



MEMORANDUM

To: Jake Warr
From: Nelson\Nygaard
Date: April 13, 2018
Subject: CGE Community Survey Analysis

INTRODUCTION

This memorandum presents an analysis of the survey responses received for the Columbia Gorge Express (CGE) Expansion survey, which was open for responses from March 28 to April 11, 2018.

A total of 2,799 responses were received. Responses with less than 10% of questions completed were removed from the data set, leaving 2,533 responses for analysis. The distribution of percentage completion among responses is shown in Figure 1. In each of the following figures and analyses, **percentages are based on the total number of respondents available for that particular question**. Each figure shows an “N” value that equates to the number of people who responded to the question.

Figure 1 Percentage Completion of Survey responses

Percent Completion	# of Responses	% of Responses	Responses Kept in Analysis Set?
0% -10%	266	9.5%	No
10% - 50%	238	8.5%	Yes
50%-75%	197	7.0%	Yes
75% - 100%	2,098	75.0%	Yes
Total	2,799	100%	-

Figure 2 illustrates when responses were received during the survey window, while Figure 3 shows how respondents were referred to the survey. The survey was initially distributed to the CGE email list, project stakeholders, and marketing partners. 500 responses were received in the first three days, and then participation was lower until April 4, when TriMet distributed the survey link via their Riders Club email list. This boosted respondents significantly.



Figure 2 Survey Responses (N=2,533)

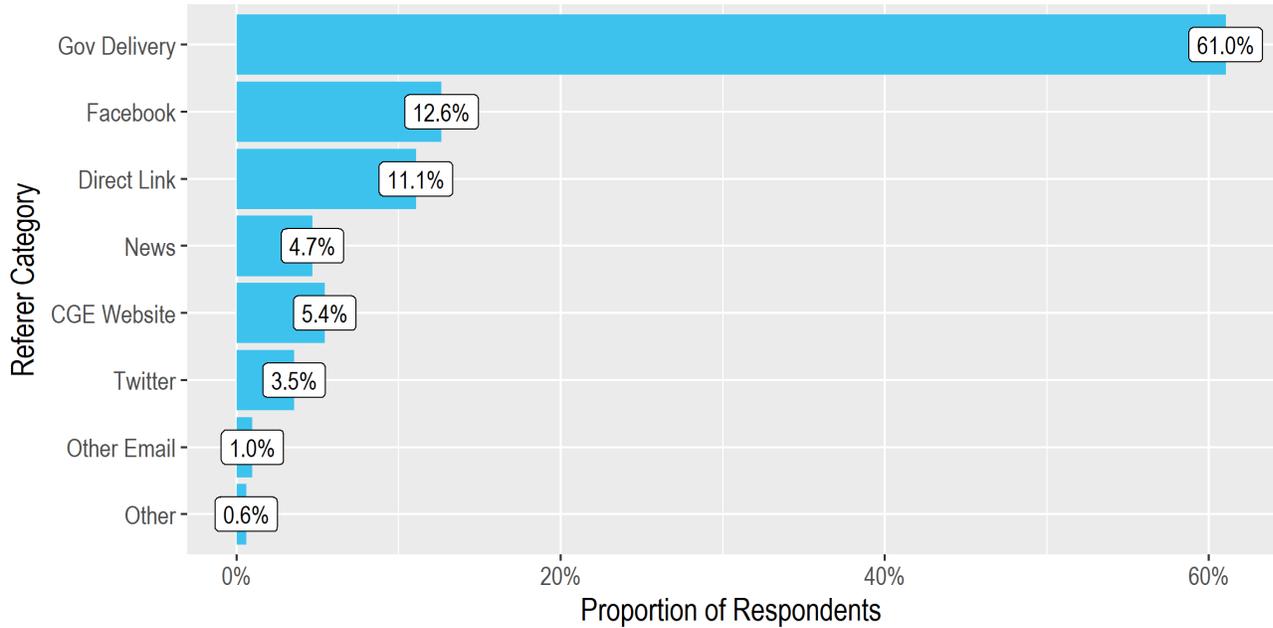
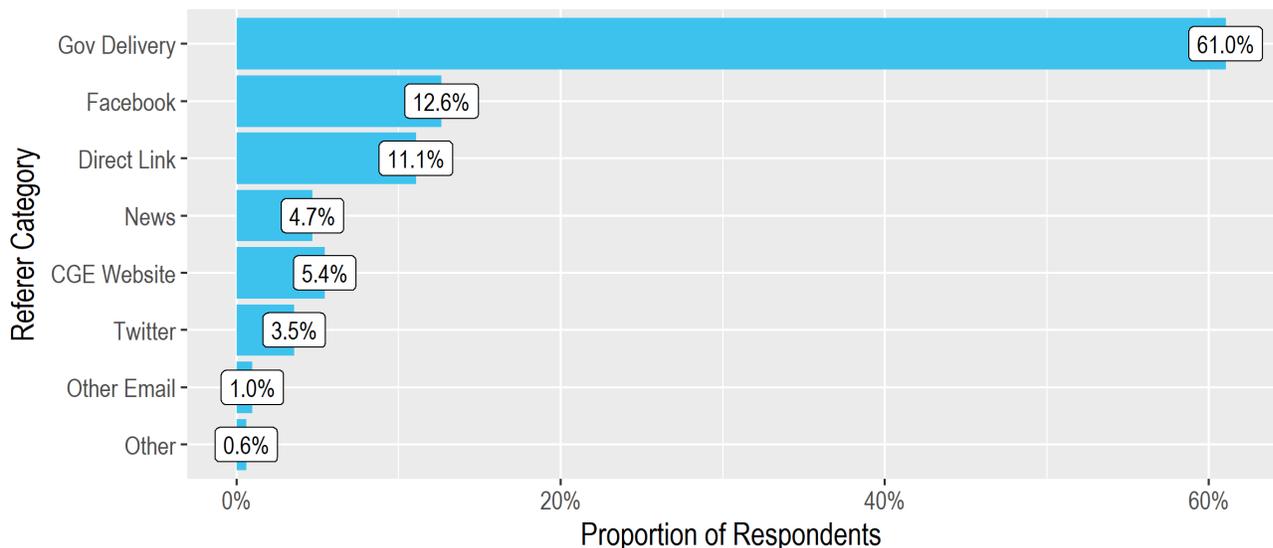


Figure 3 illustrates the distribution of respondents by referral type. Over sixty percent of respondents arrived at the survey via a Gov Delivery link – many of these respondents likely received the email that went to the TriMet Riders Club.

- 13% of respondents were referred via Facebook
- 11% of respondents typed the direct link into their browser
- 5% of respondents were referred to the survey via news websites
- 4% of respondents were referred via Twitter
- 4% of respondents clicked through from the CGE website

Figure 3 How Respondents were Referred to Survey (N=2,533)





RESPONDENT PROFILE

The following section describes the respondents of the survey, including their home locations and demographics.

Home Location

Figure 4 summarizes respondents' reported home ZIP code. The vast majority (85%) live in the Portland metro area, which includes Vancouver, Hillsboro, and Beaverton. Eight percent of respondents reside in the Gorge area, half of which live in Hood River. 0.6% reside in the greater Mt. Hood Area (e.g., Government Camp, Rhododendron), and the rest of respondents live outside of those areas or did not report home location.

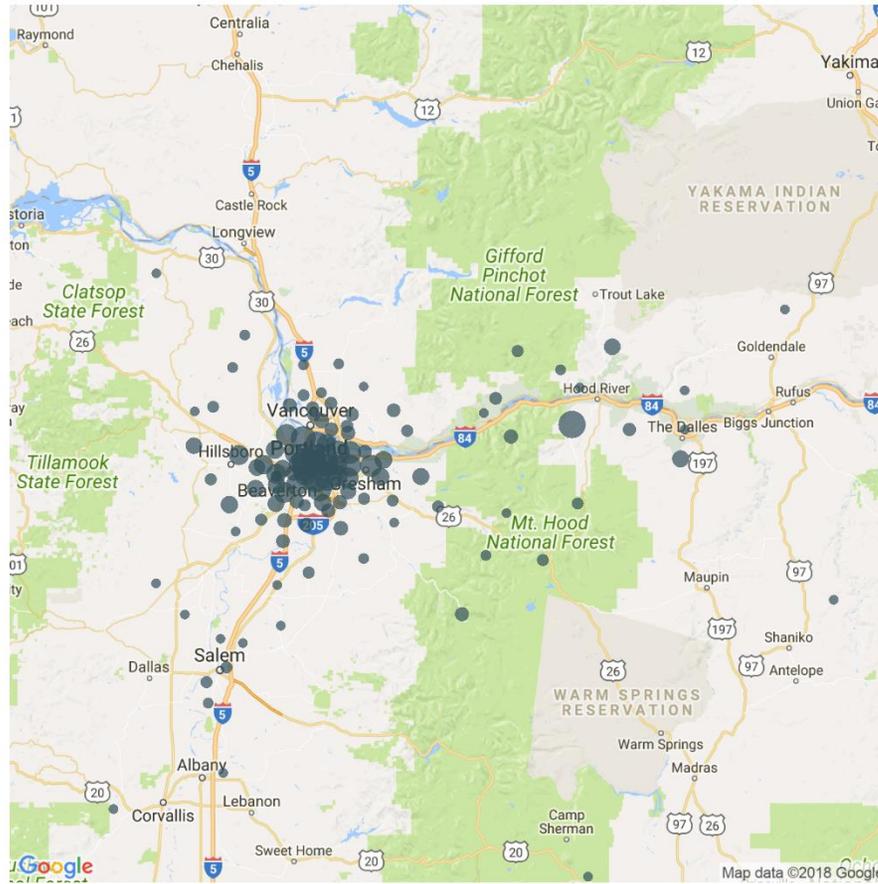
Figure 4 Home Location Region Summary (N=2,446)

Home Location Region	# of Respondents	Proportion of Respondents
Portland/Vancouver Area	2,106	86.1%
Gorge Area (outside Hood River)	109	4.5%
Hood River	100	4.1%
Outside Portland/Gorge/Mt. Hood - OR	80	3.3%
Outside Portland/Gorge/Mt. Hood - WA	18	0.7%
Outside Portland/Gorge/Mt. Hood - Non OR/WA	19	0.8%
Mt. Hood Area	14	0.6%
Total	2,446	100.0%

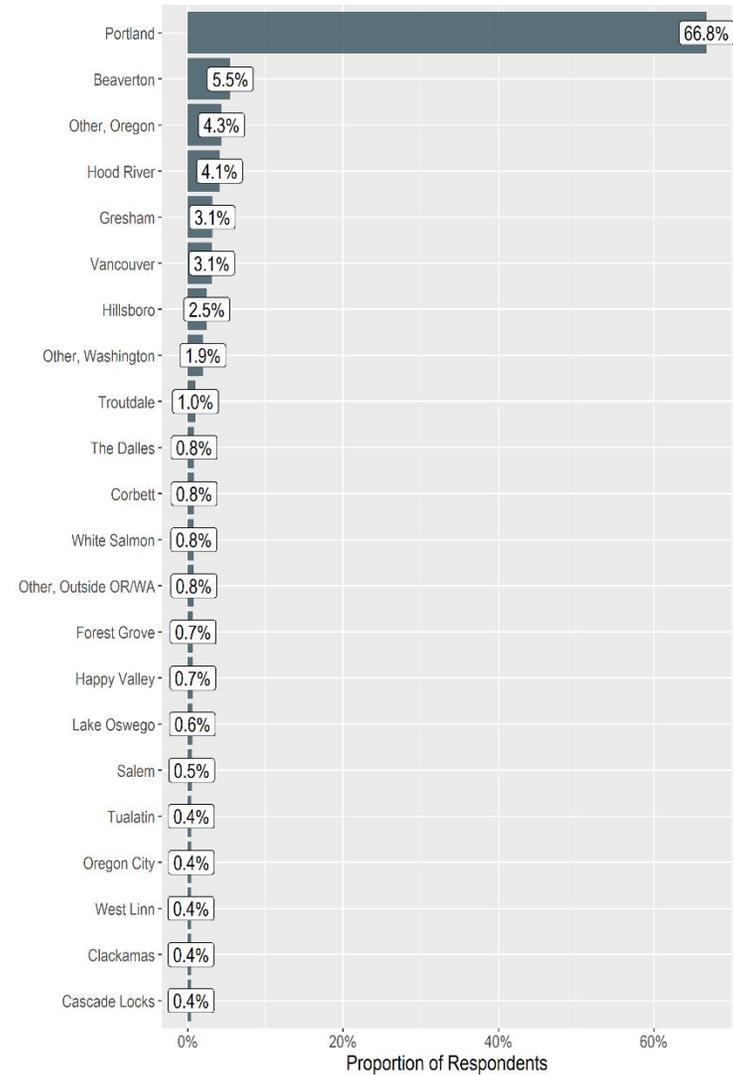
Figure 5 presents a more detailed illustration of respondents' home locations.



Figure 5 Home Location of Survey Respondents (N=2,446)



of Respondents ● 25 ● 50 ● 75 ● 100 ● 125





Demographics

Respondents were asked a series of demographic questions to understand both the characteristics of those who responded to the survey as well as whether this population is representative of the region's demographics. Throughout this section, respondent demographics are compared with data from the U.S. Census Bureau's American Community Survey for the Portland-Vancouver-Hillsboro Metropolitan Statistical Area – the largest population group represented in the survey.

Figure 6 illustrates the gender distribution of respondents. The majority of respondents were female (55.5%), which is higher than the regional average of 51% female.

Figure 6 I describe my gender as: (N=1,971)

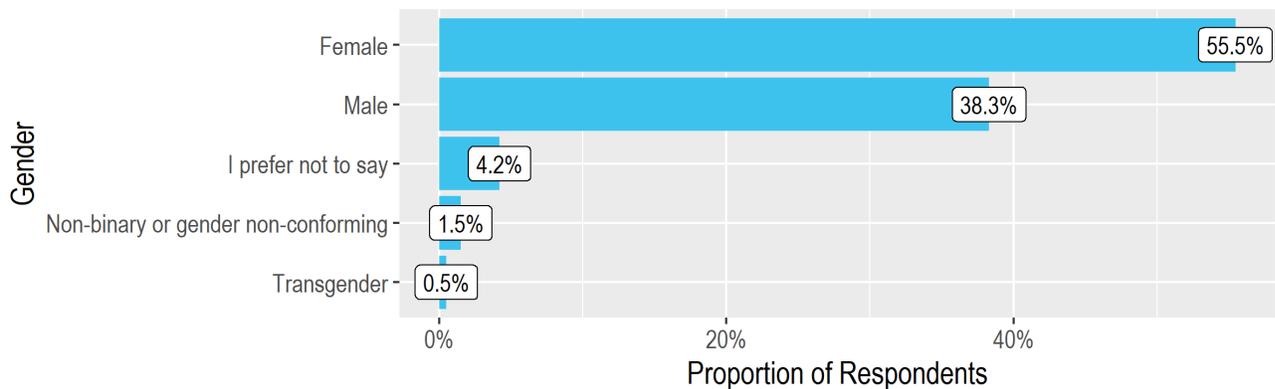
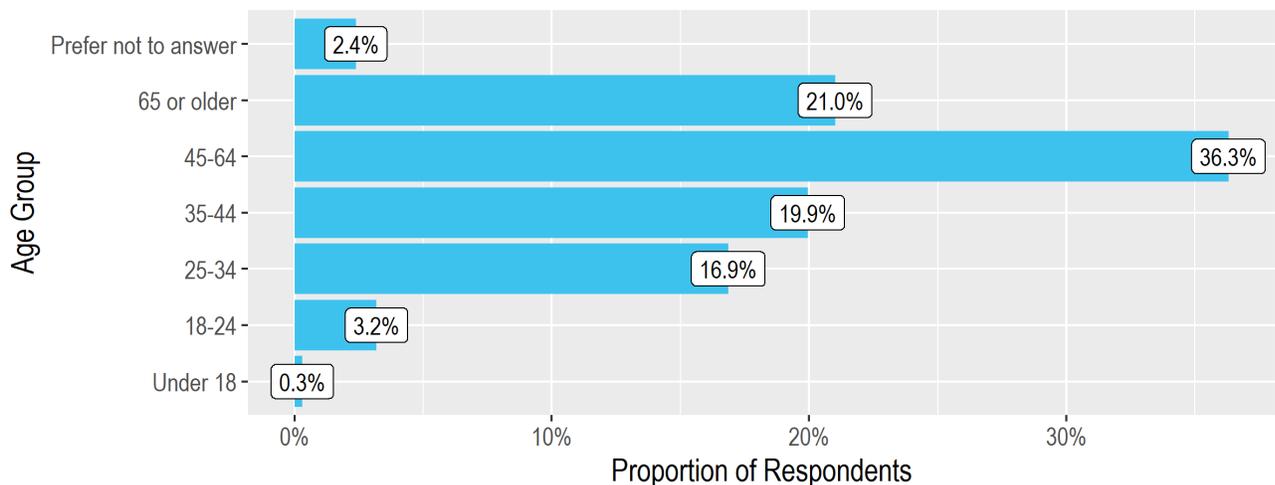


Figure 7 illustrates the distribution of respondents by age group, which found that:

- More than 1/3 of respondents fall into the 45-64 category
- 40% of respondents are younger than 44
- 1/5 of respondents are 65 or older

Overall, relative to population statistics, the survey under-represented the population younger than 34 and over-represented those older than 34.

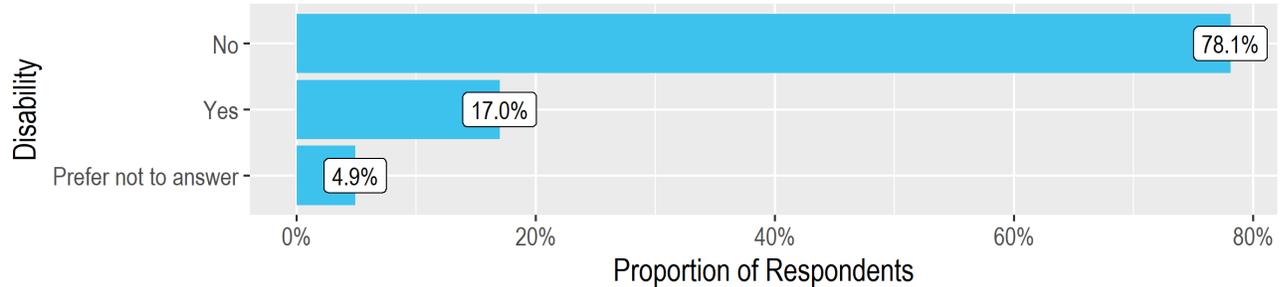
Figure 7 What is your age group? (N=1,975)





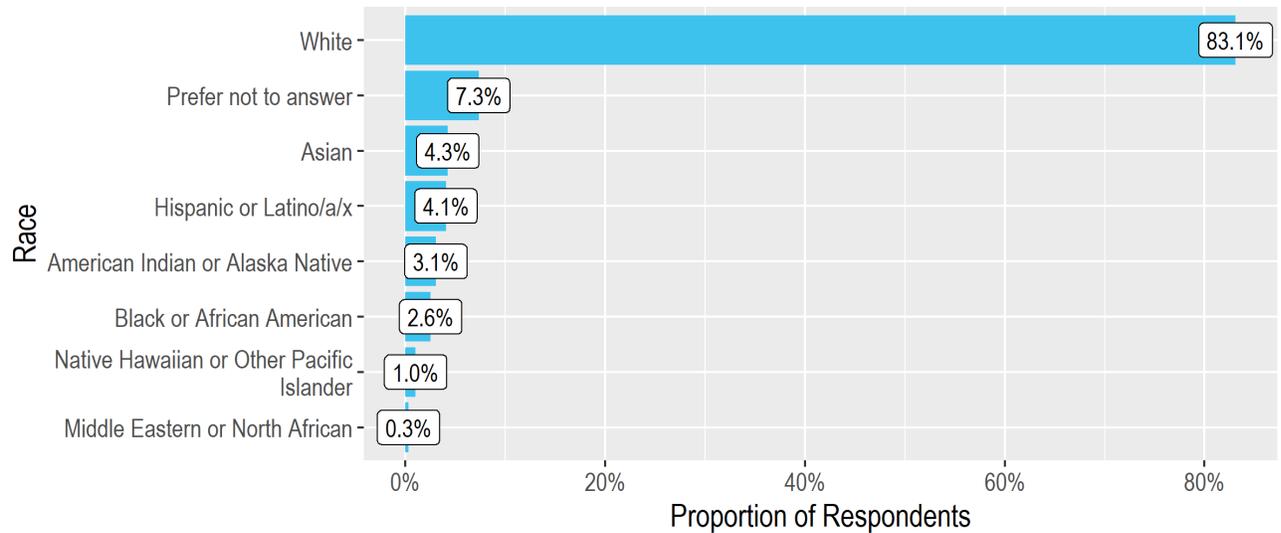
As illustrated by Figure 8, 17% of respondents reported having a disability, compared to the regional average of 12%.

Figure 8 Do you have a disability? (N=1,978)



As illustrated by Figure 9, nearly 16% of respondents who answered identified as non-white. White and American Indian/Alaskan Native respondent groups were slightly over-represented while other groups were under-represented – especially Hispanic or Latino/a/x, who comprise 4.1% of respondents compared to 12% of the region’s population. One explanation for this may be that the survey was provided in English only.

Figure 9 How do you identify yourself? (N=1,955)



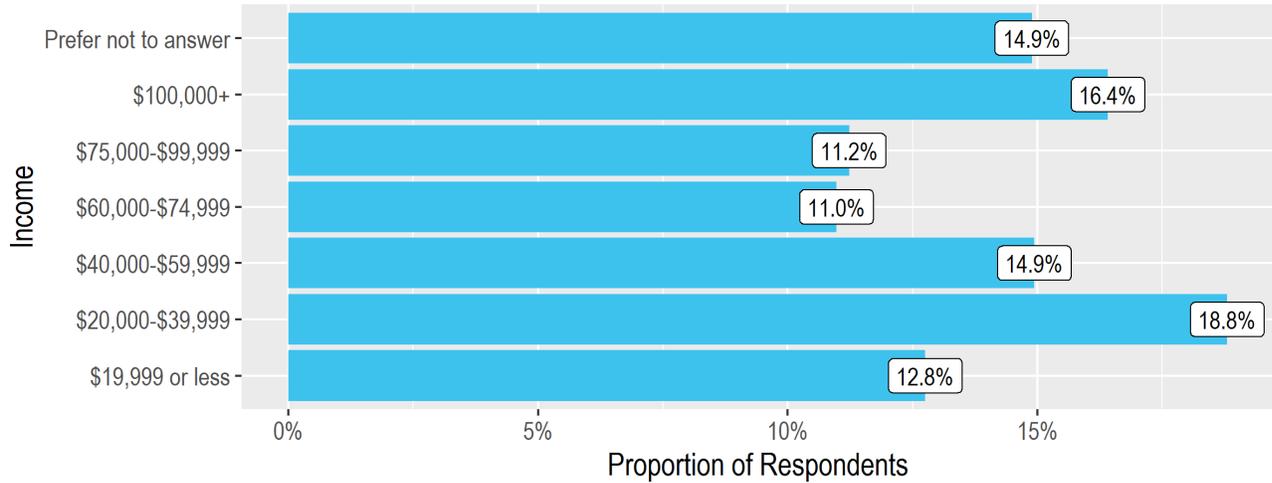
The income distribution of respondents is illustrated in Figure 10, indicating that:

- 1/6 of respondents have income of \$100k+
- 1/3 make between \$40k and \$100 k
- 1/3 make less than \$40k
- 15% chose not to respond

Relative to the Portland area population, lower income groups (under \$60k) are over-represented, while higher income groups (over \$60k) are under-represented.



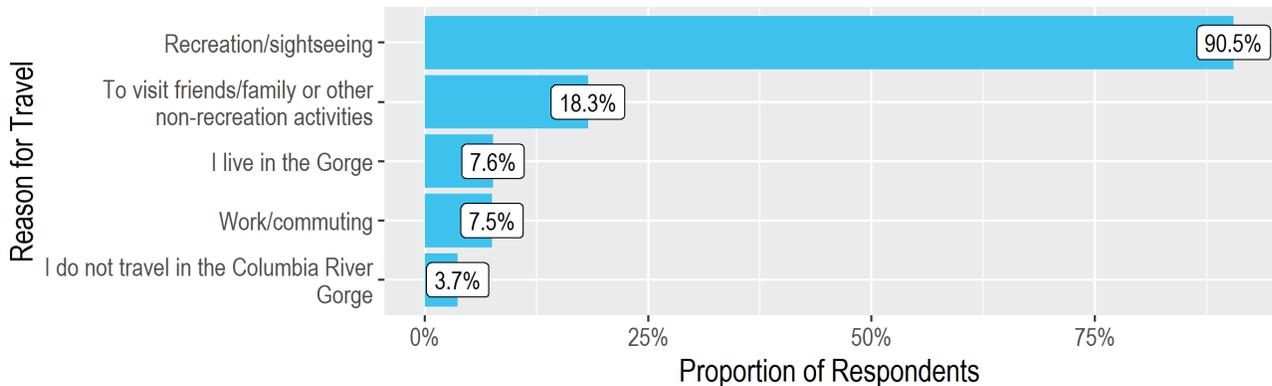
Figure 10 What is your annual household income? (N=1,968)



TRAVELING IN THE GORGE

The survey asked respondents several questions about why, how, and when they travel to or through the Columbia River Gorge. Figure 11 asked respondents to identify their trip purpose. Recreation and sightseeing was the top answer by far.

Figure 11 Why do you travel to/in the Columbia River Gorge (N= 2,518)

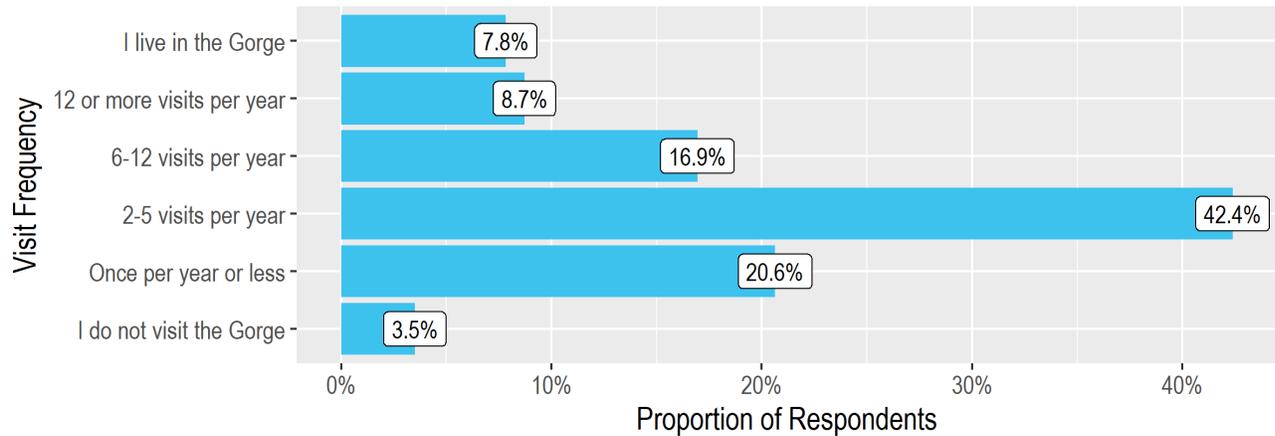


Note: Respondents could select multiple reasons, so these add up to more than 100%

Figure illustrates how often respondents visit the Gorge. A large percent visit more than twice per year, which could result in repeat riders throughout the season on the CGE.



Figure 12 How often do you visit the Columbia River Gorge in a typical year? (N=2,515)



Respondents were asked how many different destinations they typically visit when in the Gorge, as illustrated in **Error! Reference source not found..** The vast majority (80%) visit two or more places on each trip.

CGE schedules and marketing can take this into account by providing day itineraries or showing connections and frequencies at each stop to make it easier for people to trip chain.

Figure 13 How many different destinations do you typically visit on a single trip to/within the Columbia River Gorge? (N=2,467)

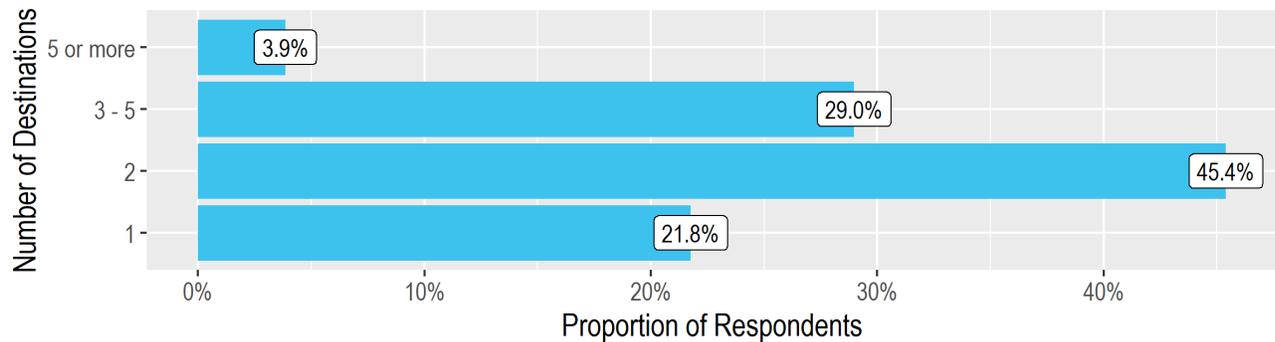
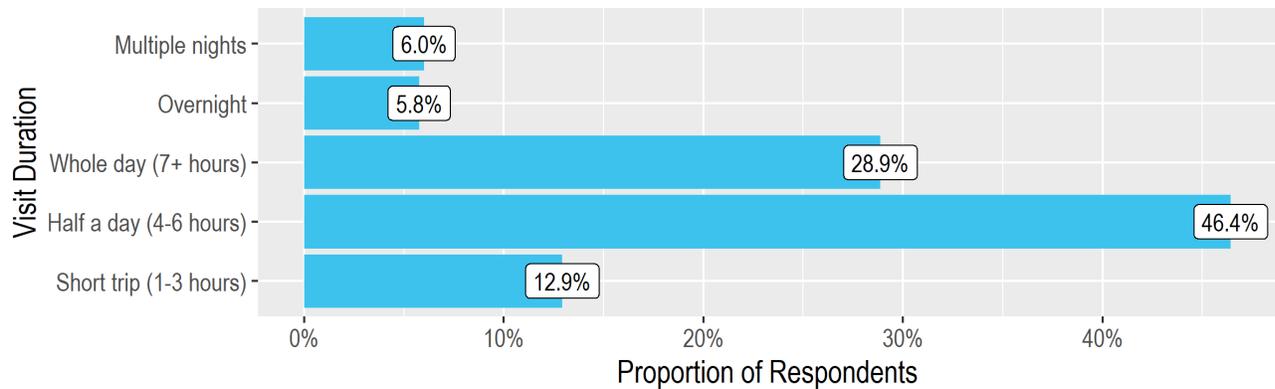


Figure 14 illustrates visit duration. A plurality of visitors (44%) of visitors visit the Gorge for half a day (4-6 hours), and an additional 29% visit for a whole day (7+ hours). Twelve percent of visitors stay for one night or more when visiting the Gorge.

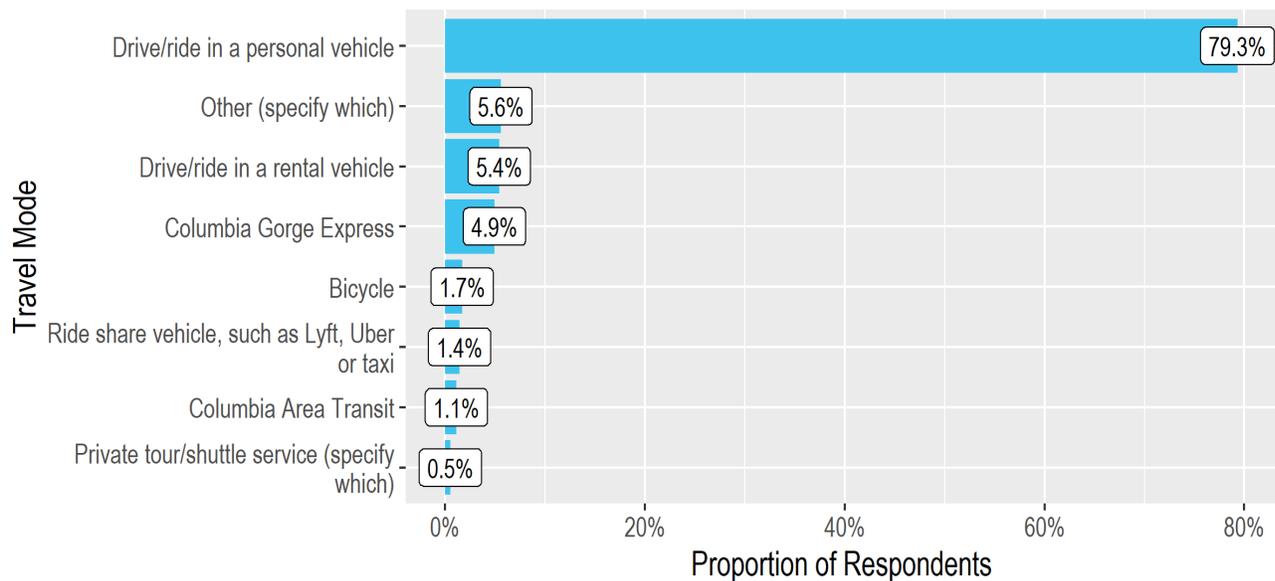


Figure 14 How long is your typical visit to/within the Columbia River Gorge, including all destinations you visit? (N=2,466)



As illustrated in Figure 15, most (79%) respondents drive or ride in a personal vehicle when visiting the Gorge. An additional five percent drive or ride in a rental vehicle. Five percent of respondents consider the CGE to be their primary mode of transportation in the Gorge, which is notable given its limited service days, stops, and the newness of the service.

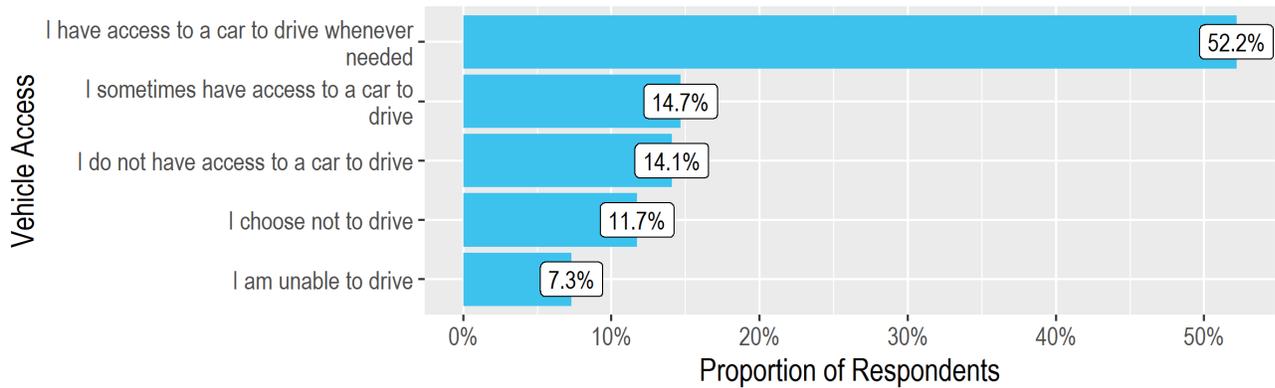
Figure 15 When you travel to/in the Columbia River Gorge, what is your primary mode of transportation? (N=2,501)



Just over half of respondents have consistent access to a vehicle, as illustrated in Figure 16. Nearly one third of respondents do not have access to a vehicle, are unable to drive, or choose not to drive.



Figure 16 Which of the following best describes you? (Vehicle access, N=2,514)



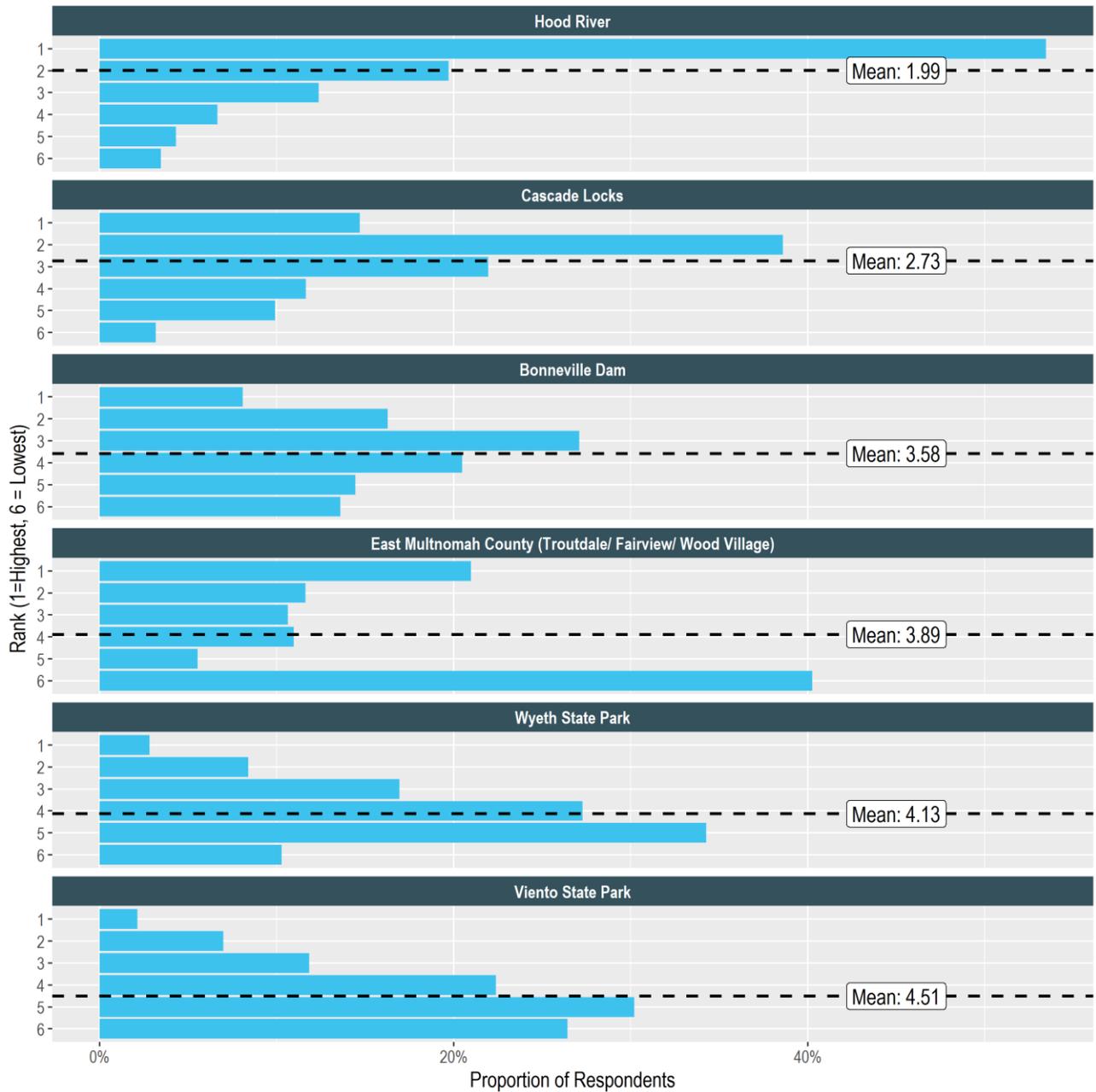
CGE IMPROVEMENTS

Stops

Figure 17 illustrates respondents' priorities for additional stops for the CGE. Hood River and Cascade locks (which are planned for service in 2018) were the two most highly ranked stops. Nearly 50% of respondents ranked Hood River as number 1 and 40% of respondents ranked Cascade Locks as number 2. An East Multnomah County stop was ranked fourth (on average), though it is clear this distribution is much more split than the others – 40% ranked it lowest and 20% ranked it highest. Those who ranked the East County stop highest and lowest were scattered throughout the Portland area, so home location was not a significantly related factor.



Figure 17 Aggregate Ranking of Planned/Potential Stops (N=2,156)





Respondents were able to provide open-ended comments regarding stop location, as summarized in Figure 18.

Figure 18 Stop Suggestion Summary

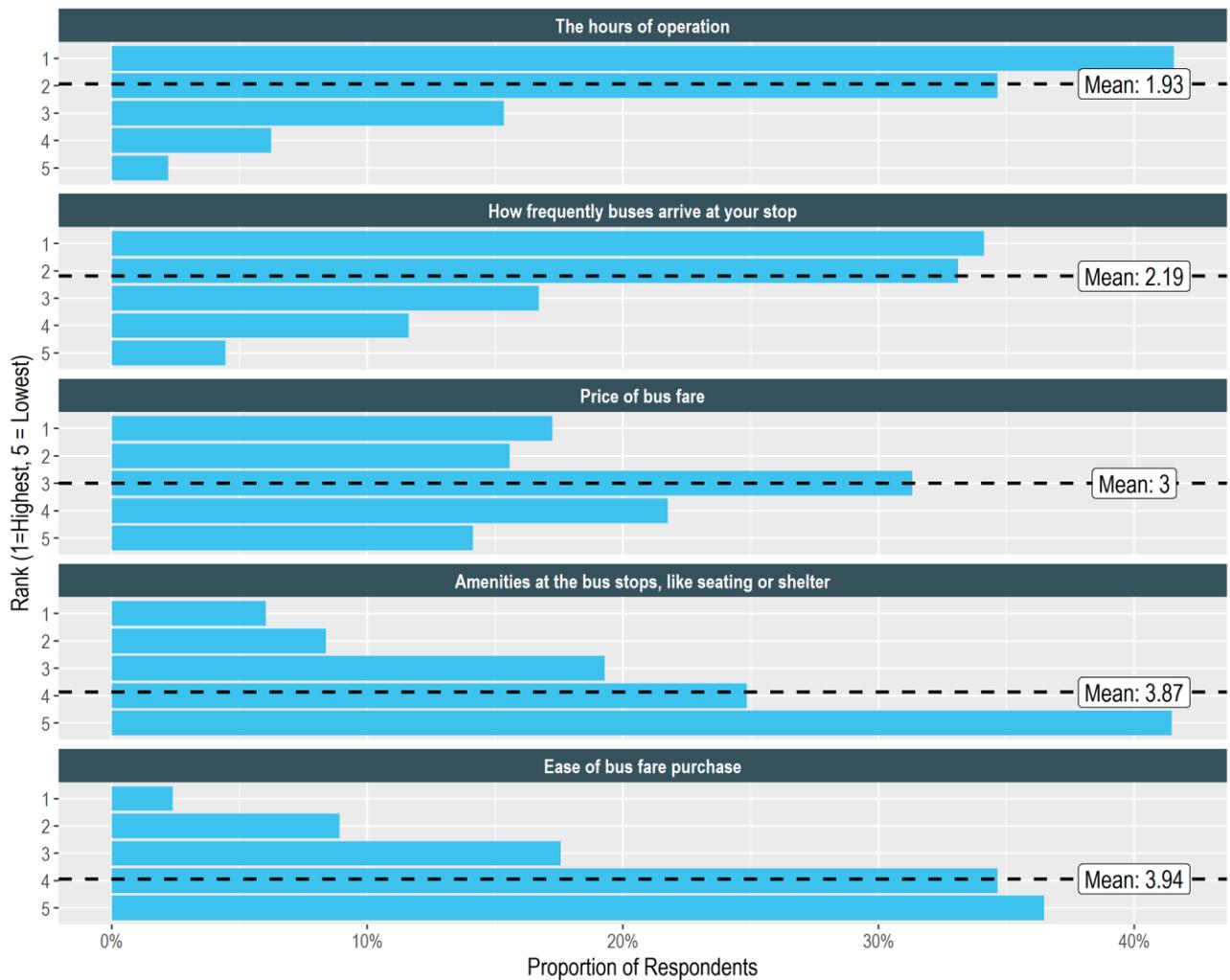
Stop Category	Stop Suggestion Details	# of Respondents
Historic Highway Service	There were many suggestions for additional stops, including Vista House, Ainsworth State Park and other various places along the Waterfall corridor (e.g., Bridal Veil, Horsetail Falls, Oneonta Gorge).	245
The Dalles	Many respondents wanted connections to The Dalles, which will be provided via a transfer to Columbia Area Transit.	129
Washington Side Connections	Respondents would like additional connections to the Washington Side of the Gorge, such as to Stevenson, Dog Mountain, and White Salmon.	49
East County Stop	Respondents would like an additional stop in Eastern Multnomah County, such as in Troutdale, Fairview, or Wood Village.	31
Mt. Hood/Government Camp	Respondents wanted connections to Mt. Hood destinations including Mt. Hood Meadows, Government Camp, and Timberline Lodge.	27
Mosier	Respondents suggested Mosier as a destination, which will be served by CAT's route to The Dalles (available by request).	24
Eagle Creek	Respondents want to be able to access this destination via transit after the fire damage is remediated.	22
Central Portland Stops	Respondents indicated they would like a more centrally located stop to board the CGE, such as Downtown Portland. While this is not anticipated, the TriMet connections to the CGE service should remain a priority for marketing.	21
PDX	Respondents also indicated the desire for connections to Portland International Airport, which is available via a transfer at Gateway Transit Center. These connections should be considered in marketing materials.	19
Starvation Creek	Starvation creek was cited several times as a potential additional destination.	14
Corbett	Connections to Corbett were desired.	9
Sandy River Delta	Connections to the typically crowded Sandy River Delta Park were also desired – this maybe given future consideration when considering a Troutdale stop or transit service on the Historic Highway.	7



Service and Amenity Factors

Figure 19 illustrates how respondents rated service and amenity factors related to potential CGE improvements. Hours of operation and frequency of service were the most important factors to respondents.

Figure 19 Service and Amenity Factors Ranked in Order of Importance (N=2,187)

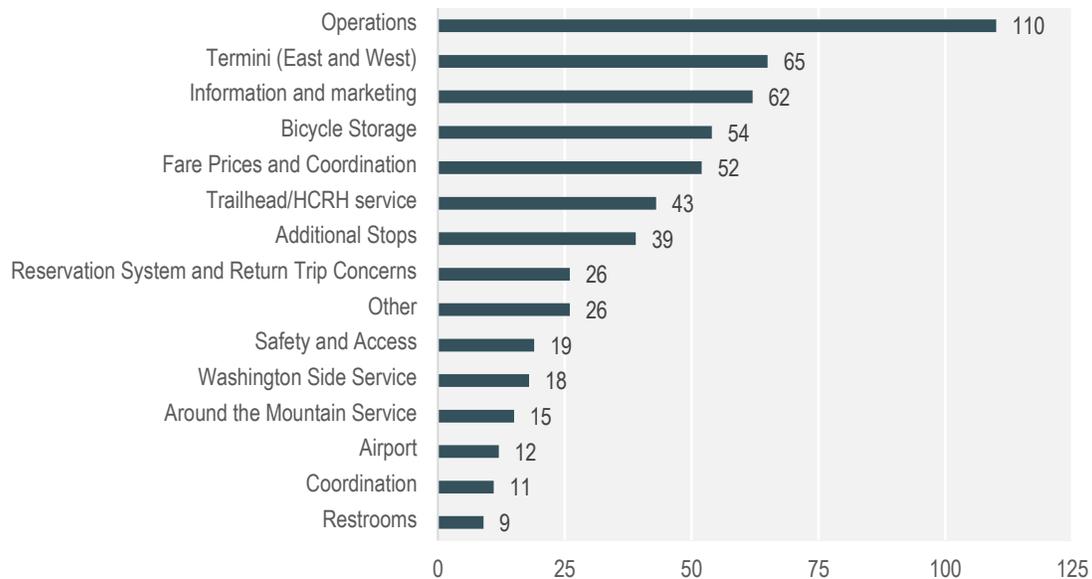




Additional Suggestions

Respondents were asked if they had additional suggestions. Responses that contained substantive suggestions – comments that indicated a need our identified an opportunity – were grouped into topics and totaled. The counts of responses by topic are illustrated in Figure 20.

Figure 20 Additional Suggestion Topics (N=561)



Below are further details about the types of responses by topic area, ordered by the frequency of recurrence:

- **Operations.** A range of different comments fell into this category, including:
 - Rider amenities, such as ‘comfortable’ seats, large windows, Wi-Fi, or power outlets.
 - Weekday and off-peak (winter months) service
 - More frequent service
 - Early and late service for recreation and commuting
- **Termini (East and West).** Respondents had many comments regarding both the east and west termini stops (Gateway Transit Center and Hood River, respectively) of the route.
 - West terminus: Respondents would like easier access to the CGE from the Portland area, especially if they live on the west side of the Metro area. Stop suggestions included Downtown Portland, the Lloyd Center, Sunset Transit Center, and others. These suggestions point to a need for marketing of connecting services to the CGE.
 - East Terminus: Respondents would like to continue on to The Dalles. This is planned to be provided with CAT’s Hood River – The Dalles service. Marketing of connections will be important.
- **Information and Marketing.** Many respondents had never heard of the CGE prior to taking the survey and suggested increased marketing and advertising.
- **Bicycle storage.** Many respondents asked about the availability of bicycle storage and viewed that as a significant asset of CGE service.
- **Fare Prices and Coordination.** Respondents highlighted the need to keep fares affordable, and also asked about integrating the fare with Hop or other transit provider fares (e.g., CAT).



- **Trailhead/Historic Highway Service.** Many respondents asked about service to trailheads on and off the Historic Highway, and if this would ever be provided by the CGE.
- **Additional stops.** Additional stops, as highlighted in the above section, were requested.
- **Reservation system and return trip concerns.** Respondents were concerned about being able to reserve a seat so they would not have to wait in line or worry about not having a ride home.
- **Safety and access.** Some respondents were concerned about leaving their cars at Gateway Transit Center, and others were concerned about ADA access at stops.
- **Washington side service.** Respondents cited the need for connections to the Washington side of the Gorge.
- **Around the mountain service.** Respondents were excited at the prospect of traveling to Mt. Hood via the CGE and wanted to highlight the need for car-free travel in this region.
- **Airport.** Respondents asked about service to the Airport, which is currently provided via TriMet at Gateway Transit Center.
- **Coordination.** Respondents asked about coordination with other transit agencies, as well as tourism and business in the Gorge to promote the CGE.
- **Restrooms.** Respondents asked about restroom availability, both on-board the bus as well as at stops.
- **Other.** Respondents cited concerns about over-crowding in the Gorge and Hood River that could be exacerbated by the CGE. They also asked about bringing pets on the bus, and for a central stop at Rooster Rock (the stop is currently on the West side of the park).

ALTERNATIVES

Three service alternatives were presented to respondents, with a question asking how likely the person would be to ride the CGE under each scenario.

Figure 21 illustrates how respondents rated the likelihood of whether they would use the alternatives proposed. On aggregate, the highest ranking alternative was 'Maximize Service to Hood River,' with 'Maximize Service Hours' following closely behind. The average scores of each alternative are shown in Figure 22, with 1 equaling "not at all likely" and 4 equaling "very likely." The 'Maximize Service to Multnomah Falls' alternative was the least well rated (average score = 2.90) – over 30% of respondents said they would be 'Not at all likely' or 'Not very likely'.

Figure 21 Alternative Ratings (N=1,995)

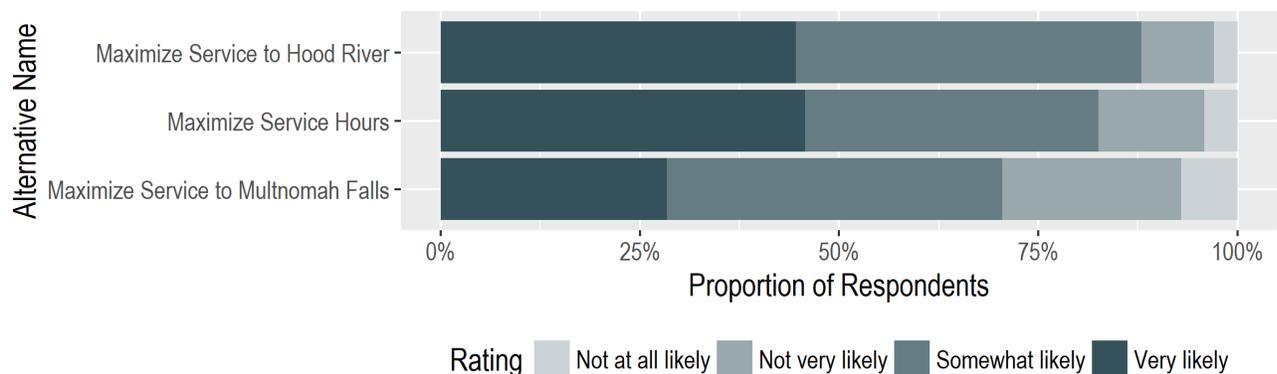




Figure 22 Alternative Average Scores

Alternative Letter	Alternative Name	Average Score
A	Maximize Service to Hood River	3.32
B	Maximize Service to Multnomah Falls	2.90
C	Maximize Service Hours	3.28

To understand if responses varied by type of user, markets were developed based on combination of respondents' home location and travel purpose(s) in the Gorge. Those markets are identified in **Error! Reference source not found.**

Figure 23 Respondent Market Definitions

Market	Home Location	Travel Purpose	# of Respondents	% of Respondents
Portland-based Recreationalist	Portland Area	Recreational/sightseeing	1,875	75.0%
Gorge Resident	Gorge Area	I live in the Gorge	213	8.5%
Visiting Recreationalist	Outside Portland, Gorge, and Mt. Hood Areas	Recreational/sightseeing	96	3.8%
Portland-based Multi-Purpose	Portland Area	Multiple purposes	82	3.3%
Mt. Hood Area Resident	Mt. Hood Area	Multiple purposes	12	0.5%
Portland-based Commuter	Portland Area	Commuting	19	0.8%

Note: Proportions do not add up to 100% -- some respondents could not be classified into these markets or did not report home location or travel purpose

Figure 24 analyzes the likelihood of using each alternative based on the user markets defined above. For each group average, a difference from the overall average is calculated to see if the markets differ in opinion from the respondent pool as a whole. Findings include:

- **Portland-based Recreationalists** slightly favored more service to Hood River, and their ratings were approximately in line with the average scores – which makes sense considering they are the largest respondent group comprising the average.
- **Gorge residents** favored more service to Hood River, but overall rated the alternatives lower than the average respondents. They rated ‘Maximize Service to Multnomah Falls’ the lowest and significantly lower than average.
- **Visiting recreationalists** were largely in line with the average scores.
- **Portland-based multi-purpose** travelers were largely in line with the average scores.
- **Portland-based commuters** favored maximizing service hours (intuitively).
- **Mt. Hood area** residents favored maximizing service hours, but overall rated alternatives lower than the average scores.



Figure 24 Average Scores by Alternative and Market

Market	Rank	Alternative Name	# Responses	Group Average Score	Difference from overall Alternative Average
Portland-based Recreationalist	1	A: Maximize Service to Hood River	1,203	3.38	0.06
	2	C: Maximize Service Hours	1,074	3.32	0.05
	3	B: Maximize Service to Multnomah Falls	1,106	2.99	0.09
Gorge resident	1	A: Maximize Service to Hood River	137	3.00	-0.32
	2	C: Maximize Service Hours	106	2.95	-0.32
	3	B: Maximize Service to Multnomah Falls	116	2.16	-0.73
Visiting Recreationalist	1	C: Maximize Service Hours	58	3.22	-0.05
	2	A: Maximize Service to Hood River	60	3.20	-0.12
	3	B: Maximize Service to Multnomah Falls	58	2.79	-0.10
Portland-based Multi-Purpose	1	A: Maximize Service to Hood River	55	3.29	-0.03
	2	C: Maximize Service Hours	54	3.28	0.00
	3	B: Maximize Service to Multnomah Falls	54	2.89	-0.01
Portland-based commuter	1	C: Maximize Service Hours	8	3.50	0.22
	2	A: Maximize Service to Hood River	10	3.40	0.08
	3	C: Maximize Service to Multnomah Falls	8	2.50	-0.40
Mt. Hood Area	1	C: Maximize Service Hours	6	2.50	-0.78
	2	A: Maximize Service to Hood River	8	2.25	-1.07
	3	B: Maximize Service to Multnomah Falls	6	2.00	-0.90

COMMUTING

For those respondents who indicated they traveled to or through the Gorge for commuting, the survey asked several questions regarding the location and timing of their job as well as if they would consider taking transit to work if available.

Figure 25 Where do you work? (N=148)

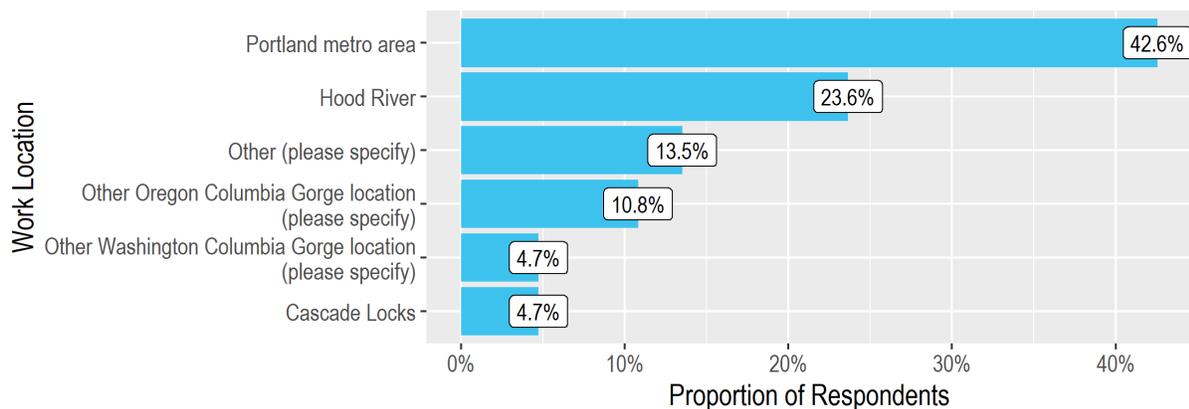


Figure 26 illustrates the distribution of work arrival and departure times of respondents who indicated they commute to or through the Gorge. The highest proportion of respondents (over 20%) arrive at 8 a.m., and the average arrival time is 8:34 a.m. The highest proportion of respondents (over 20%) depart at 5 p.m., with an average departure time of 5:15 p.m.



Figure 26 Distribution of Work Departure and Arrival Times (N=140)

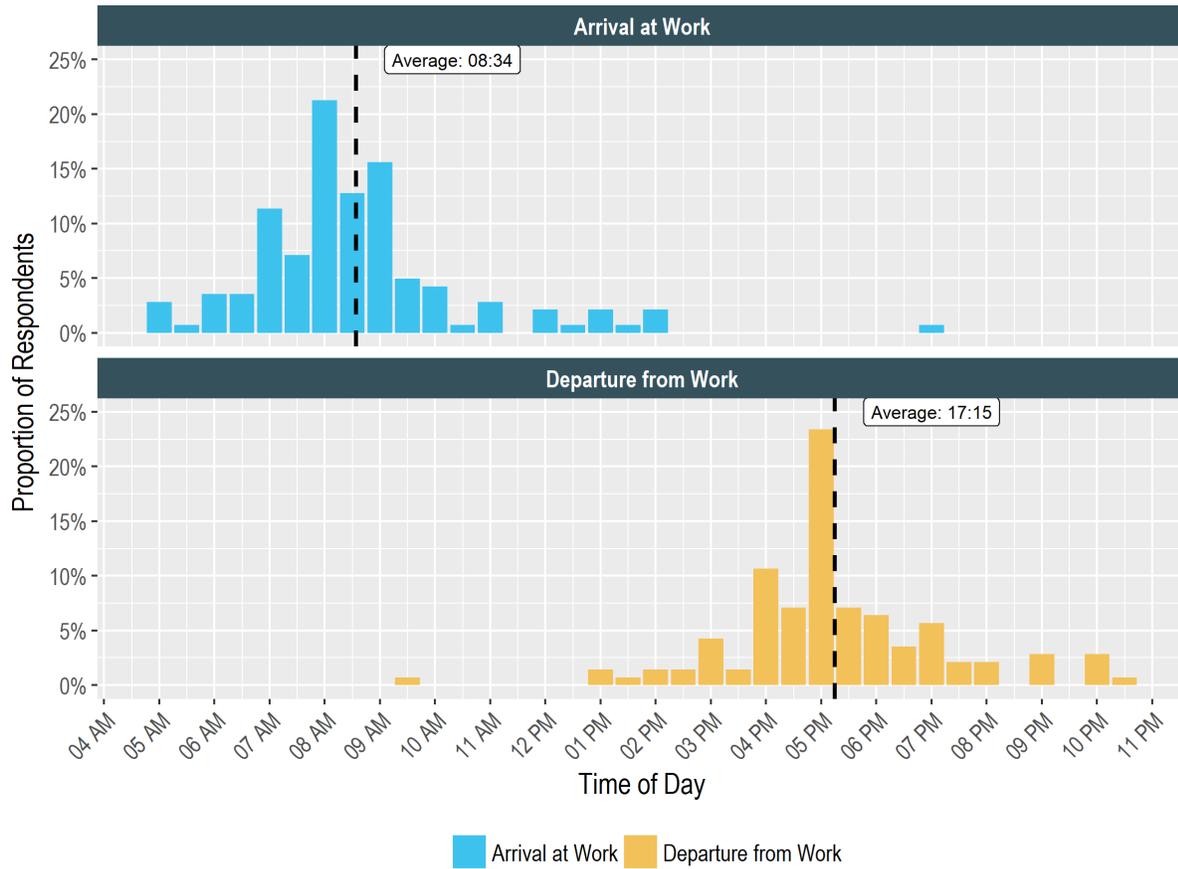


Figure 27 illustrates how often respondents thought they would use transit to get to work to or through the Gorge if available. Nearly one fifth of respondents (17%) would use it on a daily basis, while another fifth (22%) would use it to get to work a few days per week. Another third of respondents would use it once a week or less, and a quarter of respondents would never use it.

Figure 27 How often would you use transit in the Gorge to get to work if it were available? (N=147)





Over half of the respondents (59%) responded with origin-destination pairs not applicable by the Columbia Gorge Express (e.g., living in Portland and working in Portland). These responses were filtered out for a smaller analysis set – 60 respondents – which are considered below.

Figure 28 summarizes the results of the commute questions by home and work location for the selected sub-sample. Overall, 50% of these respondents would consider using a commuter service at least a few days per week. A bus arriving between 8:15 a.m. – 8:30 a.m. and departing between 5:15 p.m. – 5:30 p.m. would likely be able to serve the majority of commuters.



Figure 28 Selected Commuting Summary by Origin-Destination Pair (N=60)

Home Location	Work Location	Respondent Count	Proportion of Total Respondents	Average Arrival Time	Average Departure Time	Shift Length (Hours)	How often would use transit if available?				
							Daily	A few days a week	Once a week	Less than once a week	Never
Portland/Vancouver Area	Gorge Area (outside Hood River)	16	11.0%	8:50	17:25	8.58	18.8%	37.5%	25.0%	12.5%	6.3%
Gorge Area (outside Hood River)	Gorge Area (outside Hood River)	13	8.9%	8:35	17:37	9.04	0.0%	15.4%	15.4%	15.4%	53.8%
Gorge Area (outside Hood River)	Portland metro area	12	8.2%	8:07	17:02	8.92	33.3%	25.0%	8.3%	8.3%	25.0%
Portland/Vancouver Area	Hood River	8	5.5%	8:18	16:42	8.39	25.0%	25.0%	37.5%	12.5%	0.0%
Hood River	Portland metro area	6	4.1%	8:00	16:55	8.92	33.3%	50.0%	16.7%	0.0%	0.0%
Total/Average		60	41.1%	8:30	17:18	8.81	18.1%	32.2%	20.3%	10.5%	13.0%



CAT Commuting Survey

Columbia Area Transit (CAT) conducted an additional survey during early 2018 to understand preferences for potential commuter service from Portland to Hood River. A total of 83 responses were received from employers, employees, and other interested members of the public. Key findings included:

- Similar to the CGE survey, approximately 40% of respondents think they would use a commuter bus in the Gorge at least a few days per week.
- The most popular pick-up/drop-off location would be downtown Portland, then Gateway Transit Center, then the Lloyd District, and then the Troutdale Gresham area.
- The most popular stops in the Gorge are the CAT Transit Center in Hood River, The Dalles, and Bingen/White Salmon
- The most popular shift (among 1/3 of respondents) was 8 a.m. to 5 p.m. A quarter of respondents favored 7:30 a.m. to 4:30 p.m.
- Over ¾ of respondents said their employer was flexible with work hours within at least 30-60 minutes.
- 60% of respondents would be willing to pay under \$100 per month for bus service, while 30% of respondents would be willing to pay \$100-\$150 per month.
- The most popular on-board amenities for a commuter bus are Wi-Fi and drop-down tables for laptops. Bike storage and an emergency ride home program were also cited among 1/3 of respondents.



KEY FINDINGS

- The majority of survey respondents were Portland metro area residents traveling to the Gorge for recreation and sightseeing.
- 68% of respondents visit the Gorge two or more times per year, indicating an opportunity for repeat ridership the CGE throughout the year.
- Most people visit for a half day (4-6 hours) and visit more than one destination per day. CGE schedules need to communicate to riders that they can trip chain and hop on and hop off in multiple places. This may indicate the value of a day pass option.
- Few people stay overnight in the Gorge. There is an opportunity to better market overnight options.
- Hood River and Cascade Locks were clearly the highest priority future stops (which will be served). The next highest priorities are the Bonneville Dam and an East Multnomah County stop.
- A stop in Eastern Multnomah County polarized respondents, with priorities gravitating toward either low or high rankings. Effectively serving this part of the region will be challenging, as it adds travel time for existing passengers but could also reach new passengers.
- There were many additional suggestions for future service additions, including service on the Historic Highway, connections to the Washington side of the Gorge, and connections to Mt. Hood destinations (which are being planned).
- Service schedule characteristics (hours of operation and frequency) were more important to respondents than the price of bus fare, stop amenities, or ease of purchase.
- Prioritizing service to Hood River was the highest ranked alternative among most respondents, with maximizing service hours following closely behind. Providing more service to Multnomah Falls at the expense of service hours or service to Hood River was not prioritized by any of the sub-markets considered.
- Approximately 50% of respondents with home and work locations applicable to the CGE would consider using transit at least a few days per week. The bus should arrive in Hood River between 8:15-8:30 a.m. and depart from Hood River around 5:15-5:30 p.m. The market for Portland area to the Gorge/Hood River commuters appears larger than the market for Gorge/Hood River to Portland area commuters based on the survey data.