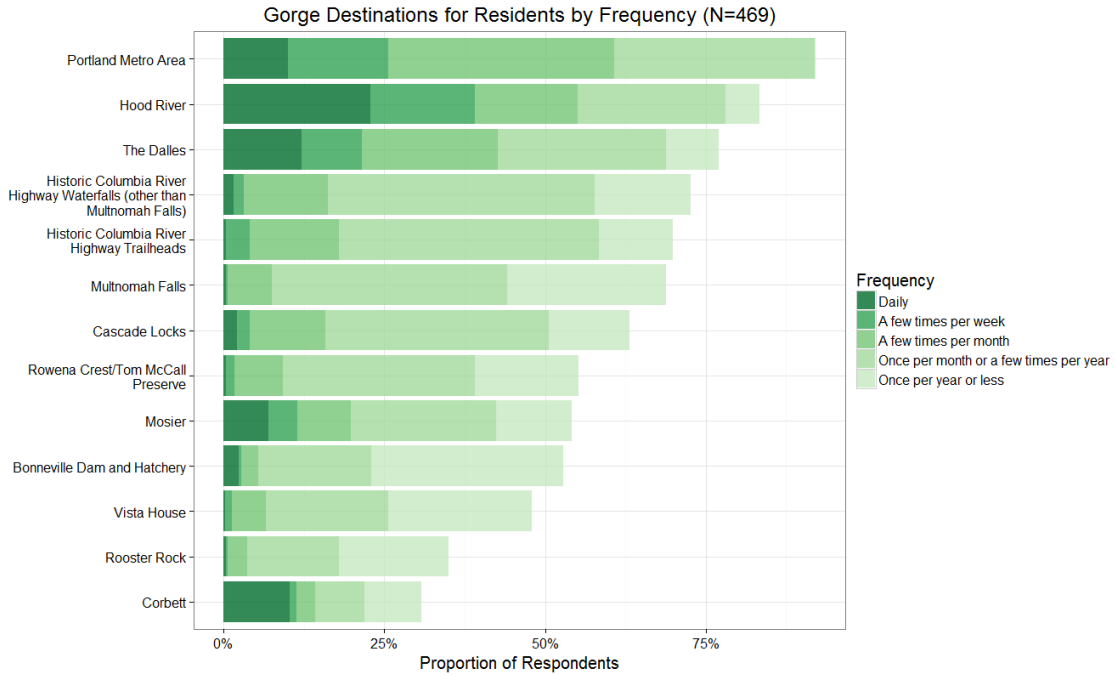


## Local Residents

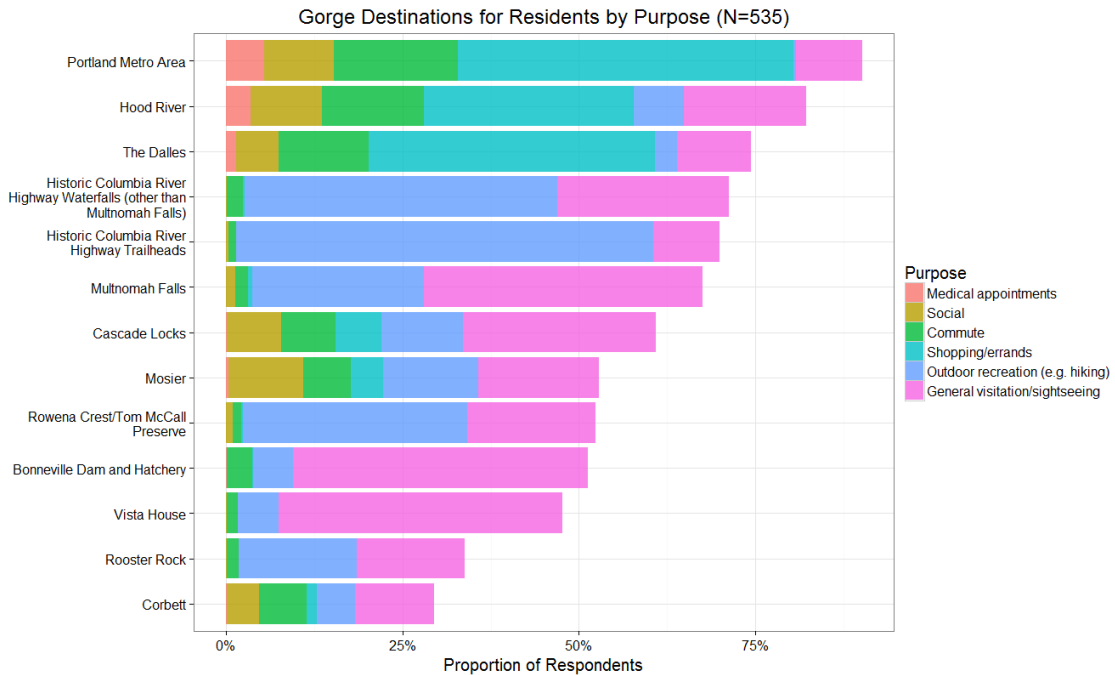
Residents of Gorge area communities were asked a series of questions in order to understand how improved transit mobility might be useful to them as well as visitors.

Residents were first asked to select their regular or occasional destinations within the Gorge area and then indicate their visit frequency and typical trip purpose. As illustrated in Figure 4-26, residents' top three destinations were the Portland Metro Area, Hood River, and The Dalles. Historic Columbia River Highway trailheads and waterfalls were also cited as destinations by residents at higher proportions than other Gorge area communities, though reported visitation frequencies were significantly lower for these destinations. Figure 4-27 presents trip purpose when traveling to those destinations.

**Figure 4-26 Gorge Destinations by Duration (Residents)**



**Figure 4-27 Gorge Destinations by Purpose (Residents)**

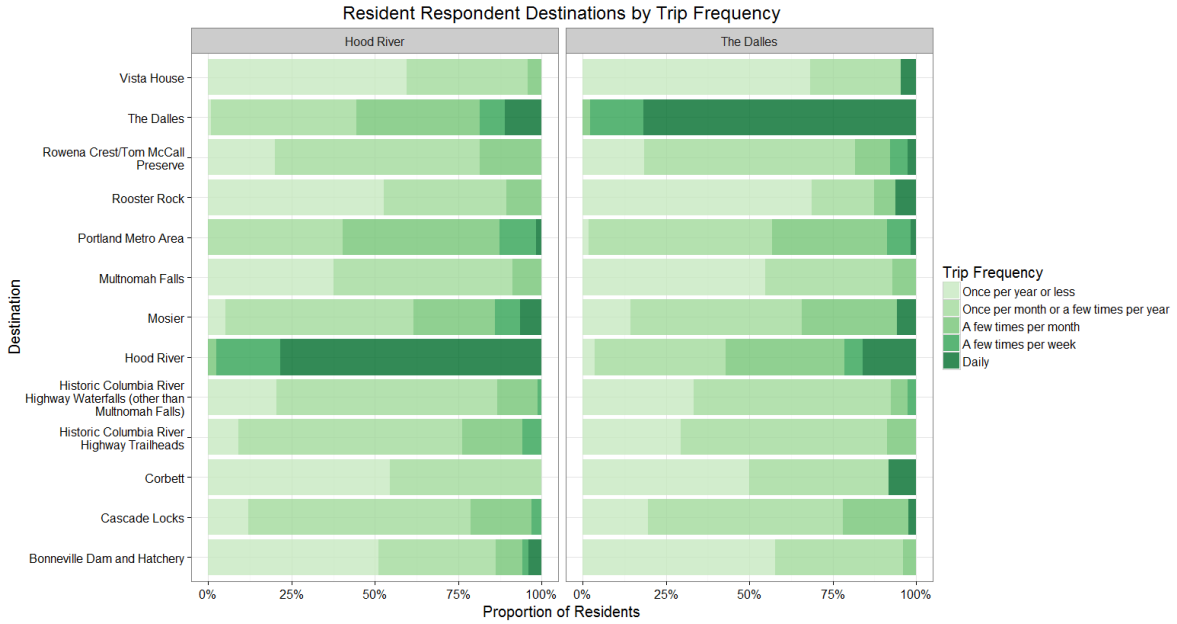


To clarify the preferences of residents of the two largest Gorge area communities (Hood River and The Dalles), plots of destination trip frequencies and purposes by city of residence are presented in Figure 4-28 and Figure 4-29. Residents of either community make most of their trips within their communities, with some infrequent trips to the other community (e.g., Hood River residents traveling to The Dalles), the Portland area, or other destinations. The Dalles, Hood River, and



Portland are primarily destinations for shopping/errand trips (for residents of Hood River or The Dalles).

**Figure 4-28 Resident Destinations by Trip Frequency (for Hood River and The Dalles Residents)**

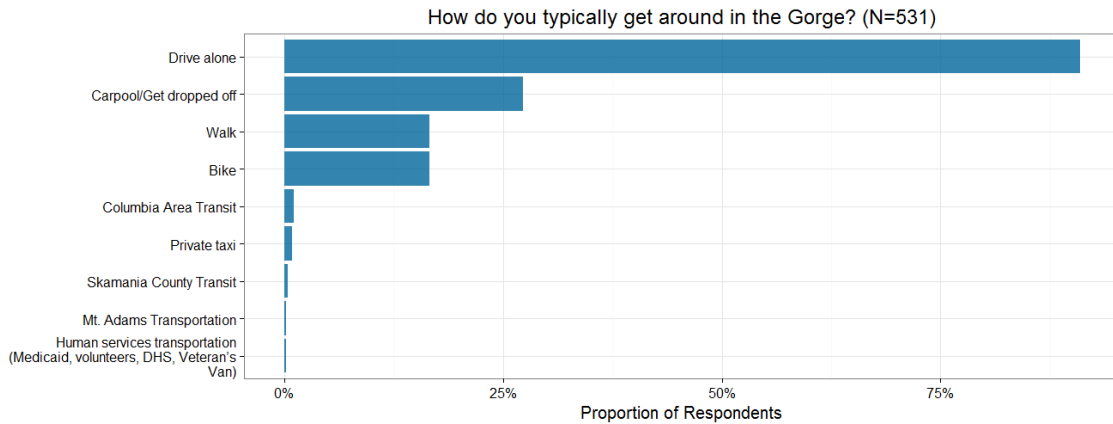


**Figure 4-29 Resident Destinations by Trip Purpose (for Hood River and The Dalles Residents)**

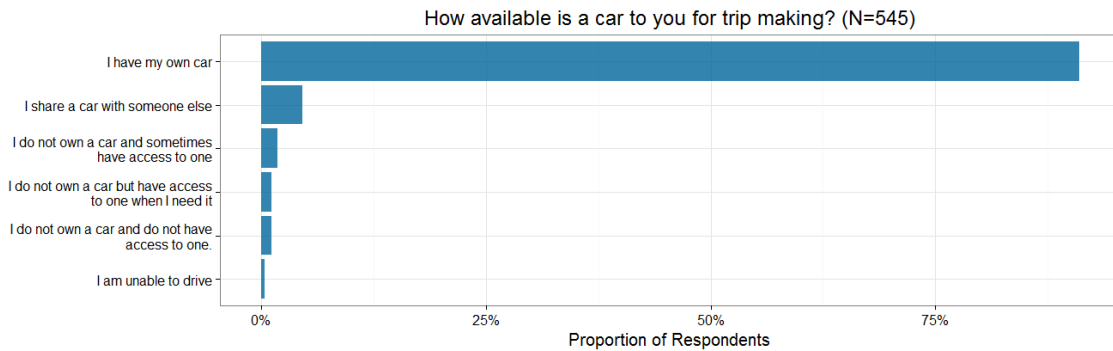


Residents indicated their travel preferences, auto availability, and transit awareness in Figure 4-30, Figure 4-31, and Figure 4-32, respectively. Most residents drove alone, though a considerable proportion of residents indicated they typically traveled by carpooling, walking, or bicycling. Most residents (over 85%) had their own vehicle. Over 50% of residents were aware of transit in the Gorge, but did not use it, and over 40% of residents were not aware of transit service in the Gorge.

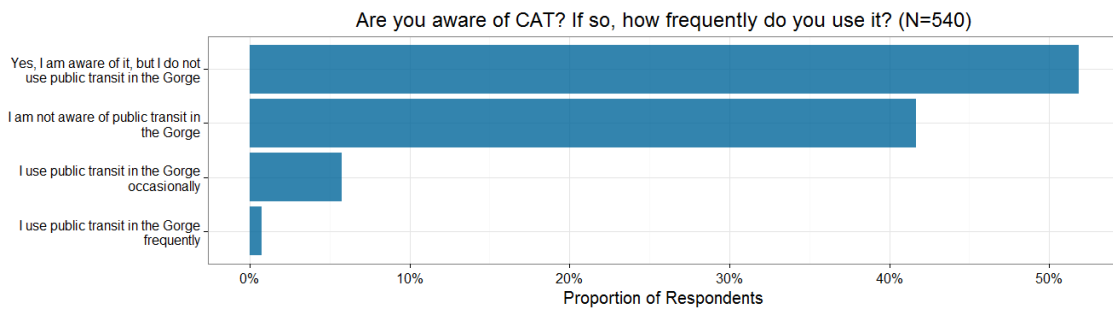
**Figure 4-30 Mode of Transport (Residents)**



**Figure 4-31 Car Availability (Residents)**

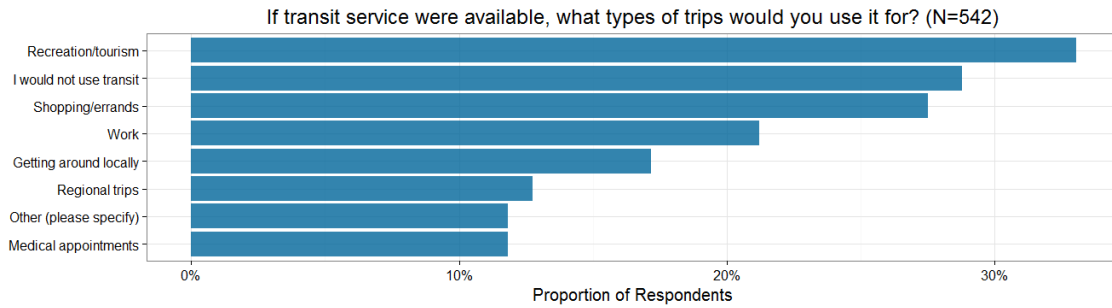


**Figure 4-32 CAT Awareness (Residents)**

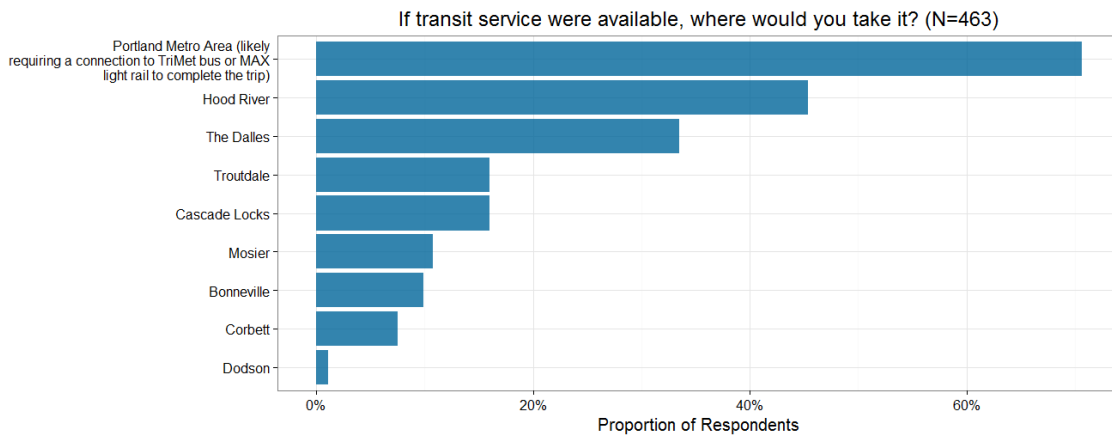


Residents indicated why and where they would take transit; these results are illustrated in Figure 4-33 and Figure 4-34. One-third of residents said they would use transit for recreational trips, and over a quarter of residents said they would use transit for shopping/errand trips. Less than 30% indicated they would not use transit, which means over 70% of residents would consider using transit for some trip type. The Portland area was the most desired destination for transit (even with connections to other transit services to complete the trip), with Hood River and The Dalles being the second and third most popular, respectively.

**Figure 4-33 Transit Trip Purposes (Residents)**



**Figure 4-34 Transit Destinations (Residents)**



## Key Findings

### All Respondents

- Respondents were generally concentrated in the Portland metropolitan area and the Columbia River Gorge communities, suggesting the survey reached the geographically targeted audience.
- The demographics of respondents were generally not those of typical transit-dependent populations, suggesting that the respondent pool is primarily made up of discretionary riders. Transit service will likely need to be relatively high performing to be utilized by these types of riders.

### Visitors

- Traffic congestion and parking availability issues are most acute at Multnomah Falls (and other waterfalls) and trailheads. This aligns with the general consensus around congestion issues in the Gorge area.
- Between 70 and 80% of respondents indicated they would consider using a parking shuttle or public transit to reach Gorge area destinations. This lends support to the viability of recreational transit service.
- The majority of visitors travel in groups of two. Small groups may be the target audience for transit service, as large groups would likely making driving more convenient.

- Visitors generally take trips to multiple destinations over a total duration of several hours or more. Transit service would need to support this desire to be viable.

## **Residents**

- The vast majority of resident responses make daily trips only within their own community. This indicates, at least among respondents, that intercity commuting is not the norm among Gorge residents.
- Approximately 70% of resident responses indicated a willingness to use transit for various trip making activities. Over 90% were either aware of and don't use or not aware of public transit in the Gorge. These results imply there is unmet demand for transit among residents.
- The result that residents would take transit to the Portland Metro Area was not surprising. The surprising part was that the question clearly stated that the service would likely require a transfer to TriMet MAX LRT, indicating a willingness to make quality connections to the regional system

## 5 GORGE TRANSIT CONCEPT DEVELOPMENT

This chapter describes the concept development process utilized to develop, evaluate, and select preferred alternatives for two service timelines:

- **Pilot service (Summer 2016 and 2017).** This service is envisioned to address immediate transportation demand management and access needs at Multnomah Falls. The Pilot service operations will inform refinement of the Near-Term service concepts developed for this study.
- **Near-Term service (to begin service in 2018).** This service is envisioned to connect Portland with population centers and recreational destinations throughout the Gorge in order to more comprehensively address transportation needs throughout the Gorge area.

Initial service concepts for the Pilot and Near-Term Gorge transit services were developed using several sources of input:

- Document/plan review (see Chapter 2)
- Existing conditions review (see Chapter 3)
- Stakeholder focus groups (see Chapter 4)
- General public survey and market analysis (see Chapter 4)

Using this input, potential markets, stops, routes, and transfer opportunities were identified. After the initial service concepts were developed, they were evaluated with the assistance of existing transit operators in the Gorge area and other key stakeholders in a service planning workshop held in March, 2016 (see Appendix D). Initial concept development processes for the Pilot and Near-Term services are detailed below.

### INITIAL SERVICE CONCEPT DEVELOPMENT

It was important to first define the service boundaries and range of possibilities for the Near-Term and Pilot services. This included defining the markets to be served, route alignment options, potential stops, route termini, and connectivity to other transit in the area.

#### Markets

Based on the market analysis findings (presented in Chapter 4), the following market segments were envisioned as possible transit users:

- **Multnomah Falls Visitors.** Travelers primarily visiting Multnomah Falls and staying for a relatively short period of time (approximately an hour or less). These riders would prioritize speed and flexibility, and would need high frequency service (~15 minute) with

quick trips between Multnomah Falls and a satellite parking facility or the Portland metropolitan area.

- **Multnomah Falls Recreationalists.** Travelers visiting the falls and spending additional time (greater than an hour) to hike the local trails. These riders would prioritize reliable service with connections to recreation sites. Moderate service frequencies with quality connections to recreational sites could serve this type of rider.
- **Gorge Visitors (extended stay).** Travelers visiting tourism-based attractions in the Gorge and spending time there before returning or moving on to additional attractions. These riders would prioritize reliable service with connections to recreation and general visitation/sightseeing sites. Moderate to low service frequencies (~30-60 minute) with quality connections to a wide range of recreational sites (e.g., Multnomah Falls) and general visitation areas (e.g., Hood River) could serve this type of visitor.
- **Gorge Recreationalist.** Travelers visiting recreation-based destinations and spending a moderate to long time hiking on trails, along the river, etc. These riders would prioritize service reliability and quality connections to recreational sites, and could be served with moderate to low service frequency (~30-60 minute).
- **Gorge Resident Intercity Travelers.** Gorge community residents traveling outside of their home community to destinations including shopping, business, socialization, healthcare, etc. These riders would prioritize regional connections, and could be served with reliable but low frequency (~60 minute or greater) service.

The limited scope of the Pilot service necessitated the narrowed focus on Multnomah Falls-based markets. The proposed markets to be served by each service are illustrated in Figure 5-1.

**Figure 5-1 Gorge Transit Markets Envisioned to be Served by Pilot and Near-Term Services**

Market	Served by Pilot Service	Served by Near-Term Service
Multnomah Falls Visitors	✓	✓
Multnomah Falls Recreationalists	✓	✓
Gorge Visitors (extended stay)		✓
Gorge Recreationalist		✓
Gorge Resident Intercity Travelers		✓

## Routing

There are two primary alignment possibilities for serving Gorge-area destinations: 1) Interstate 84 and 2) the Historic Columbia River Highway (HCRH). After initial consideration, it was determined that the service would operate on I-84 due to several limitations of the HCRH:

- The HCRH alignment is significantly less direct than I-84, which would increase transit cycle times, which in turn would increase operating costs to provide the same frequency as on I-84.
- The HCRH alignment is not continuous throughout the Gorge, and would require deviations onto I-84 to reach Hood River.
- The HCRH is narrow and steep at several points along the alignment, which could restrict the safe and swift movement of a shuttle bus.

- The HCRH is frequently congested during high-traffic periods of the summer, which would further detract from service reliability and increase travel times.

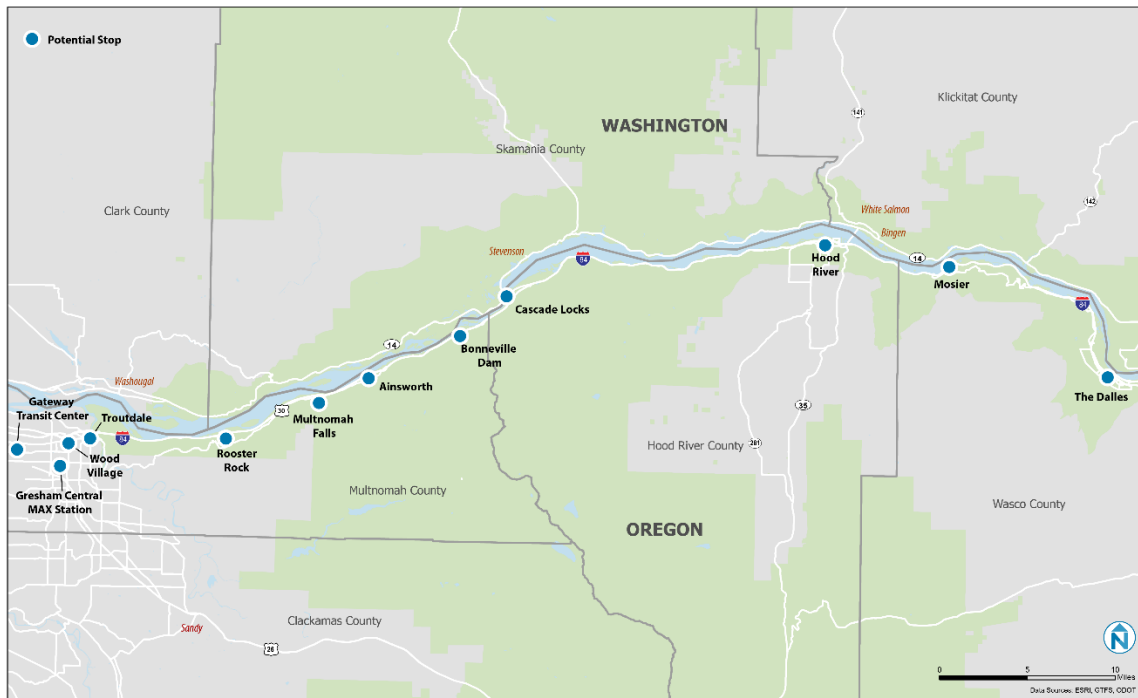
## Stops and Termini

After considering potential markets, routing, and study area extents, a complete list of all potential stops and termini were evaluated for both the Pilot and the Near-Term service.

### Potential Stops

The following potential stops (looking east to west) were considered and proposed for feedback to both the general public and stakeholders (see Chapter 4). A map showing the stops (inclusive of termini) that were considered during the initial service concept development process is presented as Figure 5-2.

Figure 5-2 Potential Stops Considered for Gorge Transit Service



- **The Dalles.** Location in the City of The Dalles serving tourist-based activities, providing access to downtown, and allowing for connections with Columbia Area Transit. The potential stop location should allow for easy ingress/egress to I-84.
- **Mosier.** Location providing visitor and traveler access to Mosier. The potential stop location should allow for easy ingress/egress to I-84.
- **Hood River.** Location in the City of Hood River serving tourist-based activities, providing access to downtown, and allowing for connections with Columbia Area Transit. A specific location has not been specified as of yet, but should allow for easy ingress/egress to I-84.
- **Cascade Locks.** Location providing visitor and traveler access to Cascade Locks. A specific location has not been specified as of yet, but should allow for easy ingress/egress

to I-84. Riders can connect with Skamania County Transit and additional recreational opportunities by crossing the Bridge of the Gods into Stevenson, WA.

- **Bonneville Dam.** Location providing access to Dam, Hatchery Visitor Center, and recreational destinations (e.g., Wachlella Falls) without delaying transit travel time to a great degree.
- **Ainsworth State Park.** Potential parking facility to intercept Gorge travelers on I-84 or the Historic Highway. A parking facility can be developed at the current construction staging area at the I-84 Exit 35 interchange. The facility/stop location is currently ODOT owned right-of-way.
- **Multnomah Falls.** Primary destination for Pilot service. Location near tunnel to Historic Columbia River Highway from main parking lot off of I-84.
- **Rooster Rock.** Location in State Park parking area; managed by Oregon Parks and Recreation Department (OPRD). The site has approximately 1,200 parking spaces, but it can fill up on summer weekends when large events are held there. The park has day-use fees but these would be waived for shuttle passengers. With the lot encompassing a long stretch of the riverfront, a dedicated parking area would be needed for legibility and efficient shuttle bus circulation.
- **Troutdale.** Near the Columbia Gorge Outlets mall. The bus stop serves Line 77 from Northwest and Northeast Portland.
- **Wood Village.** Near TriMet's Stop at 2100 Halsey near McMenamins Edgefield. The bus stop serves Line 77 from Northwest and Northeast Portland.
- **Gresham Central MAX Station.** The station is near NE Division St. and NE Hood Ave. near downtown Gresham. The station serves the MAX Blue Line, eight TriMet bus routes and Sandy Area Metro. The nearby Gresham Parking Garage has parking for 540 vehicles.
- **Gateway Transit Center.** The station is near the I-84 and I-205 interchange and serves the MAX Blue, Red and Green lines along with seven TriMet bus routes and CAT. The station has parking for 300 vehicles but this capacity can be constrained on weekdays.

## Termini Selection

After reviewing the range of potential stop locations, western and eastern termini were chosen for the Pilot and Near-Term concepts from among the potential stops.

### Western

The following western termini were considered for both services:

- Gateway Transit Center
- Wood Village
- Gresham Central MAX Station
- Troutdale



- Rooster Rock or Ainsworth<sup>26</sup> (in the case where the Pilot service was only able to function as a park-and-ride shuttle).

After considering stakeholder and general public feedback, it was decided that Gateway Transit Center would serve as the western terminus for both the Pilot and the Near-Term services. This decision was made for several reasons:

- Gateway Transit Center was rated as the most convenient connection location in the Portland area by the respondents in the general public survey (see Figure 4-24).
- Gateway Transit Center has the most opportunities for connection to other transit systems including TriMet (three MAX lines and seven bus lines), C-TRAN, and private shuttle providers.
- Gateway Transit Center's proximity to Portland International Airport (PDX) and downtown Portland makes it a much more likely and visible location for connection to the Gorge service by visitors from outside the area.
- Gateway Transit Center has 695 parking spaces in its park-and-ride lot. These fill up quickly during weekdays, but there is plenty of capacity on weekends.
- Gresham Central MAX Station would connect riders with the MAX Blue Line, several TriMet lines, and Sandy Area Metro bus service, but the location is much less central and convenient. It offers fewer transit connections, and may make it difficult to encourage out-of-town visitors to utilize the Gorge transit service because of its distance from downtown Portland and PDX.
- Troutdale and Wood Village proposed stops are likely not useful for transit user market (especially carless transit users) – they would only be useful as park and ride locations.

### **Eastern**

The only eastern terminus considered for the Pilot service was Multnomah Falls, since it is the primary destination.

The following eastern termini were considered for the Near-Term service:

- Hood River
- The Dalles

After considering the two eastern termini for the Near-Term service with Gorge area transit operators and key stakeholders, Hood River was selected as the preferred eastern terminus. This decision was made for several reasons:

- Hood River was the second most important destination (after Multnomah Falls) for potential riders as indicated by the general public survey – see Figure 4-25.
- Serving The Dalles (and Mosier along the way) would increase the cost of the service by over 60% with little benefit – respondents to the general public survey ranked The Dalles and Mosier among their lowest priority Gorge destinations.
- CAT currently operates a route between Hood River and The Dalles (three times per day, Monday through Friday). This service can complement any Near-Term service alternative terminating in Hood River.

In summary, the following termini were selected for each service:

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<sup>26</sup> Ainsworth is actually several miles east of Multnomah Falls, but was practically considered among the 'western' (effectively origin) termini

- **Pilot Service**
  - Western: Gateway Transit Center
  - Eastern: Multnomah Falls
- **Near-Term Service**
  - Western: Gateway Transit Center
  - Eastern: Hood River

## Stop Selection

The potential stops were narrowed down to preferred stops for further consideration using the results of the market analysis (see Chapter 4) and feedback from key stakeholders during a service planning workshop (see Appendix D). Figure 5-3 illustrates which stops for each service were considered during the second stage of service concept development.

**Figure 5-3 Stops Advanced for Further Consideration**

Stop	Pilot Service	Near-Term Service
The Dalles		
Mosier		
Hood River		✓
Cascade Locks		✓
Bonneville Dam		✓
Ainsworth State Park	✓	✓
Multnomah Falls	✓	✓
Rooster Rock	✓	✓
Troutdale		✓
Wood Village		
Gresham Central MAX Station		
Gateway Transit Center	✓	✓

### Pilot Service

Based on the Pilot service termini selection and limited scope of service, most stops were eliminated from consideration, leaving four remaining. Both satellite parking facility stop options (Ainsworth State Park and Rooster Rock) remained under consideration following the initial screen.

### Near-Term Service

Four stops were removed from the Near-Term consideration set primarily due to termini selection:

- The Dalles was removed during the eastern terminus selection phase of concept development, and by extension Mosier was also removed from consideration.

- Wood Village and Gresham Central MAX Station were removed during western terminus selection.

## PILOT SERVICE REFINEMENT

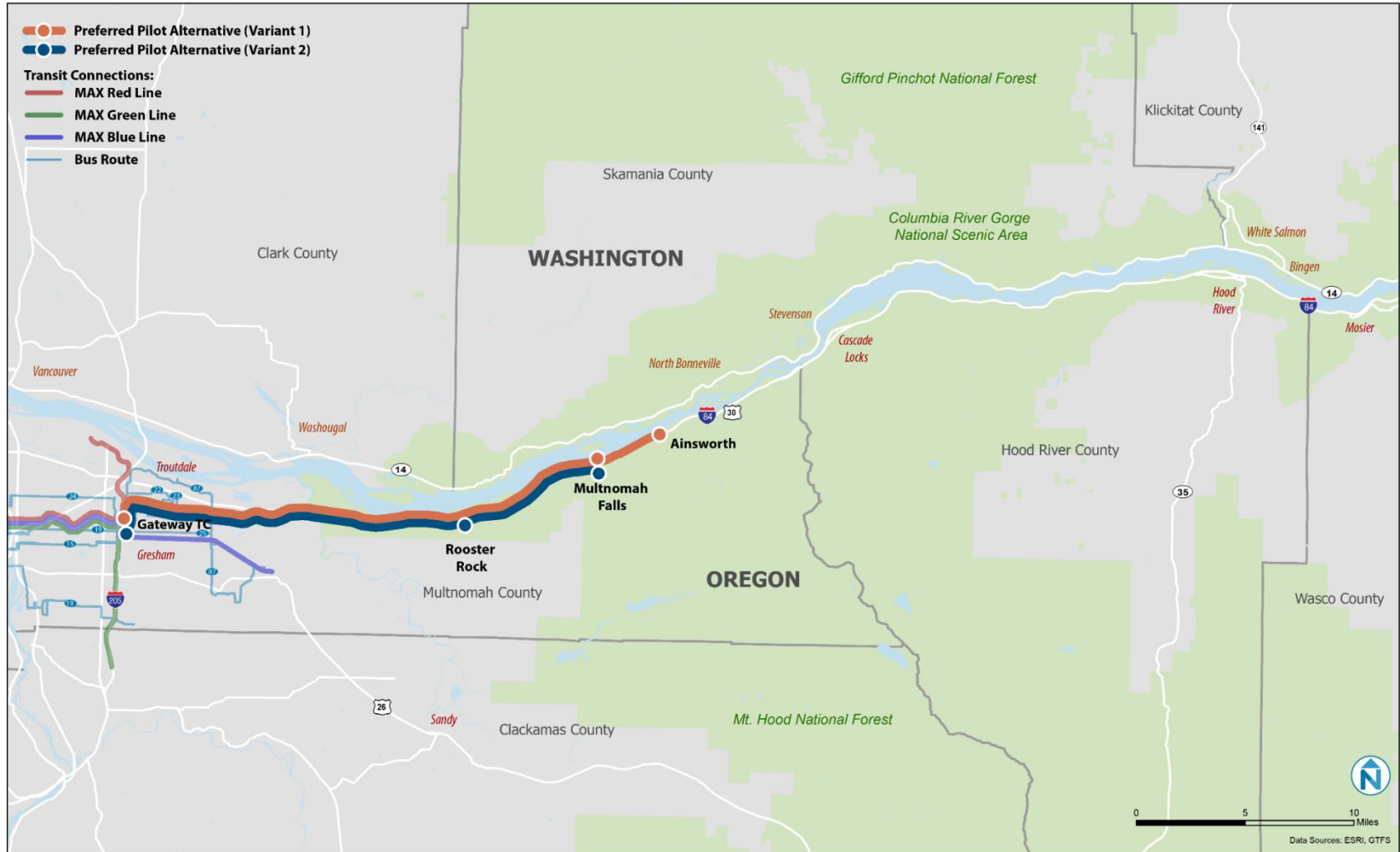
After initial service concept development defined the markets, termini, stops, and routing for the Pilot service, service markets were further refined during a second service planning workshop (see Appendix D). These refined service markets (discussed below) and the preferred service design alternatives (illustrated in Figure 5-4) informed the selection of the preferred Pilot service alternative.

### Markets

The Pilot service is envisioned to primarily serve travelers visiting Multnomah Falls. The two market segments identified at the beginning of the chapter are considered the primary customers for the Pilot service: Multnomah Falls Visitors and Multnomah Falls Recreationalists. These groups were further broken down by mode of access:

- **Transit dependent riders.** These riders are not currently able to visit Multnomah Falls because they do not own a car, do not have access to a car, or choose not to drive. These riders need to be able to connect to the Gorge transit service via a major transit hub in the Portland area. This transit hub is Gateway Transit Center.
- **Discretionary riders.** These visitors currently drive to Multnomah Falls via personal or rented vehicle and will only ride the Gorge transit service if it offers them some increased utility. A service that allows these riders to avoid traffic congestion at Multnomah Falls by parking at a satellite parking facility and taking a shuttle to the destination may persuade them to use the service instead of driving. The satellite parking facility conceived to serve this market is either Rooster Rock's existing parking lot or a new parking facility constructed near Ainsworth State Park.

Figure 5-4 Refined Pilot Service Possibilities Map



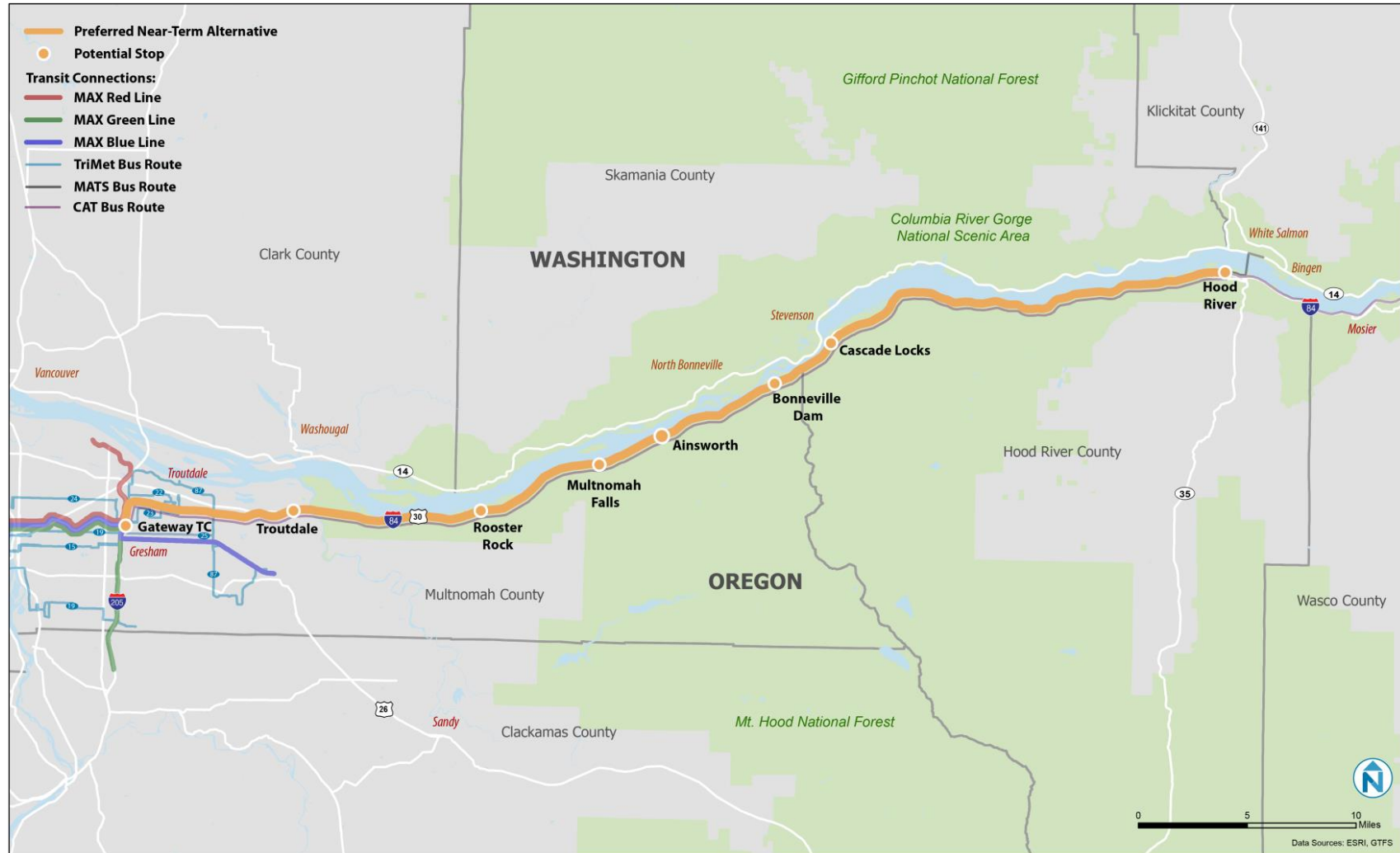
## Service Levels

Initially, a 30-minute frequency service serving all three stops (Gateway Transit Center, Multnomah Falls, and Rooster Rock or Ainsworth State Park) was proposed. Feedback from the second service planning workshop indicated a higher frequency was desired for service to/from the park-and-ride location (Rooster Rock or Ainsworth State Park), while a lower frequency was acceptable for service to/from Gateway Transit Center. This resulted in two additional operating concepts, for a total of three variants as part of the preferred alternative, which are all presented in Chapter 6.

## PREFERRED NEAR-TERM SERVICE REFINEMENT

After initial service concept development narrowed the markets, stops, and routing for the Near-Term service, service markets were further refined during a second service planning workshop (see Appendix D). These refined service markets and the preferred service design stops and routing (illustrated in Figure 5-5) informed the further refinement of stop selection as well as recommended service levels for the Near-Term service.

Figure 5-5 Refined Near-Term Service Possibilities Map



## Markets

The target markets that will be served by the Near-Term service were further broken out by two major factors: 1) a potential rider’s relationship with the Gorge (i.e. visitors or Gorge area residents) and 2) a potential rider’s reason for using transit (i.e. transit dependent or discretionary riders). These refined markets are presented in Figure 5-6.

**Figure 5-6 Near-Term Service Markets**

Gorge relationship	Rider Type	
	Transit Dependent	Discretionary Riders
Visitors	<ul style="list-style-type: none"> <li>▪ Plane/train travelers to Portland/Gorge area</li> <li>▪ Car-free/car-lite Portland area residents visiting Gorge</li> </ul>	<ul style="list-style-type: none"> <li>▪ Travelers who want to avoid traffic and parking congestion</li> <li>▪ Travelers who don’t want to drive</li> </ul>
Gorge Area Residents	<ul style="list-style-type: none"> <li>▪ Car-free/unable to drive Gorge residents traveling to Portland Metro Area</li> </ul>	<ul style="list-style-type: none"> <li>▪ Gorge residents traveling to Portland International Airport (PDX)</li> <li>▪ Gorge residents travelling to Portland who want to avoid traffic</li> <li>▪ Gorge residents traveling to recreation destinations</li> </ul>

A small potential market that the Near-Term service does not target is Gorge area commuters commuting to the Portland area. An analysis of Longitudinal Employer Housing Dynamics (LEHD) data indicated that this market encompasses approximately 200 commuters.<sup>27</sup> In order to serve the commute market, service would have to begin very early (6 AM or earlier) in Hood River to deliver passengers to Gateway Transit Center to transfer to bus or light rail service in time to begin the workday. The small number of long-distance commuters already drive, carpool, or vanpool and transit would not be time competitive, nor is there any evidence that a transit option would provide necessary accessibility at either the home or work end of the trip. This type of transit service offering would be very costly to provide, generate low ridership, would not be useful to the target markets, and is thus not considered further in this study.

## Stop Refinement

Based on feedback from key stakeholders and the market analysis (including public survey), a stop in Troutdale was removed from the advanced pool of stop locations for the Near-Term service. Bonneville Dam remains in consideration because of its proximity to recreational destinations and relatively minimal impact to overall cycle time. The other stops (Hood River, Cascade Locks, Multnomah Falls, Rooster Rock/Ainsworth) and Gateway Transit Center) were all highly prioritized by stakeholders and the general public.

<sup>27</sup> 2014 LEHD Data (<http://lehd.ces.census.gov/>)

## Service Levels

There were a number of alternatives that strived to match service levels with market needs. The following variables were considered when determining appropriate preferred level of service:

- **Run termination – Short versus Long lines.** The demand for service from Portland to Multnomah Falls will likely be higher than that from Portland to Hood River during peak visitation/recreation times. The use of short line runs starting at Gateway Transit Center and terminating at Multnomah Falls (then returning to Gateway) allows the system to provide a higher level of service over the Portland-Multnomah Falls segment. The ratio of short lines to Multnomah Falls relative to the number of long lines to Hood River can be adjusted to trade-off costs against market needs.
- **Span of service.** The days and hours of service can be tailored to match day-of-week and seasonal variations in demand for service in the multiple markets served. A higher level of service to Multnomah Falls is envisioned during the peak summer demand periods. An increased level of service between Portland and Hood River (but less than that to Multnomah Falls) could also be planned for peak times.

Figure 5-7 presents a framework for matching service alternatives to transit markets that was used in the second service planning meeting (see Appendix D). The rows described “modular” service options to provide specific levels of service to Multnomah Falls and to Hood River. An estimated daily cost of operation is provided for each alternative to weigh costs relative to service level benefits. The first four alternatives provide varying levels of service between Gateway and Hood River. The last two alternatives provide options for adding service to Multnomah Falls during peak periods. Any of these service alternatives can be offered during any of the identified days of operation – weekdays vs. weekends and summer vs. winter seasons.

Service planning workshop participants identified their preferred service structure based on the framework shown in Figure 5-7. Using this feedback as well as the market analysis, a preferred Near-Term alternative was developed and is described in Chapter 7.



**Figure 5-7 Near-Term Service Alternatives**

Service Alternative	Conceptual Cost per Service Day (12-hour span)	Days of Operation				
		Summer M-Th (78 Service Days)	Summer F-Su (66 Service Days)	Winter M-F (159 Service Days)	Winter Three weekdays per week (95 Service Day)	Winter Sa-Su (63 Service Days)
<b>Long Line: Service Between Gateway and Hood River</b>						
Hourly service to Multnomah Falls and Hood River	\$2,700	\$211,000	\$178,000	\$429,000	\$257,000	\$170,000
120-minute service to Multnomah Falls and Hood River	\$1,800	\$140,000	\$119,000	\$286,000	\$171,000	\$113,000
180-minute service to Multnomah Falls and Hood River	\$900	\$70,000	\$59,000	\$143,000	\$86,000	\$57,000
3 round trips per day to Hood River	\$675	\$53,000	\$45,000	\$107,000	\$64,000	\$43,000
<b>Short Line: Gateway to Multnomah Falls Overlay</b>						
30-minute service to Multnomah Falls	\$2,700	\$211,000	\$178,000	\$429,000	\$257,000	\$170,000
Hourly service to Multnomah Falls	\$1,800	\$140,000	\$119,000	\$286,000	\$171,000	\$113,000

Notes:

1. Grayed out cells are not recommended for consideration based on the cost to provide that service on the selected days relative to the potential market for public transportation on those days.
2. Costs assume 12 hours of operation per day and an hourly operating cost of \$75
3. Costs do not assume any efficiencies that may arise when scheduling short-line service to Multnomah Falls on top of long-line service to Hood River.
4. Days of operation are based on 2016 calendar with summer service from early May through late September and assumes that weekend service is provided on major summer holidays.

## 6 PILOT SERVICE PLAN

The Pilot service is envisioned to connect visitors with Multnomah Falls as a means of 1) mitigating congestion/safety issues associated with personal vehicle use at Multnomah Falls and 2) increasing access to recreational destinations for those without access to automobiles or who choose not to drive. ODOT Rail and Public Transit Division will oversee the operation of the Pilot Gorge transit service in summer 2016 and 2017. The following characteristics of the Pilot service are detailed below:

- **Service Design.** The preferred service design is presented, including stops, routing, schedule, and fleet requirements. Anticipated costs and recommended fares are presented as well.
- **Ridership Estimation.** Using existing conditions data and a review of similar services, ridership for the Pilot service is estimated.
- **Governance and Operations.** The governance and operations of the Pilot service are discussed.

### SERVICE DESIGN

The concept development process resulted in a preferred alternative service design for the Pilot service. Three possible operating variants were developed for this study; one of which can be utilized depending on ridership demand levels and funding constraints. Details of the proposed service design are described below.

#### Stops

As detailed in the previous chapter, the following stops were considered for the Pilot service:

- Gateway Transit Center (connection to Portland Metro area transit)
- Rooster Rock (satellite parking facility)
- Multnomah Falls (primary destination)
- Ainsworth State Park (satellite parking facility)

The preferred group of stops was determined to be Gateway Transit Center, Rooster Rock, and Multnomah Falls.

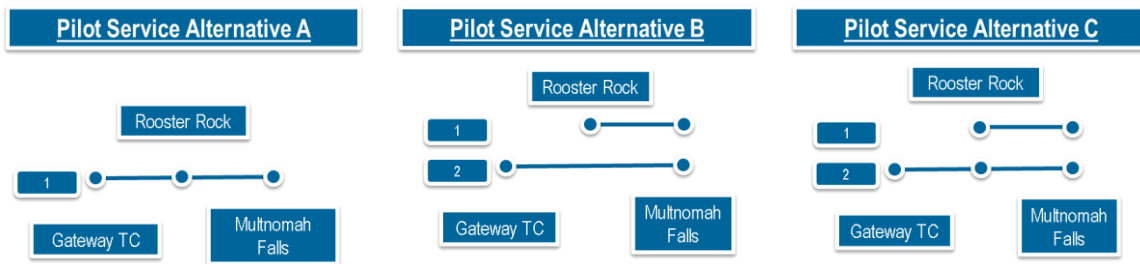
While Ainsworth State Park<sup>28</sup> remains a viable option, Rooster Rock offered a more convenient satellite parking facility with lower startup costs for ODOT and Oregon Parks and Recreation Department (OPRD).

## Routing, Service Levels, and Costs

Three potential operating variants were developed from the preferred stops, as illustrated in Figure 6-1 and described below:

- **A.) Gateway Transit Center (GTC)-Rooster Rock (RR)-Multnomah Falls (MF)**
  - 1.) Single line serving all three stops at approximate a 30-minute frequencies
- **B.) GTC-MF and RR-MF**
  - 1.) Route from Gateway Transit Center to Multnomah Falls at a 45-minute frequency
  - 2.) Route from Rooster Rock to Multnomah Falls at a 15-minute frequency
- **C.) RR-MF and GTC-RR-MF**
  - 1.) A route from Rooster Rock to Multnomah Falls at a 30-minute frequency
  - 2.) A route from Gateway Transit Center to Multnomah Falls via Rooster Rock at a 45-minute frequency
    - The additional stop at Rooster Rock on the long-line (line 2) would improve the frequency of service at Rooster Rock to between 15-20 minutes.

**Figure 6-1 Preferred Pilot Service Variants**



Service characteristics for each variant are compared in Figure 6-2, and costs are compared in Figure 6-3. The service is planned to operate Friday through Sunday and on the three major holidays (Memorial Day, July 4<sup>th</sup>, and Labor Day) from 9 AM to 6 PM. A range of costs are presented to show how the cost for each alternative would vary as a function of revenue miles (\$3.10 per mile) and the number of service days in operation (48, 66, or 72).

<sup>28</sup> The proposed Ainsworth State Park parking lot is located at Exit 35, a full service interchange located four miles east of the Multnomah Falls Parking Lot. The lot is also located at the terminus of the drivable section of the Historic Columbia River Highway. The present use is open space/staging area/temporary parking lot during events and has been approved for use as a satellite parking facility for the Pilot service if access needs to be shifted away from Rooster Rock.

**Figure 6-2 Preferred Pilot Service Variants Comparison**

Alternative	Route	Mileage per Run	# Runs per Vehicle per Day	# Vehicles	# Runs per Day	Revenue Miles per Day	Origin Stop	Origin Stop Headway (min)	Cycle Time (min)
<b>A</b>	1	50	5.67	3	17	850	GTC	30	90
<b>B</b>	1	50	6	2	12	600	GTC	45	90
	2	13.5	18	2	36	486	RR	15	30
	<b>Total</b>			<b>4</b>	<b>48</b>	<b>1,086</b>			
<b>C</b>	1	50	6	2	12	600	GTC	45	90
	2	13.5	18	1	18	243	RR	30	30
	<b>Total</b>			<b>3</b>	<b>30</b>	<b>843</b>			

**Figure 6-3 Pilot Service Conceptual Costs**

Service Days	Annual Cost at \$3.10 per Service Mile
<b>Alternative A: GTC-MF-RR</b>	
48	\$126,000
66	\$174,000
72	\$190,000
<b>Alternative B: GTC-MF &amp; RR-MF</b>	
48	\$162,000
66	\$222,000
72	\$242,000
<b>Alternative C: GTC-RR-MF &amp; RR-MF</b>	
48	\$125,000
66	\$172,000
72	\$188,000

Notes:

48 days = Fri-Sun plus major holidays, Memorial Day Weekend thru Labor Day Weekend

66 days = Fri-Sun plus major holidays, May 6 through September 25, 2016

72 days = late April to beginning October (adds 6 service days/2 weekends above the 66)

## PREFERRED OPERATING VARIANT

At time of publication of this study, ODOT Rail and Public Transit Division has decided to move forward with operating variant Alternative C/ for the summer 2016 season, but the other alternatives are presented as implementable options should operations require service design to change, such as if ridership exceeds expected levels. Potential ridership levels are addressed

below. A map of Alternative C is presented in Figure 6-4. Graphics showing detailed routing at stop locations are presented in Appendix E.

Figure 6-4 Preferred Pilot Service Alternative Map



## Schedule

A conceptual schedule for the preferred Pilot Service (operating variant Alternative C) is presented in Figure 6-5.

**Figure 6-5 Pilot Service Alternative C Conceptual Schedule**

Gateway Departure	Eastbound				Westbound		
	Rooster Rock Arrival	Rooster Rock Departure	Multnomah Falls Arrival	Multnomah Falls Departure	Rooster Rock Arrival	Rooster Rock Departure	Gateway Arrival
		9:00	9:08	9:15	9:23		
8:45	9:05	9:15	9:23	9:30	9:38	9:48	10:08
		9:30	9:38	9:45	9:53		
9:20	9:40	9:45	9:53	10:00	10:08	10:18	10:38
		10:00	10:08	10:12	10:20		
		10:30	10:38	10:45	10:53		
10:15	10:35	10:45	10:53	11:00	11:08	11:15	11:35
		11:00	11:08	11:15	11:23		
10:50	11:10	11:15	11:23	11:30	11:38	11:45	12:05
		11:30	11:38	11:45	11:53		
		12:00	12:08	12:15	12:23		
12:05	12:25	12:30	12:38	12:45	12:53	13:03	13:23
		13:00	13:08	13:15	13:23		
12:45	13:05	13:15	13:23	13:30	13:38	13:48	14:08
		13:30	13:38	13:45	13:53		
		14:00	14:08	14:15	14:23		
13:45	14:05	14:15	14:23	14:30	14:38	14:48	15:08
		14:30	14:38	14:45	14:53		
14:20	14:40	14:45	14:53	15:00	15:08	15:18	15:38
		15:00	15:08	15:15	15:23		
		15:30	15:38	15:45	15:53		
15:15	15:35	15:45	15:53	16:00	16:08	16:18	16:38
		16:00	16:08	16:15	16:23		
15:50	16:10	16:15	16:23	16:30	16:38	16:48	17:08
		16:30	16:38	16:42	16:50		
		17:00	17:08	17:15	17:23		
16:45	17:05	17:15	17:23	17:30	17:38	17:48	18:08
		17:30	17:38	17:45	17:53		
17:20	17:40	17:45	17:53	18:00	18:08	18:18	18:38
		18:00	18:08	18:15	18:23		

## Fares

A \$5 roundtrip fare is envisioned for those boarding at Gateway. Shuttle service from the satellite parking facility will be fare-free. These policies are subject to change in the future.

## RIDERSHIP ESTIMATION

Ridership was estimated for the Pilot service in order to help understand the range of potential demand for the service and to estimate fare revenues.

### Methodology

The ridership estimate for the Pilot service was based on several sources of data and assumptions:

- Vehicle volume data for the I-84 parking lot during the period of October 2014 to October 2015 was used to represent visitor demand
- Visitor transit mode share estimates from a similar shuttle program serving the Muir Woods National Monument in Mill Valley, CA
- An average vehicle occupancy rate of 2.5 persons per vehicle, as calculated from the results of the general public survey (see Figure 4-15)
- An adjustment factor for the proportion of visitors who will travel to Multnomah Falls via the Historic Columbia River Highway of 1.5. This means it is assumed that 1/3 of visitors travel to Multnomah Falls via the Historic Columbia River Highway.
- An 85% adjustment factor for the service hour coverage—the transit service only operates between 9 AM – 6 PM, and it is assumed approximately 10% of visitors to Multnomah Falls visit outside of those hours.

A full explanation of the methodology used, detailed ridership estimates, and limitations of the methodology is presented in Appendix F.

### Ridership Estimates

Ridership estimates for the Pilot service were generated for range of scenarios based on low/medium/high assumptions of the two main independent variables:

- **Vehicle volume** - The volumes utilized in the low, medium, and high vehicle volume scenarios are the 5<sup>th</sup>, 50<sup>th</sup>, and 95<sup>th</sup> percentile daily vehicle volumes recorded between May and September 2015 on days when the shuttle would be in operation (Fridays, Saturdays, Sundays, and major holidays).
- **Visitor transit capture rate** - Transit capture rates were estimated within the range of rates observed for the Muir Woods Shuttle.

The range of ridership and farebox return estimates for the Pilot service are presented in Figure 6-6 and Figure 6-7. It can be expected that actual ridership will vary by day of week, weather conditions, time of season, and other characteristics. These estimates are intended to provide approximate boundaries for ridership expectations.

Estimated daily ridership was divided by the number of buses per day serving Rooster Rock to calculate average vehicle loads. Based on a seated capacity of 22-25 passengers (22 with 2 passengers in wheelchairs, 25 with no wheelchairs), only the highest visitor volume and highest transit capture rate scenario (710 boardings per day) would result in full or over-capacity buses, indicating that the Pilot service structure should be able to accommodate high levels of demand without any passenger denials. Operations can be reassessed for improvements if ridership exceeds expectations.



**Figure 6-6 Pilot Service Ridership Estimates (Daily Round Trips)**

Multnomah Falls Vehicle Volume Assumption		% of Visitors Riding Shuttle Assumption		
		Low	Medium	High
		6%	12%	18%
Low	1,250	160	320	480
Medium	1,550	200	400	600
High	1,860	240	480	710

**Figure 6-7 Pilot Service Farebox Estimates (Daily)**

Multnomah Falls Vehicle Volume Assumption		% of Visitors Riding Shuttle Assumption		
		Low	Medium	High
		6%	12%	18%
Low	1,250	\$270	\$530	\$800
Medium	1,550	\$330	\$660	\$1,000
High	1,860	\$400	\$790	\$1,200

## **GOVERNANCE AND OPERATIONS**

In summer 2016, ODOT Rail and Public Transit Division will manage the operations of the Pilot service. It was initially thought that MTR Western would operate the service through an existing contract. MTR Western currently provides Public Oregon Intercity Transit (POINT) service between Portland and Astoria and Portland and Eugene for ODOT. However, it was later determined that it wasn't feasible to amend the existing agreement and a new procurement is underway at the time of writing and will be completed in time to begin service on May 27, 2016.

## 7 NEAR-TERM SERVICE PLAN

This chapter details service concepts and general recommendations for the Near-Term transit service expected to begin operations in the Columbia River Gorge in 2018. The following characteristics of the Near-Term service are described:

- **Proposed Service Concepts.** The preferred Near-Term service concept is presented, including stops, routing, and fleet requirements. Anticipated costs and recommended fares are presented as well.
- **Governance and Operations.** The likely governance and operations framework of the Near-Term service are discussed.

### SERVICE DESIGN

The preferred Near-Term Alternative would provide service from Gateway Transit Center to Hood River, with stops at Multnomah Falls and other key destinations (e.g. Cascade Locks) along I-84. For the purposes of this study, this service is assumed to evolve from/replace the Pilot service and the existing Columbia Area Transit-operated Hood River to Portland service. The preferred Near-Term Alternative will continue to be refined as HRCTD considers service options in coordination with project partners, during their upcoming transit master planning process scheduled to begin in summer 2016. The preferred service design has multiple lines operating to serve different markets along the I-84 corridor, as shown in Figure 7-1.

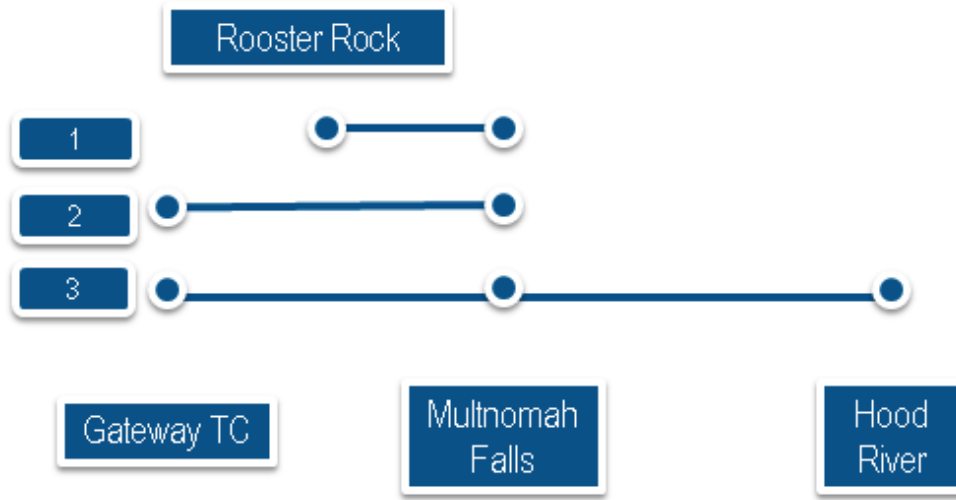
- Line 1 (RR-MF) would operate as a parking shuttle between Rooster Rock and Multnomah Falls
- Line 2 (GTC-MF) and Line 3 (GTC-MF-HR) would operate as a short line/long line serving intercity and recreational travelers for access to Hood River, Multnomah Falls, and other key destinations.

### Service Levels

Different levels of service for each of the lines were selected as a function of season (i.e. summer, winter) and day of week (i.e. weekday, weekend). Drawing on feedback from the service planning workshops with operators and key stakeholders as well as the market analysis, preliminary service level recommendations and cost estimates are presented in Figure 7-2.

For summer service (weekday and weekend), because Lines 2 and 3 both start at Gateway Transit Center, the headway for riders from Gateway Transit Center to Multnomah Falls will only be 60 minutes even though the headway for each line is 120 minutes. These effective headways from each origin stop for each time frame are identified in Figure 7-3. Service levels for Rooster Rock were selected to serve the park-and-ride market, while service levels at Gateway Transit Center were selected to serve the transit rider market.

Figure 7-1 Near-Term Service Route Concepts Diagram



Note: Lines 2 and 3 could potentially stop at Rooster Rock as well.

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**Figure 7-2 Near-Term Service Level Proposal**

Season	Days of Week	Route	Service Level		Cycle Time (minutes)	# of Vehicles	Cost per Day (\$75 pvsh)	Service Days	Annual Cost
			Trips per Day (assumes 12 - hr day)	Headways (minutes)					
Summer	Monday - Thursday	1 – RR-MF	48	15	30	2	\$1,800	78	\$ 140,000
		2 – GTC-MF	8	90	90	1	\$900	78	\$ 70,000
		3 – GTC-MF-HR	4	180	180	1	\$900	78	\$ 70,000
	Friday-Sunday	1 – RR-MF	48	15	30	2	\$1,800	66	\$ 120,000
		2 – GTC-MF	8	90	90	1	\$900	66	\$ 60,000
		3 – GTC-MF-HR	4	180	180	1	\$900	66	\$ 60,000
Winter	Monday – Friday	1 – RR-MF	No Service						
		2 – GTC-MF	No Service						
		3 – GTC-MF-HR <sup>29</sup>	2	360	180	1	\$450	159	\$ 72,000
	Saturday – Sunday	1 – RR-MF	No Service						
		2 – GTC-MF	No Service						
		3 – GTC-MF-HR	4	180	180	1	\$900	63	\$ 57,000
<b>Total Annual Cost:</b>									<b>\$650,000</b>

Note: Cost per hour assumed to be \$75; service hours are assumed to be 8 AM- 8 PM

<sup>29</sup> This service would be split across two three-hour shifts to save on labor costs

**Figure 7-3 Effective Headways by Origin Stop**

Season	Days of Week	Origin Stop	Effective Headway
Summer	Monday - Thursday	Gateway Transit Center	30-60 min <sup>30</sup>
		Rooster Rock	15
	Friday-Sunday	Gateway Transit Center	30-60 min
		Rooster Rock	15
Winter	Monday – Friday	Gateway Transit Center	2 RT/day
		Rooster Rock	N/A
	Saturday – Sunday	Gateway Transit Center	4 RT/day
		Rooster Rock	N/A

## Stops and Routing

The preferred Near-Term alignment and stops map is presented in Figure 7-4. Lines 1, 2, and 3 would operate in the summer, while only Line 3 would operate in the winter. Graphics showing detailed routing at key stop locations are presented in Appendix E.

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<sup>30</sup> Some headways will be 60 min while others will be 30 min due to the long line/short line cycle times

Figure 7-4 Preferred Near-Term Alternative Service Map



## Fleet Requirements

As shown in Figure 7-2, fleet requirements would vary by season because of the different service levels provided. Throughout the summer season, four vehicles would be required to operate the service. Throughout the winter season, one vehicle would be sufficient to operate the service. These fleet requirements could lend themselves well to keeping the summer-only services (RR-MF and GTC-MF) operated under contract with a private operator (as will be done with the Pilot service) and operating the year-round service (GTC-MF-HR) through a public provider (e.g., HRCTD).

## Costs

Estimated costs for the service components (and the total estimated cost) are presented in Figure 7-2. The total annual operating cost of the Near-Term service is estimated to be approximately \$650,000. Chapter 8 addresses a funding strategy.

## Fares

Fares for the Near-Term service will build upon those from the Pilot service. The parking shuttle portion of the service (Line 1, RR-MF) is recommended to continue operate without a fare (continuing the fare-free Pilot), as it would continue to serve a transportation demand management and congestion mitigation need. The Gateway Transit Center to Multnomah Falls portion should match the Pilot service fare of \$5, potentially adjusted based on demand or inflation. Trips to and from Hood River should be similar to CAT's existing fare structure, with interim stops priced between the GTC-MF fare and GTC-HR fare.

Fare reciprocity and possible future integration into an electronic fare system with TriMet<sup>31</sup> should enable a seamless transfer for riders between systems.

## GOVERNANCE AND OPERATIONS

The governance and operations of the Near-Term service will need to be more clearly defined before it begins service in 2018. If service expands consistent with Line 3 (GTC-MF-HR), HRCTD potentially manage and operate Line 3. They could also potentially manage Lines 1 and 2, which could continue to be operated privately due to seasonal demand fluctuations. If service does not expand to Hood River via Line 3, but Lines 1 and 2 do continue, ODOT may need to keep managing Lines 1 and 2 as that service area would be wholly outside of CAT's jurisdiction.

Given the HRCTD's upcoming Transit Master Plan (TMP) process and state and local funding constraints, governance and operation of the Near-Term service will need to be refined through continued discussion and agreement between several key stakeholders:

- **Oregon Department of Transportation.** ODOT Rail and Public Transit Division will be managing the Pilot service, and may continue to play a role in Near-Term operations if aspects of the service are outside the realm of HRCTD's capacities.

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<sup>31</sup> For more information on Hop, TriMet's e-fare system, to be launched in 2017: <http://myhopcard.com/>

- **Hood River County Transportation District.** HRCTD may be the likely operator of the Near-Term service, and will need to coordinate with other regional transit providers to make decisions in regards to overlapping interests.
- **TriMet.** TriMet operates Portland’s regional transit system and provides connecting service at Gateway Transit Center (the western terminus of the Pilot and Near-Term service recommendations). The Pilot service will begin by stopping one block east of Gateway Transit Center, but would ideally enter Gateway Transit Center in the future once an agreement is reached.
- **Skamania County Transit.** Skamania County Transit currently provides bus service along SR-14 on the north side of the Gorge, and future connections between their service and the Near-Term service will be key to supporting a regional transit network.
- **Clackamas County – Mt. Hood Express.** The Mt. Hood Express currently provides service to Mt. Hood along US-26 from Sandy, but expansion of the service to Hood River is under consideration.
- **U.S. Forest Service.** The U.S. Forest Service manages the Columbia River Gorge National Scenic Area and many of its constituent sites, including Multnomah Falls. They will be important to coordinate with to ensure the Near-Term service accommodates their needs and future plans.
- **Oregon Parks and Recreation Department.** The OPRD manages the state parks in the Gorge, and so also has a stake in future transit service development. OPRD has graciously waived day-use fees for Rooster Rock State Park for transit users during the pilot season. Further discussion is needed to determine whether this may extend beyond the Pilot service.
- **Mt. Adams Transportation Services.** MATS provides fixed-route service across the Hood River Bridge from Hood River to White Salmon/Bingen, which could connect to the Near-Term service.
- **Mid-Columbia Council of Governments.** MCCOG is the regional planning organization for Hood River, Wasco, Gilliam, Sherman, and Wheeler Counties. MCCOG provides a fixed route bus service between The Dalles and Hood River to on Tuesdays and Thursdays to allow riders originating in The Dalles to utilize CAT’s Hood River to Portland service. MCCOG also provides dial-a-ride service in Wasco County, and is the Medicaid brokerage for Gorge area counties.

**Mid-Columbia Economic Development District.** MCEDD is currently the lead agency for coordination among other agencies and partners in supporting progress towards common goals, such as applying for grant funding. MCEDD could continue in this role or another agency could be appointed to be the leader of regional coordination.

The operations of Pilot service, in addition to upcoming transit planning efforts in the Gorge area will inform the further development of the Near-Term service, including governance and operations.



## 8 FUNDING STRATEGY

This chapter presents a strategy for funding future Gorge transit services. Traditional and public transportation funding sources are presented, and then other potential funding sources are briefly discussed. Funding strategies for the Pilot and Near-Term services are then presented.

### TRADITIONAL PUBLIC TRANSPORTATION FUNDING SOURCES

A variety of programs and strategies are available to fund public transportation. In general, these programs only fund specific types of services (e.g., urban mass transit) or specific populations (e.g., older adults and persons with disabilities) and are often limited in terms of the level of financial resources they can provide. This section summarizes the typical public transportation funding approaches and discusses their applicability toward the proposed Gorge transit service.

Federal and state grant programs along with local contributions provide the majority of funding for public transportation. The Federal Transportation Administration (FTA) administers grants for transit operating assistance and capital purchases to small transit providers. Operating assistance is generally allocated via re-occurring formula grants based on population and level of transit service provided. Capital grants tend to be discretionary requiring potential recipients to compete for limited funding. FTA funding for small cities and rural providers are allocated to the states and the Governors (typically through state departments of transportation) re-allocate funds to transit providers.

In Oregon, the state also funds transportation for older adults and persons with disabilities through the Special Transportation Fund (STF) program. Local resources include dedicated tax levies, city and county general funds, fares, and other resources. There are other federal programs that support public transportation services related to recreation and tourism on federal lands. Figure 8-1 summarizes these funding sources highlighting program attributes and associated benefits and/or limitations.

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**Figure 8-1 Potential Traditional Public Transit Funding Sources Summary**

Funding Source Category	Funding Source Name	Description	Potential Funding Amount (\$-\$\$\$\$)	Applicability for Gorge Services		
FTA Grants	5310 Enhanced Mobility of Seniors & Individuals with Disabilities	<p><b>Purpose:</b> Grants for transit agencies providing transportation services specifically for older adults and persons with disabilities.</p> <p><b>Eligible Agencies:</b> Local government authorities, private non-profit organizations, and operators of public transportation.</p> <p><b>Eligible Uses:</b> Capital, operations, nontraditional costs (e.g., travel training, mobility management)</p> <p><b>Distribution Process:</b> 2 year cycle (next solicitation in March 2018).</p>	\$\$\$	<ul style="list-style-type: none"> <li>▪ Typically used for funding service focused on older adult populations and those with special needs. Gorge services aimed at older adults and those with disability may make this a viable source but not likely.</li> </ul>		
	5311 Formula Grants for Other than Urbanized Areas	<p><b>Purpose:</b> Grants for local rural transit programs (service areas less than 50,000 in population) including fixed-route, flex-route, dial-a-ride, and demand-response services. Transit agencies. Federal share is 80% for capital projects. Federal share is 50% for operating assistance.</p> <p><b>Eligible Agencies:</b> State or local government organizations, non-profits, and operators of public transportation receiving FTA funds already through a recipient</p> <p><b>Eligible Uses:</b> Capital, operations, administration</p> <p><b>Distribution Process:</b> 2 year cycle (next cycle June 2017-2019).</p>			\$\$	<ul style="list-style-type: none"> <li>▪ HRCTD is already a 5311 recipient</li> <li>▪</li> </ul>
	5311(f) Rural Intercity Bus	<p><b>Purpose:</b> Each state is required to spend 15% of its annual 5311 apportionment to develop and support intercity bus transportation.</p>				

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Funding Source Category	Funding Source Name	Description	Potential Funding Amount (\$-\$\$\$\$)	Applicability for Gorge Services
		<b>Eligible Agencies:</b> State or local government organizations, non-profits, and operators of public transportation receiving FTA funds already through a recipient		<ul style="list-style-type: none"> <li>HRCTD already supports its fixed-route services using 5311(f)</li> </ul>
	<b>Eligible Uses:</b> Capital, operations, administration			
	<b>Distribution Process:</b> Even and odd year biannual solicitation.			
	5339(a) Grants for Buses and Bus Facilities	<b>Purpose:</b> Provides funding to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities.	\$\$	<ul style="list-style-type: none"> <li>This program could be leveraged to provide additional support for CAT's vehicle fleet</li> <li>ODOT currently prioritizes replacement vehicles over vehicles that would support service expansions, due to size of Oregon's aging fleet</li> </ul>
	<b>Eligible Agencies:</b> States and transit agencies			
	<b>Eligible Uses:</b> Buses and bus facilities capital and maintenance funding needs.			
	<b>Distribution Process:</b> 3 year cycle (next cycle May 2016-2019).			
	5339(b) Bus and Bus Facilities Discretionary Program (New from FAST)	<b>Purpose:</b> FTA will prioritize projects that demonstrate how they will address significant repair and maintenance needs, improve the safety of transit systems, deploy connective projects that include advanced technologies to connect bus systems with other networks, and support the creation of ladders of opportunity.	\$\$	<ul style="list-style-type: none"> <li>This is a new program allocated within the FAST Act that could be utilized to upgrade/expand CAT's existing fleet or invest in technological improvements, if ODOT is able to help address current vehicle replacement needs and begin to fund expansion vehicles</li> </ul>
	<b>Eligible Agencies:</b> States, 5307 recipients, and Tribes			
	<b>Eligible Uses:</b> Buses and bus facilities capital and maintenance funding needs.			
<b>Distribution Process:</b> 3 year cycle (next cycle May 2016-2019).				

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Funding Source Category	Funding Source Name	Description	Potential Funding Amount (\$-\$\$\$\$)	Applicability for Gorge Services
Federal Lands Grants	Federal Lands Access Program (FLAP)	<b>Purpose:</b> Funding for transportation facilities that provide access to, are adjacent to, or are located within Federal Lands.	\$\$\$	<ul style="list-style-type: none"> <li>Western Federal Lands recently announced a significant re-allocation of \$111 million in federal funding to Oregon State and opened a new solicitation that will fund new projects over the next five years.</li> <li>ODOT will submit a grant application to fund at least a portion of the Pilot and Near-Term services</li> <li>Skamania County Transit's WET Bus program and the Mount Hood Express are both supported by FLAP funds</li> </ul>
		<b>Eligible Agencies:</b> Federal Lands Management agencies in partnership with state, county, tribe, transit district, or local governmental organizations.		
		<b>Eligible Uses:</b> Capital improvements, maintenance, transit, planning, research		
		<b>Distribution Process:</b> Funds are distributed to the Federal Land Management agency to use with its partner(s).		
Federal Lands Grants	Federal Lands Transportation Program (FLTP)	<b>Purpose:</b> Funding for transportation infrastructure owned/maintained by Federal Lands Management Agencies <sup>32</sup>	\$\$	<ul style="list-style-type: none"> <li>This program could be utilized for funding transit infrastructure improvements in the CRG National Scenic Area.</li> </ul>
		<b>Eligible Agencies:</b> Federal Lands Management Agencies		
		<b>Eligible Uses:</b> Administration, capital, planning, operations		
		<b>Distribution Process:</b> Funds are distributed to the Federal Land Management agency.		
State Grants	Oregon Special Transportation Fund	<b>Purpose:</b> Grants for transit agencies providing service to older adults and persons with disabilities.	\$\$\$	<ul style="list-style-type: none"> <li>HRCTD is the designated STF agency for the region and may be able to use a portion</li> </ul>

<sup>32</sup> Includes: National Park Service (NPS), US Fish and Wildlife Service (FWS), USDA Forest Service (Forest Service), Bureau of Land Management (BLM), US Army Corps of Engineers (USACE), Bureau of Reclamation and independent Federal agencies with land management responsibilities.

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Funding Source Category	Funding Source Name	Description	Potential Funding Amount (\$-\$\$\$\$)	Applicability for Gorge Services
	(STF) Formula	<b>Eligible Agencies:</b> Designated STF agencies receive grants, which can they can then in turn distribute to subsidiary providers.		of these funds for this service if the amount is roughly proportionate to elderly and disabled passengers using the service
		<b>Eligible Uses:</b> Operations, capital, planning, etc.		
		<b>Distribution Process:</b> Bi-annual solicitations.		
	Oregon Special Transportation Fund (STF) Discretionary	<b>Purpose:</b> Grants for transit agencies providing service to older adults and persons with disabilities.		
<b>Eligible Agencies:</b> Designated STF agencies receive grants, which can they can then in turn distribute to subsidiary providers.				
<b>Eligible Uses:</b> Operations, capital, planning, etc.				
<b>Distribution Process:</b> Bi-annual solicitations.				
Local Revenues	Local Taxes and Fees	Municipalities or Counties could provide funding support for transit programs or infrastructure from general fund contributions.	\$	<ul style="list-style-type: none"> <li>Local funds are very competitive, but other local jurisdictions could choose to make some level of contribution. This becomes more unlikely in locations, such as Hood River County where HRCTD already has taxing authority</li> <li>HRCTD could consider exploring its current taxing authority</li> </ul>
	Fares	Passenger fares will be charged for all services except for the parking shuttle.	\$	<ul style="list-style-type: none"> <li>Relatively low farebox recovery (10-15%) is anticipated for Gorge service because of pressure to keep fares low for the desired service market</li> </ul>
Partnerships	Private Partner Contributions	Organizations and corporations with a vested interest in the transit service could provide funding.	\$	<ul style="list-style-type: none"> <li>Potential for tourism-based entities to support service. See following section regarding TMA funding.</li> </ul>

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Funding Source Category	Funding Source Name	Description	Potential Funding Amount (\$-\$\$\$\$)	Applicability for Gorge Services
Advertising	Advertising on/inside vehicles and on transit infrastructure	Transit providers can advertise on or inside their vehicles, or on transit infrastructure (e.g., bus stops) to provide additional revenues.	\$	<ul style="list-style-type: none"> <li>▪ Gorge and/or recreational businesses could advertise on some aspect of the transit service.</li> </ul>
	Sponsorships	Corporations could sponsor components of the service in return for brand visibility.	\$	<ul style="list-style-type: none"> <li>▪ Gorge businesses would have a stake in seeing additional patrons arriving via a transit service, and so may have an incentive to sponsor transit service.</li> </ul>

Notes: \$ corresponds to roughly \$150,000 of available funding

## OTHER POTENTIAL FUNDING SOURCES

Several non-traditional funding sources that could be utilized to support Gorge transit are discussed below.

### Transportation Management Association Incorporation

The planning document review presented in Chapter 2 clearly indicates that the Gorge, and Multnomah Falls in particular, is in need of transportation demand management (TDM) strategies. One strategy for managing transportation demand is transit service (the primary recommendation of this study), but there are other strategies that could be employed. Transportation Management Associations (TMAs) have been used to manage transportation demand in many different contexts, including business districts, industrial business clusters, and tourism sites. TMAs are associations of co-located organizations, corporations, and institutions. They often raise funds in support of transportation programs from either member dues or direct revenue sources. Transportation programs supported by TMAs include provision of targeted transit service, subsidized transit fares, transportation-related marketing, and others.

A nearby example of a TMA using parking revenues to finance a shuttle service is the Explore Washington Park TMA, which oversees several TDM programs for popular attractions (e.g., the Oregon Zoo, the International Rose Test Garden) within the park. The TMA's board is composed of attraction directors, neighborhood representatives, a TriMet staffer, and the director of Portland Parks & Recreation. Explore Washington Park utilizes revenue from parking meters around the park to finance a free circulator shuttle service and a shuttle to an off-site park and ride lot. This is a strategy that a TMA in the Gorge could consider for parking shuttle funding.

All parties seeking to benefit from the TMA and contribute towards its operation need to execute an agreement that defines:

- TMA governance including makeup of policy board
- TMA charter and by-laws
- Primary roles and responsibilities of the TMA
- Financial resources including revenue sources and member contributions
- TMA authority including ability for the association to enter into contracts for service
- Nature of administrative staff

### Lodging/Tourism Taxes

Occupancy taxes are already levied upon Gorge visitors staying in regional hotels. Programs like these could potentially be used to provide revenue to transit services in the Gorge. Apportionment within the occupancy tax program is highly competitive, but nonetheless may still be worth investigating as a revenue source.

### Oregon State Transportation Funding Priorities

ODOT Rail and Public Transit Division has four overarching goals/guiding principles pertaining to public transportation. The meeting of these goals calls for supporting traditional transit services (e.g., older adults and persons with disabilities, rural communities, and intercity) along

with services that contribute to increased economic activities, such as providing access to the key visitor destinations. The four goals are:

- **Access.** The ability to reach desired destinations.
- **Availability.** The service is near riders' home locations and in operation when they want to travel.
- **Connectivity.** The service integrates with other services that the rider may use, providing a stronger network overall.
- **Economic Development.** The service contributes to increased economic activity and employment.

Currently, the vast majority of discretionary federal and state transportation funds are prioritized to fund public transportation services for older adults and persons with disabilities. The state may wish to consider how it prioritizes transportation funding in the future. The state is currently updating its Public Transportation Plan (PTP), which may provide an opportunity to consider such policies and funding priorities.

## PILOT SERVICE FUNDING

ODOT Rail and Public Transit Division has committed to funding the first two seasons of operation for the Gateway Transit Center to Multnomah Falls segment of the service using 5311 funds.

In addition, ODOT is working with the U.S. Forest Service and the Western Federal Lands Division of FWS to reallocate grant funds received from FHWA's Federal Lands Access Program (FLAP) for additional funding of the Rooster Rock to Multnomah Falls segment of the Pilot service.

## NEAR-TERM SERVICE FUNDING

In order to support the proposed Near-Term service, additional funding will need to be secured. Funding will likely come from a mix of available sources, as there are several markets being addressed by the Gorge transit service including tourism, public transit demand, and intercity travel. The potential funding sources presented above should all be considered in compiling a final funding plan.

Assuming CAT becomes the administrator and/or operator of some portion or all of the Near-Term service routes, they would be funded using existing FTA grants (that fund its current operations) and potentially other future grant opportunities. CAT can operate the services in-house or contract for the service. Final resolution on these matters will determine the cost structure for the service. Long-term funding above and beyond current public transit allocations needs to be identified in order to sustain this service. For reference, the annual operating cost for CAT's existing intercity and dial-a-ride services is approximately \$408,000<sup>33</sup> (as of FY '15-'17). The rough cost estimate for the full Near-Term service proposal presented in Chapter 7 is approximately \$650,000.

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<sup>33</sup> See Figure 3-9 for details on CAT's existing finance structure.



## 9 NEXT STEPS

The Columbia River Gorge Transit study examined the existing transit landscape in the Columbia River Gorge by reviewing recent planning documents, investigating existing transit operations, and analyzing the market for transit needs and opportunities. Pilot and Near-Term service concepts were then developed, including preferred Pilot and Near-Term service plans.

The following topics will be explored throughout the remainder of this chapter:

- **Pilot service implementation and monitoring.** The Pilot service will begin operations in late May 2016. Service implementation and monitoring will be briefly discussed.
- **Future work.** There are several upcoming related projects and studies that merit brief discussion of how this study effort supports future work. Other opportunities for improving transit service in the Gorge are also briefly discussed.

### PILOT SERVICE IMPLEMENTATION AND MONITORING

ODOT Rail and Public Transit Division will be managing implementation and operations of the Pilot service, using a private contract operator to provide vehicles and drivers for the service. A marketing plan developed in tandem with this study will be implemented to reach potential riders. The Pilot service will operate as the Columbia Gorge Express.<sup>34</sup>

The Pilot service will be carefully monitored so that findings can inform future service improvement and development. The monitoring program will be advised by an Operations and Management Advisory Committee, and should include:

- Periodic ridership counts
- Periodic on-board survey data collection
- Driver feedback on operational issues and other concerns
- Synthesis of feedback from stakeholders including:
  - TriMet
  - Columbia Area Transit
  - U.S. Forest Service
  - Western Federal Lands
  - Skamania County Transit
  - Oregon Parks and Recreation Department

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<sup>34</sup> Columbia Gorge Express website: <http://columbiagorgeexpress.com/>

## FUTURE WORK

### Hood River County Transportation District Transit Master Plan

The HRCTD Transit Master Plan process is expected to commence in July 2016 and take approximately 12 months to complete. The TMP will detail transit investments for HRCTD over the next 20 years. The TMP has opportunity to address regional connections including:

- Skamania County's WET Bus provides trail access on the northern side of the Gorge, and a formal connection and/or cross-promotion with this service might be mutually beneficial to each service in the future.
- Clackamas County is exploring opportunities for the expansion of the Mt. Hood Express service northward towards Hood River (as discussed in Chapter 3). This may be an opportunity to expand the usefulness of the Gorge transit service to other markets (such as travel to Mt. Hood).

The TMP will also define new routes and services provided by HRCTD, possibly including the Near-Term service. Detailed design, governance and operations of the Near-Term service should be considered in the TMP.

### Transportation Demand Management in the Columbia River Gorge

As discussed in Chapter 8, transit is one strategy for transportation demand management (TDM) in the Gorge, but planners and policy makers may consider utilizing other strategies as well in order to promote continued sustainable economic growth for Gorge communities. Potential other strategies for exploration include:

- Transportation Management Association (TMA) incorporation
- User fee programs (e.g., park entrance fees, parking pricing, tolls)
- Transportation options marketing

Parking demand at Multnomah Falls is currently being managed at the I-84 parking lot by closing the parking lot when it is at capacity, but pricing parking would be an even more effective strategy of incentivizing visitors to utilize transit in the Gorge while generating much needed revenue. Further, parking demand at the HCRH Multnomah Falls lot is essentially unmanaged, which has led to safety issues and traffic congestion.

The revenues generated from parking could be directed to funding the parking shuttle service, general transit service in the Gorge, or other local improvements. As visitation in the Gorge continues to increase, parking pricing is a TDM and revenue-generation strategy to consider.

### Transit on the Historic Columbia River Highway

The transit service concepts developed for this study do not include service along the HCRH. Gray Line Portland plans to begin operating an on-off tour service along the HCRH in summer 2016 (see Chapter 3 for details). Their operations should be studied if/when operation of public transit is reconsidered. Future implementation of a publicly operated service along the HCRH may be pertinent to addressing transportation demand related issues at other recreation-based locations along the HCRH (e.g., Angel's Rest, Oneonta Gorge), similar to the Skamania County WET bus.

## **Oregon Solutions**

In October 2015, Oregon Solutions began the Historic Columbia River Highway Collaborative project, which is aimed to develop opportunities for improving safety and congestion issues at key locations along the along the HCRH (e.g., Multnomah Falls, Angel’s Rest, and Oneonta Gorge). The outcomes of this should be coordinated with the transit service developed through the Columbia River Gorge Transit Study, as well as other future transit services in the area. A Declaration of Cooperation was signed by the Agency Partners on May 11, 2016. This declaration documented ODOT’s commitment to delivering the Gorge Pilot.

## **TriMet Electronic Fare Study**

TriMet is implementing an electronic fare system in partnership with participating local transit partners. The system allows users to ride any participating provider’s system using a single payment medium, which will benefit both transit providers and riders. The new system with two initial participating partners—C-TRAN and Portland Streetcar—will begin operation in 2017. ODOT, in partnership with TriMet, is initiating a gap analysis study in summer 2016 to determine the feasibility of expanding the TriMet system to include other adjacent transit providers. This analysis will include the Columbia Gorge Express service.

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