2019 Origin and Destination Study



Research Report for



Prepared by:

Lane Council of Governments

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Summary of Findings

This report presents the results of a survey of 7,627 LTD riders conducted in November 2019. The survey tracks many of the same factors addressed in previous rider surveys conducted since 1999. The 2019 survey updated a questionnaire to be more relevant to current conditions and to provide better quality and more useful responses. For this reason, direct comparisons with past survey results are not always possible.

Rider Profile

Frequency of Use

- Nearly half of LTD's riders (44%) use the system 4 6 days per week and of those, 88% use LTD for two or more trips per day.
- LTD's ridership is dominated by commute-level riders: 44% ride 4 6 days per week and half of these (50%) make two one-way trips (one roundtrip) per day. Of all riders in 2019, 14% make only one trip while 40% make two, and the remaining 46% make more than two one-way trips per day.

Transit Dependence

71% of riders identified themselves as having no driver's license, no car, or neither. This group is
particularly dependent on transit. Fixed route riders are more dependent upon LTD's services than
EmX riders.

Age

• The majority (52%) of riders are 30 years of age or younger. Riders over 60 years old comprise 7%, a decrease from 10% in 2015.

Income

 As in past surveys, the income level of LTD riders is lower than that of the Lane County population overall. Most riders (62%) have household incomes of less than \$25,000 per year compared to 23% of the general Lane County population. Riders that have household incomes of \$75,000 or more account for 7%.

Employment/Student Status

- Nearly three-quarters (73%) of riders are either students or employed for work outside of home, and therefore have a need to commute to work or school. This represents a decrease from 81% in 2015.
- 30% are students and 53% are employed, while 27% are neither employed nor a student.

Travel Profile

Trip Purpose

 Most trips on LTD (57%) are for commute purposes (defined here as trips to or from work or school). The percentage of non-commute trips on LTD has increased from 27% in 2015 to 43% in 2019.

Transferring

• More than half of riders (54%) complete their one-way trip with a single bus; 39% require two buses; and 7% require three or more buses to complete their one-way trip.

Mode to/from Bus Stop

- As in the past, most riders walk (90%) to their first bus stop. Riding a bicycle (3%) and driving (3%) are the next most common modes.
- The percent of West Eugene EmX riders that walk to their stop (86%) is less than that of other EmX riders or fixed route riders.

Trip Origin and Destination

- Most trips (60%) are made within Eugene. The next most common trips are within Springfield (14%) and from Springfield to Eugene (12%).
- 21.4% of trips were made either from Eugene to Springfield or from Springfield to Eugene.
- 5% of trips involve an origin or destination outside of Eugene and Springfield.

Need for Assistance

- 5% of riders need assistance to use LTD, a decrease from 6% in 2015.
- Within this group, Lift/Ramp is the type of assistance most commonly needed (33%), with the next most common being Stop Announcements (19%). Stop Announcements was the most common assistance type needed in 2015.

Fare Media Used

- Most riders use some type of pre-paid fare medium. 13% pay with cash or an EmX ticket purchased from a fare machine.
- 35% (the largest group) ride with an employer or school group pass, 26% use a monthly pass, and 8% use a day pass.

Communication

Most riders (94%) speak English most often at home and 99% speak English well or very well.

- The Rider's Digest is still the most common source for route and schedule information (21%) especially among riders 60 and older. The use of Google Maps (19%) and the mobile website (17%) have increased and are especially common among riders 30 and younger.
- Most riders (78%) carry a smartphone with internet access, including 87% of riders between the ages of 20 and 30, and 51% of riders over 60.

Rider Satisfaction

- Most riders are satisfied with the various aspects of LTD service and the system overall. 72% of riders give an overall positive rating (6 or 7 on a scale of 1 to 7) and 40% give it the top rating of 7.
- The highest satisfaction ratings are for LTD employees. 56% of riders give helpfulness of customer service employees the top rating, and 55% give helpfulness of LTD drivers the top rating.
- As in 2015 and 2011, comfort while waiting for the bus received the least amount of rider satisfaction, with 28% giving it the top rating of 7 and 16% giving a low rating of 1, 2, or 3.

Introduction

A survey of LTD's bus and EmX riders was conducted November 2 through November 24, 2019. Surveyors boarded selected bus runs and provided self-administered questionnaires to riders.

Survey Method

This section describes the survey methodology.

Sample Selection

The on-board survey was administered to riders using a random sampling of LTD's fixed route and EmX runs. For the purposes of this report, a run is defined as a bus's journey from where the route begins to where the route terminates. This is not to be confused with trips, which are defined for this report, as a passenger's journey from their origin to their destination. The sample of runs surveyed was selected in the following manner:

- A list of all bus runs was separated into three day-types: Weekdays, Saturday, and Sunday. The runs for each day type were grouped by time of day (before 8:30 am, 8:30 am 4 pm, 4 pm 6 pm, and after 6 pm).
- Each run was assigned a random number using an Excel formula, then sorted according to that random number from lowest to highest. The total number of runs within each subgroup was divided by 10 to determine the number of runs to include for a 10% sample (starting from the top of the sorted list and counting down).
- Routes 36 and 41 were oversampled to ensure sufficient data confidence for comparison of these routes with West Eugene EmX and other fixed routes at the request of LTD.
- This exercise was repeated for the appropriate day types to complete random samples for a total of four weekdays, two Saturdays, and two Sundays, with one partial "make-up" weekday.
- The sample was then converted into daily surveyor schedules.
- This process was duplicated for weekdays and surveys were collected for four additional weekdays (Nov 12 15).
- Final sampling (for November 16 November 24 collection) was based on the method of the 2015 study, where schedules were created from LTD schedule blocks, only weekdays were stratified into AM Peak (4 am − 8:30 am), Mid-day (8:30 am − 4 pm), PM Peak (4 pm − 6 pm) and Night (after 6 pm). EmX runs were stratified separately from other runs to ensure a complete sample of EmX schedule blocks.

Questionnaire

The questionnaire was developed based on the 2015 survey, but with revisions identified in collaboration with LTD and LCOG staff. Changes from the 2015 survey included moving all origin-destination questions to the beginning of the survey; including a graphic to illustrate what is meant by a "trip" for the purposes of the survey; inclusion of additional mode choices such as Uber, Lyft, EmGo, and the Cottage Grove Connector; use of TouchPass technology for fare payment; and other minor changes or updates. Following

the revisions, the questionnaire was then translated into Spanish. Both English and Spanish questionnaires are included in Appendix A.

Survey Staff

Surveys were administered by temporary employees contracted through Express Employment Professionals. Survey staff underwent a two-hour training program conducted by staff from LCOG and LTD. The survey staff were supervised during data collection by LCOG staff.

Survey Data Collection

Surveyors rode the designated buses during the time periods shown on each surveyor's daily schedule and were instructed to distribute a questionnaire to each passenger boarding the bus during the selected runs. The surveyors were allowed discretion in determining whether or not to administer surveys to riders appearing to be under the age of 16 or individuals that were sleeping, otherwise encumbered, or appeared to pose a threat to the safety of the surveyor or others. Pencils were provided, and a limited number of clipboards were also available to assist riders completing the survey. Surveyors wore blue high-visibility vests and nametags showing that their purpose was to conduct a transit survey.

All riders were offered a questionnaire in English by default. Surveyors gave Spanish language questionnaires to riders that preferred to take the survey in Spanish. Riders were asked to complete the questionnaire and return it to the surveyor before leaving the bus. Those unable to complete the questionnaire in time were asked to give the completed survey to their next bus driver or turn it in to Customer Service at Eugene Station, where a box was placed to receive them.

Riders who had already completed the survey on a previous ride were asked to fill out only questions 1-18 to provide origin/destination information for this additional trip. As a result, there were two types of responses – complete form for those completing it for the first time, and partial form for those completing it for the second or subsequent times.

Response Rate

Each survey was printed with a unique serial number. Survey team members were trained to record the first and last serial numbers of the questionnaires they administered for each surveyed run on a printed daily schedule. The serial numbers from these schedules were recorded at the end of each shift into a database.

A total of 1,002 LTD runs were surveyed. Of these, 787 (78.5%) were on fixed routes and 215 (21.5%) were on EmX. Surveyors distributed a total of 9,672 survey questionnaires (9.65 per trip) and 7,627 of those were returned completed, resulting in a 79% response rate. A total of 4,624 responses (60.6%) were from fixed route runs, responses from EmX runs totaled 2,987 (39.2%), and 16 responses were unable to be associated with their corresponding fixed route or EmX run due to human error during data collection.

Of the 7,627 returned surveys, 285 (3.7%) indicated that the respondent had previously completed the questionnaire for an earlier trip.

Questionnaires completed in Spanish represent 0.8% of those returned. This is a smaller percentage than in both the 2015 study (1.2%) and the 2011 study (1.3%).

Data Cleaning and Entry

Data entry was completed at LCOG's offices by four temporary employees contracted through Quantum Recruiters. Training for data entry was provided by LCOG staff, who also provided on-site supervision during the completion of work. A template for data entry was created and the data entry team were required to enter data into the template using a system of abbreviations and codes developed to expedite the process, reduce the likelihood of errors, and to make the results easier to analyze within a digital spreadsheet environment. Data were entered in a way that maximized compatibility with ESRI software for geocoding the responses.

After the survey data entry was completed the Project Manager assigned certain run attributes that were not included on the survey form. Additional run attributes included bus route number, direction of travel (inbound/outbound), time of day, weekday/Saturday/Sunday, and whether respondent used an English or Spanish form. Of the 7,627 returned questionnaires, 33 (0.4%) were not able to be matched with the corresponding expanded run data due to human error. Of these, 17 were able to be matched to a corresponding fixed route or identified as EmX, but the sample number, time and other details of the full run information could not be verified with confidence. These records have been excluded from the analysis.

The dataset was provided to LCOG Geographic Information Systems (GIS) staff for geocoding. Geocoding is a process by which input text such as an address or landmark is converted into a latitude/longitude location on the Earth's surface which can then be interpreted using geospatial software. Due to the often imprecise or incomplete nature of the survey responses, staff relied on certain assumptions, considered in their professional judgement to be reasonable, to provide a more complete geocoded dataset. Assumptions are based on LTD's Fall 2019 Rider's Digest, local knowledge of the area, its features and landmarks, common misspellings, and drawing upon experience from the 2015 study.

Analysis

Sample Size

The sampling methodology was designed to capture a purely random sample of 10 percent of LTD riders across the following four stratifications:

- 1) Riders of each of LTD's EmX and fixed routes
- 2) Saturday, Sunday, and weekday riders
- 3) Weekday AM, mid-day, PM, and evening riders
- 4) Inbound and Outbound trips

The goal was to collect data from a 10 percent sample of LTD's ridership to inform this study and provide a means of comparison against LTD's earlier origin-destination studies. A 10 percent sample, based on the latest available ridership data for the study period (reflecting October 2018 ridership), required a minimum of 6,921 responses. A total of 7,627 responses were collected for this study, reflecting a data sample of over 11 percent of LTD's anticipated ridership.

As in previous studies, expansion factors were used for each of the four stratifications to correct for any under- and over-sampling and to provide results that can be compared to previous studies. Factors were developed by LTD staff and applied to each response in a way that allowed for efficient categorical

analyses reflective of LTD's full ridership. The complete datasets including the expansion factors are provided to LTD with all electronic products of this study.

Table 1: Tally of Responses by Sample Stratifications

	Davita			Weekday				Day/Time	
Bus Route Description	Route	Saturday	Sunday	AM	Mid-day	PM 16:00-	Night	Unknown	Total
	No.			<8:30	8:30-16:00	18:00	>18:00	Ulikilowii	
Campbell Center	1	5	0	2	17	1			25
Thurston	11	147	98	47	104	30	40		466
Gateway	12	97	34	20	42	71	20	3	287
Centennial	13	114	55	29	61	17	24		300
5th/Hayden Bridge	17	10	4	24	35	0	3		76
Mohawk	18	18	14	0	51	8	13		104
Donald	24	51	64	49	75	23	7		269
Fairmount	27			0	0	0	5		5
Hilyard	28	50	20	28	77	60	13		248
Jefferson	33	12		0	15	11	2		40
W 18th	36	56	54	23	90	4	14	6	247
Echo Hollow	40	73	29	25	63	7	12		209
Barger/Commerce	41	74	84	39	127	14	19		357
Santa Clara	51	78	56	30	79	25	13		281
Irving	52	27	7	31	77	46	1		189
North Park	55			0	31	8	0	1	40
VRC/Coburg	66	153	34	33	108	5	7		340
Coburg/VRC	67	46	35	5	105	26	22		239
UO/Willamette	73			13	11	25	0		49
UO/Seneca/Warren	78			33	85	12	0		130
UO/Kinsrow	79x			17	164	5	36		222
LCC/Hilyard	81	16		7	44	9	3		79
LCC/Pearl	82			12	174	22	2		210
LCC/Springfield	85			0	16	4	3		23
McKenzie Bridge	91	0	7	0	0	0			7
Lowell/LCC	92			16	23		1		40
Veneta	93	6	0	0	2	0	18		26
Junction City	95	3	4	7	23	9	0		46
Coburg	96			5	6	0	4	1	16
Cottage Grove	98	26	0	10	5	10	3		54
Unknown		0	0	0	0	0	0	16	16
Bu	Bus Totals:		599	505	1,710	452	285	27	4,640
Bus Percentages:		23%	13%	11%	37%	10%	6%	0.6%	
		•							•

	Route No.		Sunday	Weekday				Day/Times	
EmX Route Description		Saturday		AM	Mid-day	PM 16:00-	Night	Day/Time Unknown	Total
				<8:30	8:30-16:00	18:00	>18:00		
Commerce/Gateway	103	559	233				229		1,021
Commerce/Springfield	104			348	1,136	124	61		1,669
Springfield/Gateway	105			35	191	63	2		291
Unknown EmX								6	6
EmX Totals:		559	233	383	1,327	187	292	6	2,987
EmX Percentages: 19%		19%	8%	13%	44%	6%	10%	0.2%	
Grand Totals (Emx + bus):		1,621	832	888	3,037	639	577	33	7,627
Percentages:		21%	11%	12%	40%	8%	8%	0.4%	

The following sections describe LTD's ridership based on the 2019 questionnaire responses, expanded to reflect all riders.

Frequency of Use

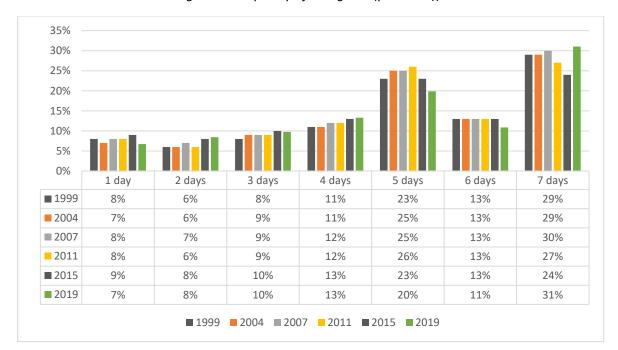


Figure 1: Frequency of Using LTD (per week))

Frequency of Using LTD

As in previous years, most riders (62%) in 2019 use LTD five or more days per week. Those that ride seven days per week account for 31% of riders, an increase from 2015 (24%) and reflect the highest proportion among all previous studies. While the proportion of frequency has remained relatively constant, the 2019 data reflect a noticeable decrease in the proportion of those riding five days per week. This proportion (20% in 2019) has decreased by 3% since 2015 and 6% since 2011.

Those riding LTD only once (7%) or twice (8%) per week continue to reflect the lowest proportions.

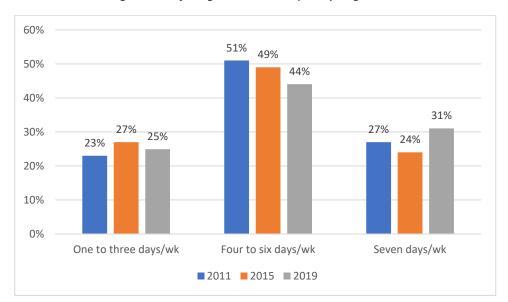


Figure 2: Defining the Rider Frequency Segments

Rider Frequency Segments

To compare ridership segments throughout this study, rider frequency segments were created by breaking riders into three groups: those who ride occasionally (one to three days per week, 25%), those who ride regularly (four to six days per week, 44%), and those who use LTD intensely (seven days per week, 31%). Some of the figures included later in this report examine how responses compare among these three rider frequency segments in terms of demographics, travel profile and attitudes.

Demographics

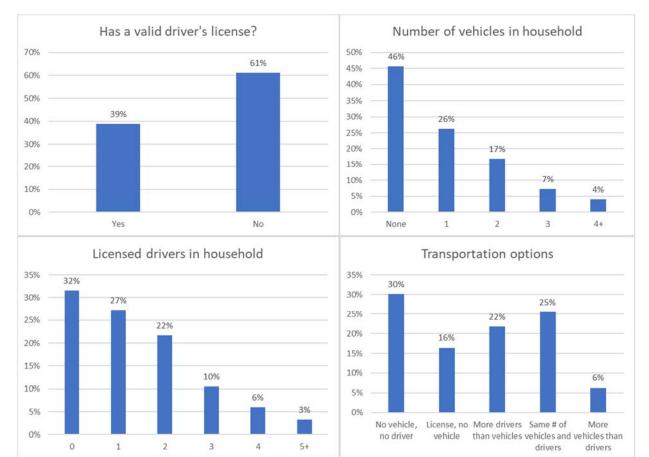


Figure 3: Transit Dependence at the Household Level

Vehicle Options within the Household

Transit dependency is often reported based on having a vehicle in the household. Actual dependency is more complex, involving the rider having a driver's license and access to a vehicle in the household. For some, access is a matter of degree (sharing a vehicle), not an absolute.

The survey asked about the number of vehicles and licensed drivers in the household and whether the rider responding to the survey had a valid driver's license. Here we examine two dimensions of the matter of reliance on transit: the household and the individual rider.

- 39% of riders have a valid driver's license (down from 45% in 2015 and 49% in 2011).
- Although 61% do not have a driver's license, 68% reported that they live in a household in which at least one person has a valid driver's license (down from 71% in 2015 and 82% in 2011).
- 54% have one or more working vehicles owned or leased by their household (down from 65% in 2015 and 68% in 2011).

Combining these results into what is illustrated in Figure 3 as "Transport Options," we see that:

30% have neither a driver's license nor a vehicle in the household (up from 19% in 2015 and 15% in 2011).

- 16% have a license but no vehicle in the household (unchanged from both 2015 and 2011).
- 22% have more drivers in the household than vehicles (down from 25% in 2015 and 28% in 2011).
- 25% have an equal number of vehicles (greater than zero) and licensed drivers in the household (down from 31% in 2015 and 30% in 2011).
- 6% have more vehicles than licensed drivers in their household (down from 9% in 2015 and 2011).

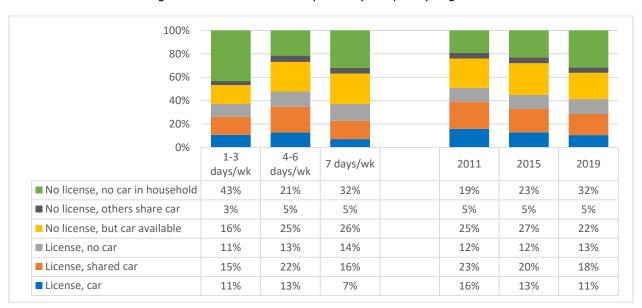


Figure 4: Personal Vehicle Options by Frequency Segments

The figure above summarizes the various degrees of transportation options reported by frequency segment and compared to previous years.

Transportation dependency is a product of having no license and no access to a vehicle. 71% of riders have no license, no car, or neither (up from 67% in 2015 and 61% in 2011), while 18% have shared access to a vehicle (down from 20% in 2015 and 23% in 2011); 11% have a license and full access to a vehicle (down from 13% in 2015 and 16% in 2011).

The 7-day riders are more transit dependent (77%, down from 80% in 2015) than others (1-3 day riders, 74% and 4-6 day riders, 65%).

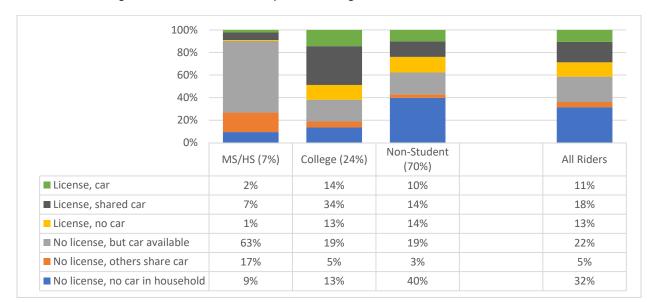


Figure 5: Personal Vehicle Options among Student and Non-student Riders

The level of transit dependency is, in part, a function of the rider's student status. Of the younger students attending middle or high school (MS/HS), which comprise a relatively small portion (7%) of riders, 80% have some access to a vehicle if they were to get a license.

The percentage of college students that have neither license nor car is less than non-students (13% compared to 40%). The percentage of college students that have a license and share a car is greater than non-students (34% compared to 14%). The responses suggest that these differences between college students and non-students have increased since 2015.

Of riders that are college students, 48% have a license and some access to a vehicle (up from 43% in 2015), compared to 24% of non-student riders (down from 30% in 2015).

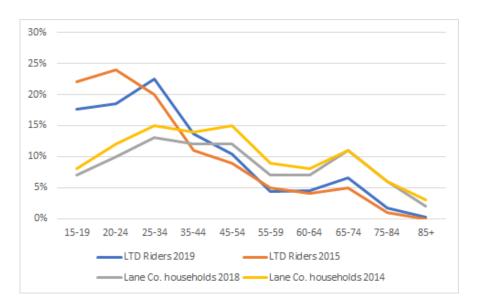


Figure 6: Age of Riders and Lane County Population

A comparison of the age distribution of the total population (15 years of age and over) of Lane County¹) with the age distribution of LTD riders in 2015 and 2019, provides the following observations:

- The proportion of riders between the ages of 15 and 44 is greater than among the general population.
- The percentage of riders over the age of 44 is smaller than among the general population.
- The proportion of riders that are 24 or younger, was greater in 2015 than in 2019.

14

¹ American Community Survey, US Census Bureau, 2018 for Lane County, Oregon

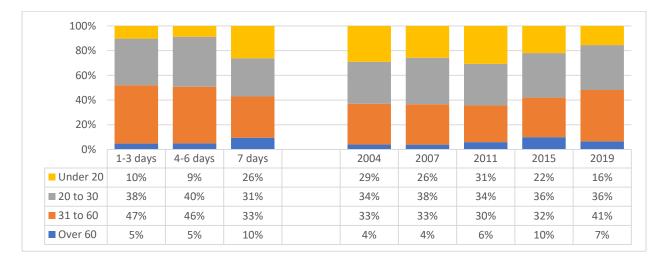


Figure 7: Age by Frequency Segments

If we divide riders into age groups of under 20, 20 to 30, 31 to 60, and over 60, we find the pattern shown above.

The figure above, like several figures in this report which track characteristics over time, displays the data in two sets:

- At the left, in the first three columns are the results from the 2019 study broken into rider frequency segments.
- At the right, in the last five columns are the results of the entire rider samples from 2004 through 2019.

The rider frequency segments are similar in terms of age. LTD ridership tends to fall in a relatively younger, economically active age group. That is, riders are primarily in age groups that are employed or preparing for employment. In 2007, 4% of riders were over the age of 60. That proportion has increased over previous studies, peaking at 10% in 2015, and dropping to 7% in 2019, while the percent of riders under the age of 20 has declined from 31% in 2011 to 16% in 2019.

Riders between the ages of 31 and 60 make up the largest age group and among 1-3 day riders, they make up the largest percentage. Riders aged 20 to 30 are the second largest age group and make up the largest percentage among 4-6 day riders.

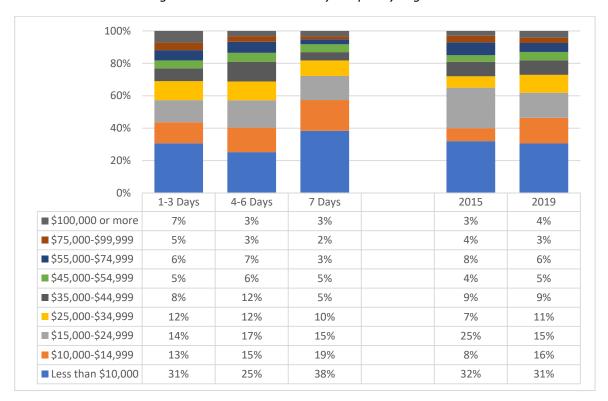


Figure 8: Household Income by Frequency Segments

LTD's most intensive riders, those who ride seven days per week, have the highest proportion among riders with a household income of less than \$10,000 (38%, down from 46% in 2015) and less than \$15,000 (19%, up from 8% in 2015). However, every ridership frequency group includes a majority with household incomes of less than \$25,000.

The percent of riders in the \$10,000 to \$14,999 group has increased since 2015 from 8% to 16% while the proportion of riders within the \$15,000-\$24,999 group has decreased from 25% to 15%.



Figure 9: Household Incomes of Riders and the Lane County Population

The household income of riders continues to be below the general Lane County population with more riders in the lower income categories and fewer riders in the higher income categories than the general population.

Of riders in 2019, 31% report household incomes of less than \$10,000 (compared to 39% in 2015). This contrasts with the general population of Lane County (7%).

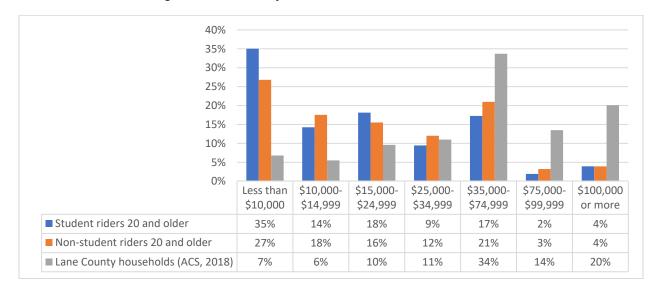


Figure 10: Incomes of Student and Non-student Households

In a transit system like LTD's with a high proportion of student riders, there is always a question of the degree to which the student riders depress the overall measurement of riders' income. The data suggest that student riders report lower household incomes than non-student riders. However, the proportion of riders with an income of less than \$25,000 is similar in both groups (49% of students and 44% of non-students, compared to 12% in Lane County). In short, the low income of the ridership cannot be directly attributed to the large number of student riders based on these data alone.



Figure 11: Employment and Student Trips by Frequency Segment

Most riders (73%, down from 82% in 2015) are either employed or a student, or both.

Of all riders:

- 27% are neither employed nor a student (up from 17% in 2015)
- 21% are students, but not otherwise employed (down from 32% in 2015)
- 54% are employed (up from 51% in 2015)

The 4-6 day group includes the highest proportion of riders that are employed (56%), while the 1-3 day group includes the lowest proportion (51%).

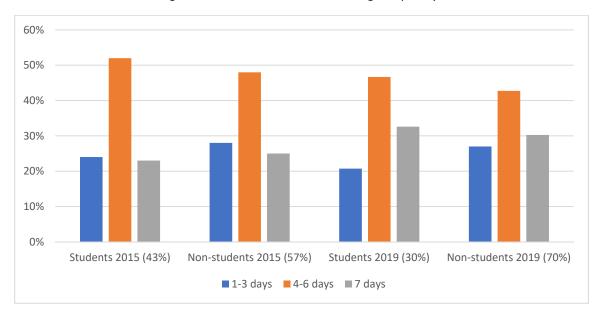


Figure 12: Student Status and Riding Frequency

Since 2015, LTD's ridership has experienced an increase in the proportion of non-students (57% in 2015 compared to 70% in 2019). Students ride 4-6 days per week at a higher percentage than non-students (47% compared to 43%, down from 52% and 48% respectively in 2015), and ride 1-3 days per week at a lower percentage than non-students (21% compared to 27%, down from 24% and 28% respectively in 2015). Students ride 7 days per week at a higher percentage than non-students (33% compared to 30%, up from 23% and 25% respectively in 2015).

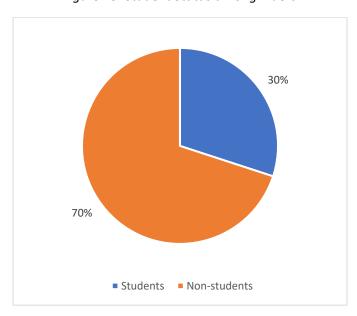


Figure 13: Student Status among Riders

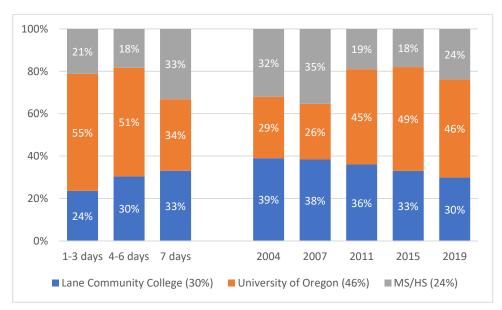


Figure 14: Student Rides by School

The employment/student status question allowed respondents to mark whether they are a Middle/High School student, UO student, or LCC student. 46% of student riders are University of Oregon students (down from 49% in 2015). The proportion of LCC students (30%) has decreased since 2015 (33%), while the proportion of Middle/High School students has increased since 2015 (from 18% to 24%). LCC and Middle/High School students make up a larger proportion of 7 day riders than 1-3 or 4-6 day riders. University of Oregon students make up the largest proportion of within all three frequency groups.

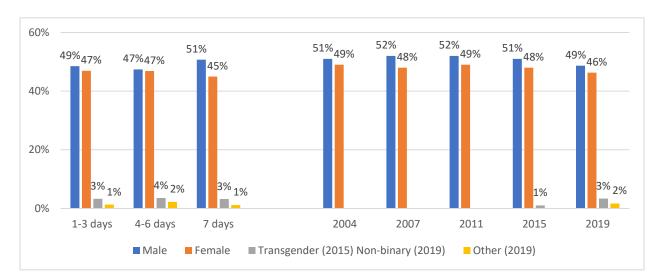


Figure 15: Gender by Frequency Segments

The percentages of riders that identify as male, female, non-binary, or other are presented in the figure above. The proportions of riders identifying as male (49%) or female (46%) are fewer than in 2015 (51% and 48%, respectively). The 2015 questionnaire included a third response category for transgender (1% in 2015). The 2019 questionnaire revised the response alternatives removing transgender and adding non-binary (3% of riders) and other (2%). Males make up the largest proportion of riders within each frequency group as well as the largest proportion of riders overall. The discrepancy between the proportion of males and females is greatest (6%) among the 7 day riders and least (<1%) among 4-6 day riders.

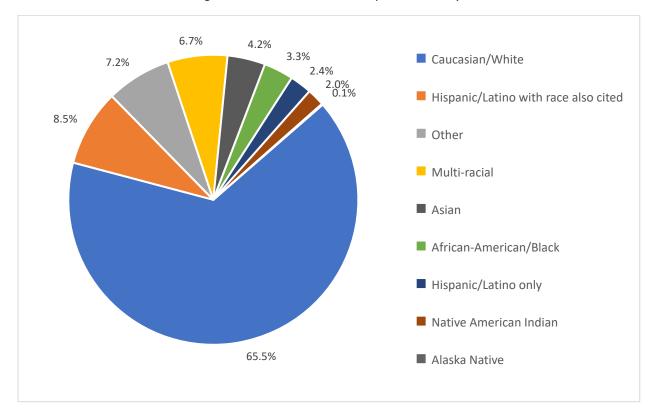


Figure 16: Riders' Race and Hispanic Ethnicity

The figure above reports how riders identify themselves in terms of race and Hispanic ethnicity in 2019. Note that Multi-racial and Hispanic/Latino with race also cited are treated as groups distinct from the others. Most riders identify as only Caucasian/White (65.5%, down from 67% in 2015). Respondents claiming Hispanic or Latino descent represent the second largest group (11%, down from 12% in 2015). Those identifying as Asian represent the third largest group (4.2%, down from 8% in 2015).

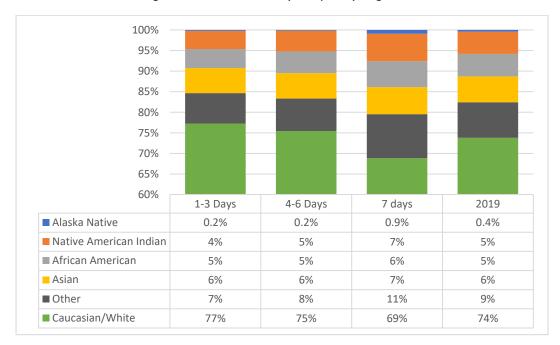


Figure 17: Riders' Race by Frequency Segments

The above figure presents riders' race, without distinguishing riders of Hispanic or Latino descent. Nearly three-quarters of LTD riders identify as Caucasian/White. The remaining 26% are mostly evenly distributed among the other response categories provided on the questionnaire with the exception of Alaska Native, which represents less than 1% (this category was not collected in the previous studies).

LTD riders include a greater proportion of members of a minority ethnicity (26%) than the general Lane County population ($10.9\%^2$).

² Estimates from 2018 published by the US Census Bureau report the following race and ethnicities for Lane County: White alone 89.1%, Black, Black or African American alone 1.2%, American Indian and Alaska Native alone 1.6%, Asian alone 3.2%, Native Hawaiian and Other Pacific Islander alone 0.3%, Two or More Races 4.6%, Hispanic or Latino 9.1%.

Travel Profile – How Riders Use LTD

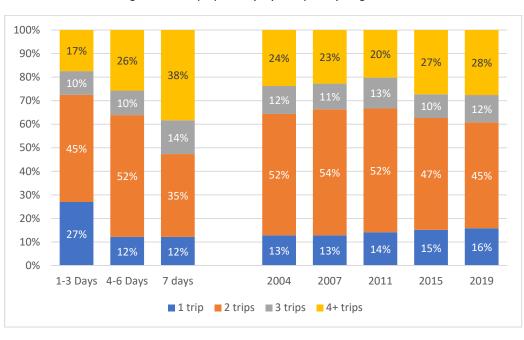


Figure 18: Trips per Day by Frequency Segments

Riders were asked how many separate one-way trips they will make today (i.e. on the day they were surveyed). Responses to this question are assumed to represent the number of trips per day a rider will typically make. Close to half of riders (45%, down from 47% in 2015) make two one-way trips per day (essentially a round trip). Overall, when compared with previous studies, the percentages are little changed. In 2019 the percent of riders one trip (16%) or making four or more trips per day (28%) is higher than the historic percentage, while the percentage of riders that make two trips per day (45%) is less than in earlier studies. The data suggest a tendency toward even-numbered trips. This pattern is apparent in the earlier studies as well.

The figure above also shows how the number of trips per day varies among the frequency groups. 7-day riders not only use transit daily, but fewer of them take one trip per day than the 1-3 day group (12% compared to 27%) and more of them take four or more trips per day than the 1-3 day group (38% compared to 17%).

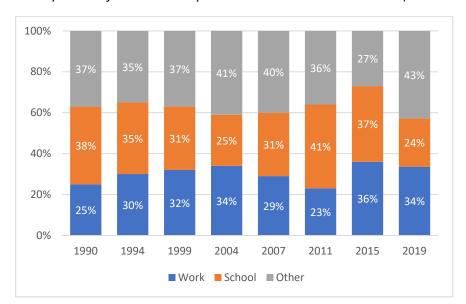


Figure 19: Comparison of Non-home Trip Destinations with Earlier Studies (Home excluded)

LTD rider surveys have been conducted since 1990. The format of asking trip destination has changed several times, but it has been consistent enough to track over time the three general trip destinations of work, school, and other. Home is the most common trip destination, accounting for 69% in 2019. It has been excluded for the purposes of this comparison.

Trip destinations have been quite stable over time, but there have been fluctuations. For example, the 2019 data match the results from 2004 more closely than the 2007, 2011, or 2015 studies. While the proportion of work as the destination (34% of non-home destinations) in 2019 is similar to 2015 (36%), riders traveling to school in 2019 represent 24%, down from 37% in 2015 and the proportion of riders with a destination besides work or school in 2019 (43%) has increased from 27% in 2015.

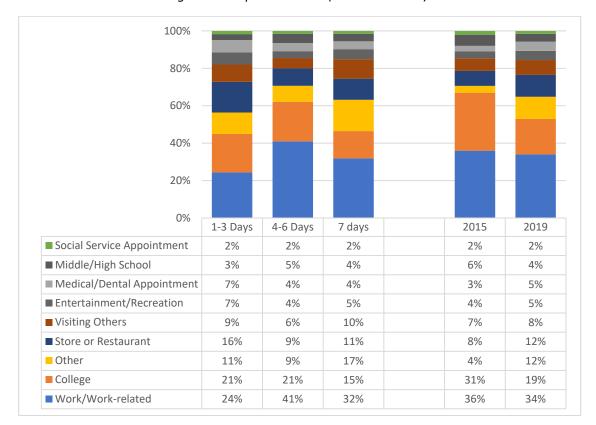


Figure 20: Trip Destination (Home excluded)

Excluding Home, Work is the most common destination (34% of non-Home trips, down from 36% in 2015). College is the second most common destination, as was the case in 2015, however the percentage of this response has dropped from 31% in 2015 to 19%.

The 4-6 day group includes the highest proportion of riders traveling to work (41%, same as in 2015), while the 1-3 day group includes the lowest (24%, down from 29% in 2015). Although the proportion of riders traveling to college has dropped since 2015 within each frequency group, the greatest relative decrease is within the 7 day group (15% in 2019 compared to 27% in 2015, a drop of 44%).

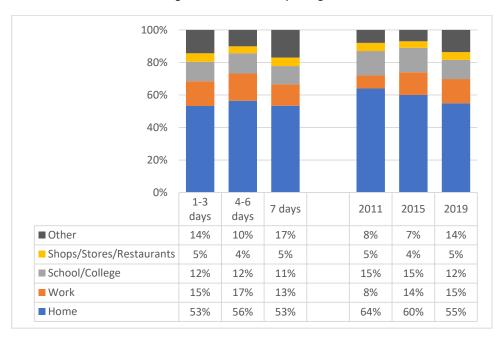


Figure 21: Where Trips Begin

Most one-way trips begin at home (55%, down from 60% in 2015). This is also the most common response among each frequency group, representing a larger proportion among the 4-6 day riders (56%) than among the other groups. This was also the case in 2015 (62%). The 4-6 day frequency group also includes a higher percentage than the other groups of riders that start their trip from work (17%). A smaller proportion of trips begin at school or college than in earlier studies (12%, down from 15% in both 2015 and 2011).

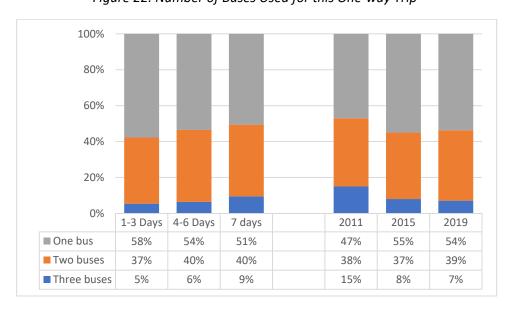


Figure 22: Number of Buses Used for this One-way Trip

The proportion of riders using multiple buses to complete a one-way trip (i.e. transfer) has decreased since 2011 (46%, down from 53%) but increased since 2015 (45%). Most riders (54%) do not require more than one bus. The proportion of riders not requiring a transfer is greatest among 1-3 day riders.

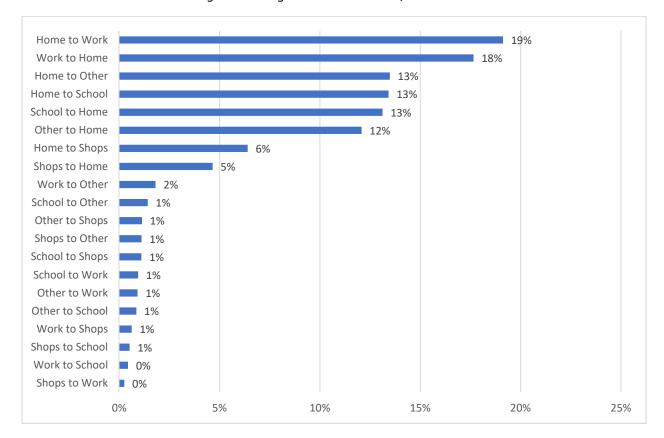


Figure 23: Origin-Destination Pairs, Functional

In the figure above, percentages are based on the total rider sample so that the sum of all percentages equals 100%. However, Home to Home trips, which account for 15% of responses that had indicated both a start and end location, have been excluded from this analysis as not conforming to the definition of a one-way trip. This section presents functional origin and destination pairs. Geographic origin and destination pairs are presented in Figure 26.

Most riders are traveling from Home to Work (19%, up from 17% in 2015). 2019 2015 Home to Work 19% 17% Trips from Work to Home, comprise 18% (up from 11% in 2015). While Work to Home 18% 11% the four most frequent origin to destination pairs have remained the Home to School 13% 21% same in 2019 from 2015, their proportion and order have changed. A Home to Other 13% 11% lower percentage of riders travel from Home to School (includes College) in 2019 than in 2015, but a higher percentage travel from Work to Home in 2019.

Trips between Home and School or Work (33%, down from 39% in 2015) and trips between School or Work and Home (31%, up from 21% in 2015) comprise the majority (64%, up from 60% in 2015) of origin and destination pairs.

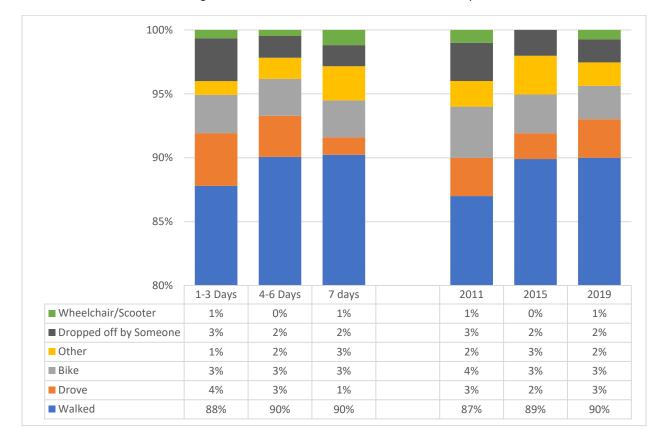


Figure 24: How Riders Get to Their First Bus Stop

Most riders walk to their first bus stop (90%, up from 89% in 2015 and 87% in 2011). The next most common modes are driving (3%, up from 2% in 2015) and bicycling (3%, same as in 2015). The 7 day group include the lowest proportion of riders that either drove to their first bus stop or were dropped off by someone (3%, up from 2% in 2015). The 1-3 day group include the highest proportion of riders who either drove or were dropped off by someone (7%, up from 6% in 2015).

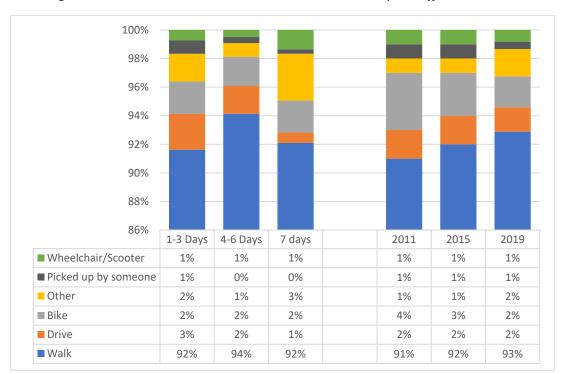


Figure 25: How Riders Get to Their Destination When They Get off the Last Bus

Walking is the most common mode from a rider's final stop to their destination (93%, up from 92% in 2015 and 91% in 2011). The proportion of riders biking from their final stop to their destination has decreased from previous years (2%, down from 3% in 2015 and 4% from 2011), while the proportion of riders who drive from their final stop to their destination has remained constant overall. The percentage of riders who drive from their final stop to their destination or are picked up by someone is greatest among those riding 1-3 days per week (4%, same as in 2015), and lowest within the 7 day group (1%, up from 0% in 2015).

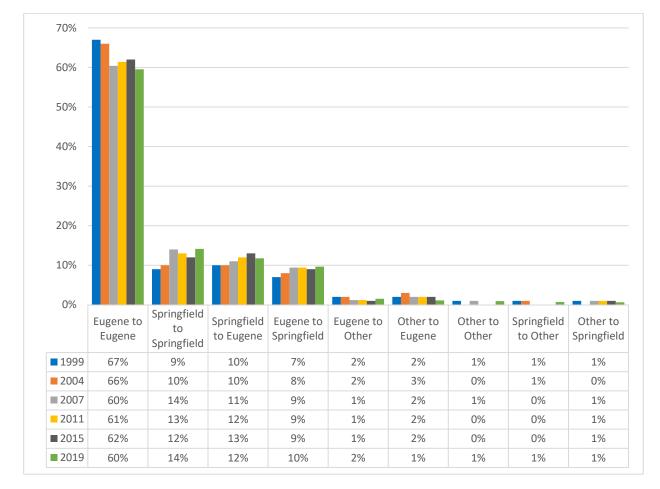


Figure 26: Origin-Destination Pairs, Geographic

The patterns of intercity, intracity, and other travel in 2019 resemble closely those reported in 2015 and previous years. Most trips by LTD riders continue to be within Eugene (60%, down from 62% in 2015). Trips within Springfield are the second most common (14%, up from 12% in 2015), and trips from Springfield to Eugene (12%, down from 13% in 2015) make up the third largest group.

Trips between Eugene and Springfield (going in either direction) comprise 21% of trips (down from 23% in 2015). Trips that have either an origin, destination or both outside of Eugene and Springfield account for 5% of responses. This reflects an increase from 4% in 2015.

These patterns have changed little since 1999, although between 2004 and 2007 the percent of all trips within Eugene declined by approximately 5% and the change appears to have persisted.

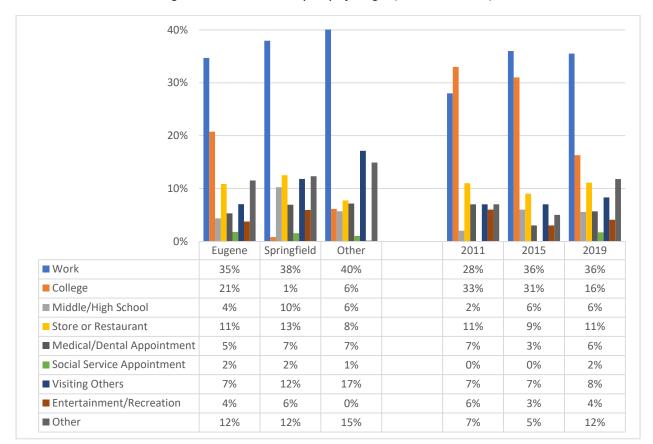


Figure 27: Destination by City of Origin (Home excluded)

Destination types vary by city of origin. Trips originating in Eugene include a greater proportion of riders traveling to school or college than trips originating elsewhere (25%, down from 42% in 2015), and a smaller proportion of riders traveling to work (35%, up from 32% in 2015). The proportion of riders traveling from outside of Eugene and Springfield to work (40%) has increased from 35% in 2015. Trips originating from outside of Eugene or Springfield include the largest proportion of riders using LTD to visit others, and the lowest proportion of riders using LTD for entertainment or recreation (0%, down from 2% in 2015).

Needing Assistance to Use LTD

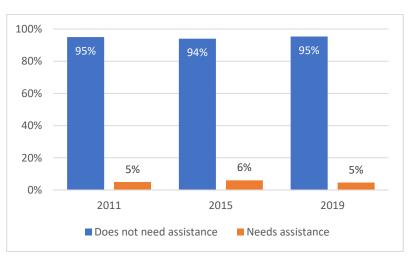


Figure 28: Riders Needing Assistance to Use LTD

Of all riders, 5% need assistance to use LTD (compared to 6% in 2015). Responses that did not indicate a type of assistance needed are assumed for the purposes of this study to belong to the group that does not need assistance (95%). These percentages have remained nearly unchanged since 2011.

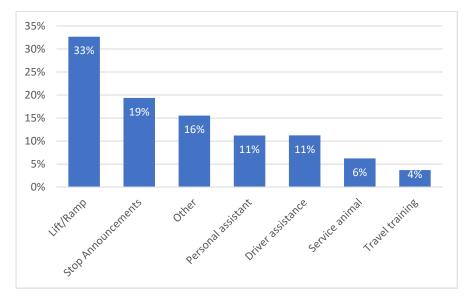


Figure 29: Type of Assistance Needed

The figure above illustrates the specific type of assistance needed as reported by the 5% group described in the previous paragraph. The most common type of assistance riders need is use of the lift or ramp (33%). Stop announcements (19%) are the second most common type of assistance needed. These are also the two most common in the 2015 study, however in 2015 stop announcements was most common and lift or ramp was the second most common.

Fare Media

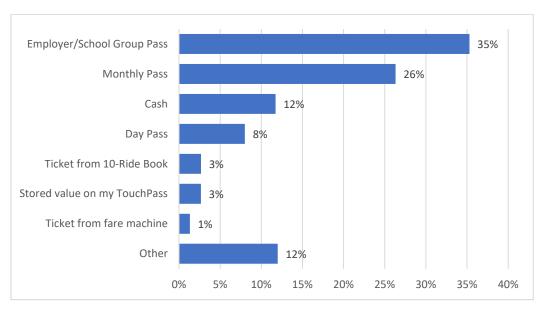


Figure 30: Fare Media Used by Riders

Riders that pay their fare in cash represent 12% (down from 13% in 2015). Most riders use a pass of some kind for fare payment. The largest group use an employer or school group pass (35%, down from 43.5% in 2015). The second most common group, as was the case in 2015, use a monthly pass (26%, up from 25% in 2015).

In fall of 2019 LTD launched a new electronic fare payment system called TouchPass. A question was added to the 2019 questionnaire asking riders if they used the TouchPass mobile app/card to pay for their ride. Of the 89% that provided a response to this question, 8% responded affirmatively.

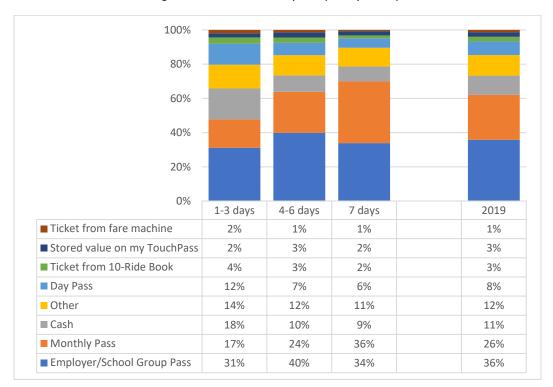


Figure 31: Fare Media by Frequency Group

The fare media used vary somewhat with riding frequency. The use of a school or employer pass is proportionally greatest among the 4-6 day riders (40%, down from 49% in 2015). Monthly passes are more common among frequent riders, while day passes are more common among less-frequent riders.

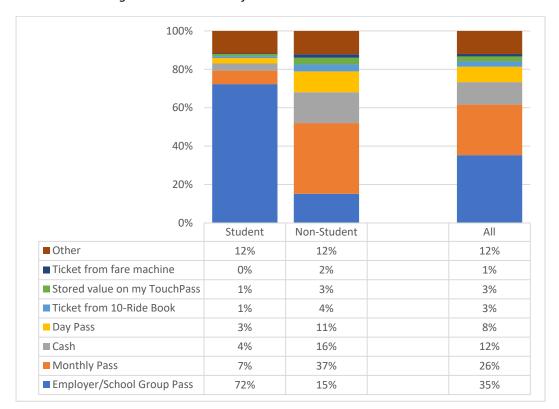


Figure 32: Fare Media for Student and Non-student Riders

Although 35% of riders use either an employer or school group pass, among student riders that proportion is 72%, while for non-students it is 15%. University of Oregon and Lane Community College students have access to a group pass through those institutions. In addition to this, at the time of the data collection, LTD was in the process of rolling out a Student Transit Pass and during this process were allowing students to ride for free.

Proportionally, non-students use a monthly pass (37%) or cash (16%) more than students (7% and 4%, respectively).

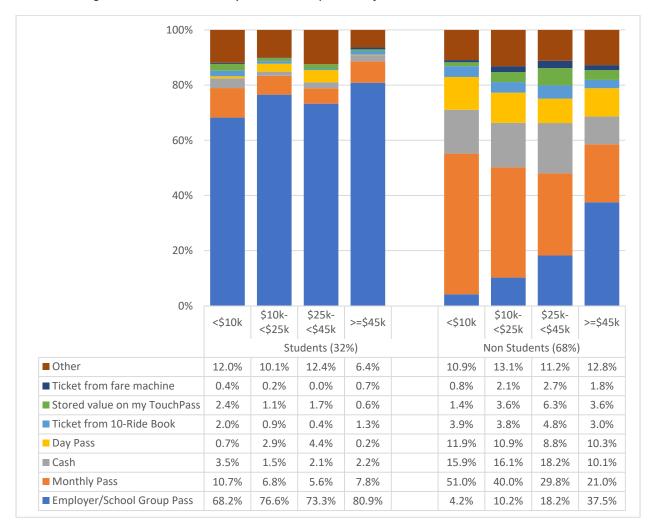


Figure 33: Fare Medium by Income Comparison of Student and Non-student Riders

When we compare fare payment media in the context of student status and household income, we see that the group with the greatest individual proportion is students with household income equal to or above \$45,000 that use an employer or school group pass (80.9%). The percentages of students of all income levels that use an employer or school group pass are at least 68.2%. Among non-students, the highest proportion of any group are those with an income less than \$10,000 that use a monthly pass (51%).

Communication

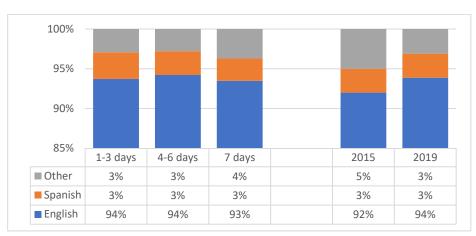


Figure 34: Language Riders Speak Most Often at Home

As with previous studies, most riders (94%) speak English most often at home (up from 92% in 2015). Riders speaking Spanish most often at home account for 3% (same as in 2015). These results vary little across frequency groups.

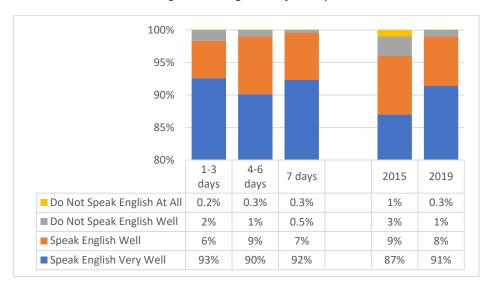


Figure 35: English Proficiency

Respondents were asked how well they speak English. As with previous studies, most (91%) riders speak English very well (up from 87% in 2015), and 8% speak English well (down from 9% in 2015). Less than 1% of riders speak no English at all. Among frequency groups, those riding 1-3 days per week include the highest proportion of riders that speak English very well and the highest proportion of riders that either do not speak English well or that do not speak English at all.

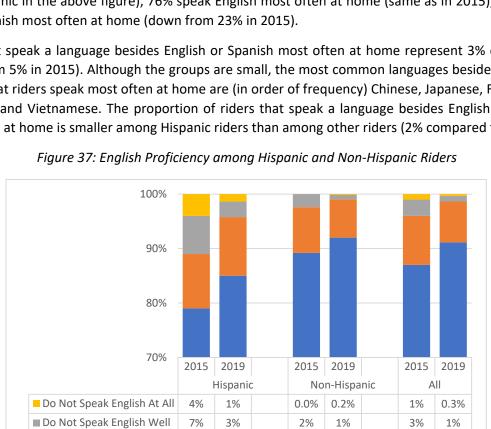


Figure 36: Language Spoken Most Often at Home by Hispanic and Non-Hispanic Riders

As reported earlier, approximately 11% of riders identify as Hispanic or Latino. Among this group (referred to as Hispanic in the above figure), 76% speak English most often at home (same as in 2015), while 21% speak Spanish most often at home (down from 23% in 2015).

2015

5%

0%

95%

2019

Non-Hispanic

3%

1%

96%

2015

5%

3%

92%

All

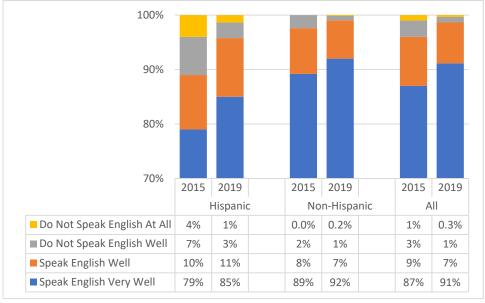
2019

3%

3%

94%

Riders that speak a language besides English or Spanish most often at home represent 3% of the total (down from 5% in 2015). Although the groups are small, the most common languages besides English or Spanish that riders speak most often at home are (in order of frequency) Chinese, Japanese, French, Sign Language, and Vietnamese. The proportion of riders that speak a language besides English or Spanish most often at home is smaller among Hispanic riders than among other riders (2% compared to 3%).



Although 6% of riders speak a language besides English most often at home, 1.4% speak English less than well (down from 4% in 2015). The proportion of Hispanic riders that speak English less than well is greater than that of non-Hispanic riders (4% compared to 1%).

100%

90%

80%

70%

■ Other

Spanish

English

2015

2%

23%

76%

2019

Hispanic

2%

21%

76%

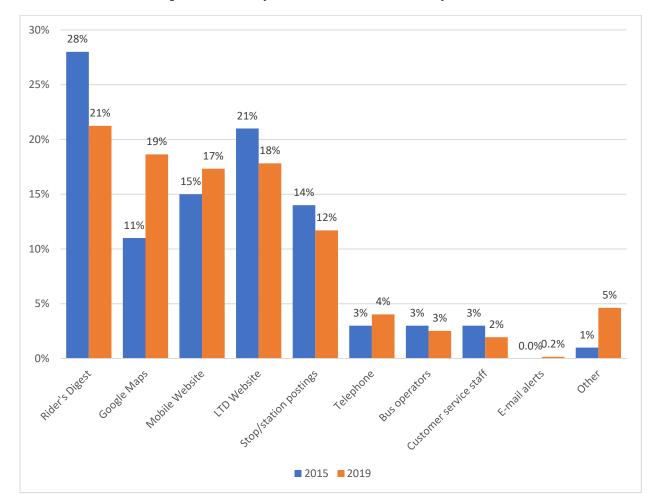


Figure 38: Source for LTD Route and Schedule Information

Riders were asked how they get route and schedule information for LTD. As with the 2015 study, more riders use the Rider's Digest for this information than any other source, however the proportion of riders using the Rider's Digest has dropped (21%, down from 28% in 2015). Google Maps is the second most common source (19%), although in 2015 Google Maps was the fifth most common source for information among riders (11%). Google Maps and mobile website have increased in proportional use among riders for route and schedule information since 2015, while the proportion of riders using Rider's Digest, LTD website, and postings at stops and stations has decreased.

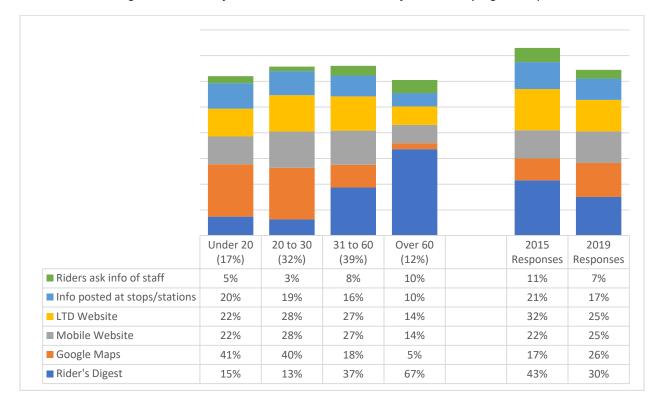


Figure 39: Source for LTD Route and Schedule Information by Age Group

Many respondents indicated more than one source for route and schedule information, as a result the total percentage in each column in the above figure may exceed 100%. Responses are broken out into rider age groups. The largest group (39%) are between the ages of 31 and 60, and the smallest group (12%) are over 60 years old.

There are some differences in the sources of information across these four age groups that are apparent. The Rider's Digest, for example, is the most popular source for information overall (30% of riders use it), although its use has decreased from 43% in 2015. Riders age 30 and younger use Rider's Digest proportionally less than older riders and use Google Maps proportionally more than the older riders. The percentage of riders over 60 that rely on printed rather than electronic resources is greater than that of younger riders.

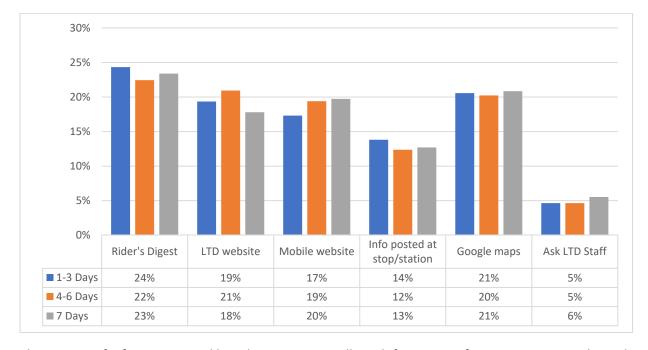


Figure 40: Source for LTD Route and Schedule Information by Frequency Group

The sources of information used by riders vary minimally with frequency of using LTD. Among those that use the Rider's Digest, the greatest percentage are 1-3 day riders (24%). This proportion, however, has declined from 39% in 2015.

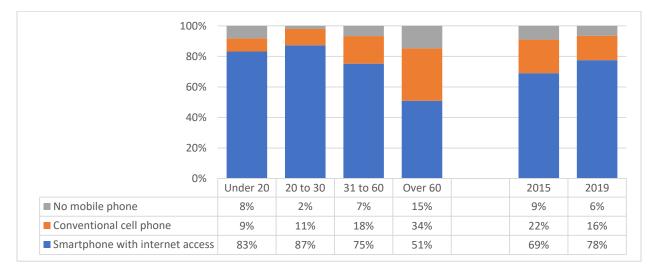


Figure 41: Mobile Phones among Riders by Age

Most riders have a mobile phone (94%, up from 91% in 2015). Riders that carry a smartphone make up 78% (up from 69% in 2015). Of riders age 60 or older, 51% carry a smartphone; this is the lowest proportion of smartphone carrying riders among the four age groups. Riders over 60 also have the highest proportion of riders that carry no mobile phone (15%, down from 25% in 2015). The 20-30 age group has the highest proportion of riders that carry a smartphone (87%, up from 80% in 2015).

Service Ratings

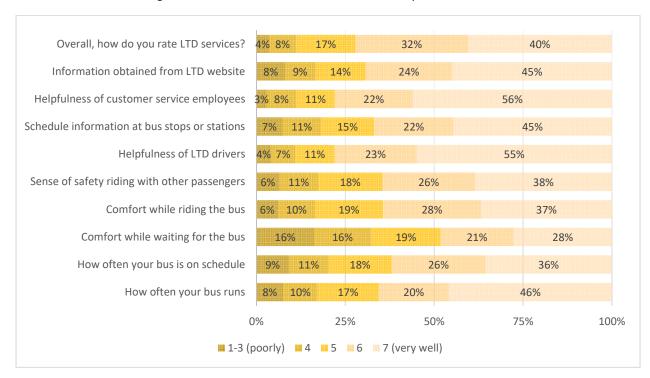


Figure 42: How Well LTD Meets Riders' Transportation Needs

Respondents were asked to rate various aspects of LTD's service based on how well it meets their transportation needs. The questionnaire used a scale of 1 (poorly) to 7 (very well). The summarized responses, including respondents' overall rating of LTD's services, are illustrated in the figure above.

40% of riders give LTD's overall services a rating of 7 (up from 29% in 2015) and 72% provide a rating of at least 6 (up from 65% in 2015). Negative ratings are low, with a maximum of 16% of riders rating any aspects of LTD's service as poor or near poor (ratings 1, 2, and 3). That low rating by 16% of riders is for comfort while waiting for the bus (up from 12% in 2015). Another 16% give this a neutral rating of 4. The helpfulness of LTD drivers (78% responding with "well" or "very well," up from 72% in 2015) and helpfulness of customer service employees (78% responding with "well" or "very well," up from 75% in 2015) are the most positively rated aspects of service, as was also the case in 2015. Comfort while waiting for the bus has the most even distribution of positive, neutral, and negative ratings.

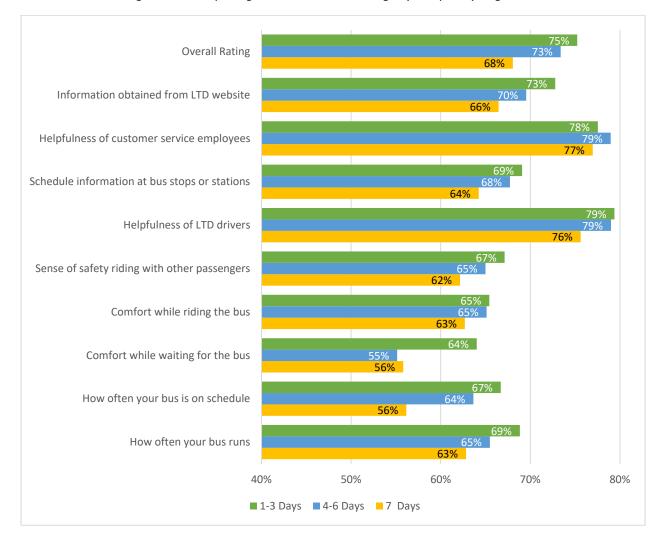


Figure 43: Comparing Positive Service Ratings by Frequency Segments

The figure above reports the percent of riders, by frequency segment, that indicate a service rating of 6 or 7. The top scores are similar for the three segments in both their rank order and their total positive scores, as was the case in 2015. Perceptions of the best rated services are similar regardless of the frequency of using LTD.

For most aspects of service, the less frequent riders provide more positive ratings than other riders.

The most variation among the three frequency segments is rating how often a rider's bus is on schedule. Positive ratings for this element of LTD's services are given by 56% of 7 day riders, and 67% of 1-3 day riders.

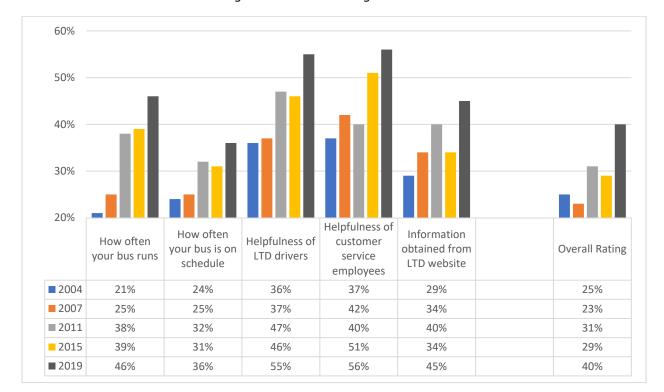


Figure 44: Service Ratings since 2004

Only the percent of those that rated the service "very well" (or "excellent" prior to 2011) is reported for each year in the above figure. Prior to 2011 the rating options were offered on a 1 to 5 scale instead of a 1 to 7 scale. Ratings of 5 in 2004 and 2007 are assumed for the purposes of this report to be equivalent to ratings of 7 in 2011, 2015, and 2019.

These results suggest that riders are becoming increasingly satisfied with LTD's services in general. The 40% overall rating of "very well" reflects a continued general rise from previous years and an improvement from 29% in 2015. The biggest changes in 2019 ratings from those in 2004 are increased satisfaction with how often riders' buses run (46%, up from 21% in 2004), helpfulness of LTD drivers (55%, up from 36% in 2004), and helpfulness of customer service employees (56%, up from 37% in 2004).

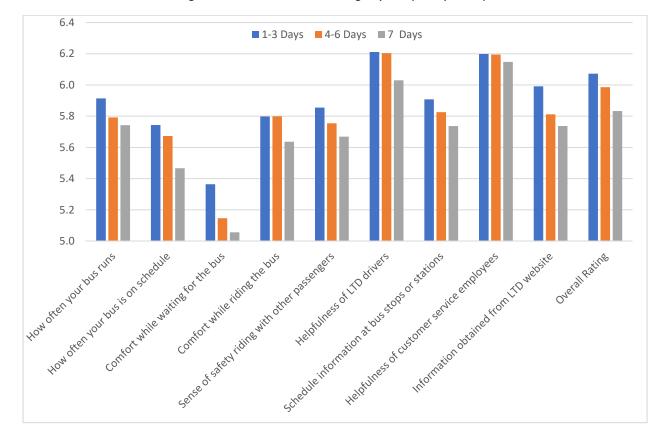


Figure 45: Mean Service Ratings by Frequency Group

The comparison of 2019 mean service ratings on the dimension of frequency of use reveals essentially the same thing that has already been indicated – that the ratings are very similar in both rank order and degree of positive rating regardless of frequency of use. The less frequent riders provide more positive mean ratings than other riders.

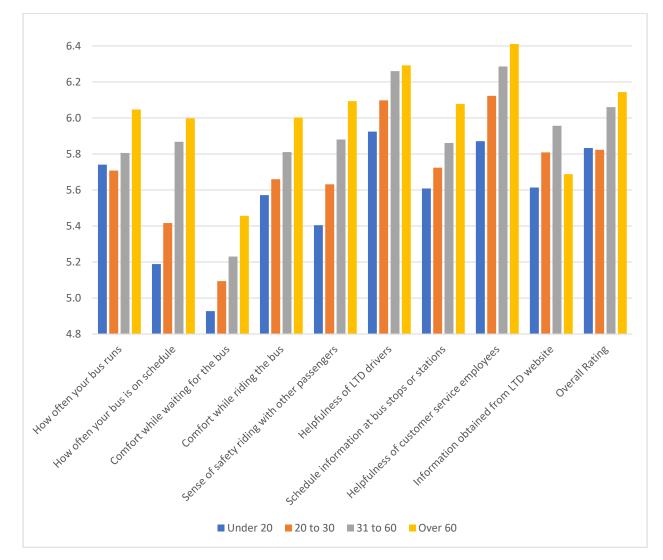


Figure 46: Mean Service Ratings by Age Group

The results illustrated in the figure above reveal that in all aspects of service, rider satisfaction is positively correlated to age. Overall, riders age 30 and older provide more favorable ratings of LTD's service than younger riders. The two aspects of service with the largest disparity between age groups are how often riders' bus is on schedule and riders' sense of safety riding with other passengers.

Rider Attraction and Retention

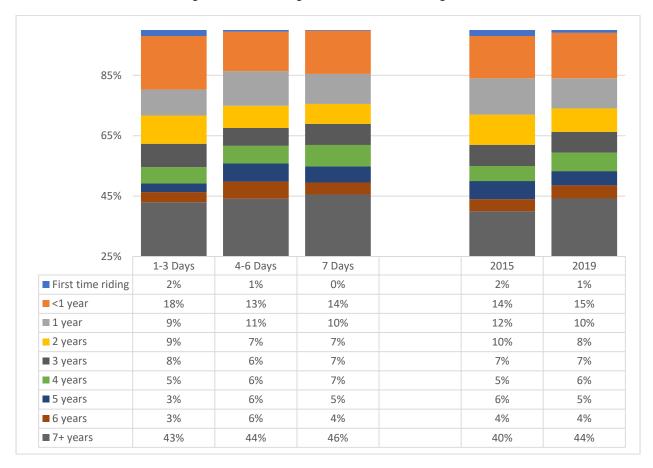


Figure 47: How Long Riders Have Been Using LTD

Of riders 16% have begun using LTD in the last year (same as in 2015), and another 10% in the year prior (down from 12% in 2015). This means more than one-quarter (26%) of riders are new to LTD within the previous two years.

Of riders, 44% began using LTD seven years ago or earlier (up from 40% in 2015). The 7 day riders include proportionally more long-time riders (46%, up from 43% in 2015) and fewer riders that began using LTD within the previous two years (24%, down from 25% in 2015) than the other frequency groups. The 1-3 day riders include a greater percentage of those who began using LTD within the previous two years (29%, same as in 2015) than the other frequency groups. These frequency observations are each consistent with the findings of the 2015 study.

How do EmX Riders Compare to Riders Overall

The tables which follow provide a profile of EmX riders compared to those on other LTD routes and all riders. The tables also provide a profile of the West Eugene EmX system compared to the categories above as well as the riders on fixed routes 36, 41, 78, and 93 (collectively) - routes identified by LTD as being of special interest for comparison with West Eugene EmX. The seven groups compared in the tables are defined as follows:

<u>West Eugene EmX</u> – data derived from responses to surveys administered on the EmX west of the Downtown Eugene Station, heading in any direction, on any day and at any time

Other EmX – data derived from responses to surveys administered on any EmX run not included as part of the West Eugene EmX group

All EmX –the combination of the West Eugene EmX and Other EmX groups

Rte 36, 41, 78, 93 – data derived from responses to surveys administered on any day or at any time on fixed routes 36, 41, 78, and 93, presented collectively

Other Fixed Routes – data derived from responses to surveys administered on any day or at any time on a fixed route, excluding the Rte 36, 41, 78, 93 group

All Fixed Routes – the combination of the Rte 36, 41, 78, 93 and Other Fixed Routes groups

All – the combination of the All EmX and All Fixed Routes groups

The tables cover three general categories of information; use of LTD, demographic information, and how respondents communicate and interact with LTD. Observations for each of these categories are described in the following sections.

Comparison of Riders' Use of LTD

Among riders, the most common weekly frequency of using LTD is 4-6 days (44%). This holds true among each fixed route/EmX category. The 36, 41, 78, 93 group includes the smallest proportion of 7 day riders (26%, compared to 32% among other fixed routes and 32% overall) and largest proportion of 1-3 day riders (30%, compared to 23% among other fixed routes and 25% overall).

The variation across groups from year to year of when riders began using LTD increases as the beginning year becomes more recent, with responses of 2019 and 2018 providing the most variation among categories. The 36, 41, 78, 93 group includes proportionally fewer new riders (18% began using LTD buses after 2017), and comparatively more long-time riders than other groups (48% began using LTD buses prior to 2013). The two EmX groups have the highest proportion of new riders (27% each), and the Other Fixed Routes group has the next highest proportion of new riders (26%).

The West Eugene EmX group includes the greatest proportion of riders that began using LTD in 2017 (10% compared to 8% systemwide), the year in which West Eugene EmX service began operating. The

percentage of West Eugene fixed route riders that began using LTD in 2017 is greater than the other fixed route group (9% compared to 6%).

Of fixed route riders, 90% walk to their first bus stop; the largest proportion among any group. While walking is the most common mode for riders to get to their first bus stop, the groups that include the greatest proportion of riders that get to their first stop by means other than walking are the West Eugene EmX group (14%) and the All EmX group (13%, down from 14% in 2015). A greater proportion of West Eugene EmX riders drive alone to their first bus stop than all other groups (4% compared to 2% overall). Biking to the first bus stop and putting the bike on the bus/EmX is more common among EmX riders (4%) than among fixed route riders (2%).

The percentage of EmX riders that use a wheelchair/scooter to get to their first bus stop is greater than that of fixed route riders (1.2% compared to 0.5%)

Although home is the most common trip destination (44%) among all riders, the greatest proportional discrepancy in riders traveling home is observed between the West Eugene EmX (41%) and the Other EmX (47%). The highest percentage in any group of riders ending their one-way trip at work/work related is in the 36, 41, 78, 93 group (21%), while the Other EmX group has the lowest percentage (13%). A difference between the 2019 results and the 2015 results is the proportional decrease among all riders in trips ending at college (19% when excluding home responses, down from 31% in 2015).

A greater proportion of EmX riders take only a single bus for a one-way trip than fixed route riders (57% compared to 49%). The West Eugene EmX group has the lowest proportion of riders that take two buses for a one-way trip (34% compared to 38% overall).

the fixed route group has a higher proportion of riders (16%) than the EmX group (11%) that would not make the trip by alternative means if LTD service were not available. This reflects some dependence on LTD service. Among all riders, 27% would walk if LTD service were not available. Results differ little between the two fixed route groups and between the two EmX groups. Between all fixed routes and all EmX, bicycling as an alternative has a higher percentage among EmX riders (17% compared to 14%), while getting a ride has a higher percentage among fixed route riders (19% compared to 15%).

Comparison of Rider Demographics

The discrepancy between male and female riders is greatest within the Other EmX group (52% male and 43% female) and least within the 36, 41, 78, 93 group (46% for both male and female).

Fixed route and EmX riders compare similarly in terms of age groups. The 36, 41, 78, 93 group has the greatest proportion of riders between the ages of 16 and 24 (38%). A higher percentage of EmX riders (19%) than fixed route riders (16%) are age 55 or older. The West Eugene EmX group has the lowest proportion of riders between the ages of 16 and 34 (53%).

The 36, 41, 78, 93 group has proportionally fewer Hispanic or Latino riders (10%) than the other groups, which each have either 12% or 13%.

The Other EmX group has the highest percentage of riders of a minority racial group (29%). The 36, 41, 78, 93 group and West Eugene EmX group have the highest percentage of Caucasian/White riders (75%).

In other regards, the fixed route and EmX groups are nearly identical in rider ethnicity proportions. The 36, 41, 78, 93 group has a lower percentage of Asian riders than other fixed routes (4% compared to 7%).

There is very little variation among the groups in the language riders speak most often at home. Riders that speak a language besides English most often at home make up a smaller proportion of the West Eugene EmX group (8%) and a larger proportion of the Other EmX group (11%) than any of the other groups. The same discrepancy exists among riders that speak English very well.

The West Eugene EmX group has the greatest proportion of riders employed for pay outside their home (47%) while the Other EmX group has the lowest (35%). The fixed routes group has a larger proportion of riders that are middle school/high school students (9%) or LCC students (10%) than the EmX group (3% and 5% respectively).

Comparison of How Riders Communicate with LTD

The percentages among groups vary little when it comes to mobile phone ownership. The percentage of riders that carry no mobile phone is higher among riders of the West Eugene routes (fixed route or EmX) than riders of other routes.

Across all groups, the Rider's Digest remains the most used source for route and schedule information, differing among groups by 2%. The mobile website is used for information by a higher percentage of EmX riders (17%) than fixed route riders (14%). Google Maps is used by a greater proportion of the 36, 41, 78, 93 group (18%) than the West Eugene EmX group (15%).

The fare medium used most by each group is the employer or school group pass (34% of all riders). The Other EmX group has the lowest percentage of riders using an employer or school group pass (27%). The percentage of riders that use day passes or tickets from a 10-ride book is greater among the EmX groups than among the fixed route groups. A greater proportion of fixed route riders use monthly passes than EmX riders.

Table 2: Comparison of Riders' Use of LTD by Route Group

	Rte 36, 41, 78,	Other Fixed	All Fixed	West Eugene	Eugene Other FmX		All		
	93	Routes		EmX					
Including today, how many days have you ridden LTD in the past week?									
1-3 days 4-6 days	30% 45%	23% 45%	24% 45%	27% 42%	25% 43%	26% 42%	25% 44%		
7 Days	26%	32%	31%	31%	32%	32%	31%		
•		32/0	31/0	31/0	3270	3270	31/0		
In what year did you begin using LTE									
This is my first LTD trip	1%	1%	1%	0%	1%	0%	1%		
2012 or before 2013	48% 6%	44% 4%	45% 4%	42% 5%	47% 4%	43% 5%	44% 5%		
2013	5%	5%	5%	5%	5%	5% 5%	5%		
2015	7%	7%	7%	5%	5%	5%	6%		
2016	7%	7%	7%	7%	6%	6%	7%		
2017	9%	6%	7%	10%	7%	9%	8%		
2018	7%	10%	10%	13%	8%	12%	10%		
2019	10%	15%	14%	13%	18%	15%	15%		
How did you get to the first bus stop	o?								
Walked	90%	90%	90%	86%	87%	87%	89%		
Parked alone	1%	1%	1%	4%	1%	3%	2%		
Parked with another rider	1%	1%	1%	1%	2%	1%	1%		
Dropped off by someone	3%	2%	2%	2%	2%	2%	2%		
Taxi, Uber, or Lyft	0%	0%	0%		0%				
EmGo or CG Connector	0%	0%	0%	0%	1%	0%	0%		
Wheelchair/Scooter	1% 2%	0%	0%	1%	2% 3%	1%	1%		
Biked (put bike on bus) Biked (left bike at bus stop)	0%	2% 0%	2% 0%	4% 1%	3% 0%	4% 1%	3% 0%		
Other	2%	2%	2%	2%	2%	2%	2%		
Where will you end this one-way trip		450/	4 E 0/	110/	470/	420/	4.40/		
Home Work/Work-related	46% 21%	45% 19%	45% 19%	41% 19%	47% 13%	43% 17%	44% 18%		
College	7%	11%	10%	11%	10%	11%	11%		
Middle/High School	4%	4%	4%	1%	2%	1%	3%		
Store or Restaurant	5%	5%	5%	8%	5%	7%	6%		
Medical/Dental Appt	4%	3%	3%	3%	2%	3%	3%		
Social Service Appt	1%	1%	1%	1%	1%	1%	1%		
Visiting Others	4%	4%	4%	5%	7%	6%	5%		
Entertainment/Recreation	2%	2%	2%	4%	5%	4%	3%		
Other	5%	6%	6%	7%	8%	7%	6%		
Will you use more than one bus to o									
No, one bus	46%	49%	49%	58%	52%	57%	52%		
Yes, two buses	43%	40%	41%	34%	35%	34%	38%		
Yes, three buses	12%	10%	11%	8%	13%	9%	10%		
If transit service were not available,	how woul	d you ma	ke this kin	d of trip?					
Drive alone	11%	10%	10%	13%	9%	12%	10%		
Taxi/Lyft/Uber	12%	12%	12%	9%	13%	10%	11%		
Walk	25%	25%	25%	29%	30%	29%	27%		
Bicycle	12%	14%	14%	19%	14%	17%	15%		
Get a ride	20%	19%	19%	15%	16%	15%	18%		
I would not make this trip Carpool	17% 3%	15% 3%	16% 3%	11% 3%	13% 3%	11% 3%	14% 3%		
Other	1%	2%	2%	2%	2%		2%		
	-70	_/0	-70	_,0	_/0	_/0	_,,		

Table 3: Comparison of Riders' Demographic Information by Route Group

	Rte 36, 41, 78,	Other Fixed	All Fixed Routes	West Eugene	Other EmX	All EmX	All
	93	Routes		EmX			
Do you identify as							
Male	46%	48%	48%	48%	52%	49%	48%
Female	46% 3%	46% 4%		46% 3%	43%	45% 3%	46% 4%
Non-binary Other	3% 1%	4% 0%		3% 1%	2% 1%	3% 1%	4% 1%
Prefer not to say	3%	2%		2%	2%		2%
•							
What is your age?	4%	4%	4%	4%	3%	4%	4%
15 or younger 16 thru 24	38%	33%	34%	33%	34%	33%	33%
25 thru 34	18%	23%		20%	23%	21%	22%
35 thru 44	14%	14%	14%	12%	11%	12%	13%
45 thru 54	9%	10%	10%	10%	13%	11%	10%
55 thru 64	8%	8%		11%	8%	10%	9%
65 thru 74	6%	6%	6%	7%	6%	7%	6%
75 or older	2%	2%	2%	2%	3%	2%	2%
Are you of Hispanic or Latino descer	nt?						
Yes	10%	13%	13%	12%	13%	12%	13%
No	90%	87%	87%	88%	87%	88%	87%
Which do you consider yourself? (Pl	oaso mark	all that c	loscribo vo))			
African American/Black	6%	6%		5%	6%	5%	6%
Asian	4%	7%		7%	5%	6%	6%
Caucasion/White	75%	73%		75%	71%	74%	74%
Native American Indian	5%	5%		6%	7%	6%	5%
Alaska Native	0%	0%	0%	1%	1%	1%	0%
Other	9%	9%	9%	7%	11%	8%	9%
Member of an ethnic or racial minor	rity group	(derived t	from resno	onses to t	he questic	on above)	
Of a minority racial group	25%	27%	26%	25%	29%	26%	26%
Caucasion/White	75%	73%	74%	75%	71%	74%	74%
What language do you most often s	noak at be	.m.o.2					
English	90%	91%	91%	92%	89%	91%	91%
Spanish	6%	4%	5%	5%	6%	5%	5%
Other	4%	5%	5%	4%	6%	4%	4%
How wall do you speak Francish?							
How well do you speak English? Very well	91%	90%	90%	92%	89%	91%	91%
Well	8%	8%		7%	8%	7%	8%
Not well	0%	1%		1%	2%	1%	1%
Not at all	1%	0%	0%	0%	0%	0%	0%
Diagonal all of the fellowing that							
Please mark all of the following that Employed outside home	apply to y 40%	you. Are y 39%	ou: 39%	47%	35%	44%	41%
Employed outside nome	2%	39 <i>%</i> 4%		3%	3%	3%	3%
UO student	12%	13%	13%	15%	16%	15%	14%
LCC student	6%	11%	10%	5%	6%	5%	8%
MS/HS student	10%	8%		3%	4%	3%	7%
Other student	2%	3%	3%	2%	4%	3%	3%
Stay at home caregiver	2%	2%	2%	1%	3%	2%	2%
Retired	9%	6%	7%	7%	9%	8%	7%
Unemployed	8%	6%		7%	10%	8%	7%
Disabled	8%	9%	8%	9%	10%	9%	9%

Table 4: Comparison of Riders' Communication/Interaction with LTD by Route Group

	Rte 36, 41, 78, 93	Other Fixed Routes	All Fixed Routes	West Eugene EmX	ugene Other FmX		All	
Do you carry a mobile phone?								
Conventional cell phone	16%	17%	17%	16%	17%	17%	17%	
No mobile phone	9%	6%	6%	8%	6%	7%	7%	
Smartphone w/internet access	75%	77%	77%	76%	76%	76%	76%	
How do you get route and schedule	informati	on for LTE)? (Mark a	II that app	oly)			
Reader's Digest	30%	31%	31%	31%	29%	31%	31%	
Mobile website	17%	14%	14%	16%	18%	17%	15%	
Customer Service staff	2%	2%	2%	2%	2%	2%	2%	
Info posted at stops/stations	11%	10%	10%	10%	9%	10%	10%	
Telephone	2%	3%	3%	4%	5%	4%	4%	
Google Maps	18%	17%	17%	15%	17%	16%	16%	
LTD website	13%	17%	16%	15%	14%	15%	16%	
Bus operators	2%	3%	2%	2%	2%	2%	2%	
Email alerts	0%	0%	0%	0%	0%	0%	0%	
Other	5%	4%	4%	5%	3%	4%	4%	
What was your fare payment for this one-way trip?								
Cash	12%	12%	12%	13%	14%	13%	12%	
Day Pass	7%	8%	8%	10%	13%	11%	9%	
Ticket from 10-Ride Book	2%	2%	2%	5%	4%	5%	3%	
Ticket from fare machine	1%	1%	1%	3%	3%	3%	1%	
Monthly Pass	27%	28%	27%	23%	25%	24%	26%	
Stored value on TouchPass	3%	3%	3%	2%	3%	2%	3%	
Employer/School Group Pass	34%	35%	35%	35%	27%	33%	34%	
Other	14%	12%	13%	10%	12%	10%	12%	

Appendix A: Questionnaires



City: Eugene Springfield Other_

0301

LTD Customer Survey — November 2019

If you have completed this survey in the past two weeks, check this box and complete only questions 1-19.

two weeks, please turn the survey over and complete

the questions on the back.

	l					
Please tell us about the one-way trip that you are	5. My first bus was on Route Number:	12. What was your fare payment for this one-way trip?				
currently taking. An example of a one-way trip is going from home to work, even if you use more than one bus. Going from work back home would be a different one-way trip.	Will you use more than one bus to complete this one-way trip? No, this is my only and last bus	☐ Cash ☐ Monthly Pass ☐ Day Pass ☐ Stored value on my TouchPass ☐ Ticket from 10-Ride ☐ Employer/School Group Pass ☐ Other (specify) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐				
One-way-trip:	I will use a second bus route #	☐ Ticket from fare				
☆ -次- □- □ -次- <u>-</u>	7. Where will you get off the last bus? Station yours.	machine 13. How many separate one-way LTD trips will you make toda (circle a number)				
1. Where did you START this one-way trip?	Station name	1 2 3 4 5 6 or more				
(Mark the one best answer)	Or Stop location (street name)	44 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1				
☐ Home ☐ Medical/Dental Appointment	(and nearest cross street)	14. Including today, how many days have you ridden LTD in the past week? (circle a number)				
☐ Work/Work-related ☐ Social Service Appointment	City: Eugene Springfield Other Other	1 2 3 4 5 6 7				
☐ College ☐ Visiting Others ☐ Middle/High School ☐ Entertainment/Recreation	O Hammill was and to work destination when you and off the					
Store or Restaurant Other (specify)	8. How will you get to your destination when you get off the last bus?	15. Do you have a valid driver's license? Yes No				
,, ,	☐ Walk ☐ Take EmGo or Cottage Grove	16. How many others in the household have valid licenses?				
2. My Starting Point was located at:	☐ Drive allone Connector	0-none 1 2 3 4 or more				
Address (such as 123 W 1st Ave)	☐ Drive with another ☐ Wheelchair/Scooter	17. How many working vehicles are owned or leased by your				
Or Cross streets (such as E. 18th Ave & Pearl)	rider and park Bike and put bike on bus/EMX Drop off by someone Bike and leave bike at/near	household?				
City: Eugene Springfield Other	Drop off by a taxi, bus stop/station Uber, or Lyft Other (specify)	0-none 1 2 3 4 or more				
3. How did you get to the first bus stop?		18. Please mark all of the following that apply to you. Are you:				
☐ Walked ☐ Dropped off by EmGo or Cottage	9. Where will you END this one-way trip?	Employed for pay <u>outside</u> Other student				
☐ Drove allone ☐ Broye Connector	Home Medical/Dental Appoinment	your home Stay at home parent/ Employed for pay in your caregiver				
☐ Drove with another ☐ Wheelchair/Scooter	Work/Work-related Social Service Appointment	home Retired				
rider and parked Biked and put bike on bus/EMX Dropped off by Biked and left bike at/near bus	College Visiting Others	U0 student Unemployed				
☐ Dropped off by ☐ Biked and left bike at/near bus someone stop/station	Middle/High School Entertainment/Recreation	☐ LCC student ☐ Disabled ☐ Middle/High School				
Dropped off by a taxi, U Other (specify)	Store or Restaurant Other (specify)	student				
Uber, or Lyft	10, My Ending Point is located at:	19. What is your age?				
4. Where did you get on the first hung	Address (such as 123 W 1st Ave)	19. What is your age?				
4. Where did you get on the first bus? Station name	Or Cross streets (such as E. 18th Ave & Pearl)	If you have completed this survey during the past two				
	City: Eugene Springfield Other	weeks, please stop here and return the questionnaire to				
Or Stop location (street name)	ony. Li Lugerie Li opringrient Li otrier	the Surveyor.				
(and nearest cross street)	11. Did you use the TouchPass mobile app/card to pay for this	If you have not completed this survey during the past				

ride?



LTD Customer Survey — November 2019

bus today? (Mark all that apply) No assistance Travel training Personal assistant Stop announcements Service animal Other (specify) 1. How did you get route and schedule information for LTD? (Mark all that apply) Rider's Digest Telephone Bus Operators Bus Operators Service staff at station Email allerts Info posted at stops/stations Other (specify) 22. If transit service were not available, how would you make this kind of trip? Drive alone Walk Get a ride Carpool	No mobile Smartphot	nal cell phone phone ne with internet acc total annual hous \$10,000	ehold incom \$45,000 to \$55,000 to \$75,000 to \$100,000 o	ne? \$54,999 \$74,999 \$99,999 or more	(Please mark all that describe you) African-American/Black Native American Indian Asian Alaska Native Caucasian/White Other 27. How well do you speak English? Very well Well Not well Not at all 28. What language do you most often speak at home? English Spanish Other 29. Do you identify as Male Other Female Prefer not to say Non-binary
☐ Taxi/Lyft/Uber ☐ Bicycle ☐ I would not make this trip ☐ Other (specify) ☐ In the past 30 days, how well has LTD met your triangles.	•	eds in each of		as?	Comments:
very w				poorly –	
30. How often your bus runs	6 5	4 3	2	1	
31. How often your bus is on schedule	6 5	4 3	2	1	
32. Comfort while waiting for the bus	6 5	4 3	2	1 -	
33. Comfort while riding the bus	6 5	4 3	2	1	
34. Sense of safety riding with other passengers	6 5	4 3	2	-	
35. Helpfulness of LTD drivers	6 5	4 3	2	1 -	
36. Schedule information at bus stops or stations 7	6 5	4 3	2	1	
37. Helpfulness of customer service employees 7	6 5	4 3	2	1 _	
38. Information obtained from LTD website 7	6 5	4 3	2	1	
39. OVERALL, how do you rate LTD services? 7	6 5	4 3	2	1 -	
40. In what year did you begin using LTD buses? ☐ 2012 or before ☐ 2013 ☐ 2014 ☐ 2018 ☐ 2019 ☐ This is my	2015	2016	2017	T	Thank you! Please return this form to the Surveyor, your bus 3



Dejado por EmGo o

Nombre de la estación

Cottage Grove Connector

(y la calle transversal más cercana)

4. ¿Dónde conseguiste el primer autobús?

Q detener ubicación (nombre de la calle)

Ciudad: ☐ Eugene ☐ Springfield ☐ Otro

Otro (Especificar)

ENCUESTA de Clientes de LTD — Noviembre 2019

Si ha completado esta encuesta en las últimas dos semanas, marque esta casilla y complete solo las preguntas 1-19.

12. ¿Cuál fue el pago de la tarifa para este viaje de ida? Por favor, cuéntenos sobre el viaje de ida que está 5. Mi primer viaje en autobús fue en el número de ruta: realizando actualmente. Un ejemplo de un viaje de ida es ir de Pase de mes Efectivo 6. ¿Usarámás más de un autobús para completar este viaje casa a trabajo, incluso si usas más de un autobús. Ir del trabajo en Pase diario Valor almacenado en mi de ida? casa sería un viaje de ida diferente. Entrada desde el libro **TouchPass** No, este es mi único y último autobús. Pase de Empleador/Grupo de 10 viaies ☐ Usaré una segunda ruta de autobús # Viaie de ida: Billete de la máquina Escolar **☆**-次-1□-**□**-次-¹六 Usaré una tercera ruta de autobús # Otro (Especificar) de tarifas 7. ¿Dónde bajarás del último autobús? 13. ¿Cuántos viajes LTD separados harás hoy? Nombre de la estación (circule un número) O detener ubicación (nombre de la calle) ¿Dónde empezaste este viaje de ida? 6 or more (Marcar la mejor respuesta) (y la calle transversal más cercana) 14. Incluyendo hoy, ¿cuántos días has montado LTD en la Casa ☐ Tienda o restaurante Ciudad: Eugene Springfield Otro semana pasada? (circule un número) Trabajo/Trabajo Cita médica/dental relacionado 8. ¿Cómo llegarás a tu destino cuando bajes del último 2 3 4 5 ☐ Social Service Appointment autobús? Universidad Visitar a otros 15. ¿Tiene una licencia de conducir válida? □ Si □ No ☐ Escuela Secundaria/ ☐ Entretenimiento/Recreación Cottage Grove Connector Caminó Silla de ruedas/Scooter Secundaria Otro (Especificar) Drove solo 16. ¿Cuántos más en el hogar tienen licencias válidas? Bicicleta y poner bicicleta en el Drove con otro iinete 0-none 1 4 o más autobús/FMX 2. Mi punto de partida se encuentra en: v estacionado Deiado por alguien Bicicleta y bicicleta a la Dirección (como 123 W 1st Ave) 17. ¿Cuántos vehículos de trabajo son propiedad izguierda en/cerca de la Deiado en taxi. Uber O cruzar la calle (como E. 18th Ave & Pearl) o arrendados por su hogar? parada de autobús o Lyft Otro (Especificar) Ciudad: Eugene Springfield Otro 0-none 1 4 o más Deiado por EmGo o 18. Marque todo lo siguiente que se aplique a usted. Usted: 3. Cómo llegaste a la primera parada de autobús? 9. ¿Dónde terminarás este viaje de ida? Empleado por pago fuera Otros estudiantes ☐ Caminó Silla de ruedas/Scooter Casa ☐ Tienda o restaurante de su casa Quédate en casa padre/ Bicicleta y poner bicicleta ☐ Drove solo Trabajo/Trabajo ☐ Cita médica/dental Empleado por pago en su cuidador en el autobús/EMX Drove con otro jinete y Retirado relacionado ☐ Social Service Appointment casa estacionado Bicicleta y bicicleta a la Estudiante de la UO Desempleados Universidad Visitar a otros Deiado por alguien izquierda en/cerca de la Estudiante de LCC
Estudiante de secundaria/ Deshabilitado ☐ Escuela Secundaria/ ☐ Entretenimiento/Recreación Dejado en taxi, Uber o Lyft parada de autobús

11. ¿Usaste la aplicación/tarjeta móvil Touchpass para pagar

Otro (Especificar)

Secundaria

este viaje?

☐ Si

10. Mi punto final se encuentra en:

□ No

Dirección (como 123 W 1st Ave) Si ha completado esta encuesta durante las últimas dos O cruzar la calle (como E. 18th Ave & Pearl) semanas, deténgase aquí y devuelva el cuestionario al Ciudad: Eugene Springfield Otro topógrafo.

> Si no ha completado esta encuesta durante las últimas dos semanas, entregue la encuesta y complete las preguntas en la parte posterior.

secundaria

19. ¿Cuántos años tienes?

)



ENCUESTA de Clientes de LTD — Noviembre 2019

21. 2	Qué tipo de asistencia, si la hay, necesitaba usar el utobús hoy? (Marque todo lo que corresponda) Sin asistencia Asistente personal Animal de servicio Detener anuncios Otro (Especificar) Asistencia al conductor Entrenamiento de viajes Cómo obtuvo información sobre rutas y horarios para ID? (Marque todas las que correspondan)	Teléfono celular convencional Sin teléfono móvil Smartphone con acceso a Internet						\$74,999	26. ¿Qué te consideras a ti mismo? (Por favor marque todo lo que lo describa) Afroamericano/Negro Indio nativo americano Asiático Nativo de Alaska Otro 27. ¿Qué tan bien hablas inglés? Muy bien Bien No Bien De nada			
	Rider's Digest □ Personal de Servicio al Cliente en Station] Teléfono Station] Sitio web de LTD □ Alertas por correo electrónico] Sitio web movil □ Información publicada en Paradas/ estaciones] Google maps estaciones] operadores de autobuses □ Otro (Especificar)	24. ¿0	2	persona		su ho	7 8	o más o más	28. ¿Qué idioma hablas más a menudo en casa? Inglés			
	transit service were not available, how would you make his kind of trip? Conducir solo Caminar tomar un paseo Carpool Taxi/Lyft/Uber Bicicleta Yo no haría este viaje Otro (Especificar)			No No e trans	porte en c	ada ur	na de est	as áreas?	Mujer Prefiere no decir No binario Comentarios:			
		Muy bier	n					Mal				
31	0. Con qué frecuencia funciona el autobús	7	6	5	4	3	2	1				
3	Con qué frecuencia su autobús está a tiempo	7	6	5	4	3	2	1				
3	2. Comodidad mientras esperas el autobús	7	6	5	4	3	2	1				
3	3. Comodidad mientras viajas en autobús	7	6	5	4	3	2	1				
3	4. Sensación de seguridad montando con otros pasajeros	7	6	5	4	3	2	1				
3	5. Ayuda de los conductores LTD	7	6	5	4	3	2	1				
3	6. Programar información en paradas de autobús o estaciones	7	6	5	4	3	2	1				
3	7. Amabilidad de los empleados de servicio al cliente	7	6	5	4	3	2	1	**************************************			
3	8. Información obtenida del sitio web de LTD	7	6	5	4	3	2	1				
3	9. En general, ¿cómo valora los servicios LTD?	7	6	5	4	3	2	1				
4	0. ¿En qué año empezaste a usar los autobuses LTD?											
	2012 o antes de 2013 2014 2018 2019 Esta es mi		2015 ez montar		2016		20	17	¡Gracias! Por favor, devuelva este formulario al agrimensor, a su operador de autobús o al Centro de Servicio al Cliente de Eugene Station.			

Appendix B: Full Data Sets

Full response data sets provided to LTD in digital Excel format. Geocoded data provided to LTD in ESRI format.

Appendix C: Survey Sample/Schedule

Survey sample and schedule data provided to LTD in digital Excel format.