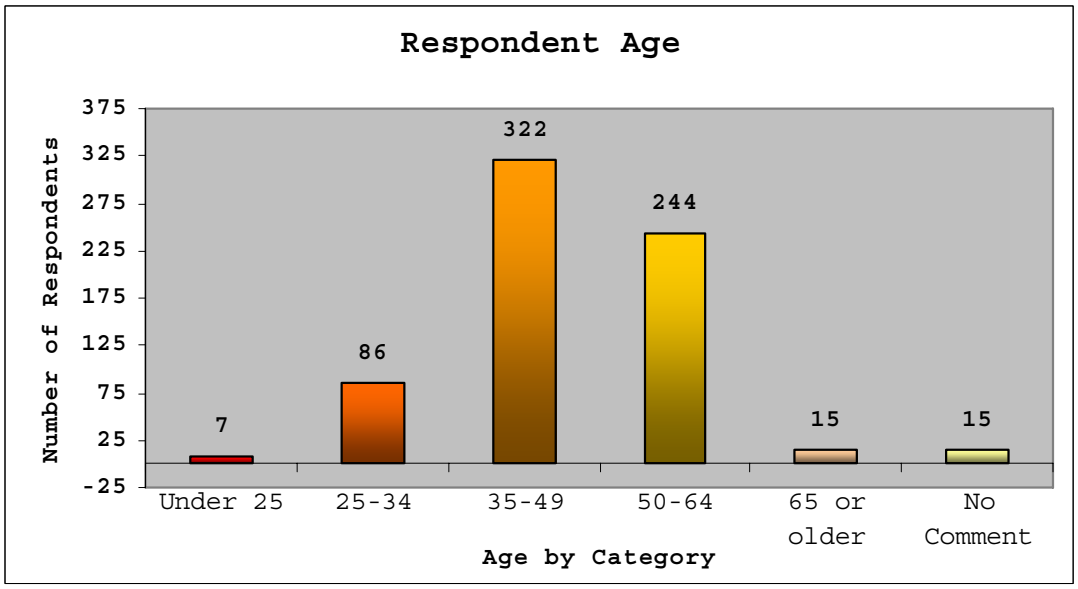
Loudoun County Transit Plan
Commuter Bus Survey Results

An online survey was conducted assessing the habits and opinions of Loudoun County commuter bus riders. A total of 718 surveys were collected. The survey questions focused on 3 main categories of data: rider profile, typical/daily rider habits, and rider opinions/perception of the commuter bus service. The report below summarizes this data using tables, charts, and figures drawn from the survey results. Many of the results are broken down by the three types of service: Commuter, Reverse Commute and Cascades. Among the respondents, 625 primarily ride Long Haul service; 30 ride Reverse Commute, and 56 ride Cascades (7 indicated "other" for this question).

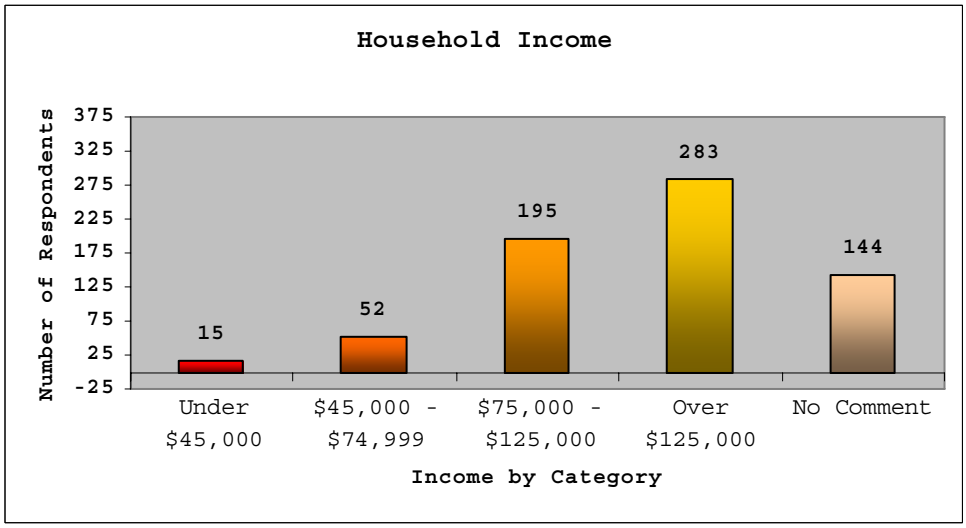
Rider Profile

A brief personal profile was requested of each survey respondent. Profile questions targeted the areas of gender, age, income and job type. In this case, about 54% of respondents reported their gender as male, 44% female, and 2% had no comment. The age of respondents falls primarily within the range of 35 – 64. Specifically, age was recorded based on 5 categories: under 25, 25 to 34, 35 to 49, 50 to 64, and 65+. The age range of 35 – 49 accounted for 47% of respondents, ages 50 – 64 totaled 35%. The details of these results can be seen more clearly in the adjacent chart.

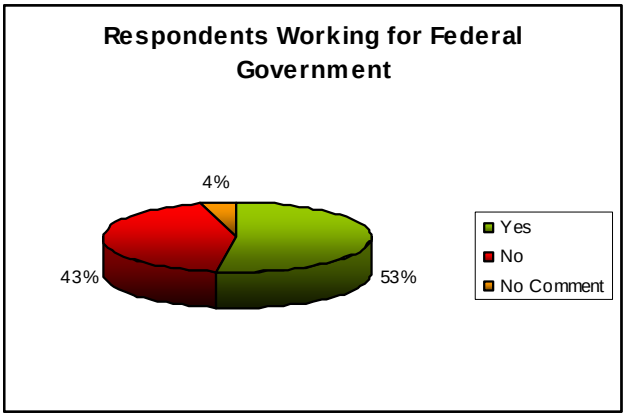


Income level was also assessed as part of the respondent profile. Income level was also categorized, much like respondent age. Household income was divided in to 4 groups: Under $45, 000, $45 – 74,999, $75 – 125,000, and $125,000+. As shown in the

chart below, most respondents were in the income categories above $75,000 per year, though many of the respondents (21%) chose not to answer this question.



The rider profile section of the survey also identified the share of respondents working for the federal government. Findings show that over half of Loudoun County commuter survey respondents work for the federal government.



Rider Habits

The survey queried rider habits to get a better understanding of usage and location patterns. In so doing, questions were asked regarding bus run used, location of bus pickup, trip origin, time of origin, trip destination, method of transportation used from origin, and method of transportation used to reach destination. A table of respondents by bus run is provided at the end of the report.

Riders were asked to identify the origin and destination of their morning commute trip by specific location including zip code. The origin and destination reflect the door-

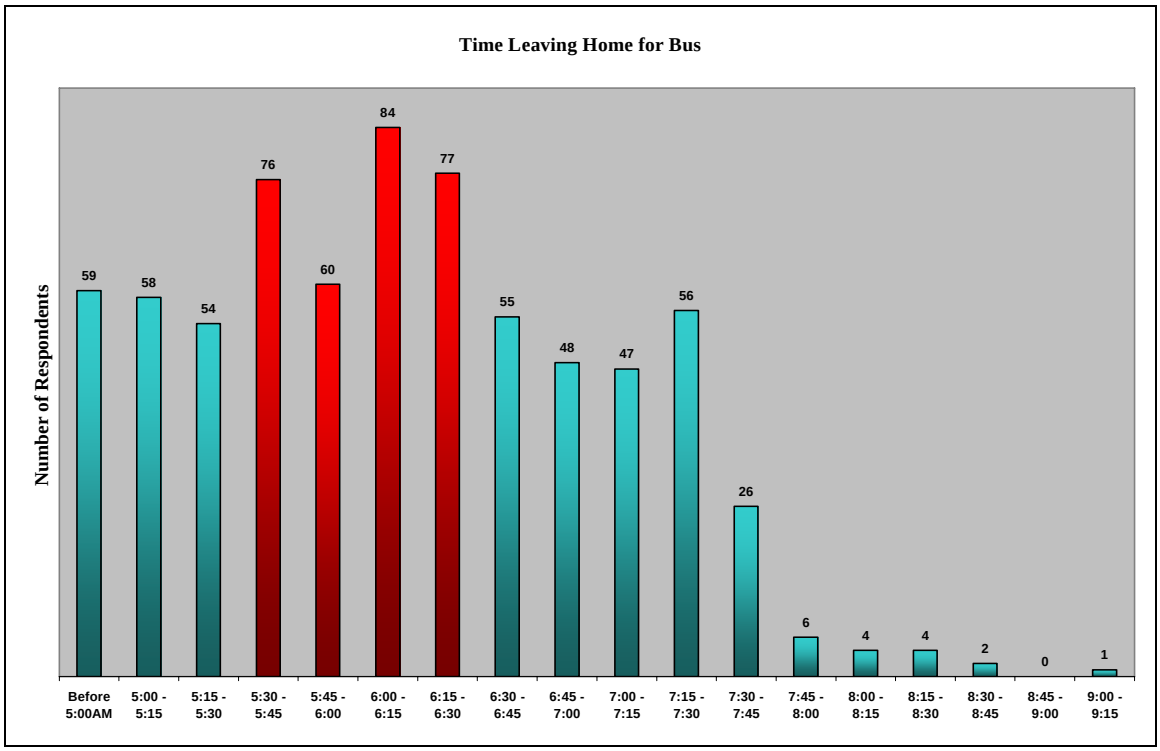
to-door commute trip, including travel before and after the bus ride. This information will be included in the Market Analysis report for the Transit Plan.

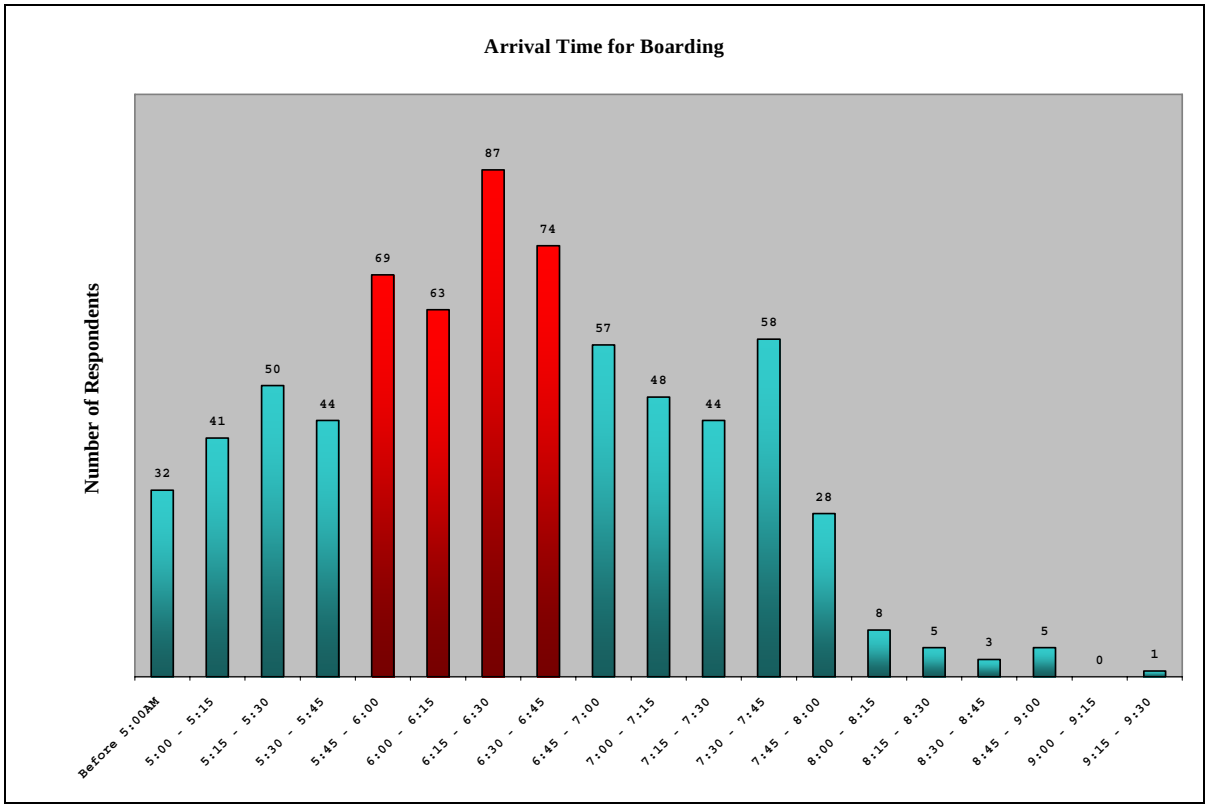
The charts on the following page show the time patterns of survey respondents. The first chart identifies a peak period of 5:30 a.m. – 6:30 a.m. for individuals leaving their homes for the commuter bus pickup area. About 41% of respondents leave their homes during this time period, which is shown with red or darker bars. The second chart (below) shows the arrival time of survey respondents for boarding the commuter bus. This peak period is from 5:45 a.m. – 6:45 a.m., approximately a 15-minute lag behind the peak times for departure from home.

The multimodal connections for commuters were also investigated. Respondents were asked to select up to two modes representing their travel from origin to bus and from bus to their ultimate destination, revealing contrasting modes at each end of the commuter bus trip. A large majority of respondents use cars to reach the pick up point for the Long Haul bus, while the Cascades riders either drive, ride by car or walk. As would be expected, most of the Reverse Commute riders use Metrorail and/or other transit to access Loudoun County Transit, though 33% either drive or ride in a car for at least part of their trip. In addition to the notable share of walk trips (36%) to Cascades service, survey results indicate that 5% of Cascades respondents ride a bike to the bus. These results are shown in the following table.

Percent of Respondents* Mode of Travel to Bus	**Long Haul Service**	**Reverse Commute**	**Cascades**
Drive in car and park	96.9%	23.3%	78.6%
Ride in car and get dropped off	10.0%	10.0%	10.7%
Walk	3.1%	6.7%	35.7%
Metrorail	0.3%	73.3%	3.6%
Carpool to lot and park	1.4%	0.0%	0.0%
Other Transit	0.5%	23.3%	0.0%
Bike	0.6%	0.0%	5.4%
Taxi	0.2%	3.3%	0.0%
Other	0.3%	16.7%	0.0%

*Respondents provided up to two answers; total does not sum to 100%


Time Leaving Home for Bus
Number of Respondents
59
58
54
76
60
84
77
55
48
47
56
26
6
4
4
2
0
1
Before 5:00AM
5:00 - 5:15
5:15 - 5:30
5:30 - 5:45
5:45 - 6:00
6:00 - 6:15
6:15 - 6:30
6:30 - 6:45
6:45 - 7:00
7:00 - 7:15
7:15 - 7:30
7:30 - 7:45
7:45 - 8:00
8:00 - 8:15
8:15 - 8:30
8:30 - 8:45
8:45 - 9:00
9:00 - 9:15


Arrival Time for Boarding
Number of Respondents
32
41
50
44
69
63
87
74
57
48
44
58
28
8
5
3
5
0
1
Before 5:00AM
5:00 - 5:15
5:15 - 5:30
5:30 - 5:45
5:45 - 6:00
6:00 - 6:15
6:15 - 6:30
6:30 - 6:45
6:45 - 7:00
7:00 - 7:15
7:15 - 7:30
7:30 - 7:45
7:45 - 8:00
8:00 - 8:15
8:15 - 8:30
8:30 - 8:45
8:45 - 9:00
9:00 - 9:15
9:15 - 9:30

Once departed from the bus, the majority of respondents travel in one (or both) of two modes to their final destination: walk or take Metrorail. The table that follows describes the modes for each service. While walking and Metrorail account for most of the modes used at the destination end of all three services, the distribution among modes does vary by service type. Most of the Cascades riders use Metrorail, while most of the Long Haul and Reverse Commute riders walk to their destinations. Notably, 13% of Reverse Commute riders selected "other" as a mode for all or part of the travel from the bus to their destinations.

Percent of Respondents* Mode of Travel from Bus to Destination	**Long Haul Service**	**Reverse Commute**	**Cascades**
Walk	90.2%	73.3%	35.7%
Metrorail	11.3%	13.3%	82.1%
Other Transit	1.9%	3.3%	7.1%
Bike	0.2%	0.0%	1.8%
Taxi	0.2%	3.3%	0.0%
Drive/Ride in Car that was parked	4.3%	3.3%	5.4%
Get picked up in car	1.0%	3.3%	1.8%
Other	0.8%	13.3%	1.8%

*Respondents provided up to two answers; total does not sum to 100%

Rider Perceptions

Several questions within the survey targeted rider opinions and perceptions regarding service options, accessibility, and convenience, among others. First, respondents were asked to indicate their extent of agreement or disagreement with several statements. The statements addressed bus fare, operation hours, overcrowding, parking availability and frequency of stops. Results are provided in the tables that follow. Based on the results, it seems that riders are generally satisfied with the subjects queried. For each service type, at least 80% of riders agreed that the Long Haul bus hours of operation are convenient and 81-96% agreed that fare price is reasonable. The Cascades riders were the most satisfied with fares. Also, 73 to 87% disagreed that finding parking at the park-and-ride lots is difficult. The majority of riders across services disagreed that the number of stops the bus makes in DC should be reduced, indicating satisfaction with the current service configuration. The only statement that commuters reacted negatively to, was overcrowding of the buses; with few exceptions, Long Haul service respondents

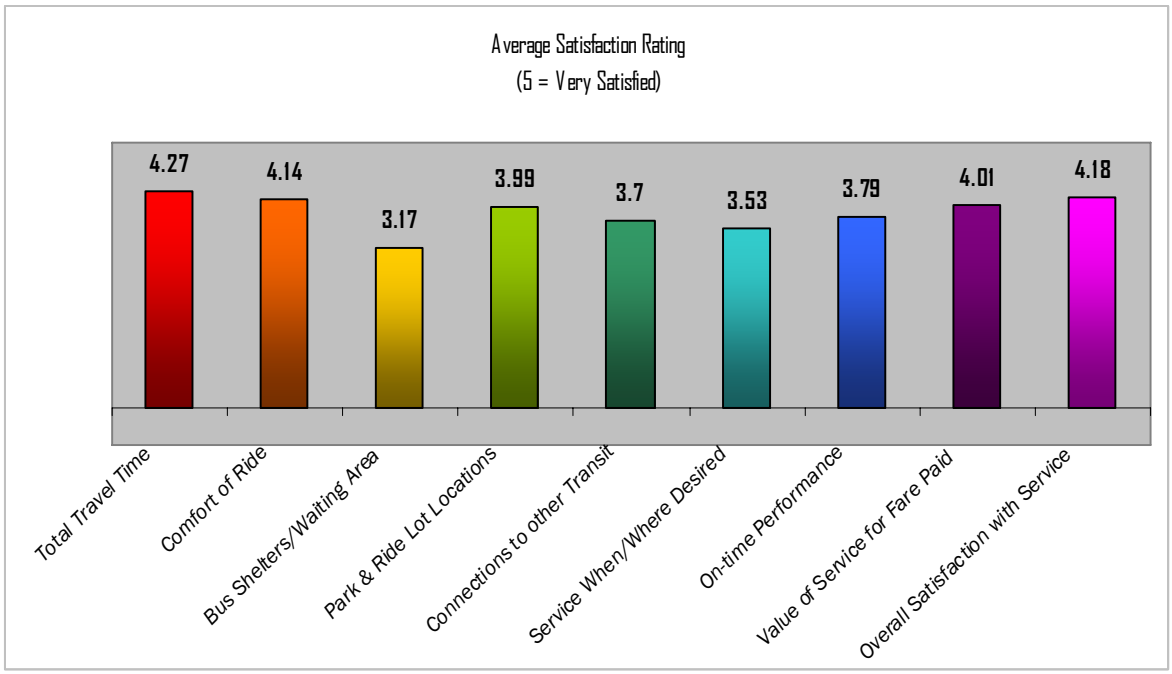
strongly agreed (55%) or agreed (39%) with the statement that buses are frequently overcrowded, while 73% of Cascades respondents agreed and only 20% of Reverse Commute respondents agreed with this statement.

Long Haul Service Respondents	Strongly Agree	Agree	Disagree	Strongly Disagree
Commuter Bus Operation Hours are Convenient	27%	60%	10%	3%
Fare Price is Reasonable	21%	60%	15%	4%
Commuter Buses are Frequently Crowded	55%	39%	6%	0%
It's Difficult to Find Parking at the Park & Ride Lot(s)	7%	13%	56%	24%
There should be fewer stops in DC (only at major locations)	5%	19%	55%	21%

Reverse Commute Respondents	Strongly Agree	Agree	Disagree	Strongly Disagree
Commuter Bus Operation Hours are Convenient	27%	53%	20%	0%
Fare Price is Reasonable	30%	57%	13%	0%
Commuter Buses are Frequently Crowded	3%	17%	67%	13%
It's Difficult to Find Parking at the Park & Ride Lot(s)	3%	23%	50%	23%
There should be fewer stops in DC (only at major locations)	3%	30%	47%	20%

Cascades Service Respondents	Strongly Agree	Agree	Disagree	Strongly Disagree
Commuter Bus Operation Hours are Convenient	19%	62%	19%	0%
Fare Price is Reasonable	46%	50%	4%	0%
Commuter Buses are Frequently Crowded	13%	60%	21%	6%
It's Difficult to Find Parking at the Park & Ride Lot(s)	4%	10%	62%	25%
There should be fewer stops in DC (only at major locations)	6%	37%	52%	6%

Next, respondents' satisfaction was gauged on a scale of 1 through 5; with 1 equaling 'very dissatisfied' and 5 'very satisfied'. The chart below illustrates the average rating for each question asked in the order of: total travel time, comfort of ride, bus shelter/waiting area, park & ride lot locations, connections to other transit service, service when and where desired, on-time performance, value of service for fare paid, and overall satisfaction. Results were positive across the board with ratings ranging from 3.17 to 4.27. The lowest average satisfaction rating was 3.17 in regard to bus shelters and waiting areas. Total travel time had the strongest satisfaction rating of 4.27. Overall satisfaction was the second highest rating of 4.18. The results for these questions were similar across the different services; detailed results are provided in the table that follows. There are some subtle differences in theses results. For example, compared to other riders, Reverse Commute riders have a lower satisfaction rating for Park-and-Ride lot locations (which are not in Loudoun County), but a higher satisfaction for bus shelters and waiting areas. Also, similar to the previous set of questions, Cascades riders are the most satisfied with the value of service for the fare paid. Also, Cascades riders are the most satisfied with the connections to other transit.



Rider Satisfaction Ratings	Long Haul Service	Reverse Commute	Cascades
Total Travel Time	4.26	4.47	4.37
Comfort of Ride	4.08	4.70	4.65
Bus Shelter/Waiting Area	3.15	3.80	3.06
Park & Ride Lot Locations	4.02	3.30	4.17
Connections to Other Transit	3.65	3.80	4.33
Service When/Where Desired	3.55	3.47	3.42
On-time Performance	3.78	3.90	3.77
Value of Service for Fare Paid	3.98	4.07	4.42
Overall Satisfaction with Service	4.17	4.23	4.33

In order to understand why commuters choose the bus over other forms of transit, respondents were asked a series of questions regarding why they ride the commuter bus and what factors are most influential in their choice to ride. Respondents were asked to choose their two most important reasons for riding the bus out of the following choices:

- The bus is faster than driving
- The high cost of gasoline
- I do not like to drive in traffic
- I can do other things during the trip (work, read, sleep, etc.)
- Parking is expensive
- My employer pays for bus fare
- To help the environment

Since respondents were able to choose more than one reason for riding the commuter bus, included below is a table depicting the percent of respondents who chose each reason by service type. Results show the two most important reasons for taking the commuter bus for every service type are: I do not like to drive in traffic and I can do other things during the trip. It is noteworthy to mention that the next tier of responses reflect the time and economic value of riding the commuter bus: the bus is faster than driving, the high cost of gasoline, and parking is expensive (though understandably the

last response was not chosen by the Reverse Commute riders). The responses across the service types are similar, except that Reverse Commute respondents were much more likely to choose the reasons that they can do other things during the trip and to help the environment than riders of other services.

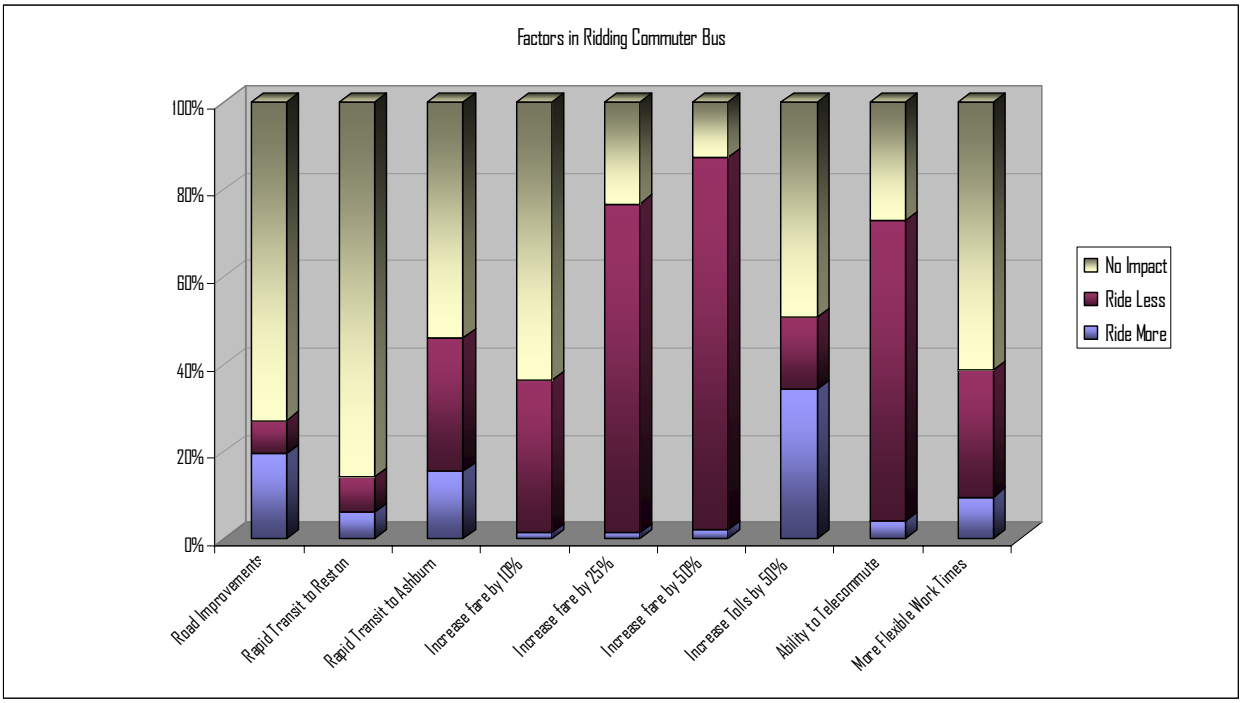
Response Percent* Reasons For Riding Commuter Bus	Long Haul Service	Reverse Commute	Cascades
I can do other things during trip	46%	60%	41%
I do not like to drive in traffic	40%	43%	38%
The bus is faster than driving	34%	23%	18%
The high cost of gasoline	24%	33%	34%
Parking is expensive	20%	0%	16%
My employer pays for bus fare	17%	3%	25%
To help the environment	14%	37%	14%

*Respondents provided up to two answers; total does not sum to 100%

Respondents were also asked to identify factors that would affect their choice to ride the commuter bus. In this case, respondents were asked to identify if the following factors would increase, decrease, or have no impact on their ridership:

- Major road improvements to reduce congestion
- Introduction of a rapid transit service to Reston
- Introduction of rapid transit to service to Ashburn
- Increase Dulles Toll Road & Dulles Greenway tolls by 50%
- Ability to telecommute
- My employer offered more flexible work times
- Increase fare by 10%, 25%, and 50%

A few patterns emerged from the results of this question. In most cases, the majority of respondents seem to feel that changes in these factors would have no impact on their ridership. However, when asked how a 25% and 50% fare increase would affect their habits, respondents indicated in large numbers that they would ride the commuter bus less. In addition, if tolls were increased on the Dulles Toll Road and the Dulles Greenway, respondents indicated that they would ride more. Also worth noting, a majority of respondents mentioned that they would ride less if their telecommuting ability was increased. Included below is an illustration of these results. The chart shows the percentage of respondents in each category, the table depicts the actual number of respondents.



Possible Factors Affecting Ridership	Ride More	Ride Less	No Impact
Road Improvements	136	53	510
Rapid Transit to Reston	42	56	601
Rapid Transit to Ashburn	108	214	377
Increase fare by 10%	9	245	445
Increase fare by 25%	9	527	163
Increase fare by 50%	15	595	89
Increase Tolls by 50%	240	114	345
Ability to Telecommute	28	480	191
More Flexible Work Times	67	202	430

The results of the questions on impacts to likelihood of riding were also analyzed by service type, but detailed results are not provided as the results for most questions are virtually the same. The only striking differences are that, consistent with other parts of the survey, Cascades riders are less likely to reduce their ridership in response to a fare

increase or a change in tolls. Also, a larger share of Reverse Commute respondents would ride more if rapid transit to Ashburn were provided. Finally, higher shares of the Cascades riders indicated both that they would ride more and that they would ride less if rapid transit to Reston were provided, while a higher share of Cascades riders indicated they would not change ridership if rapid transit to Ashburn were provided.

Finally, survey respondents were asked to identify needed service improvements. Respondents were asked to choose 3 service improvements of the following categories:

- More buses
- New routes
- Bigger park and ride lots
- Better connections to metrorail
- Shelters/waiting areas
- More mid-day service
- Improved customer communications
- Later afternoon/evening buses

There is some overlap with the previous satisfaction ratings in that a large number of respondents identified more buses and improvements to waiting areas. A large portion of respondents also noted that more mid-day, afternoon and evening service would be beneficial. Note that, since the time of the survey, two additional buses and daily mid-afternoon runs on Monday through Thursday (in addition to the existing one on Friday) have been added to the Long Haul service.

This part of the survey highlights some of the different needs between service types. Long Haul service riders were more likely than other riders to choose more buses and bigger park-and-ride lots as needed improvements, and less likely to choose new routes. The Reverse Commute riders stood out in their higher level of interest in better connections to Metrorail, new routes, and improved customer communication.

Response Percent* Improvements to Commuter Bus Service	Long Haul Service	Reverse Commute	Cascades
More buses	82%	47%	70%
New routes	24%	53%	43%
Bigger park & ride lots	18%	3%	4%
Better Connections to Metrorail	13%	40%	14%
Shelters/waiting areas	38%	17%	43%
More mid-day service	58%	60%	46%
Improved customer communication	15%	30%	23%
Later afternoon/evening buses	46%	50%	36%

*Respondents provided up to three answers; total does not sum to 100%

Additional Data

The chart below shows which bus route each of the survey respondents uses as their primary and secondary runs. The survey results are summarized from a survey administered on February 4 to 15, 2008, via an on-line survey instrument using Survey Monkey™. A total of 718 surveys were submitted, representing approximately 43% of the daily riders (1,650) in that timeframe.

Bus Run	Primary Run:	Secondary Run (if applicable):	Bus Run	Primary Run:	Secondary Run (if applicable):
DC10	35	13	DC23E	13	19
DC25W	35	11	DS26W	11	21
DC6W	33	9	C1A	10	6
DC2E	32	1	C3A	10	8
DC5E	29	23	C4A	10	9
DC15	28	12	DS4W	10	3
DC9	27	9	Other	7	3
DC12E	27	12	DS27E	6	8
DC14W	26	23	R6A	6	2
DC13E	24	7	R2A	5	2
DC17	24	19	R9A	5	2
DC24W	24	16	C5A	4	6
DC18	23	13	C7A	4	2
DS11W	23	9	M1	4	12
DS3E	22	5	R1A	4	1
DC1W	21	4	R8A	4	3
DC16	21	16	C6A	3	3
DS8E	21	8	R3A	3	5
DC7	19	15	R5A	3	1
DC22	19	16	M2	1	2
DC28	17	9	T1A	1	1
DC20	16	19	R4A	0	1
DS21	16	18	R7A	0	0
C2A	15	4	T2A	0	1
DC19	15	14			