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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 Transportation 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
- STF – Special Transportation Fund
- TDM- Transportation Demand Management

Appendix B Stakeholder Focus Group Notes

INTRODUCTION

The project team conducted eight focus group meetings on Dec. 8 and Dec. 9, 2015 with key stakeholders interested in the Columbia River Gorge and the potential for a 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 were able to participate 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 collect specific input from various expertise.

The input documented from these discussions will be used to inform the technical studies and draft strategies. The meetings also provided an opportunity to address any questions and concerns participants had about the project and inform them about ways to remain involved with the planning process.

Key Findings are summarized in Chapter 4. Individual summaries from each meeting begin are arranged chronologically in the following order.

Group Number	Group Name
Focus Group 1	Public Transit Providers
Focus Group 2	Recreation / Tourism
Focus Group 3	Local Government / Elected Officials
Focus Group 4	Regional Planning
Focus Group 5	Tourism
Focus Group 6	Local Government / Elected Officials
Focus Group 7	Private Transit Providers
Focus Group 8	East Gorge Congestion

FOCUS GROUP 1 – PUBLIC TRANSIT PROVIDERS

Dec. 8, 2015 | 8:30 a.m.

Participants	Name	Organization
	Dan Marchand	TriMet
	Teresa Christopherson	Clackamas County Mt. Hood Express
	Leslie Garth	Ride Connection, Inc
	Deanna Bisbee	Hood River County Trans District dba Columbia Area Transit
	Arlene Johnson	Skamania County Public Trans
	Ron Nails	Hood River County Trans District dba Columbia Area Transit
Project staff	Name	Organization
	Kristen Stallman	Oregon Department of Transportation
	Karyn Criswell	Oregon Department of Transportation
	Steve Crosley	Nelson\Nygaard
	Brie Becker	Nelson\Nygaard
	Seth Baker	EnviroIssues

Problems identified

- The Columbia River Gorge is an increasingly popular destination with growing traffic congestion
- 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 weather in 2015
- 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
- People parking along the highways create a safety hazard, as there is no pedestrian space along the highways; there were recent pedestrian fatalities on SR 14
- Transit services get requests to cross the Hood River Bridge because there is no pedestrian traffic allowed on the bridge

State of existing transportation services

Skamania County Public Transportation

- Service Monday – Friday
- Route between Stevenson and Carson
- Route between Stevenson and Vancouver with connection to C-Tran
- Service to senior citizens and people with disabilities
- Dial-a-ride service for medical and social service appointments
- West End Transit (WET) Bus Pilot shuttle to Dog Mountain trailhead funded by Western Federal Lands grant through Federal Lands Access Program
- Over half of WET Bus riders are from outside of Stevenson
- WET Bus partnership with community, including marketing support from Friends of the Columbia River Gorge
- WET Bus couples transit with trail concierge service – “Hike by bus”

- WET Bus uses park and ride lot on Skamania County land with variable message sign to tell people when parking at trailhead is full
- WET Bus adapted schedule to better accommodate the amount of time hikers spend at destination, so they do not have to wait too long for the next shuttle
- Forest Service has been a good partner with Skamania County Public Transportation

Ride Connection

- Based in Gresham, currently has no service in the Gorge but serves some people in Corbett
- Primarily serves senior citizens and people with disabilities – most rides travel west within the Portland metropolitan region for medical purposes
- Primarily works with volunteer schedules
- East county service area has 10 vehicles equipped with wheelchair accessibility; largest vehicles seat 14 passengers
- Currently very little service on the weekends – vehicles could be available for another use

Columbia Area Transit (CAT)

- Approximately 70% of rides are for medical purposes
- Fleet of 10 vehicles; nine are wheelchair accessible
- Service to Portland on Tuesday and Thursday with stops at Portland Art Museum, Oregon Health and Sciences University and Clackamas Town Center; connection to MAX light rail
- Runs to The Dalles and Cascade Locks on Monday – Friday
- Experiencing growth in ridership connected with increase in marketing efforts
- Increasing requests for shuttle to Portland International Airport; few requests to reach Union Station
- Starting new master plan process to expand service

Mt. Hood Express

- Service between Sandy and Timberline every day with 6-7 runs per day
- 70% of riders are commuting to work; 30% of riders are recreationists
- Seeking ongoing funding to continue service
- Potentially expanding service to Hood River and Warm Springs;
- Hood River service would be Saturday and Sunday; there is no identified need for Hood River Service Monday – Friday

TriMet

- Service area does not reach into the Gorge, but lines 80 and 81 reach Glen Otto Park in Troutdale
- TriMet is willing to be a good partner in the planning process

- TriMet receives requests to access FedEx in Troutdale Reynolds Industrial Park; it is possible they could expand service in Troutdale to reach these employment areas
- TriMet is always looking for potential park and ride locations
- TriMet is willing to accommodate other transit providers at Gateway Transit Center

Transit challenges

- Cost per rider is high in rural areas due to lower population density and higher number of miles driven
- It is difficult to increase ridership if people do not have to pay for parking at their destination
- Bus schedule needs to work with the amount of time people typically spend at a destination
- Need to identify potential park and ride locations for riders from Portland metro area and inter-city stops in the Gorge
- People in rural areas do not want to transfer service lines to reach their destinations
- Gorge residents are not aware of existing transit services or think the services are only for medical purposes
- Some funding is restrictive – e.g. veteran funding can only be used for specific purposes
- Columbia River bridge crossings are challenging for transit providers due to cost of tolls and narrowness
- Few Gorge residents are trying to get to Multnomah Falls

Opportunities

- People want transit service between Hood River and Mt. Hood
- There is seasonal employment on Mt. Hood in the winter – Mt. Hood Meadows operates a shuttle from Hood River for employees
- People want transit service to the Pacific Crest Trail in Cascade Locks
- Some recreationists like kite boarders and cyclists might use transit if it could accommodate their gear – CAT can carry bicycles
- People want better connection throughout the Gorge on both sides of the Columbia River
- Vince Hill is a popular cycling location
- CAT is developing a new master plan and is interested in expanding service
- The parking garage at Gresham Transit Center is underused
- CAT is being asked to expand service in Hood River to help relieve limited parking
- Potential starting points / park and ride locations:
 - Troutdale Airport
 - Gateway Transit Center
- Potential rider markets
 - Senior citizens
 - People with disabilities

Follow-up items

- Dan Marchand will find out if TriMet receives requests for access to the Gorge
- Leslie Garth will investigate Ride Connection's ability to extend service into the Gorge on weekends
- Map correction: There is no transfer between Columbia Area Transit and Greyhound

FOCUS GROUP 2 – RECREATION/TOURISM

Dec. 8, 2015 | 10:30 a.m.

Participants	Name	Organization
	Holly Howell	Port of Cascade Locks
	Tamara Kennedy-Hill	Travel Portland
	Tom Kloster	Trail Keepers of Oregon
	Stan Hinatsu	U.S. Forest Service
	Billie Moser	Travel Portland
Project staff	Name	Organization
	Kristen Stallman	Oregon Department of Transportation
	Steve Crosley	Nelson\Nygaard
	Brie Becker	Nelson\Nygaard
	Seth Baker	EnviroIssues

Problems identified

- 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 weather in 2015
- Recreation facilities are over capacity for visitors, which is threatening to damage the facilities and natural resources
- Capacity at recreation facilities has historically been controlled by limiting parking spaces; if transit increases the number of people visiting a site, the resource could be damaged further; other capacity controls may need to be implemented
- It is difficult to manage parking in the Gorge because parking rules are different depending on which agency manages the land; people will avoid parking in areas where there is a parking fee
- People who park for a multi-day hike will take parking spots others could use
- People try to plan impromptu trips and end up stopping at the first waterfall or trailhead they find, which contributes to congestion
- Forest Service has put boulders on roadside of Historic Columbia River Highway to prevent people from parking illegally and blocking the road
- Congestion can prevent emergency vehicles from reaching their destination

State of existing transportation services

- 20% of visitors travel 500 miles or more to visit the Gorge; 50% of visitors travel less than 50 miles
- Tourists purchase package tours on motor coaches
- Recent growth in private tour operations have produced 20,000 annual motor coach trips in Portland – packages that include the Gorge are most sold tours
- Travel programs encourage tourists to purchase a tour package to avoid congestion and have a better experience
- Trail Keepers of Oregon has a messaging platform people use to arrange carpools to recreation sites

- People wait at Gateway Transit Center and Troutdale Outlet Mall for informal carpool, known as “slugging” – used by Portland Meetup
- Millennials will use car sharing services like Zipcar, but it is too expensive for them to reach the Gorge
- The Bend Breeze and Mt. Hood Express provide service on U.S. 26

Transit challenges

- Transit schedules need to be appropriate for the destination – people do not want to feel stuck
- Transit needs to be convenient – people have to make two transfers to reach Mt. Hood Express from Portland
- Availability of funding
- Availability of park and ride locations
- Providing enough frequency for transit service to be useful
- Ability to carry recreation gear like bicycles
- There are many trailheads in the Gorge that people want to reach – transit has a “last mile” challenge
- Stops need to be accommodating to people without cars who are waiting for a bus – restrooms, lights, shelters, benches
- Transit service needs to be available all days during the peak season at a minimum
- Dedicated hikers start earlier and finish later than casual hikers

Opportunities

- Individual travelers do not want to drive if they can avoid it
- Travel companies are trying to promote Oregon as a four-season travel destination to spread out the busy season
- 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
- Investigate timed parking at Multnomah Falls
- 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
- There is an overlap in values between hikers and people who want to limit their environmental impact by not driving
- Park and rides could also have a “Trail Concierge” to help guide people to less busy areas of the Gorge
- There is an information kiosk at Bridal Veil Falls with resources about other Gorge destinations
- Gateway Transit Center is attractive due to light rail connection with Portland International Airport

- Potential starting points / park and ride locations
 - Rooster Rock State Park has a large underused parking lot – currently need to pay to park
 - Troutdale Outlet Malls
 - Gresham Transit Center
 - Gateway Transit Center – MAX connection to airport
- Potential destinations
 - Portland Women’s Forum
 - Vista House
 - Multnomah Falls – Tourists expect it and it cannot be skipped
 - Bonneville Dam and Fish Hatchery
 - Cascade Locks – Pacific Crest Trail connection
 - Hood River
 - The Dalles
- Potential rider markets
 - Millennials who do not want to use cars
 - Hikers trying to reach trailheads
 - Tourists who do not want to drive
 - Busy period in waterfall corridor is 10 a.m. – 5 p.m.; families tend to arrive around noon

Follow-up items

- Map edit: Add Wahkeena Falls trailhead

FOCUS GROUP 3 – LOCAL GOVERNMENT/ELECTED OFFICIALS

Dec. 8, 2015 | 1:30 p.m.

Participants	Name	Organization
	Doug Daoust	Mayor of Troutdale
	Craig Ward	City Manager of Troutdale
	Gordon Zimmerman	City of Cascade Locks
	Kate Sinner	Regional Solutions, Governor's Office
	Paul Blackburn	Mayor of Hood River
	Stephen Lawrence	Mayor of The Dalles
	Scott McGuire	Senator Merkley's Office
Project staff	Name	Organization
	Kristen Stallman	Oregon Department of Transportation
	Steve Crosley	Nelson\Nygaard
	Brie Becker	Nelson\Nygaard
	Seth Baker	EnviroIssues

Problems identified

- People cannot walk or cycle across the Hood River Bridge
- There are problems getting veterans' programs to work with existing transit service, or it is not convenient
- Veterans can get their mileage reimbursed for trips to a Veterans Affairs Hospital, but a van service cannot get reimbursed by VA for transporting Veterans to a VA Hospital
- Parking is limited at Mt. Hood Meadows
- Parking is limited at popular tourist sites
- Cars are broken into in parking lots
- Congestion on Historic Columbia River Highway is a problem
- I-84 does not have a high-occupancy vehicle lane

State of existing transportation services

- Mt. Adams Transportation (operated by Klickitat County) provides rides across Hood River Bridge, but it is not frequent enough for most people to use
- The Dalles has a \$5 taxi service
- There are seasonal private shuttles that serve Hood River for Mt. Hood Meadows employees and Polar Express riders
- Vanpools are used by employers like the U.S. Forest Service
- ODOT's variable message sign at Troutdale notifies people when Multnomah Falls parking lot is full

Transit challenges

- Most transit services in the Gorge like Columbia Area Transit and Mt. Adams Transportation are demand-actuated, which is less convenient because you have to plan and call ahead of time

- Services that depend on cellular data like Uber do not function well in the Gorge due to lack of data coverage
- Greyhound serves Hood River and The Dalles but they are cutting back on amenities and require ticket purchases to happen online, which is a challenge for people without reliable internet access
- People with disabilities have trouble planning trips with transit – they need to know every barrier they may face from starting point to destination
- Lack of parking and congestion in downtown Hood River
- Ability to carry recreation gear like bicycles
- People do not know what transit services are available
- TriMet does a good job of transporting people to central Portland, but it is difficult to get to places between cities in east Multnomah County
- Parking structures for park and rides are expensive
- Commuters have different destination preferences than recreationist/tourist markets – commuters do not want to spend time stopping at recreation locations
- Large buses cannot access some tourist sites like Vista House or would add to congestion on Historic Columbia River Highway
- Busy season in the Dalles starts earlier than other Gorge locations to the west due to dryer climate
- People do not have a compelling reason to give up individual flexibility that comes with driving their own car
- Availability of funding
- People do not want to transfer to reach their destination
- People do not want to walk more than a block from their transportation to their destination

Opportunities

- The Dalles is updating its Transportation System Plan and would like to work with any plans for transit in the Gorge
- The Dalles is planning a transit center west of its downtown area and will include connection to Greyhound
- The cities in east Multnomah County that border I-84 are collaborating on the Halsey-Weidler Corridor Plan, which has included discussions to improve transit between east Multnomah County and the waterfall corridor in the Gorge; Halsey Corridor Plan applies to I-84 exits 14, 16 and 17 and could include temporary parking or parking structures to help connection to the Gorge
- Gorge transit needs to connect with transit on Washington side – 1/3 of Gorge residents live in Washington
- People want to cycle through the Gorge and take a one-way transit trip back
- Employees want connections to job centers like Troutdale Reynolds Industrial Park
- Gray Line of Portland is looking into starting a service from Troutdale to the Gorge, potentially starting at McMenamins Edgefield

- South Metro Area Regional Transit (SMART) in Wilsonville may be a model for Gorge transit
- People commute between cities in the Gorge for work
 - Hood River is an out-commuting community
 - 70% of people who work for Google in The Dalles live in the Gorge, and half of those people live in The Dalles
- Place park and ride / parking structures near businesses to compound service
- People will stop driving to a destination if they have to pay for parking
- Increase mobility and access of low income populations
- Potential starting points / park and ride locations
 - Halsey-Weidler Corridor locations
 - McMenamins Edgefield
 - Troutdale Outlet Malls
 - Gorge urban centers
- Potential destinations
 - Mt. Hood Meadows
 - State parks
 - Museums
 - Mosier is a cyclist destination
 - Bonneville Dam and Fish Hatchery
 - Beacon Rock (Washington side)
 - All waterfalls
 - Gorge urban centers
 - Line between Hood River – The Dalles would be useful
- Potential rider markets
 - Senior citizens
 - People with disabilities
 - Tourists
 - Recreationists
 - Commuters – traveling to urban centers primarily using I-84

Follow-up items

- Collect information on transportation plans in progress within project area
 - The Dalles Transportation System Plan
 - Halsey-Weidler Corridor Plan

FOCUS GROUP 4 – REGIONAL PLANNING

10/08/2015, 3:30 p.m.

Participants	Name	Organization
	Amanda Hooley	Mid-Columbia Economic Development District
	Michele Spatz	Mid-Columbia Economic Development District
	Susan Law	FHWA, Western Federal Lands Division
	Robin Shoal	USFS, Columbia River Gorge National Scenic Area
Project staff	Name	Organization
	Steve Crosley	Nelson\Nygaard
	Brie Becker	Nelson\Nygaard
	Seth Baker	Envirolssues

Problems identified

- Recreation facilities are over capacity for visitors, which is threatening to damage the facilities and natural resources
- Capacity at recreation facilities has historically been controlled by limiting parking spaces; if transit increases the number of people visiting a site, the resource could be damaged further; other capacity controls may need to be implemented
- It is difficult to manage parking in the Gorge because parking rules are different depending on which agency manages the land; people will avoid parking in areas where there is a parking fee
- It is difficult to manage access to the Gorge because important transportation corridors run through it – access cannot be managed like popular national parks

State of existing transportation services

- Skamania County Transit route between Stevenson and Carson
- Skamania County Transit route between Stevenson and Vancouver with connection to C-Tran
- Service to senior citizens and people with disabilities
- Dial-a-ride service for medical and social service appointments
- West End Transit (WET) Bus Pilot shuttle to Dog Mountain trailhead funded by Western Federal Lands grant through Federal Lands Access Program
- WET Bus partnership with community, including marketing support from Friends of the Columbia River Gorge
- WET Bus couples transit with trail concierge service – “Hike by bus”
- WET Bus uses park and ride lot on Skamania County land with variable message sign to tell people when parking at trailhead is full
- WET Bus adapted schedule to better accommodate the amount of time hikers spend at destination, so they do not have to wait too long for the next shuttle
- Mt. Adams Transportation provides service across the Hood River Bridge and connects White Salmon, Hood River, Bingen and has bicycle racks
- Larger employers provide vanpools

Transit challenges

- Commuters have different destination preferences than recreationist/tourist markets – commuters do not want to spend time stopping at recreation locations
- Gorge residents would prefer to have service all week to their destinations even if that resulted in less frequent service each day
- Pilot programs that fail are difficult to start up again – it is important to start small and focused
- Cost per rider is high in rural areas due to lower population density and higher number of miles driven
- Transit schedules need to be appropriate for the destination – people do not want to feel stuck
- Resources need to be put into marketing transit service so people know how to use it
- People want a regional transit system that connects existing smaller systems
- Existing transit service in the Gorge is thought to only be used by people with disabilities or senior citizens for medical trips
- Ability to carry recreation gear like bicycles
- Ability to bring dogs on buses
- Availability of funding
- People do not have a compelling reason to give up individual flexibility that comes with driving their own car
- Jurisdictional boundaries of transit systems
- Large buses cannot access some tourist sites like Vista House or would add to congestion on Historic Columbia River Highway
- People want service to be frequent enough so they do not need to remember a schedule
- Any construction within National Scenic Area needs to follow guidelines – variable message signs would not be allowed

Opportunities

- Leverage community partners to market transit service in materials and online
- Give people better access to the Washington side of the Gorge to spread out heavy use on Oregon side
- The Gorge should be marketed as a single region – do not divide it into two states
- Gorge transit service should coordinate and market itself with the Mt. Hood Express
- Pacific Crest Trail hikers use Skamania County Transit to access Vancouver and resupply
- Mt. Hood Express found unexpected market in Mountain Bikers who take the shuttle up the mountain and ride back down multiple times per day
- Funding for transit projects is available through Federal Lands Access Program, which funded Mt. Hood Express and WET Bus
- 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
- Park and ride locations should also have good access to other transit so people do not have to drive
- People want express routes from The Dalles to Portland
- There is demand for early morning access to recreation sites
- Partner with car sharing programs in Portland
- Find a venue for real-time information that will tell people which parking areas are full, which areas are busy, and recommend where they should go and how they should get there
- Potential starting points / park and ride locations
 - Gresham Transit Center
 - Gateway Transit Center
 - Rooster Rock State Park
- Potential destinations
 - Multnomah Falls
 - Exit 28: Bridal Veil Falls
 - Exit 40: Eagle Creek
 - Exit 41: Bonneville Dam and Fish Hatchery
 - Klickitat Rail Trail
 - Gorge urban centers
 - Line between Hood River – The Dalles would be useful
- Potential rider markets
 - Commuters – traveling to urban centers primarily using I-84
 - Recreationists, including Pacific Crest Trail connection in Cascade Locks

Follow-up items

- Map edit: Differentiate land managers within green areas – there are many different land managers within the National Scenic Area
- Map edit: WET Bus goes to Dog Mountain trailhead
- Survey question: What new one-way hiking or cycling opportunities would be available if people could take transit back to their starting point instead of looping back?
- Find out if user statistics are available for how often trails are used

FOCUS GROUP 5 – TOURISM

Dec. 9, 2015 | 8:30 a.m.

Participants	Name	Organization
	Claude Cruz	West Columbia Gorge Chamber of Commerce
	Greg Webb	USACE, Bonneville Dam
	Jeannette Kloos	Friends of the Historic Columbia River Highway
	Rick Buck	Multnomah Falls Lodge
	Dorothy Brown-Kwaiser	Oregon State Parks
	Dave Lear	Mid-Columbia Bus Company
Project staff	Name	Organization
	Kristen Stallman	Oregon Department of Transportation
	Steve Crosley	Nelson\Nygaard
	Brie Becker	Nelson\Nygaard
	Seth Baker	Envirolssues

Problems identified

- Multnomah Falls I-84 parking lot causes a backup on the freeway when the lot is full
- Large motor coaches are contributing to congestion on Historic Columbia River Highway
- When ODOT’s variable message sign at Troutdale says the Multnomah Falls I-84 parking lot is full, drivers take the Historic Columbia River Highway either because they know they can access Multnomah Falls that way or to stop at another park in the waterfall corridor to ask staff for help – further contributing to congestion
- There is not enough enforcement of parking and traffic violations on the Historic Columbia River Highway
- People from out of town do not know where to park or what transportation options exist
- Viaducts are choke points on Historic Columbia River Highway
- Large numbers of people are stressing facilities at Multnomah Falls such as restrooms and wastewater treatment
- Capacity at recreation facilities has historically been controlled by limiting parking spaces; if transit increases the number of people visiting a site, the resource could be damaged further; other capacity controls may need to be implemented

State of existing transportation services

- Multnomah Falls Lodge has an employee shuttle that originates at Rooster Rock State Park
- Mid-Columbia Bus Company has a fleet of natural gas buses that are available for use in the summer – currently serves students during school year

Transit challenges

- Multnomah Falls I-84 exit does not have a full interchange to facilitate bus turnaround

- Multnomah Falls I-84 parking lot has a gate installed by ODOT to close when the lot is full; the gate cannot currently be opened remotely to allow select vehicles through such as buses
- Bonneville Dam area may be a challenging place to find a bus stop and turnaround point
- Bonneville Dam area has pedestrian access issues if people need to walk from a transit stop
- Transit schedules need to be appropriate for the destination – people do not want to feel stuck

Opportunities

- People want transit service to the Pacific Crest Trail in Cascade Locks
- Troutdale is at the hub of several trail systems between the Portland metro region and the Gorge
- West Columbia Gorge Chamber of Commerce has a visitor center in Troutdale and can help spread information and direct people to the options we want them to use
- Tour buses give their Vista House schedule to State Parks so they know when to expect tour groups
- 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
- 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 transportation grants available for a Pilot project through U.S. Army Corps of Engineers or U.S. Forest Service
- Multnomah Falls Lodge may be interested in helping fund a solution to congestion and parking problems
- Potential starting points / park and ride locations
 - Troutdale Rail Depot Museum is a hub for cyclists
 - Troutdale Airport
 - Rooster Rock State Park
- Potential destinations
 - Vista House
 - Latourell Falls
 - Bridal Veil Falls
 - Angel’s Rest
 - Columbia River Highway State Trail trailhead
 - Cascade Locks
 - Ainsworth State Park
 - John Yeon Trailhead
 - Rowena Crest Trailhead

- Multnomah Falls
- Larch Mountain
- Beacon Rock (Washington side)
- Bonneville Dam and Fish Hatchery
- Hood River
- One-way trips: John Yeon to Cascade Locks, Starvation Creek to Viento State Park, Hood River to Mosier
- Connection to Fruit Loop
- Potential rider markets
 - Tourists
 - Recreationists
 - Families

Follow-up items

- Dorothy Brown-Kaiser will send Vista House bus schedule to Nelson\Nygaard
- Find data on average duration of time spent at each site

FOCUS GROUP 6 – LOCAL GOVERNMENT/ELECTED OFFICIALS

Dec. 9, 2015 | 10:30 a.m.

Participants	Name	Organization
	David Meriwether	Hood River County
	Kathy Fitzpatrick	City Manager of Mosier
	Steve Wheeler	City of Hood River
	Jacob Egler	Senator Wyden's Office
	Rian Windsheimer	Oregon Department of Transportation
Project staff	Name	Organization
	Kristen Stallman	Oregon Department of Transportation
	Steve Crosley	Nelson\Nygaard
	Brie Becker	Nelson\Nygaard
	Seth Baker	Envirolssues

Problems identified

- Hood River’s new waterfront park is becoming more congested
- Lack of parking and congestion in downtown Hood River
- Multnomah Falls gets most attention and advertising in the Gorge, which contributes to congestion
- Congestion in the waterfall corridor does not benefit economy of Gorge communities
- People do not know about other recreation opportunities besides the popular destinations

State of existing transportation services

- Columbia Area Transit
- Mt. Hood Meadows Employee Shuttle
- Employee van shares

Transit challenges

- The Gorge has small roads, steep hills and sometimes icy conditions
- Ability to carry recreation gear like bicycles
- It is difficult to increase ridership if people do not have to pay for parking at their destination
- People in rural areas have a car-dependent mentality

Opportunities

- Encourage people staying at hotels in the Gorge or Troutdale to leave their cars and use transit
- 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

- Housing prices are increasing in Hood River, causing people to move away and commute in
- Hood River Valley and Mosier Valley have seasonal population growth of immigrant workers who do not always have cars
- There is a park and ride used in Mosier
- People in the Portland metro area want to access the Gorge without a car
- People want better access to transportation information
- Transit passes should be compatible with other transit providers
- Increase mobility and access of low income populations
- People want to cycle through the Gorge and take a one-way transit trip back
- People do not like driving in the Gorge when the weather is bad – people may choose transit in these conditions
- Place park and ride / parking structures near businesses to compound 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 better connection throughout the Gorge on both sides of the Columbia River
- Gorge transit needs to connect with transit on Washington side
- Potential starting points / park and ride locations
 - The Dalles
 - Mosier
 - Hood River near China Gorge and CAT offices
 - Mosier near I-84
 - Bonneville Dam and Fish Hatchery
 - Cascade Locks
 - Troutdale Airport
 - McMenamins Edgefield
 - Gateway Transit Center
- Potential destinations
 - Multnomah Falls
 - Gorge urban centers
 - Line between Hood River – The Dalles would be useful
 - Portland
- Potential rider markets
 - People who do not own cars
 - Low income populations
 - Commuters

FOCUS GROUP 7 – PRIVATE TRANSIT PROVIDERS

Dec. 9, 2015 | 1:30 p.m.

Participants	Name	Organization
	David Duncan	Gray Line Tours
	Stephen Abernathy	Greyhound
	Martin Hecht	Martin's Gorge Tours
Project staff	Name	Organization
	Steve Crosley	Nelson\Nygaard
	Brie Becker	Nelson\Nygaard
	Seth Baker	Envirolssues

Problems identified

- Waterfall corridor is heavily congested
- 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
- Driving can be dangerous in the Gorge during the winter

State of existing transportation services

- Martin's Gorge Tours
 - Helps people reach their destinations once they are in the Gorge
 - Provides guided tours and hikes
 - Operates 8-passenger van and 20-passenger coach
 - Partners with lodges and river cruises to take guests on tours
 - Markets services through website, word of mouth, chambers of commerce and referrals; moving away from printed materials
- Gray Line Tours
 - Provides daily tours from Pioneer Courthouse Square in Portland to the Gorge
 - Operate from April – November
 - Motor coaches seat 47 passengers
 - Stops at Vista House, Latourell Falls, Multnomah Falls, and Bonneville Dam and Fish Hatchery
 - Partners with local hotels, Amtrak Vacation and travel organizations
 - Market tours through online travel agencies, Travel Oregon and Travel Portland
 - Proposing a new line starting at McMenamins Edgefield using vintage style buses to tour people down Historic Columbia River Highway; Thursday – Sunday
 - Partners with Mt. Hood Railroad to shuttle people for Polar Express out of Hood River
- Greyhound
 - Operates six daily schedules through the Gorge
 - There is a small stop in Hood River and the Dalles; most people are traveling through to farther destinations

- Has national marketing campaigns and partnership with Amtrak and National Bus Traffic Association
- Tries to connect stops with local transit centers
- The Yakama Nation and Confederated Tribes of the Umatilla Indian Reservation have shuttles that operate in the Gorge

Transit challenges

- Congestion in the waterfall corridor makes it difficult to keep tours on schedule
- Bridge closures are difficult for tours
- Gray Line has adjusted tour schedule to be earlier in the day to avoid congestion
- Large coaches can fit on Historic Columbia River Highway viaducts, but non-professional drivers in other vehicles get nervous and take up too much space, causing congestion
- Bonneville Dam area may be a challenging place to find a bus stop and turnaround point
- Columbia Area Transit does not use the same location used by Greyhound and Gray Line Tours in Hood River

Opportunities

- Potential starting points / park and ride locations
 - Gateway Transit Center
 - Troutdale Outlet Mall
 - McMenamins Edgefield
 - Rooster Rock
- Potential destinations
 - Multnomah Falls
 - Cascade Locks
 - Bonneville Dam and Fish Hatchery
 - Eagle Creek
 - Hood River
 - The Dalles
 - Starvation Creek
- Potential rider markets
 - Tourists

FOCUS GROUP 8 – EAST GORGE CONGESTION

Dec. 9, 2015 | 3:30 p.m.

Participants	Name	Organization
	David Mysinger	Northeast Multnomah County Community Association
	Ernie Drapela	Historic Columbia River Highway Advisory Committee
	Kevin Gorman	Friends of the Gorge / Towns to Trails
	Wayne Stewart	Historic Columbia River Highway Advisory Committee
	Brent Laizure	Multnomah County Sheriff
Project staff	Name	Organization
	Steve Crosley	Nelson\Nygaard
	Brie Becker	Nelson\Nygaard
	Seth Baker	EnviroIssues

Problems identified

- The Columbia River Gorge is an increasingly popular destination with growing traffic congestion
- Parking facilities in Multnomah Falls and other areas along the waterfall corridor are over capacity and people are parking illegally along the Historic Columbia River Highway
- Forest Service has put boulders on roadside of Historic Columbia River Highway to prevent people from parking illegally and blocking the road
- Marketing campaigns by travel organizations have increased traffic in the Gorge significantly
- People do not have to pay for parking in places that are over capacity
- The sheriff used to tow illegally parked vehicles, but that caused more problems as people were stranded in the Gorge
- Citing parking tickets does not seem to discourage illegal parking
- Cyclists increase congestion on Historic Columbia River Highway because there are no shoulders
- It is difficult to manage parking in the Gorge because parking rules are different depending on which agency manages the land; people will avoid parking in areas where there is a parking fee
- If people have to pay to park, they will continue to do what they do now – park illegally
- There is no gate on the east entrance to the Multnomah Falls I-84 parking lot – people heading east can turn around and enter that way

State of existing transportation services

- WET Bus adapted schedule to better accommodate the amount of time hikers spend at destination, so they do not have to wait too long for the next shuttle
- WET Bus couples transit with trail concierge service – “Hike by bus”

Transit challenges

- Capacity at recreation facilities has historically been controlled by limiting parking spaces; if transit increases the number of people visiting a site, the resource could be damaged further; other capacity controls may need to be implemented
- Large buses cannot access some tourist sites like Vista House or would add to congestion on Historic Columbia River Highway
- Commuters have different destination preferences than recreationist/tourist markets – commuters do not want to spend time stopping at recreation locations

Opportunities

- Gorge communities have benefited economically from increase in Gorge traffic, and they want to continue moving people through waterfall corridor and into commercial areas
- 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
- ODOT previously identified a park and ride location in Dodson to serve Multnomah Falls
- Benson State Recreation Area could be used as a park and ride to serve Multnomah Falls
- Towns to Trails is developing a network of European style trails connecting urban areas in the Gorge; waterfalls are already connected, working on connections between Washougal – Stevenson and Hood River – The Dalles
- The two viaducts on the Historic Columbia River Highway will be reconstructed in 2017 and 2018 – transit will need to help mitigate road closures
- 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
- Potential starting points / park and ride locations
 - Multnomah Falls could be a transit hub
 - Benson State Recreation Area
 - Dodson
 - Rooster Rock State Park
- Potential destinations
 - Multnomah Falls / waterfall corridor
 - Cape Horn (Washington side)
- Potential rider markets
 - Tourists
 - Recreationists
 - Commuters – traveling to urban centers primarily using I-84

Appendix C Public Survey

The following presents the survey text that was used to develop the online survey distributed to the public.

COVER PAGE

Improving public transit in the Columbia River Gorge (along the I-84 Corridor) is among several solutions to congestion, safety, and access being studied by the Oregon Department of Transportation (ODOT) in 2016.

We are asking all interested Gorge residents and visitors to complete an online survey by January 31 as part of the *Columbia River Gorge Transit Study*. Your responses will play a major role in helping us craft attractive and useful transit options in the Gorge for residents and visitors alike.

This survey should take between 5 and 10 minutes to complete. We thank you in advance for your valuable input.

INTRODUCTION (ALL RESPONDENTS)

- Where do you currently live?
 - ZIP Code [Numeric field]
- What is your primary connection/purpose for travel within the Columbia River Gorge?
 - Visitor in the Columbia River Gorge <**Direct to visitors question set**>
 - Resident of a community within the Columbia River Gorge <**Direct to residents question set**>

VISITORS

- Which destinations do you visit in the Columbia River Gorge area and approximately how long do you stay? Leave blank if you do not visit the destination. (Note options below are ordered west to east) [Table of drop down menus]

Columbia River Gorge Transit Study | Final Report Appendices B-F
Oregon Department of Transportation, Region 1



- Destinations
 - o Portland Metro Area
 - o Corbett
 - o Vista House
 - o Rooster Rock
 - o Multnomah Falls
 - o Historic Columbia River Highway Waterfalls (other than Multnomah Falls)
 - o Historic Columbia River Highway Trailheads
 - o Bonneville Dam and Hatchery
 - o Cascade Locks
 - o Hood River
 - o Mosier
 - o Rowena Crest/Tom McCall Preserve
 - o The Dalles
 - o Other (specify) [Text field]
- Duration of stay
 - o 0-2 hours
 - o 2-4 hours
 - o 4-6 hours
 - o 6 or more hours

Trip Preferences

- When you travel to one or more of the Gorge area destinations, what is your primary mode of transportation?: [Multiple choice, select one]

- Drive/ride in a rental vehicle
- Drive/ride in a personal vehicle
- Ride a bicycle
- Use a private tour/shuttle service (specify which) [Text field]
- Other (specify which) [Text field]
- When driving or riding in a vehicle (personal or rental) for travel to one or more of the Gorge area destinations, how many people are typically in the vehicle? [Multiple choice, select one]
 - 1 (just you)
 - 2
 - 3
 - 4
 - 5 or more
- How far in advance do you typically plan your trip to Gorge area destinations? [Multiple choice, select one]
 - Day of
 - 1-2 days prior
 - 3-7 days prior
 - 2-4 weeks prior
 - More than 1 month prior
- How often, annually, do you visit Gorge area destinations? [Multiple choice, select one]
 - Once per year or less
 - 2-5 visits per year
 - 6-10 visits per year
 - 11-19 visits per year
 - 20 or more visits per year
- How long is your typical visit to Gorge area destinations? [Multiple choice, select one]
 - Short trip (1-3 hours)
 - Half a day (4-6 hours)
 - Whole day (7+ hours)
 - Overnight
 - Multiple nights
- How many different destinations do you typically visit on a single trip to the Gorge area? [Multiple choice, select one]
 - 1
 - 2-3
 - 3-5
 - 5 or more

Traffic Congestion Issues

- Do you experience traffic congestion related issues in the Gorge? (e.g., low parking availability, stuck in traffic) Where and when do these issues occur?: [Text field]
- *[Please answer this question if you have visited, or plan to visit, Multnomah Falls; otherwise skip]*

Parking at Multnomah Falls is increasingly difficult, particularly during the peak visitation times of the year where congestion leads to back-up on the Historic Highway, illegal shoulder parking, and closure of the Multnomah Falls parking area on I-84.

ODOT is looking at options to address these congestion-related issues. One solution being considered is convenient off-site parking at a nearby location coupled with a free, frequent all-day shuttle (i.e. every 15 minutes) to Multnomah Falls.

Thinking about your last visit or next visit to Multnomah Falls, would you consider an off-site parking/shuttle option? [Multiple choice, select one]

- Yes
- No
- Why or why not (comment) [text field]

Transit Service

- Thinking about your next trip to the Gorge area, how likely would you be to choose public transit instead of driving if you could access the service from the Portland Metro Area and it served the key recreational destinations and towns in the Gorge (such as Multnomah Falls, Cascade Locks, and Hood River)
 - Very likely
 - Somewhat likely
 - Not likely
 - I would not choose public transit over my current travel mode
 - Why or why not (comment) [text field]
- Where would be the most convenient place to connect to Gorge transit service in Multnomah County (via TriMet or a park and ride)? [Rank choices]
 - Downtown Portland
 - Gateway/NE 99th Ave TriMet MAX Station
 - Gresham City Hall TriMet MAX Station
 - Downtown Troutdale/Outlet Mall
 - Other [write in]
- If you were planning transit service in the Gorge, which are the recreational/tourist destinations that should be served? [Rank choices]
 - Vista House
 - Rooster Rock
 - Multnomah Falls
 - Historic Columbia River Highway Waterfalls (other than Multnomah Falls)
 - Historic Columbia River Highway Trailheads

- Bonneville Dam and Hatchery
- Rowena Crest/Tom McCall Preserve
- Corbett
- Cascade Locks
- Hood River
- Mosier
- The Dalles
- Other (specify) [Text field]

<Direct respondents to demographics questions>

LOCAL RESIDENTS

- Which destinations do you visit in the Columbia River Gorge area, what is the primary purpose of your visit, and approximately how long do you stay? Leave blank if you do not visit the destination. (Note options below are ordered west to east) [Table of drop down menus]



- Destinations
 - Portland Metro Area
 - Corbett
 - Vista House
 - Rooster Rock
 - Multnomah Falls
 - Historic Columbia River Highway Waterfalls (other than Multnomah Falls)
 - Historic Columbia River Highway Trailheads

- Bonneville Dam and Hatchery
- Cascade Locks
- Hood River
- Mosier
- Rowena Crest/Tom McCall Preserve
- The Dalles
- Other (specify) [Text field]
- Purpose
 - General visitation/sightseeing
 - Outdoor recreation (e.g. hiking)
 - Commute
 - Medical appointments
 - Shopping/errands
 - Social
- Frequency of visits
 - Daily
 - A few times per week
 - A few times per month
 - Once per month or a few times per year
 - Once per year or less
- How do you typically get around in the Gorge? [Multiple choice, select one or more]
 - Drive alone
 - Carpool/Get dropped off
 - Human services transportation (Medicaid, volunteers, DHS, Veteran's Van)
 - Columbia Area Transit
 - Skamania County Transit
 - Mt. Adams Transportation
 - Walk
 - Bike
 - Private taxi
 - Other (specify) [Text field]
- How available is a car to you for trip making?
 - I have my own car
 - I share a car with someone else
 - I do not own a car but have access to one when I need it
 - I do not own a car and sometimes have access to one
 - I do not own a car and do not have access to one.
 - I am unable to drive

- Are there trips that you would like to make but don't make due to limited car availability? [Multiple choice, select one]
 - No
 - Yes (describe) [Text field]
- Are you aware that Columbia Area Transit provides limited fixed route transit service between Hood River and The Dalles Monday through Friday, as well as one trip every Tuesday and Thursday between Hood River and the Portland Metro Area? If yes, how often do you use it? [Multiple choice, select one]
 - I am not aware of public transit in the Gorge
 - Yes, I am aware of it, but I do not use public transit in the Gorge
 - I use public transit in the Gorge occasionally [text field for routes]
 - I use public transit in the Gorge frequently [text field for routes]
- If a regular fixed route transit service (i.e. Monday-Friday or 7 days a week with service in the morning, midday and evening) were available in Gorge area, which types of trips would you use it for? [Multiple choice, select one or more]
 - Work
 - Recreation/tourism
 - Shopping/errands
 - Medical appointments
 - Regional trips
 - Getting around locally
 - Other
 - I would not use transit
- If a regular fixed route transit service (i.e. Monday-Friday or 7 days a week with service in the morning, midday and evening) were available in Gorge area, where would you take it? [Rank choices]
 - Portland Metro Area (likely requiring a connection to TriMet bus or MAX light rail to complete the trip)
 - Corbett
 - Dodson
 - Cascade Locks
 - Hood River
 - Mosier
 - The Dalles
 - Troutdale
 - Bonneville
 - Other [write in]

<Direct respondents to demographics questions>

DEMOGRAPHICS (ALL RESPONDENTS)

- What is your race/ethnicity? [Multiple choice, select one]

- Asian
- Native Hawaiian or Other Pacific Islander
- White
- Hispanic/Latino
- American Indian/Alaska Native
- African/African American
- Other
- Prefer not to answer
- What is your age group? [Multiple choice, select one]
 - <=18
 - 19-29
 - 30-45
 - 45-65
 - >=65
 - Prefer not to answer
- What is your household income? [Multiple choice, select one]
 - \$19,999 or less
 - \$20,000-\$39,999
 - \$40,000-\$59,999
 - \$60,000-\$74,999
 - \$75,000-\$99,999
 - \$100,000+
 - Prefer not to answer
- Do you consider yourself to be a person with a disability? [Multiple choice, select one]
 - Yes
 - No
 - Prefer not to answer
- Is there anything else you'd like to share? [Text Field]

Thank you for taking the time to fill out the survey. To sign up for updates on the process, visit www.GorgeTransitStudy.org, or contact Kristen Stallman, Project Manager, by email at Kristen.Stallman@odot.state.or.us or by phone at (503) 731-4957.

Appendix D Service Planning Meetings

SERVICE PLANNING MEETING 1

This memorandum summarizes the service concept planning meeting that took place at ODOT’s building in Troutdale on February 18th, 2016.

Attendees

Meeting attendees are outlined in Figure 1.

Figure 1 Meeting Attendees

Name	Organization	E-mail
Kristen Stallman	Oregon Department of Transportation (Region 1)	Kristen.STALLMAN@odot.state.or.us
Karyn Criswell		Karyn.C.CRISWELL@odot.state.or.us
Scott Klees	Pedal Bike Tours	scott@pedalbiketours.com
Brent Olson	Mid-Columbia Council of Governments (MCCOG)	brent.olson@mccog.com
Dan Schwanz		dan.schwanz@mccog.com
Margaret McNamara	Clackamas County Mt. Hood Express	mmcnamara@clackamas.us
David Duncan	Grayline of Oregon	dwd@graylineofportland.com
Susan Law	Western Federal Lands Federal Highway Administration	susan.law@dot.gov
Heidi Beirle	Clackamas County Tourism and Cultural Affairs	heidi@hood-gorge.com
Elaine Wells	Ride Connection	elainew@rideconnection.org
Leslie Garth		lgarth@rideconnection.org
Ron Nails	Hood River County Transportation District (dba as Columbia Area Transit)	cat2@gorge.net
Michele Spatz	Mid-Columbia Economic Development District	michele@mcedd.org
Dan Marchand	TriMet	marchand@trimet.org
Kristin Dahl	Travel Oregon	Kristin@TravelOregon.com
Steve Crosley	Nelson/Nygaard	scrosley@nelsonnygaard.com
Scott Chapman		schapman@nelsonnygaard.com

Name	Organization	E-mail
Bryan Blanc		bblanc@nelsonnygaard.com
David Penilton	Amercia's Hub Tours	info@hubworldtravel.com

Meeting Minutes

Steve Crosley facilitated the meeting, which was centered on a prepared presentation followed by group discussion and deliberation on service concepts. The meeting began with introductions of all attendees.

Overview

Steve Crosley began the meeting by briefly reviewing the progress of the Columbia River Gorge Transit Study to date and explained the purpose of the meeting and expected outcomes. The service planning workshop aimed to:

- Introduce preliminary service concepts
- Receive feedback on/refinements to service concepts
- Prioritize and achieve general agreement on preferred Pilot and near term concepts
- Discuss willingness to operate

Motivation and Goals of Project

Steve Crosley briefly discussed the motivation and goals of the project. He explained that the study was motivated by increasing visitation (and related congestion issues) in the Gorge, and aims to develop a transit solution that will enhance mobility for visitors and residents in the Columbia River Gorge, help mitigate congestion and safety issues, and protect the natural environment.

Project Timeline

The project began in November 2015, and will conclude in May 2016 with development of two transit service plans:

- A Pilot transit program to be deployed in the summer of 2016 (with service beginning in June)
- A Near-Term transit plan for increased service over the next 2-5 years

Concurrent Planning Efforts

Kristen Stallman then discussed concurrent planning efforts including:

- Oregon Solutions Project
 - Commissioned by Governor's office in response to congestion issues raised by the Historic Columbia River Highway (HCRH) Advisory Committee
 - Working on short-term implementable solutions to mitigating congestions issues on the HCRH
 - Three committees were work towards developing solutions through different strategies

- Safety
- Marketing and communications
- Public and private transportation provider coordination
- Gorge Tourism Studio (explained by Kristen Dahl from Travel Oregon)
 - Coordinating local stakeholders to proactively plan for tourism in the Gorge
 - Not aiming to increase visitation levels, but rather to enrich visitor experience and spread existing demand over more destinations
 - Communities like Mosier could benefit from tourism related economic development
 - Transit has been repeatedly proposed as a tool for sustainably managing tourism demand
- Clackamas County Mt. Hood Express Service Expansion study
 - This study (being conducted by LSC Transportation Consultants) is investigating the feasibility and necessary steps of expanding Mt. Hood Express transit service northward on OR-35 from Timberline Lodge to Hood River
 - Could be a connection opportunity for Near-Term service in the Gorge (via Hood River)
 - Transit expansion is incorporated into Hood River County Transit Master Plan

Market Analysis

Steve Crosley then presented a summary of the study's market analysis. The primary components of the market analysis included stakeholder interviews/feedback (focus groups conducted in December 2015) and a public survey (online survey conducted in January 2016). Key items discussed from the survey included:

- Visitor trip preferences
 - Groups of two were most frequent visitor group size – transit would be most cost effective for small groups
 - Visitors make several trips per year to the Gorge – this could increase the likelihood that some trips could be made utilizing transit
 - Visits are generally several hours in length and consist of multiple destinations – transit would have to support this desire to be viable for most markets.
- Destinations
 - Multnomah Falls was the top destination by a significant margin – it is also the site of the most acute congestion issues.
- Connection locations
 - Gateway was top preference for connection to a Gorge bound transit service.
 - The potential connection choices were limited and may not be comprehensive list of all possibilities.
- Respondent pool bias

- Survey was non-scientific – it was a convenience sample resulting from ODOT outreach efforts.
- Survey respondents were likely more interested in transit than the general population of visitors to the Gorge.
- Commuters from Hood River to Portland were likely not reached by the survey – Kristin Dahl mentioned she (anecdotally) thinks this is a common occurrence.

Service Concept Development

Steve Crosley presented the service concept development process used in this study including identification of rider markets, key destinations, and other service design elements. Rider markets were developed using the results of the stakeholder focus groups, public survey, existing conditions analysis, and project team knowledge. The three market segments developed were:

- Gorge visitors (e.g., Multnomah Falls tourists)
- Gorge recreationalists (e.g., visitors of trailheads)
- Inter-community transit riders (The Dalles/Hood River/Portland)

Potential service destinations (i.e. stops) were presented including regional connection locations, recreational destinations, and local destinations. Potential destinations presented included:

- The Dalles
- Mosier
- Hood River
- Cascade Locks
- Bonneville Dam
- Ainsworth State Park (MF shuttle)
- Multnomah Falls
- Rooster Rock (MF shuttle)
- Troutdale
- Wood Village
- Gresham Central MAX Station
- Gateway MAX Station

The following service design elements were considered during concept development:

- Routing
- Stops
- Span and frequency
- Operating costs

Service Concept Presentation

Scott Chapman presented the proposed service concepts. Meeting attendees referred to concept descriptions, concept maps and summary tables provided to attendees prior to the meeting in memo format. The service concepts presented were:

Pilot Program Concepts

- Rooster Rock to Multnomah Falls
- Ainsworth State Park to Multnomah Falls
- Gateway MAX to Multnomah Falls

Near-Term Implementation Concepts

- Gateway MAX to Hood River via Multnomah Falls (with stop variants)
- Gateway MAX to Hood River via Multnomah Falls (short/long lines)
- Gateway MAX to The Dalles via Multnomah Falls

Service Concept Discussion and Refinement

Following presentation of the primary service characteristics, the group then discussed the proposed service concepts and offered feedback on routing/scheduling/operating concerns, improvement ideas, and fatal flaws. Comments from the discussion are summarized below.

Western Termini Discussion

- Gateway TC
 - Gateway is likely the best transit connection location – three MAX lines, many bus lines from multiple systems (TriMet, C-TRAN, CAT, private shuttles).
 - Easy/quick to get to via transit from most areas of the TriMet system (benefit over Gresham TC)
 - Transit activity makes location very busy – will be difficult to claim curb space for a stop for service
 - Dan says he will have to work with TriMet to implement this. The service would likely utilize CAT's existing bus bay.
 - Gateway has parking capacity issues during the week, but not on weekends.
 - Regional market would be likely to take MAX to Gateway and then utilize transit service to reach Gorge (Elaine from Ride Connection)
- Gresham TC
 - Can connect with MAX Blue Line, eight TriMet bus lines, Sandy Area Metro bus service (and Mt. Hood Express by transfer)
 - Plenty of park and ride capacity
 - More difficult to get to by transit and car – may be less desirable for transit connection
 - David (Gray Line) said he would 'struggle to recommend' that visitors travel to Gresham Transit Center to connect with Gorge bound transit service – Gateway much better solution for most of his clientele
 - Gray Line has recently operated a Pilot van service from the Convention Center to the Gorge. It has been successful for people making short visits (e.g., business people visiting for a conference)

- 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. This concern will likely remove these stops from further discussion.
- Cascade Station or Parkrose stops? (idea raised by Dan Marchand)
 - Idea dismissed because of more difficult transit access and constrained park and ride lots

Eastern Termini Discussion

- The discussion focused on whether Hood River or The Dalles would make the most sense as an eastern terminus
 - Transit market exists in The Dalles, and The Dalles would like to encourage more visitation
 - Transit service already connects Hood River and The Dalles, so it may only be necessary to reach Hood River
 - MCOG would need further funding to increase service levels for better connecting service
 - CAT has a 50 car park and ride facility in Hood River adjacent to the CAT office
 - It is currently underutilized and has easy access to I-84.

Connections to Other Providers

- Skamania County WET Bus
 - Could connect over Bridge of the Gods in Cascade Locks (would require walking/biking across the bridge)
 - Could connect between Gateway and Fisher’s Landing using C-Tran
- Linkage with private providers at Multnomah Falls (and Ainsworth) providing service on HCRH (Gray Line, Pedal Bike Tours)

Pilot Service Feedback

Gateway MAX to Multnomah Falls (via Rooster Rock)

- Could potentially be modified to lower cost (proposed service level ~\$300k) by reducing planned service to Friday-Sunday (could cut operating costs by about 60%)
- Doubling service level (from 30 min to 15 min) would approximately double cost
- Rooster Rock may occasionally have parking capacity issues – it is used for very large parties that rent out the entire park
 - Rooster Rock has previously been preferred because of bathroom access and plentiful parking capacity

New Pilot Service Concept Proposal

- A new service concept was proposed during the discussion: a service that would circulate between Gateway TC, Multnomah Falls, and a proposed temporary parking lot at the Ainsworth State park exit of I-84 (exit 35). This would be a variant of the Gateway TC, Rooster Rock, Multnomah Falls service concept, with the satellite parking facility at Rooster Rock replaced with one at Ainsworth.

Near-Term Service Feedback

- Time to start for commuting trips? (Dan Schwanz)
 - At least 6 AM from HR to get to work in PDX
 - Existing service adjustments possible, but must be coordinated
- Existing TD-HR-PDX service
 - Currently 1 hour and 15 min from TD to Gateway
 - Bulk of ridership to PDX initially came from TD; now about 50/50 originating in HR/TD
 - Very little marketing for current CAT service
 - Generally trips from TD are not commute trips
 - Increases in trip-making in winter (TD-HR-PDX)
 - TD-HR service can accommodate 12 riders
 - TD-HR-PDX service can accommodate 18 riders
 - Cascade Locks stop is an on-demand stop, with a 6-10 min time penalty (sometimes up to 15 min), typically at central locations (Bridgeside restaurant, Cemetery Lane)
 - Mosier is also currently on-demand. Time penalty is low because the town is very convenient to highway
 - Mosier wants to put sidewalks in downtown, will make it tougher to turn around
 - CAT is thinking about 15 min dwell at MF (bathroom, and transit stop)
- Bonneville Dam stop
 - Short WB on-ramp – Dan S. said it may be an operational issue

General Feedback

- Marketing and branding plan important (emphasized by Kristin Dahl)
 - Vehicle must be comfortable and similar to a recreational shuttle experience
- Service on the HCRH will likely only be provided privately in the near future – these services will be critical to connect with and market to
- Eventually, parking will need to be charged for at Multnomah Falls, but until then it will be untenable to charge for satellite parking shuttle service
- Kristin Dahl stated that her recent study concluded only half of visitors to the Gorge are from Portland – other regional connections will be important to leverage
- Solving gate issues at the I-84 Multnomah Falls parking lot will be critical to a successful service
- Multnomah Falls parking capacity is related to recreational visitor capacity – the goal of satellite parking/shuttle access is to better manage existing demand. The effect on resources will need to be considered as well (e.g. sewer system at capacity at Multnomah Falls, trail congestion)
- Use of variable message signs (VMS) will be critical in encouraging use of park and ride service
- Bus needs to be able to carry bikes

- In the short term, this will be achieved with a bicycle rack
- Possibility for use of bicycle trailer in the future with requisite demand (idea from Mt. Hood Express)

Operations

Operators in the room were asked if any of them would be interested in operating the service. Ron Nails expressed CAT's interest in operating the service during the meeting, and elaborated on specific needs after the meeting. Other discussion items of note:

- Ride Connection would not be able to add additional service infrastructure (e.g., vehicles, drivers) in time for Pilot service. They may be able to assist in the Near-Term service.
- Dan (TriMet) said that procuring a private provider would be more likely.
- Karyn (ODOT) mentioned that ODOT procurement of private provider would be difficult to achieve on June service timeline. Amending an existing funding agreement would be the easiest path to service provision.

Conclusion and Next Steps

A vote was taken on the Pilot service concepts, with the top two service alternatives being (1) a Gateway TC-Multnomah Falls-Ainsworth Park and Ride service and (2) being an Ainsworth Park and Ride-Multnomah Falls service. The former would serve both visitors using transit for the entirety of their trip and just utilizing the service as a parking shuttle. The latter would just serve the parking shuttle market – but would be significantly cheaper and may be a reasonable worst case scenario option. Rooster Rock could also be substituted for the Ainsworth park and ride. Ease of implementation at Ainsworth or Rooster Rock will play a key role in satellite parking facility selection. With so much discussion focused on Pilot, a similar vote on Near-Term service was not possible and further refinement of those options is still needed.

Next Steps

- Research Ainsworth vs. Rooster Rock parking lot feasibility for park and ride
- Explore operations planning with CAT or other operator
- Address Multnomah Falls I-84 parking gate opening issue
- Explore Federal Lands funding opportunities with FHWA
- Further refine Near-Term service concepts
- Prepare for policymaker presentation and public feedback

SERVICE PLANNING MEETING 2

This memorandum summarizes the service concept planning meeting that took place at ODOT's District 2C building in Troutdale on March 30th, 2016.

Attendees

Meeting attendees are outlined in Figure 2.

Figure 2 Meeting Attendees

Name	Organization	E-mail
Kristen Stallman	Oregon Department of Transportation (Region 1)	Kristen.STALLMAN@odot.state.or.us
Karyn Criswell		Karyn.C.CRISWELL@odot.state.or.us
Margaret McNamara	Clackamas County Mt. Hood Express	mmcnamara@clackamas.us
David Duncan	Grayline of Oregon	dwd@graylineofportland.com
Susan Law	Western Federal Lands Federal Highway Administration	susan.law@dot.gov
Krisitin Austin	United States Forest Service	kristinaaustin@fs.fed.us
Heidi Beirle	Clackamas County Tourism and Cultural Affairs	heidi@hood-gorge.com
Ron Nails	Hood River County Transportation District (dba as Columbia Area Transit)	cat2@gorge.net
Deanna Bisbee		bus@gorge.net
Michele Spatz	Mid-Columbia Economic Development District	michele@mcedd.org
Dan Marchand	TriMet	marchand@trimet.org
Jeff Pietka	Evergreen Escapes	jpietka@evergreenescapes.com
Scott Bricker	Travel Oregon	sbricker@traveloregon.com
Steve Crosley	Nelson/Nygaard	scrosley@nelsonnygaard.com
Scott Chapman		schapman@nelsonnygaard.com
Bryan Blanc		bblanc@nelsonnygaard.com

Meeting Minutes

Steve Crosley and Karyn Criswell facilitated the meeting, which began with a prepared presentation and ended with a discussion of Near-Term service concept refinement. The meeting began with introductions of all attendees.

Overview

Karyn Criswell began the meeting by stating the purpose, format, and expected outcome of the meeting:

1. Update meeting attendees on the progress of Pilot service planning and implementation
2. Discuss Near-Term service concept proposal and refine alternatives

Steve Crosley cited the goals of the project and its synergies with ongoing planning efforts. He then discussed the progress of the Columbia River Gorge Transit Study to date and what tasks remain before project completion.

Pilot Service

Steve presented the Pilot service proposal, which is designed to serve Multnomah Falls visitors and recreationalists. The Pilot service will travel to Multnomah Falls with two connection points for two markets:

- Connection with TriMet (and others) at Gateway Transit Center – this serves the car-free or market.
- Park and ride along I-84 to mitigate congestion and parking issues – this serves the driving market. This will likely be located at Rooster Rock, but construction of a new parking facility at the Ainsworth State Park exit off I-84 is a possible alternative. Parking fees will be waived at Rooster Rock for shuttle riders.

The service was proposed to operate Friday-Sunday (plus major holidays), 9 AM – 6 PM, at 30 minute headways. Fares would be free from the park and ride facility and \$5 round-trip from Gateway Transit Center. The bus service would be marketed and branded as an independent shuttle service. The Pilot service would be accompanied by a performance monitoring program and a rider survey.

Funding and Operations

Karyn then discussed details of funding and operations for the Pilot service. The service would be operated by MTR Western (under an existing contract with ODOT). ODOT Rail and Public Transit Division (RPTD) has set aside \$300,000 for Pilot service in summer 2016 and 2017 from 5311 surplus funds.

ODOT is working with U.S. Forest Service and Western Federal Lands FHWA to potentially reallocate additional funds towards the Pilot service from a Federal Lands Access Program (FLAP) grant. ODOT and the Forest Service still have to work through a plan for mitigating issues associated with the potential increased visitation to Multnomah Falls, which currently has capacity issues (e.g., restroom, trail crowding).

Marketing Plan

ODOT is working to finalize the marketing plan, and would like to convene a meeting of stakeholders to prioritize marketing action items. This marketing effort will likely tie in with Travel Oregon's separate marketing campaign focusing on congestion/safety issues and 'recreating with respect'. Karyn also emphasized that schedules and service levels should be established before marketing begins.

Reactions and Potential Revisions

There were several reactions and concerns with the proposed Pilot service plan. Kristen Stallman informed the group that stakeholders at the Oregon Solutions meeting (held the previous night) were concerned that 30 minute headways at the park and ride stop (likely Rooster Rock) for the Pilot service would be inadequate. Susan Law voiced the same concern, and suggested that headways at the park and ride be reduced to 15-minute service to be more likely to attract park and ride travelers to the service. It was also expressed that 30-minute service at Gateway Transit Service may be more than necessary, and it was recommended that an alternate service plan be considered that provides more service to the park and ride, and less service to Gateway Transit Center.

Steve Crosley voiced concerns that the 15-minute headway bus service from Rooster Rock in combination with a 45-60 minute service from Gateway may not be possible without adding an additional bus to what was currently envisioned to be a 3 bus operation. Steve also cautioned that ridership may not be adequate for these frequencies, and it may be possible to adjust service levels in response to ridership.

Susan Law raised the issue of buses potentially becoming filled to capacity with riders at Gateway and not being able to accept any additional riders at Rooster Rock. This possibility further supports increased service from Rooster Rock, and may point to the necessity of two separate routes operating:

- One route would operate from Gateway Transit Center and travel to Multnomah Falls via Rooster Rock.
- One route would operate only between Rooster Rock and Multnomah Falls.

This would resemble a long-line/short-line configuration. The other possibility would be to link the two origin-destination pairs with separate routes, but this would likely require 4 buses to serve at the desired frequency.

Scott Chapman raised the possibility of allowing passengers to stand from Rooster Rock to Multnomah Falls if capacity issues arise.

Monitoring Program

Karyn described her vision for a Pilot service monitoring committee that would ideally meet every 3-4 weeks to discuss Pilot service performance and issues that may arise. Likely topics would be ridership, scheduling, parking issues, etc. Likely stakeholders would include TriMet, CAT, Travel Oregon, the U.S. Forest Service, and others. The monitoring program would include a user survey to understand the preferences of riders. The monitoring program would include tracking of boardings and alightings, in addition to any passenger denials that occur because of capacity issues.

Multnomah Falls Parking Lot Gate Issue

Karyn described the issues associated with the gate from I-84 EB to the Multnomah Falls parking lot, which is currently utilized to prevent drivers from entering the parking lot when it is full. The gate would have to be raised for the transit service, but the gate currently takes approximately 3 minutes to open, which would be problematic for the reliability of the service. Estimates of technological improvements to the gate are between \$100,000-200,000, which would likely not be possible within the Pilot service time frame for summer 2016. Possibilities for circumventing the gate include only traveling into Multnomah Falls from I-84 WB (which would require the bus to turn around at the next exit downstream, exit 35 (Ainsworth State Park)), or leaving the gate open and using signage to direct motorists away from the parking lot. The Multnomah Falls parking lot likely needs at least one staff-person to flag motorists and direct traffic.

Multnomah Falls Capacity Issues

Kristin Austin (U.S. Forest Service) raised concerns of capacity issues at Multnomah Falls, and is wary of increased visitation supported by the Pilot service. Kristen Stallman mentioned that while additional visitation is possible, mode shift will also likely occur, so increased visitation is not inevitable. The Forest Service continues to be an important partner that will need its concerns addressed.

Near-Term Service

Scott Chapman presented on the Near-Term service concepts by first discussing the markets served, then discussing potential stops, and then delving into details of stop-level routing.

Markets

Scott introduced the markets to be served by the Near-Term service as illustrated in Figure 3.

Figure 3 Near-Term Service Markets

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

Stops/Routing

Stops and routing adjacent to the stops were discussed by Scott and the group. Susan Law proposed the idea of making some stops flag/call-ahead stops, such as Troutdale or Bonneville Dam.

Gateway Transit Center

Dan Marchand generally agreed with the proposed routing at Gateway Transit Center, but will investigate further with TriMet. He also mentioned that TriMet would not support passengers of the Gorge service utilizing TriMet's restrooms at Gateway.

Troutdale

Kristen mentioned that she did not see much benefit to the Troutdale stop, given its proximity to Rooster Rock. It is likely that those who would drive to the Gorge anyways would be more likely to stop at Rooster Rock rather than Troutdale. Heidi Beirle favored a stop in Troutdale but for the rest of the stakeholder group the stop was prioritized lower than others.

Rooster Rock or Ainsworth

It is assumed that the Near-Term service would include a park and ride stop at Rooster Rock or Ainsworth.

Multnomah Falls

The Multnomah Falls routing proposed was generally agreed upon, but would be subject to change based on the resolution of the Multnomah Falls gate issue. Eastbound and westbound buses would stop at the same location. A potential issue to be resolved would be the traffic created by vehicles searching or pulling in/out of parking spaces; this could potentially be mitigated by

traffic flagging staff. Dan Marchand raised the idea of adding a headsign (a window sign) to the buses since it could be confusing for passengers to know which direction the buses were heading (though this would only apply to the Near-Term service).

Bonneville Dam

Bonneville Dam is envisioned as a possibility for accessing additional recreational destinations (such as Eagle Creek) without adding substantial additional travel time. Heidi Beirle said that the >1 mile walk to Eagle Creek would be palatable for those trying to reach the recreational destination, especially given the constrained parking at the site. Wachlella Falls can also be reached from a Bonneville Dam stop. ODOT will engage the Army Core at Bonneville Dam to further discuss the Bonneville Dam stop.

Cascade Locks

CAT (Ron Nails) recently investigated the feasibility of installing a permanent stop in Cascade Locks, and is positive about the possibility of placing a permanent stop adjacent to the Bridge of the Gods (at either the trailhead, or adjacent to the Bridgeside restaurant). The possibility of having a second stop in eastern Cascade Locks (near Marine Park or the Cascade Locks Cemetery)

Hood River

Stops are proposed in Hood River at the waterfront (north of I-84), the Hood River Hotel, and CAT’s park and ride. David Duncan raised the possibility of stopping one block north at the existing Greyhound stop location (as opposed to the Hood River Hotel). CAT will continue to offer support on detailed routing and stop locations.

Service Levels

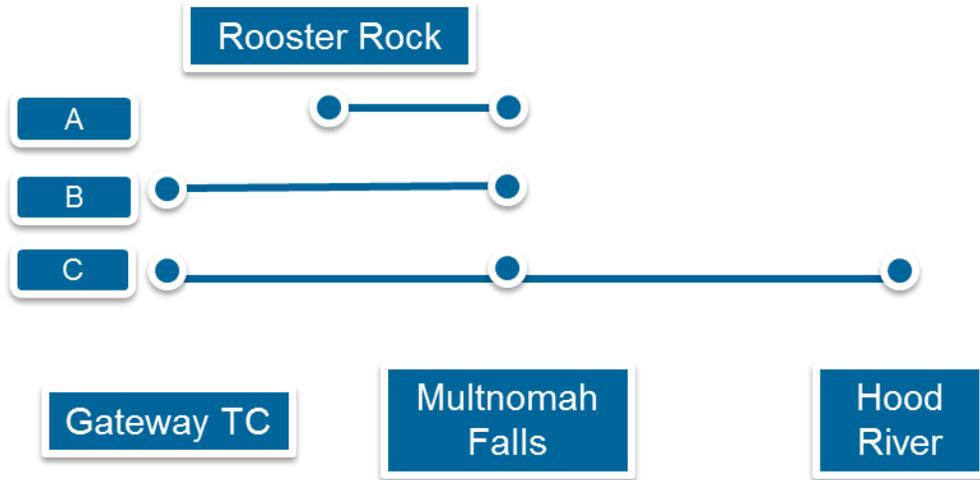
Scott engaged the group in an exercise of voting for service levels for the Near-Term service. The Near-Term service was originally proposed to operate as a short-line/long-line route, as diagrammed in Figure 4.

Figure 4 Near-Term Short Line/Long Line Concept



Based on stakeholder feedback that recommended improved headways between the satellite parking facility (i.e. Rooster Rock) and Multnomah Falls, a revised Near-Term service delivery concept was favored by the group, resulting in a three-line operation concept, as shown in Figure 5.

Figure 5 Near-Term Service Three Line Concept



Workshop participants were then asked their opinion on how to match service levels with market needs. A framework for matching service alternatives to transit markets was presented, offering for consideration “modular” service options that provide specific levels of service to Multnomah Falls and to Hood River based on time of year and # of daily round trips. Using the matrix format, each stakeholder was asked to vote on his or her preferred Near-Term service option. The approximate consensus reached on service levels for these periods is described in Figure 6.

Figure 6 Figure 7 Near-Term Service Level Proposal

Season	Days of Week	Line A (RR-MF) Line B (GTC-MF) Line C (GTC-MF-HR)	Service Level	
			Trips per Day (assuming 12 hr. service day)	Headways (minutes)
Summer	Monday - Thursday	A	48	15
		B	12	60
		C	6	120
	Friday-Sunday	A	48	15
		B	12	60
		C	6	120
Winter	Monday – Friday	A	N/A	N/A
		B	N/A	N/A
		C	2	360
	Saturday – Sunday	A	N/A	N/A
		B	N/A	N/A
		C	3	240

Next Steps

The meeting was drawn to a close by Karyn Criswell and Steve Crosley. The remaining project tasks were briefly discussed. Two upcoming related studies were briefly discussed:

- Fare reciprocity
 - There is an upcoming electronic fare study with TriMet. CAT could possibly be integrated into this system.
- HRCTD TMP

The Near-Term service concepts and planning will become part of the improvement options considered in HRCTD's upcoming Transit Master Plan. The Near-Term service concepts will be fleshed out into a service plan as part of this process.

Appendix E Detailed Routing Maps

The following detailed routing maps are intended to provide guidance on how to specifically route the Pilot and Near-Term service vehicles as well as stop locations.

Figure 8 Detailed Routing/Stop Map at Gateway Transit Center



Figure 9 Detailed Routing/Stop Map at Rooster Rock State Park

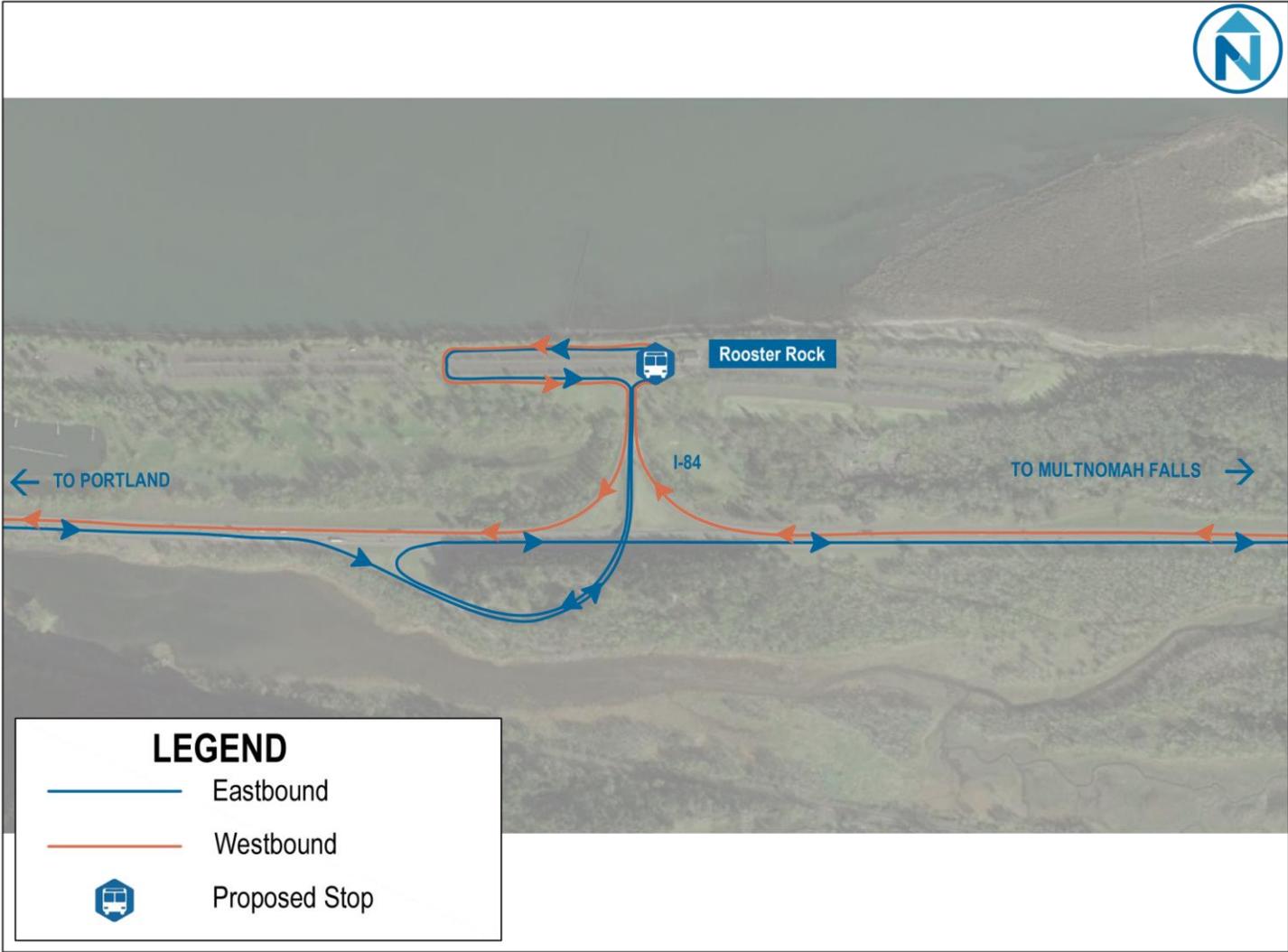


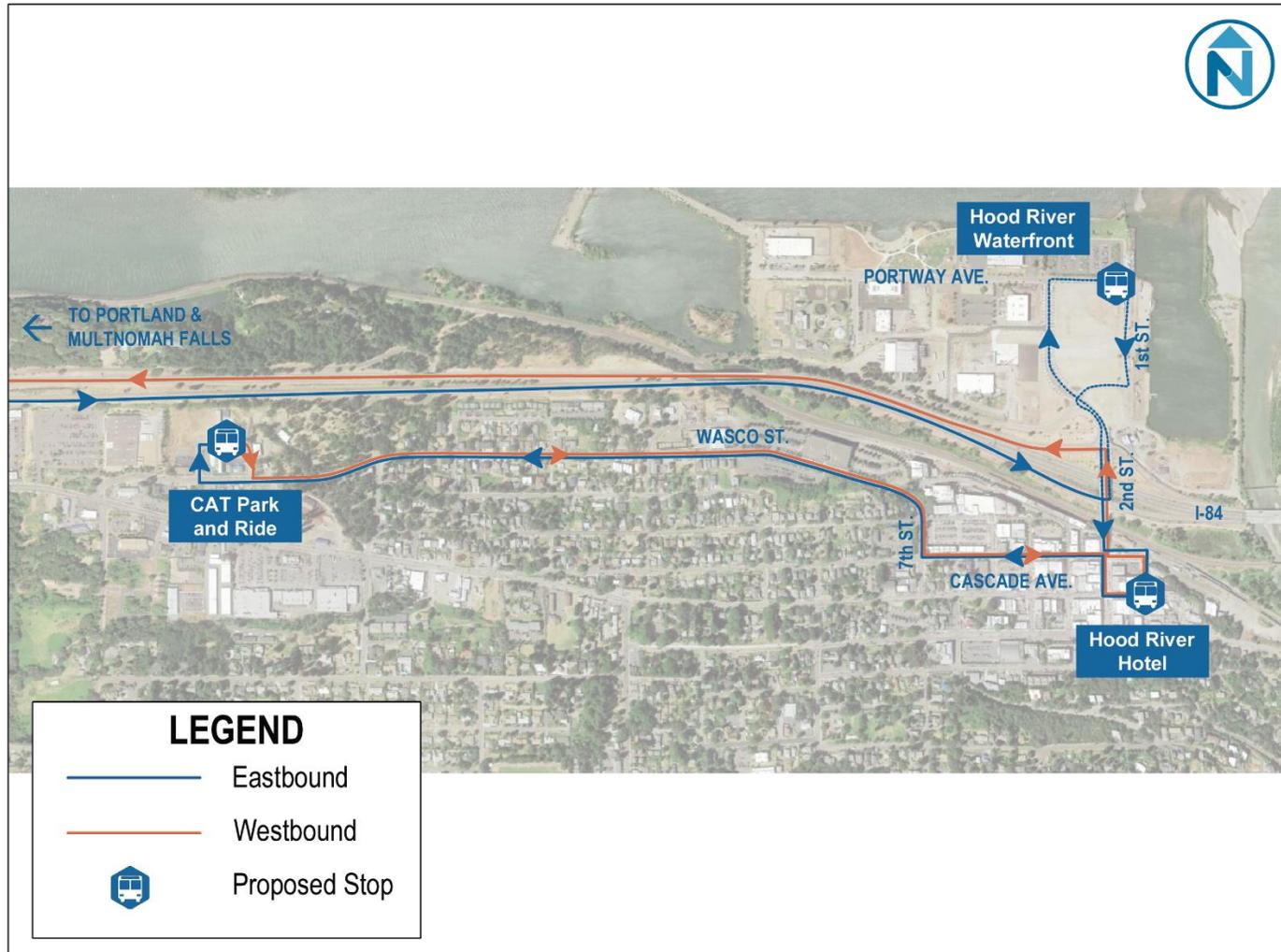
Figure 10 Detailed Routing/Stop Map at Multnomah Falls



Figure 11 Detailed Routing/Stop Map at Cascade Locks



Figure 12 Detailed Routing/Stop Map at Hood River



Appendix F 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. Below is a full explanation of the methodology used, detailed ridership estimates, and limitations the methodology.

METHODOLOGY

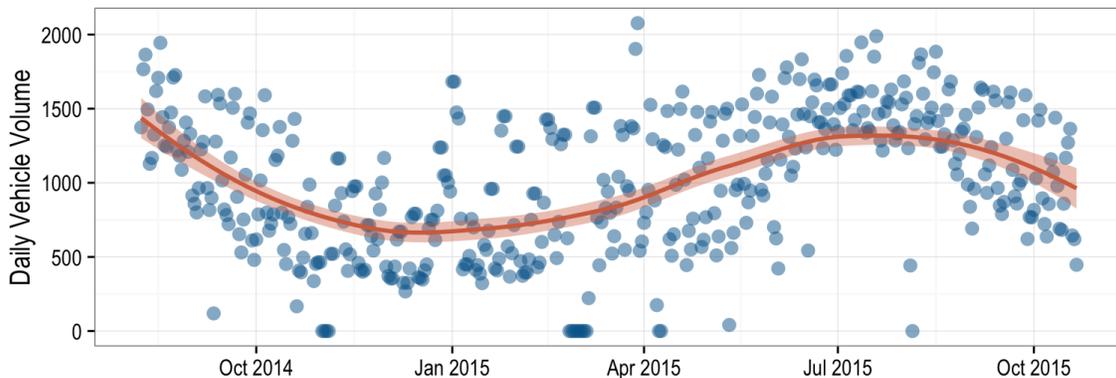
The ridership estimate for the Pilot service was based on several sources of data and assumptions:

- 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 **Error! Reference source not found.**)
- 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.

MULTNOMAH FALLS TRAFFIC CONDITIONS

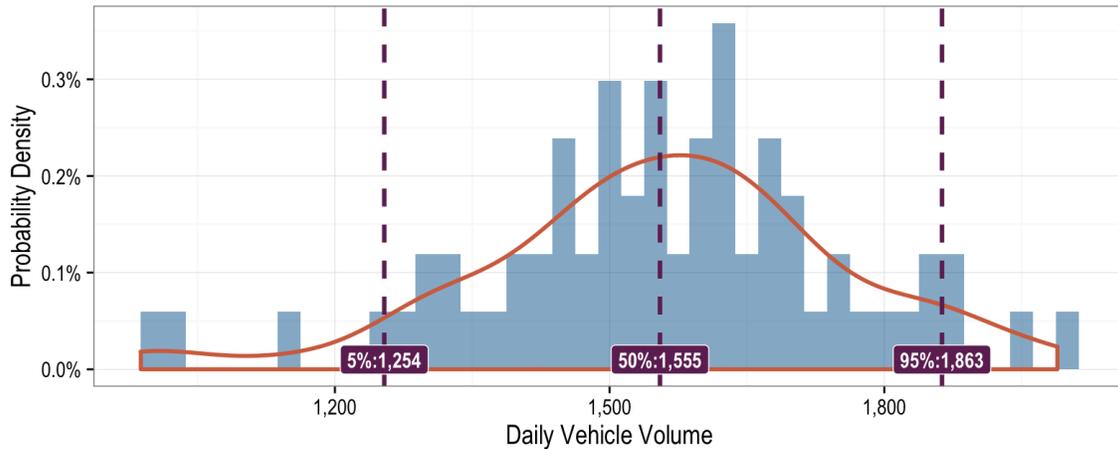
Vehicle volume data from an automated traffic counter counting vehicles entering the I-84 Multnomah Falls parking lot were used to estimate demand. Daily vehicle volume between October 2014 and October 2015 is illustrated in Figure 13. The distribution of the peak season subset of this data that applies to service days of the proposed Pilot service (May-September, Friday-Sunday and major holidays) is illustrated in Figure 14. Low (5th percentile), medium (50th percentile, i.e. median), and high (95th percentile) volumes are denoted on Figure 14, and are used in the following ridership estimation.

Figure 13 Daily Multnomah Falls I-84 Access Vehicle Volume (2014-2015)



Source: ODOT I-84 Exit 31 Vehicle Counts

Figure 14 Distribution of Multnomah Falls I-84 Parking Lot Vehicle Volumes



Source: ODOT I-84 Exit 31 Vehicle Counts (May- September 2015, Friday-Sunday and Major Holidays)

MUIR WOODS SHUTTLE

The Muir Woods National Monument is located in Mill Valley, CA and is about 16 miles (a 35-minute drive) from downtown San Francisco. The Muir Woods shuttle was chosen as a peer to the Gorge Pilot service because of several similarities:

- The Muir Woods shuttle service development was also motivated by constrained parking facilities and rapidly increasing visitation
- It provides transit service to a recreational site near a major metropolitan area. Car-free trips can be made to the recreational site from the metropolitan area by transferring between transit services – visitors can connect to the Muir Woods shuttle by using Golden Gate Transit buses or ferries.
- The Muir Woods is not an isolated scenic area – it is adjacent to two major highways (CA SR 1 and US 101). The Gorge also has two major highways running through it (I-84 and Washington SR 14).

The Muir Woods Shuttle began operation in 2005 as a Pilot project with the objective of providing an alternative to automobile access in an effort to mitigate parking issues within the National Monument. Over the past eleven seasons of operations, ridership has increased and service has expanded from a summer weekend service to a daily service operating throughout the spring, summer and fall. Eleven years of Muir Woods Shuttle Evaluation reports were briefly reviewed for comparison to the Gorge transit service.

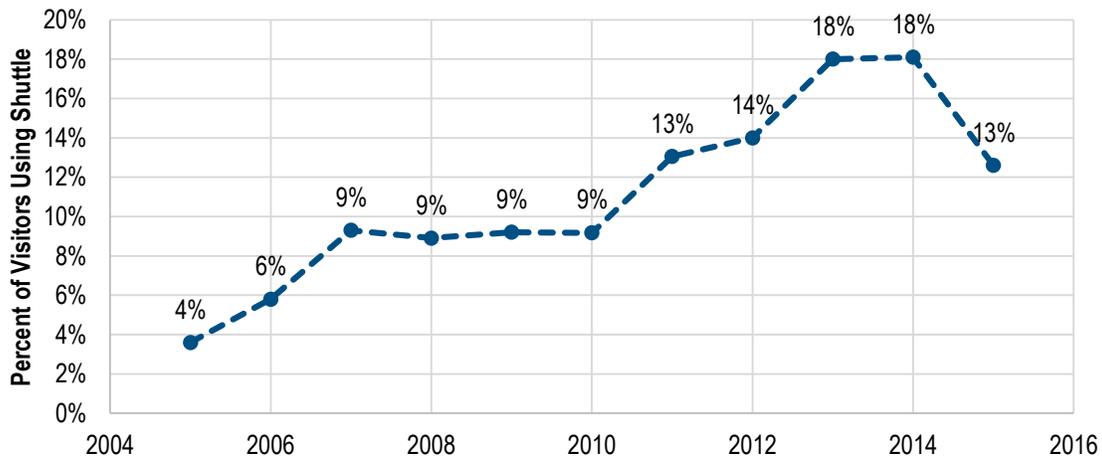
Service began as a shuttle operating between Marin City and the Muir Woods National Monument on weekends and holidays during the peak summer season (Memorial Day through Labor Day); providing 969 service hours at a 30-minute frequency. In 2015, the service had grown geographically and temporally:

- A route starting further south (closer to San Francisco) in Sausalito was added to connect with the Sausalito Ferry Terminal (which has ferry transport to San Francisco).
- Service is now provided from April 4th through October 25th, with a total of 4,413 service hours provided in 2015. Pilot weekday service was added in 2015 at a 30-minute frequency. Weekend service now operates at a 10-minute frequency during the peak

summer season (Memorial Day through Labor Day), and 20-minute frequency during the shoulders (April-May and September-October).

As the service has expanded and become more widely marketed, ridership has grown considerably. The annual percentage of all Muir Woods visitors traveling the National Monument using the shuttle (on shuttle service days) between 2005 and 2015 is presented in Figure 15. Average shuttle mode share approached one fifth of all visitors (18%) in 2013-2014, and dropped to 13% in 2015 due to the addition of more service days (weekdays). Shuttle mode share (for all visitors to the monument) was as high as 25% on the busiest days of the season.

Figure 15 Percentage of Annual Muir Woods Visitors Using Shuttle on Service Days



Source: Muir Woods Shuttle Evaluation Reports, 2005-2015

Examining the Muir Woods shuttle provides a rough range of visitor capture rates. In the shuttle program’s infancy, the mode share was 4% of visitors for the year, while in 2015, it captured 13%. During peak periods of the summer, visitor capture rates could be as high as 25%. It is likely the Gorge transit service will be on the low end of the percentages reviewed above for several reasons:

- The Gorge transit service will be new, and it will take some time for visitors to become aware of the option and willing to use it.
- Visitation behavior at Multnomah Falls is different than that at Muir Woods in that many visits are typically shorter, and visits are typically trip-chained with other destinations in the Gorge.

SCENARIO ESTIMATIONS

Ridership estimations were generated for range of scenarios from the above data and assumptions. The two main variables considered to differentiate scenarios were: 1) vehicle volume and 2) visitor transit capture rate. Estimates were differentiated between trips originating at Rooster Rock and Gateway Transit Center as capture rates were expected to be different for the two origins as a function of different service levels and different market characteristics.

The following formula was used to calculate a ridership estimate across all scenarios:

$$\begin{aligned}
 & \text{Estimated Daily Ridership (\# passengers per day)} \\
 & = \text{Vehicle Volume (vehicles per day)} \times 2.5 \text{ Passengers per vehicle} \\
 & \times 0.85 \text{ (service span adjustment)} \times \text{Visitor Capture Rate (\%)}
 \end{aligned}$$

The range of scenarios considered and resultant ridership estimates are presented in Figure 16 and Figure 17. The volumes utilized in the low, medium, and high vehicle volume scenarios are the 5th, 50th, and 95th percentile daily vehicle volumes between May and September 2015 (as discussed above) on days when the shuttle would be in operation (Fridays, Saturdays, Sundays, and major holidays). Transit capture rates were estimated within the range of rates observed for the Muir Woods Shuttle. As a simple estimate, it is assumed the visitor capture rate at Gateway Transit Center will be half of the visitor capture rate at Rooster Rock in each scenario.

Estimated daily ridership values were divided by the number of buses per day serving the origin stop of the estimate to calculate average vehicle loads. Given that the vehicles that will be utilized have as seated capacity of 22-25 passengers (22 with 2 passengers in wheelchairs, 25 with no wheelchairs), average loads equal to or greater than 22 are highlighted.

Only the highest visitor volume and transit capture rate scenarios would result in full or over-capacity buses, which may result in passenger denials. Operations can be reassessed for improvements if this occurs. It can be expected that ridership scenarios 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.

Figure 16 Pilot Service Ridership Estimates (Daily Round Trips)

Multnomah Falls Vehicle Volume Assumption		% of Visitors Riding Shuttle Assumption		
		Low	Medium	High
		6%	12%	18%
Low	1250	160	320	480
Medium	1550	200	400	600
High	1860	240	480	710

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Oregon Department of Transportation, Region 1

Figure 17 Full Pilot Service Ridership Estimation Scenarios

Vehicle Volume Scenario	Vehicle Volume	Transit Capture Scenario	Visitor Transit Capture Rate	Estimated Daily Ridership	Number of Bus-Trips per Day	Passengers per Bus	Fare Revenues per day @ \$5 per passenger (\$/day)
Rooster Rock Origins							
Low	1,254	Low	4%	107	30	4	\$0
Low	1,254	Medium	8%	213	30	7	\$0
Low	1,254	High	12%	320	30	11	\$0
Medium	1,555	Low	4%	132	30	4	\$0
Medium	1,555	Medium	8%	264	30	9	\$0
Medium	1,555	High	12%	397	30	13	\$0
High	1,863	Low	4%	158	30	5	\$0
High	1,863	Medium	8%	317	30	11	\$0
High	1,863	High	12%	475	30	16	\$0
Gateway Transit Center Origins							
Low	1,254	Low	2%	53	12	4	\$266
Low	1,254	Medium	4%	107	12	9	\$533
Low	1,254	High	6%	160	12	13	\$799
Medium	1,555	Low	2%	66	12	6	\$330
Medium	1,555	Medium	4%	132	12	11	\$661
Medium	1,555	High	6%	198	12	17	\$991
High	1,863	Low	2%	79	12	7	\$396
High	1,863	Medium	4%	158	12	13	\$792
High	1,863	High	6%	238	12	20	\$1,188
Total							
Low	1,254	Low	6%	160	30	5	\$266
Low	1,254	Medium	12%	320	30	11	\$533
Low	1,254	High	18%	480	30	16	\$799
Medium	1,555	Low	6%	198	30	7	\$330
Medium	1,555	Medium	12%	397	30	13	\$661
Medium	1,555	High	18%	595	30	20	\$991
High	1,863	Low	6%	238	30	8	\$396
High	1,863	Medium	12%	475	30	16	\$792
High	1,863	High	18%	713	30	24	\$1,188

Note: **Bold red cells** indicate that the average number of passengers per bus is greater than or equal to 22 (the capacity of the vehicles)

ESTIMATE LIMITATIONS

There are several limitations to the ridership estimates presented, and the estimates are only intended to be used for sketch planning purposes. The estimates make several assumptions that may be inaccurate or imprecise, as discussed below.

The assumption is made that Multnomah Falls can be compared to the Muir Woods as a peer site. Realistically, the locations and scenarios have several key differences. These properties (among others) could increase or decrease the ridership estimates:

- The nature of visitation behavior to the recreational site
- Distance from a major metropolitan area
- Size of adjacent metropolitan area
- Different transportation system assets and constraints including transit availability and parking facility capacity

The assumed vehicle occupancy rate (calculated from the results of the general public survey) may not be representative of all visitors to Multnomah Falls, and vehicle occupancy may vary by factors not considered, such as time of day. Higher assumed average vehicle occupancy would increase the ridership estimates and vice versa.

It is assumed that only visitors traveling to Multnomah Falls via the I-84 parking lot would be diverted to taking the shuttle. This estimation decision was made because of the categorical differences between the markets that would travel to Multnomah Falls via the HCRH as opposed to those arriving via I-84. The HCRH market is assumed to be primarily comprised of those visitors who would like to visit multiple destinations along the HCRH. The shuttle would therefore not serve their needs, as they would only be able to visit Multnomah Falls. This may be a conservative assumption, and it is likely some amount of visitors may adjust their travel plans to center their visits around Multnomah Falls so that the shuttle would fit their needs. Therefore, this limitation may contribute to a slight underestimation of riders.

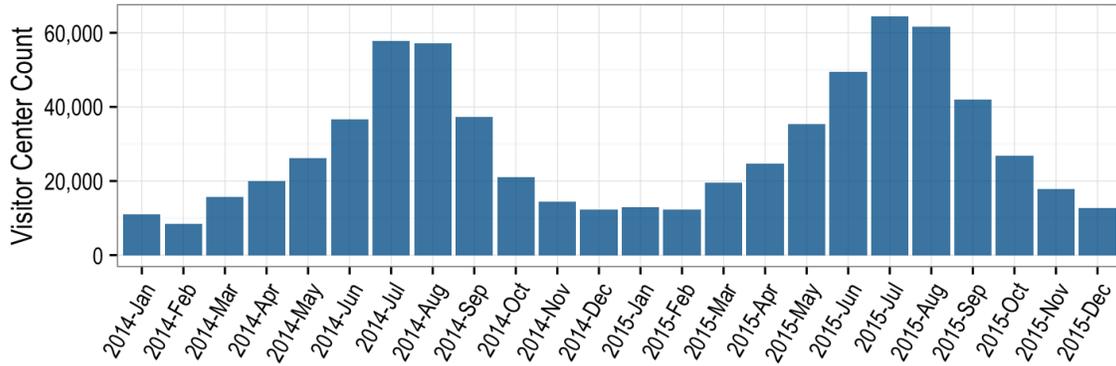
The assumption of the service hour adjustment (0.85) is based on a rough estimate corroborated with the experience of the Multnomah Falls Park Ranger. The ridership estimate assumes this applies across all service days, which may not be accurate. If more visitors visit outside the service hours, the ridership estimates would be lower, and vice versa.

The ridership estimate also assumes that the vehicle volumes at the I-84 lot are strongly predictive of visitation levels. This limitation was further investigated by obtaining actual visitation data pertaining to Multnomah Falls from the U.S. Forest Service. Visitation counts are only tracked for those visiting the Visitor Center, so it is difficult to extrapolate actual visitation levels for the entire site. The Forest Service estimates 10% of all visitors enter the Visitor Center, which puts the estimated total annual number of visitors between 3.5-4 million; this estimate is much higher than previous estimates of 2-2.5 million¹, and so 10% may not be an accurate assumption. Therefore, the visitor counts alone cannot be used alone to predict ridership, but having the additional dataset allowed for a correlation of Visitor Center visitation levels and I-84 vehicle volumes. Visitor Center counts during 2014 and 2015 are presented in Figure 18, and the association of the Visitor Center counts to vehicle counts during October 2014-October 2015

¹ Multnomah Falls Visitation Estimates: <http://www.fs.usda.gov/recarea/crgnsa/recarea/?recid=30024>,
<http://www.multnomahfallslodge.com/aboutus.html>

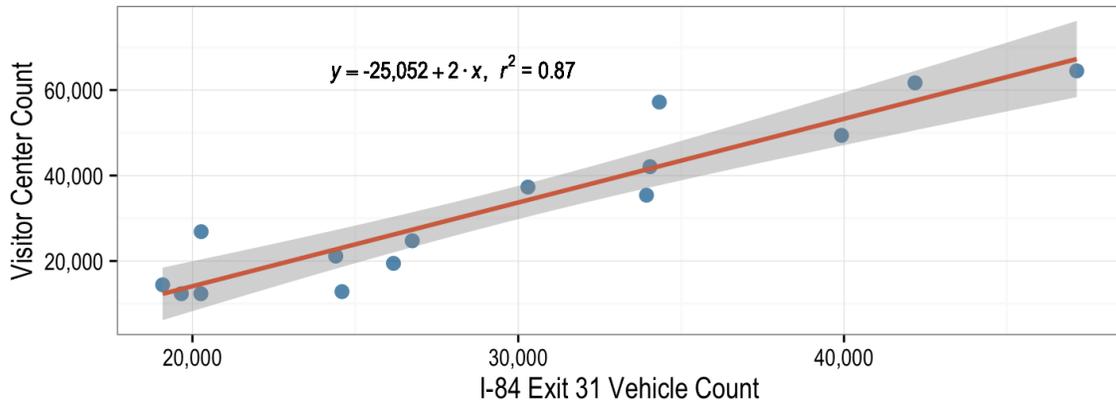
(when vehicle counts were available) is illustrated in Figure 19 with an accompanying linear regression model. The results seem to indicate that, despite the fact that neither variable is wholly representative of the total number of visitors at Multnomah Falls, the I-84 vehicle volumes are at least strongly predictive of visitation levels.

Figure 18 Multnomah Falls Visitor Center Counts (2014-2015)



Source: U.S. Forest Service

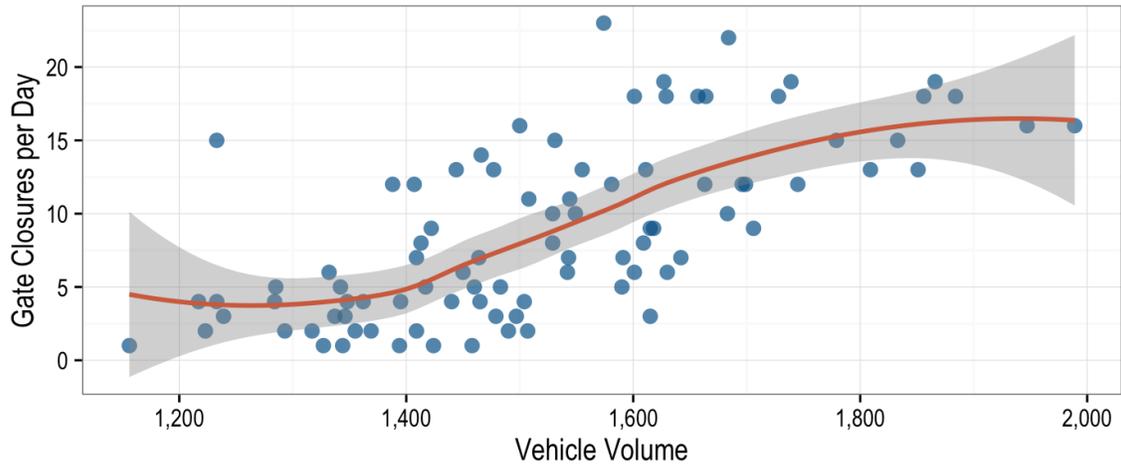
Figure 19 Multnomah Falls Visitor Center Counts vs. I-84 Exit 31 Vehicle Counts (October 2014-October 2015)



Source: U.S. Forest Service, ODOT I-84 Exit 31 Vehicle Counts

Finally, another limitation of the ridership estimation is that it extrapolates from present visitation levels; this may be a faulty assumption because of at least two factors: 1) visitation levels are likely to continue to increase regardless of service provision (see Chapter 2), and 2) there may be latent demand for visitation to Multnomah Falls that is not being served because of congestion and capacity limitations. The number of gate closures per day of the I-84 Multnomah Falls parking lot indicates the frequency at which the parking lot is at capacity. The number of gate closures per day as a function of vehicle volumes during the peak visitation season of 2015 (May-September) are illustrated in Figure 20. This graph seems to indicate that there is a peak number of times per day the gate will be closed as a function of volume, which may point to latent demand that is not being met at Multnomah Falls currently. This may mean that the ridership estimates above rely on an underestimate of the demand for visitation to Multnomah Falls, which would mean that actual ridership for the service may be higher than the estimates.

Figure 20 Daily Multnomah I-84 Vehicle Volumes Falls vs. Gate Closures (May-September 2015 on days where there was at least one gate closure)



Source: ODOT I-84 Exit 31 Vehicle Counts and Daily Gate Closures