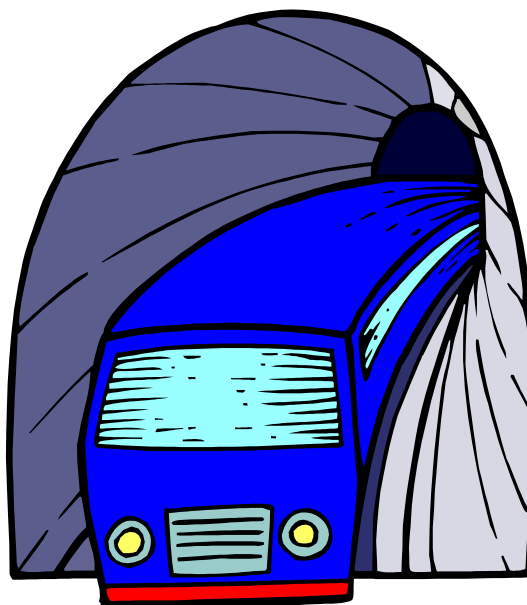




**LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY**

2004 METRO RAIL ONBOARD SURVEY



Conducted By:

Strategic Consulting & Research

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EXECUTIVE SUMMARY

Methodology

The 2004 Metro Rail Onboard Survey is a weekday-only survey designed to provide valuable information addressing the following objectives:

- Establish and measure travel patterns by gathering Origin-Destination information on the Metro Rail Blue, Green, Gold, and Red Lines
- Determine the impact of Metro Rail on single occupancy vehicles and other transit modes
- Examine the differences between new and longstanding riders
- Gather basic demographic information on Metro Rail riders

This project was conducted, in part, to update a larger 2002 study, which gathered some of the same information as well as customer satisfaction data for three of the four rail lines (Red, Blue, and Green). It also updates Gold Line demographic data gathered shortly after the Gold Line opened in July of 2003. The 2004 passenger survey was conducted onboard the Metro Rail Blue, Green, Gold, and Red Lines over a three-week period between August 23 and September 10, 2004. Passengers were surveyed between the hours of 5 AM and 7 PM.

Results

Demographics

- The majority of Metro Rail riders were male in 2002, and this continues in 2004.
- Median age of Metro Rail riders has decreased by 4.5 years since 2002.
- The percentage of Caucasian riders decreased in 2004, while Latino and Asian/Pacific Islander ridership rose slightly.

Trip Characteristics

- There is a small increase in Metro Rail riders walking to and being dropped off at their first transit stop in 2004 than in 2002. These increases accompany a small decrease in Metro Rail users driving to their first transit stop.
- Across all lines the most popular fare type is the Metro Day Pass, which was not available in 2002.

Travel Behaviors

- Driving and Metro Bus were the transit modes most often replaced by Metro Rail.
- First-time riders and those who ride less frequently increased from 2002 to 2004.

1. BACKGROUND AND SURVEY METHODOLOGY

1.1 Background

The Los Angeles County Metropolitan Transportation Authority (Metro) currently operates four rail lines in the Los Angeles area. These include three light rail lines, the Blue, Green and Gold Lines, as well as one heavy rail line, the Red Line.

The Metro Blue Line has 22 miles of track and runs from Downtown Los Angeles to Long Beach. There are 22 stations along this route. Of the four rail lines operated by Metro, the Blue Line was the first to open in 1990. Average weekday boardings on the Blue Line are 68,497 riders.

The Red Line is the one heavy rail line (subway) in the Metro Rail system. It has the largest ridership with 110,685 average weekday boardings. The Red Line has 16 stations and runs along a total of 17.4 miles. It branches out into two legs, both beginning in Downtown Los Angeles at Union Station. One leg of the Red Line runs to Wilshire and Western, and the other to North Hollywood in the San Fernando Valley.

The Green Line opened in 1995 and is the only rail line to run almost entirely along the center divider of a freeway. There are 14 stations along the 20 mile stretch between Norwalk and Redondo Beach. The Green Line has 27,817 average weekday boardings.

The Metro Gold Line, which opened in July of 2003, is the newest of the four Metro Rail lines. There are 13 stations along the 13.7 mile route from Union Station to Pasadena. It is the lightest traveled rail line in the system, with 13,514 average weekday boardings.

1.2 Objectives

The Metro Rail Onboard Survey was implemented to provide valuable information addressing the following objectives:

- Establish and measure travel patterns by gathering Origin-Destination information on the Metro Rail Blue, Green, Gold, and Red Lines
- Determine the impact of Metro Rail on single occupancy vehicles and other transit modes
- Examine the differences between new and longstanding riders
- Gather basic demographic information on Metro Rail riders

The project was conducted to gather a total of 400 completed surveys per rail line. A survey was considered complete if at least 50 percent of the questions were answered, and the origin-destination information was complete.

Sampling assignments for each line included at least one morning and one afternoon travel period of which at least two hours were during peak travel times.

To accomplish these goals, SCR planned to collect at least 800 surveys with at least some respondent information per line, or 3,200 surveys. These targeted line quotas were exceeded on all lines, reaching a total of 3,530 surveys collected with at least some information completed by the respondent.

1.3 Results

A total of 3,563 passenger surveys were returned out of 3,995 distributed forms, resulting in an 89 percent participation rate among those passengers who accepted a survey form. Of those surveys collected, 33 were returned blank. In addition to the number of surveys distributed, there were 1,320 passenger refusals.

Of the 3,530 surveys returned with some information filled out, 3,427 were at least 50 percent complete, and 2,161 were at least 50 percent complete with verifiable origin and destination points. Quotas of 400 complete surveys per line were exceeded for each line. The following table details the number of surveys distributed and collected in total and for each line.

Table 1.1 Distributed and Collected Surveys Data

LINE	Attempted Distribution	Distributed	Refusals	Any Data	Complete	Complete & Geocodable
All Lines	5,315	3,995	1,320	3,530	3,427	2,161
Blue	1,413	978	435	848	854	506
Red	1,279	956	323	840	797	645
Green	1,426	1,123	303	997	943	493
Gold	1,197	938	259	845	833	517

Table 1.2 Distributed and Collected Surveys Percentages

LINE	Attempted Distribution	Distributed	Refusals	Any Data	Complete	Complete & Geocodable
All Lines	100%	75%	25%	66%	64%	41%
Blue	100%	69%	31%	60%	60%	36%
Red	100%	75%	25%	66%	62%	50%
Green	100%	79%	21%	70%	66%	35%
Gold	100%	78%	22%	71%	70%	43%

1.4 Methodology

The passenger survey was conducted onboard the Metro Rail Blue, Green, Gold, and Red Lines over a three-week period between August 23 and September 10, 2004. Passengers were surveyed between the hours of 5 AM and 7 PM on weekdays only.

The survey instrument was one page in length and printed in English and Spanish on opposite sides of the sheet. Both language versions are located in Appendix A. Sequential serial numbers were printed on the forms to assist with tracking, programming and distribution.

Surveys were self-administered onboard to riders over 14 years of age with assistance offered by surveyors. Surveyors worked in teams of two onboard the assigned car on the assigned train. Surveyors were instructed to distribute the survey to all passengers onboard the car, and to keep counts of those riders who refused the survey.

1.5 Data Weighting

Passenger counts provided by Metro and line-level survey counts were used to expand the dataset. Expansion factors were calculated by line and time period. The time periods defined by Metro were AM Peak (6:00 to 8:59), Base (9:00 to 14:59), and PM Peak (15:00 to 17:59). Those surveys conducted outside of these time periods (5:00 to 5:59 and 17:59 to 19:00) were combined into the Base time period.

Two sets of expansion factors were obtained. The first set, “Data Weights,” was calculated using Metro provided passenger counts by line and the total number of surveys collected that were at least 50 percent complete. The second set of factors, “Geocode Weights,” was calculated using the passenger counts and the number of surveys at least 50 percent complete and geocodable. A table detailing these expansion factors is in Appendix B.

2. RIDERSHIP PROFILES

2.1 Overview

Table 2.1 outlines demographic data collected in the 2002 Metro Rail Onboard Survey, as well as the current data collected in 2004.

Table 2.1 Demographic Profile

	2002	2004				
	All Lines	All Lines	Blue	Red	Green	Gold
Gender						
Male	55%	56%	56%	55%	60%	58%
Female	45%	44%	44%	45%	40%	42%
Average HH Income	<\$25,000	<\$25,000	<\$25,000	\$25,000-\$49,000	<\$25,000	\$25,000-\$49,000
Median Age (years)	39.0	34.5	32.8	36.2	34.2	34.2
Ethnicity						
Hispanic/Latino	41%	44%	44%	44%	46%	42%
White/Caucasian	24%	19%	13%	23%	16%	28%
Black/Af American	22%	22%	35%	14%	24%	15%
Asian/Pac Islander	9%	12%	7%	15%	13%	12%
Other	4%	3%	2%	4%	2%	3%

Following are some of the highlights of the Metro Rail demographic profile:

- The majority of Metro Rail riders were male in 2002, and this continues in 2004 with some upward movement. Both male and female riders tend to have been Metro Rail patrons for more than one year.
- There are no significant changes in household income levels from 2002 to 2004. The Red and Gold Lines represent the highest income levels of the four rail lines. Those in the lowest household income bracket of less than \$25,000 annually tend to be long-term Metro Rail riders. (See Appendix C, Table C.4)
- Median age of Metro Rail riders has decreased by 4.5 years in 2004, with the youngest riders on the Blue Line and oldest riders on the Red Line.
- The percentage of Caucasian riders decreased in 2004, while Latino and Asian/Pacific Islander ridership rose slightly. “Other” ethnicity levels decreased slightly as well. Long-term patrons tend to be Latinos followed by African Americans. These two groups are more likely to have been using Metro Rail for five or more years.

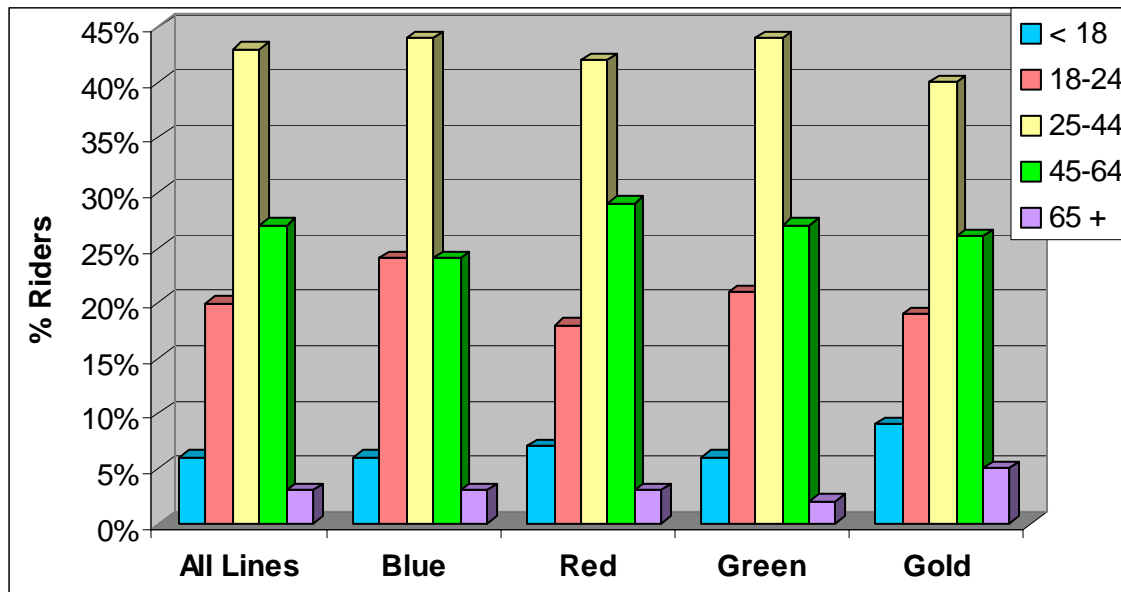
Please see Appendix C for Demographic Profiles.

2.2 Age

The mean age of Metro Rail riders is 34.5 years of age. The majority of riders at 43 percent, fall within the 24-44 age group, with the next largest at 27 percent in the 45-64 age group.

The Red Line shows the largest proportion of riders in the 45-64 age group with 29 percent and also has the lowest percentage of riders in the 18-24 age group at 18 percent. The Blue Line, however, shows an equal proportion of riders in the 18-24 and 45-64 groups with 24 percent in each. The Gold Line had the highest percentage of riders under 18 at nine percent, as well as the highest percent of riders over 65 at five percent.

Figure 2.1 Total and Line Ridership by Age

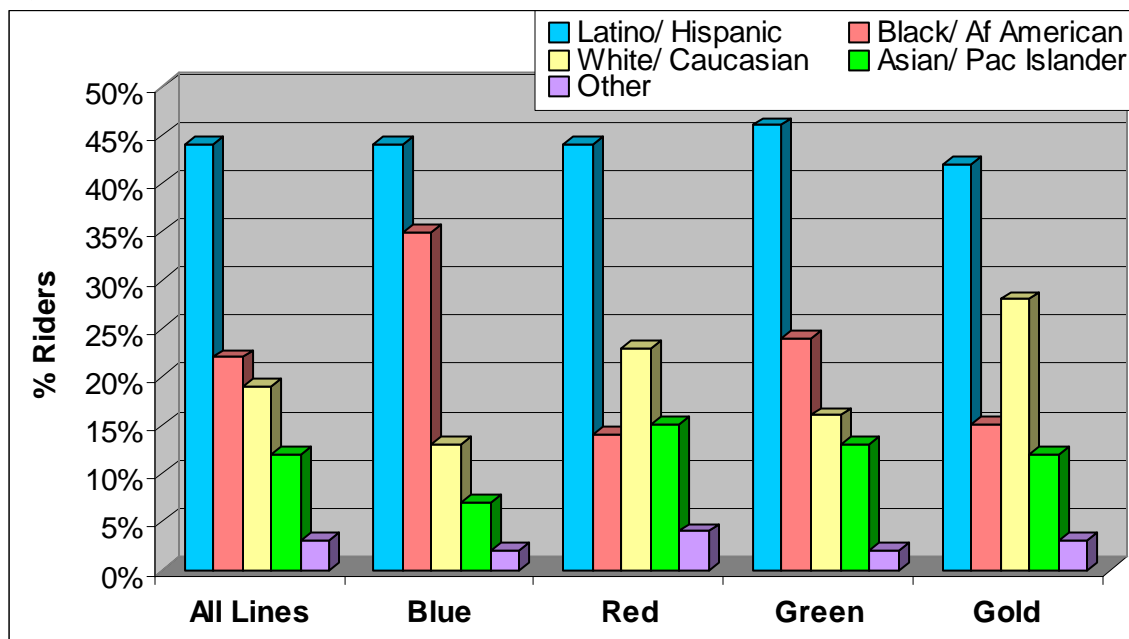


2.3 Ethnicity

The majority of Metro Rail riders are of Latino/Hispanic ethnicity, comprising 44 percent of total riders. Black/African American riders make up the next largest group overall, with 22 percent.

Latinos are also a majority on each of the four rail lines. African Americans are the second largest group of riders on the Blue and Green Lines. White/Caucasian riders are the second largest ethnicity on the Red and Gold Lines and are the third largest group of riders overall, at 19 percent. Asian/Pacific Islander ridership is highest on the Red Line, at 15 percent of Red Line riders. The Red Line was also the line with the highest percentage of “Other” responses, at four percent, to the Ethnicity question on the survey.

Figure 2.2 Total and Line Ridership by Ethnicity

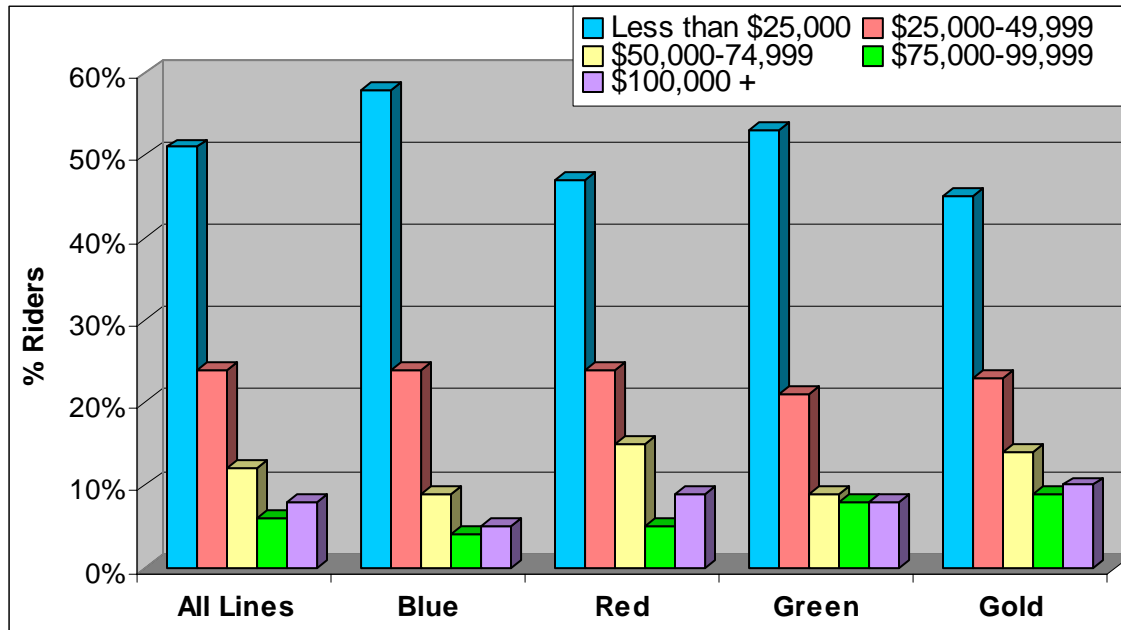


2.4 Income

For all lines combined, total household income is in the lowest range of less than \$25,000 annually for the majority (51%).

The Blue Line has the largest percentage of riders in the lowest income bracket at 58 percent, and also the lowest percent of riders in the highest income level (5%). The Gold Line has the highest percent of riders in the \$100,000 and up income range (10%).

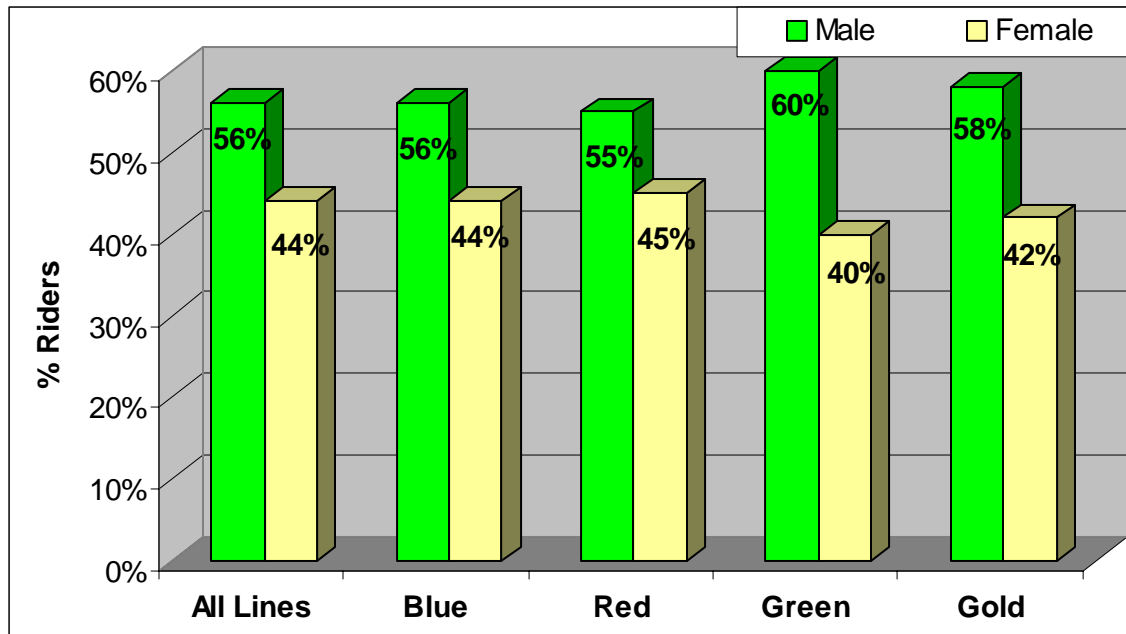
Figure 2.3 Total and Line Ridership by Household Income



2.5 Gender

The majority of riders are male, at 56 percent. The Green Line has the largest gender disparity with 60 percent male and 40 percent female ridership.

Figure 2.4 Ridership by Gender



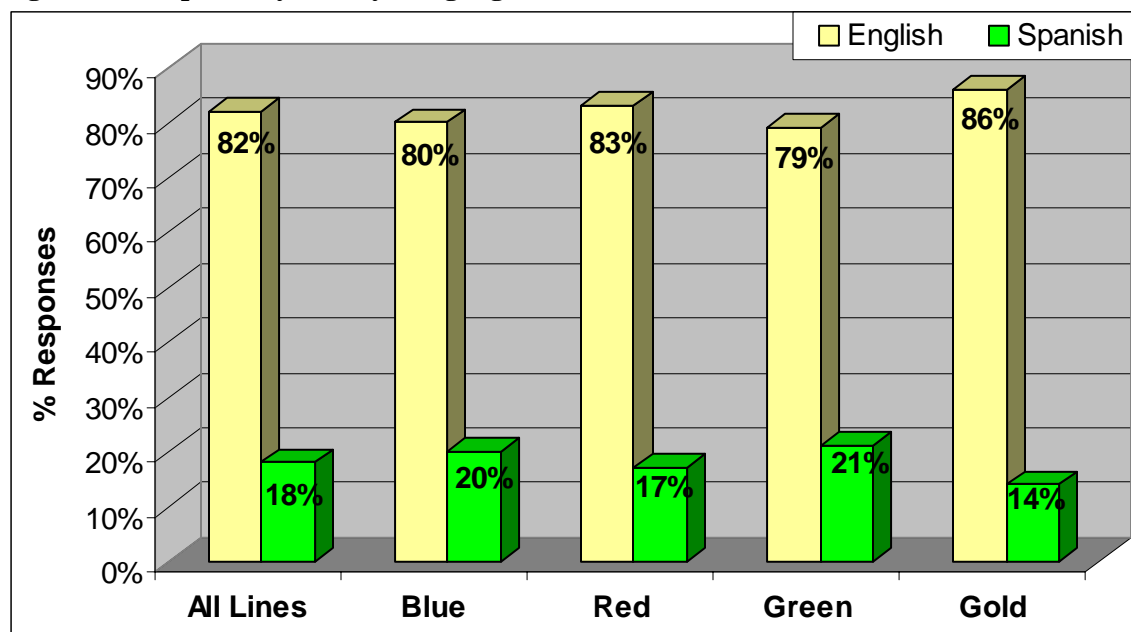
The higher percentage of male riders is consistent across ethnicities, income levels, and among most age groups. However, for those riders under 18 years of age, the gender balance changes to 53 percent female and 47 percent male.

The gender disparity is strongest in Caucasian riders (65% male to 35% female) and those who are in the highest income group of over \$100,000 annually (74% male to 26% female).

2.6 Survey Language

Survey language was overwhelmingly English across all lines, with 82 percent of riders participating in English. Spanish language surveys were collected in the highest proportion on the Green Line, with 21 percent of completed surveys in Spanish. The Gold Line had the lowest percentage of collected Spanish language surveys at 14 percent.

Figure 2.5 Response by Survey Language



Fifty-nine percent of those riders who identified themselves as Latino/Hispanic took the survey in English, while 41 percent completed the survey in Spanish. An additional 275 respondents, or 0.1 percent of the total, identifying themselves as African Americans, Caucasians, or Asians/Pacific Islanders, also completed the survey in Spanish.

2.7 Home and Work by Zip Code

The home zip code for the majority of riders is located in Los Angeles County. Of those, the top three home cities are the cities of Los Angeles, Pasadena and Long Beach.

While 87 percent of completed surveys contain a home zip code, only 47 contain a work zip code. This may be due to non-employment, or respondents not being aware of the zip code of their work location.

Of those completed responses, most work locations are within the county of Los Angeles, and again, the top three cities for work locations for Metro Rail riders are Los Angeles, Pasadena and Long Beach.

3. TRIP CHARACTERISTICS

3.1 Overview

Characteristics of the One-Way Trip have changed slightly from 2002. Some of the highlights are outlined below:

- Sixty-seven percent of riders in 2002 used more than one bus or train in the course of their one-way trip. The 2004 figure rose to 78 percent in 2004.
- Overall, a slightly higher percent of Metro Rail riders are walking to their first transit stop in 2004 than in 2002. Two percent more riders are being dropped off at their first transit stop in 2004 than in 2002. These increases in walking and getting a ride accompany a decrease of two percent in Metro Rail users driving to their first transit stop.
- In 2002, 46 percent of rail riders' trip purpose was to go to work, while 28 percent were headed home. These numbers changed in 2004, with 38 percent of riders going to work, and 34 percent headed home.
- Sixty-two percent of riders going to work walked to their first transit stop, while 89 percent of riders going to work walked from their last transit stop. Of those who are walking from their last transit stop, most are headed to work (43%) while 28 percent are going home.

Table 3.1 Mode Choice To/From Transit and Work as Trip Purpose

	2002	2004	
	All Lines	All Lines	Going to Work
ACCESS			
Walk	70%	72%	62%
Drive	18%	16%	26%
Dropped Off	8%	10%	10%
Bicycle	1%	2%	2%
Other	3%	1%	1%
EGRESS			
Walk	82%	80%	89%
Drive	7%	10%	3%
Picked Up	5%	6%	5%
Bicycle	1%	2%	2%
Other	5%	2%	1%

- The top three station pairs for the 2002 study were Union Station/7th / Metro, North Hollywood/7th / Metro, and Imperial/7th / Metro. In 2004, with the addition of the Gold Line, the top station pair has changed to Sierra Madre Villa/Union Station.

3.2 Number of Buses/Trains

In 2004, a majority (78%) of Metro Rail riders used more than one train or bus on their one-way trip.

The mean number of buses per trip across all Metro Rail lines is 1.17 while the mean number of trains per trip is 1.56. Gold Line riders take the fewest number of buses, while Green Line patrons use the most buses per trip.

Following is a breakdown of the number of trains and buses riders used per trip in 2004:

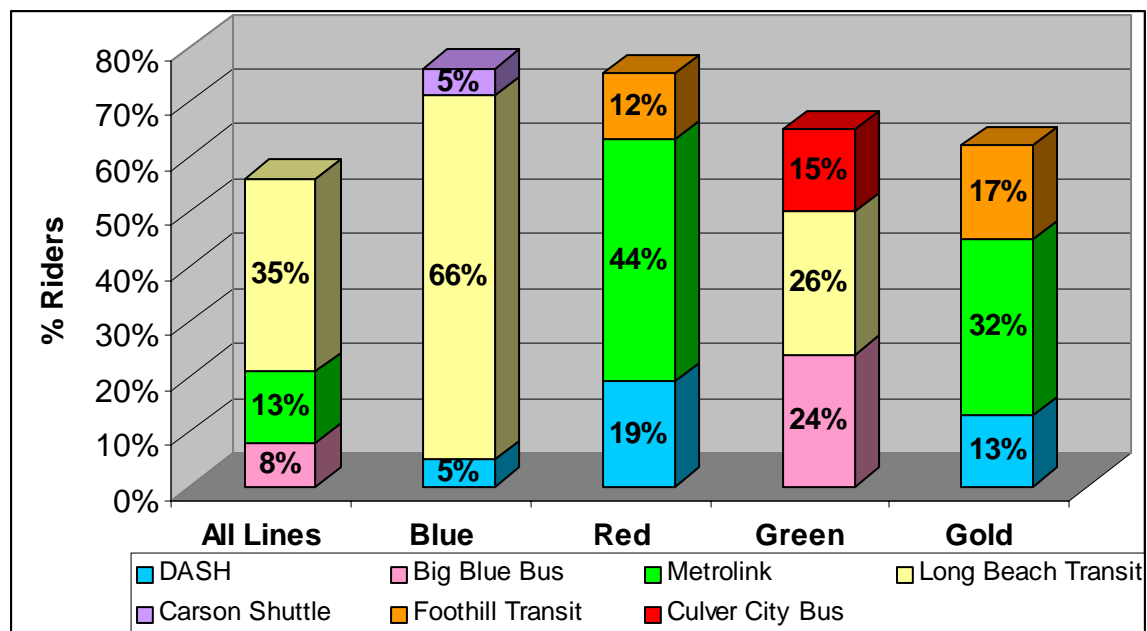
Table 3.2 Train/Bus Use per Trip

	All Lines	Blue	Red	Green	Gold
1 Train	53%	47%	60%	56%	49%
2 Trains	38%	44%	34%	31%	42%
3 Trains	7%	8%	4%	10%	7%
4 Trains	2%	1%	2%	2%	1%
1 Bus/Train	22%	16%	26%	20%	24%
2 Bus/Train	34%	34%	41%	26%	38%
3 Bus/Train	25%	28%	21%	29%	21%
4+ Bus/Train	19%	21%	13%	24%	17%

3.3 Other Transit Use

Overall, Metro Rail riders most commonly use Long Beach Transit, Metrolink, and Big Blue Bus in conjunction with Metro Rail and Metro Bus. The chart below shows the three most commonly used transit agencies in combination with Metro by line and by total.

Figure 3.1 Top Three Other Transit

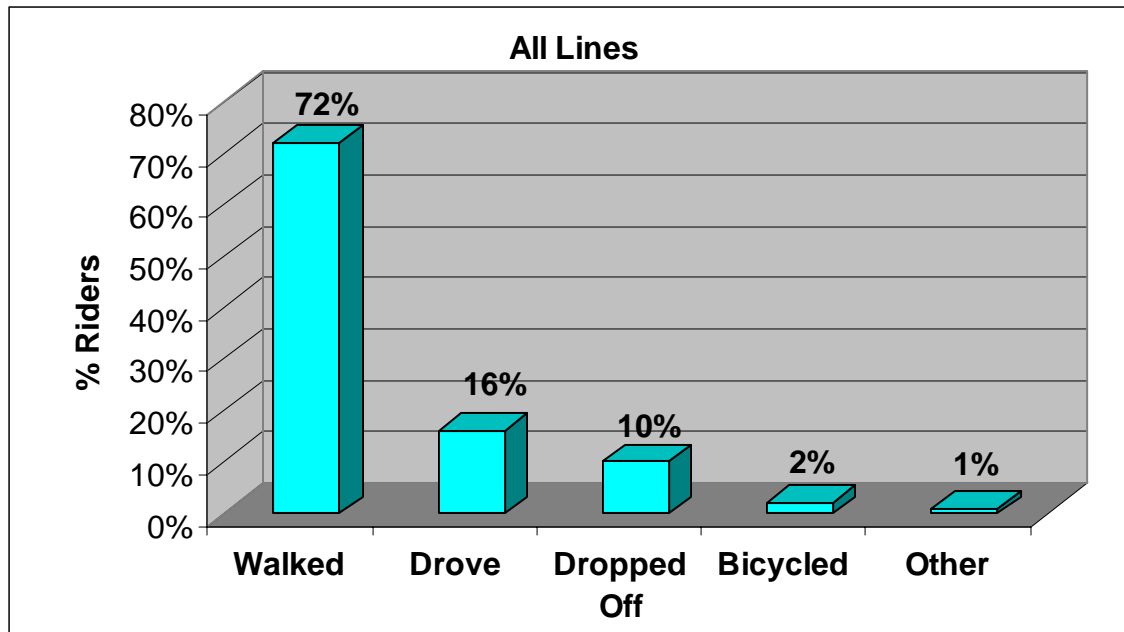


3.4 Mode Choice To/From Rail/Bus (Access and Egress)

Access

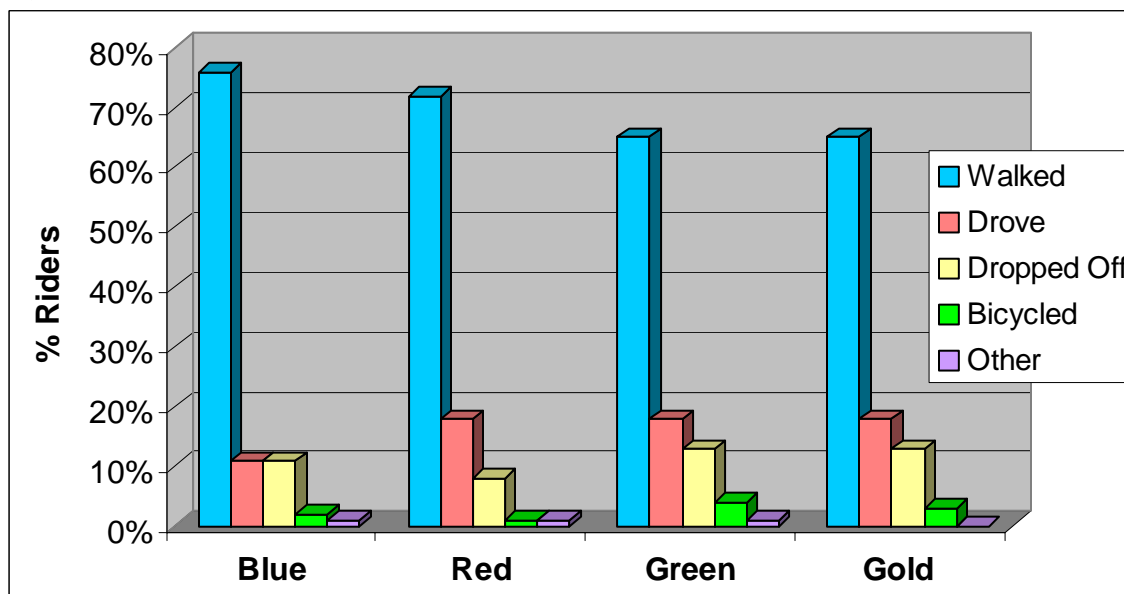
Seventy-two percent of riders walked to their first bus or train.

Figure 3.2 Total Ridership by Access



Walking is the mode of access to transit for the majority of riders across all lines, as well as for each individual line with 76 percent of Blue Line riders using this method. The Green, Red, and Gold Lines all have equal proportions of riders driving to the first stop (18%).

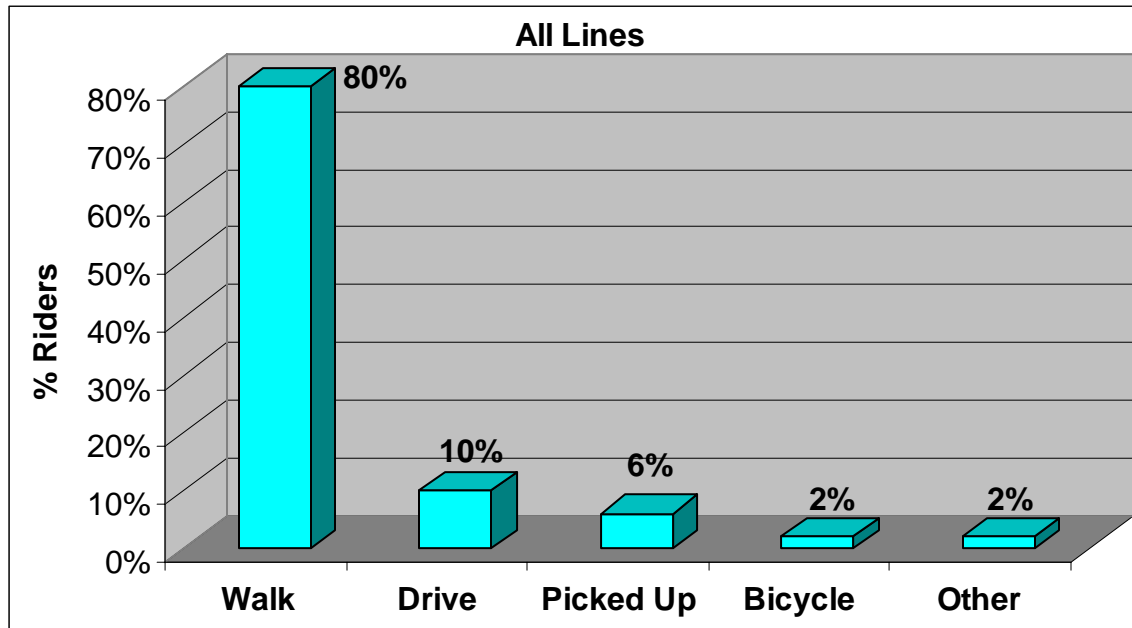
Figure 3.3 Line Ridership by Access



Egress

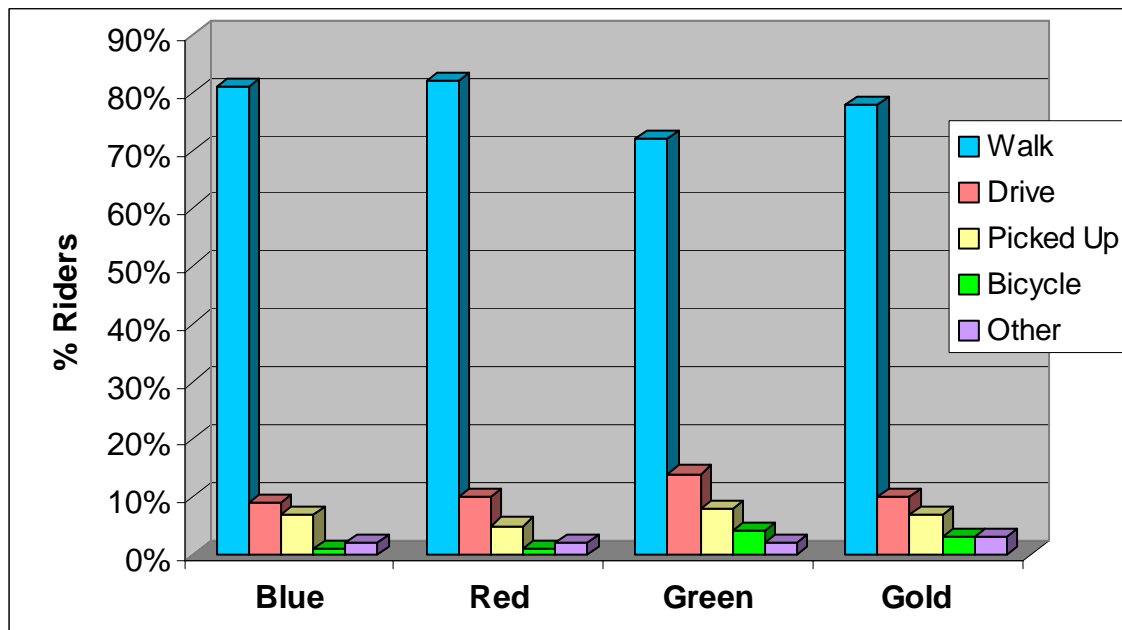
An even higher percent of riders walk from their last transit stop to their destination for this one-way trip at 80 percent.

Figure 3.4 Total Ridership by Egress



The Red Line has the largest percentage of those who walk to their destination with 82 percent choosing this mode of egress, with the Blue Line following closely with 81 percent. The Green Line has the lowest percentage of riders who walk to their destination (72%), while also having the largest percentage of users who drive to their destination after their last bus or train (14%).

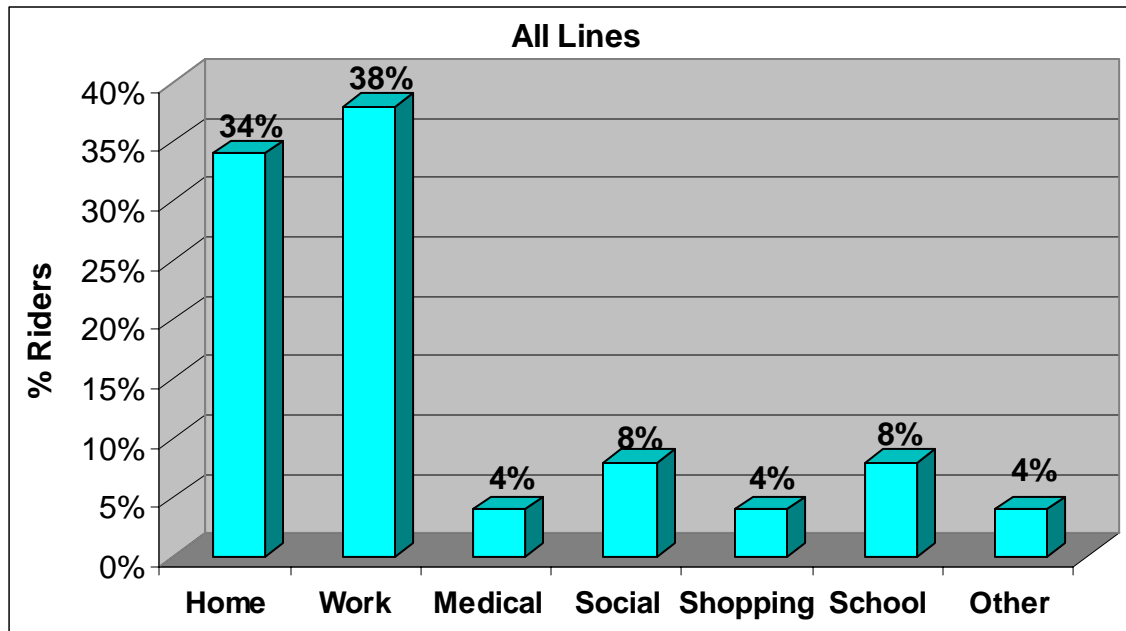
Figure 3.5 Line Ridership by Egress



3.5 Trip Purpose

Thirty-eight percent of riders use Metro Rail to travel to work, while 34 percent are headed home. School and social or recreational events follow as popular destinations.

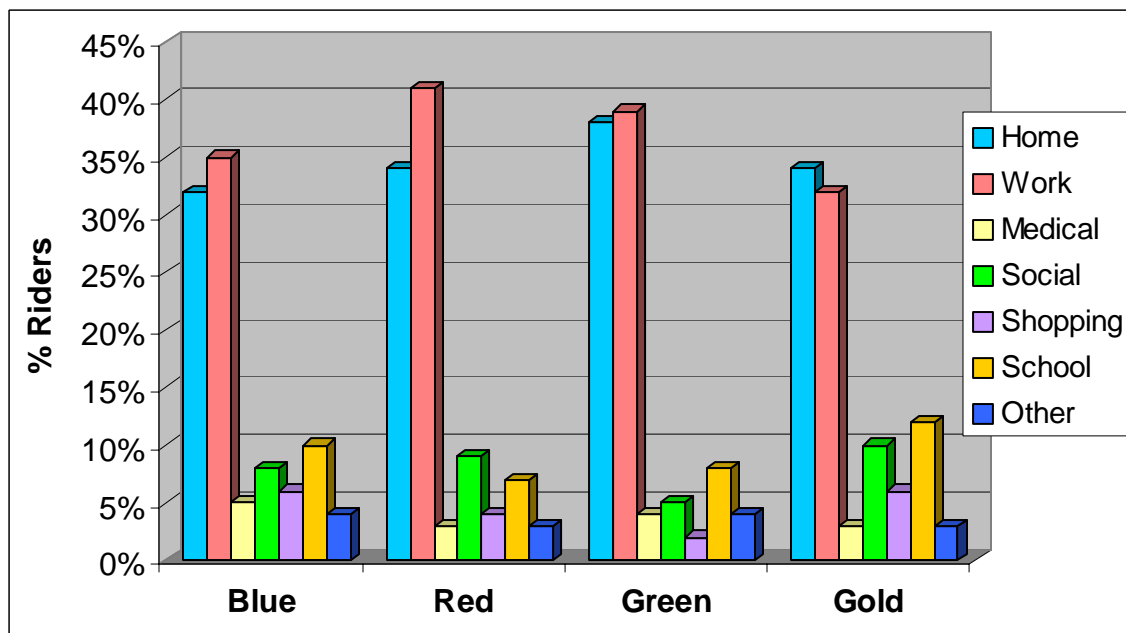
Figure 3.6 Total Ridership by Trip Purpose



The most common destinations across all lines are home and work, however, there are differences among lines. The Blue, Green, and Gold Lines have more equal numbers of passengers headed to work and home, while the Red Line shows slightly more variance. The Red Line has 34 percent of passengers riding home, and 41 percent going to work.

The Gold Line is the only line with more passengers headed home than to work. The Gold Line also has the highest percentage of passengers riding to school at 12 percent.

Figure 3.7 Line Ridership by Trip Purpose



3.6 Fare Type

Metro Rail passengers have the choice of a variety of fare types depending on their use of the rail system and other transit systems.

Across all lines the most popular fare type, at 35 percent, is the \$3.00 Metro Day Pass, which allows unlimited rides for the day. Following at about half of that level is the use of the Monthly Pass at 19 percent. A close third is the use of the One-Way Cash fare, currently \$1.25, at 15 percent.

The Blue and Gold Lines have a similar pattern of fare popularity, while the Red Line riders are more likely to use the Monthly Pass at 24 percent, rather than the One-Way Cash Fare at 11 percent. Green Line riders favor the use of Tokens over the Monthly Pass. The following table outlines the distribution of fare type usage.

Table 3.3 Fare Type

FARE TYPES	All Lines	Blue	Red	Green	Gold
Metro Day Pass	35%	34%	34%	38%	39%
Monthly Pass	19%	15%	24%	12%	17%
One-Way Cash Fare	15%	18%	11%	18%	19%
Token	7%	8%	4%	15%	4%
Discount Pass	6%	5%	7%	3%	6%
Weekly Pass	5%	5%	6%	4%	4%
Semi-Monthly Pass	4%	4%	5%	2%	4%
EZ Transit Pass	4%	6%	3%	6%	2%
Metrolink Pass	3%	1%	6%	1%	2%
Transfer from Bus	1%	3%	0%	1%	1%

The top fare choice in 2002 was some type of pass with 58 percent using a pass rather than a cash fare. Half of these pass users were Regular Monthly Pass holders. Cash Fare was used by 22 percent of riders in 2002, slightly higher than the 15 percent in 2004. The Day Pass was not available at the time of the 2002 survey.

Top Three Fare Types by Income

Forty-one percent of riders in the lowest income group (under \$25,000 household income) use the Day Pass. This income group is also likely to use the One-Way Fare and the Monthly Pass at 16 and 12 percent respectively.

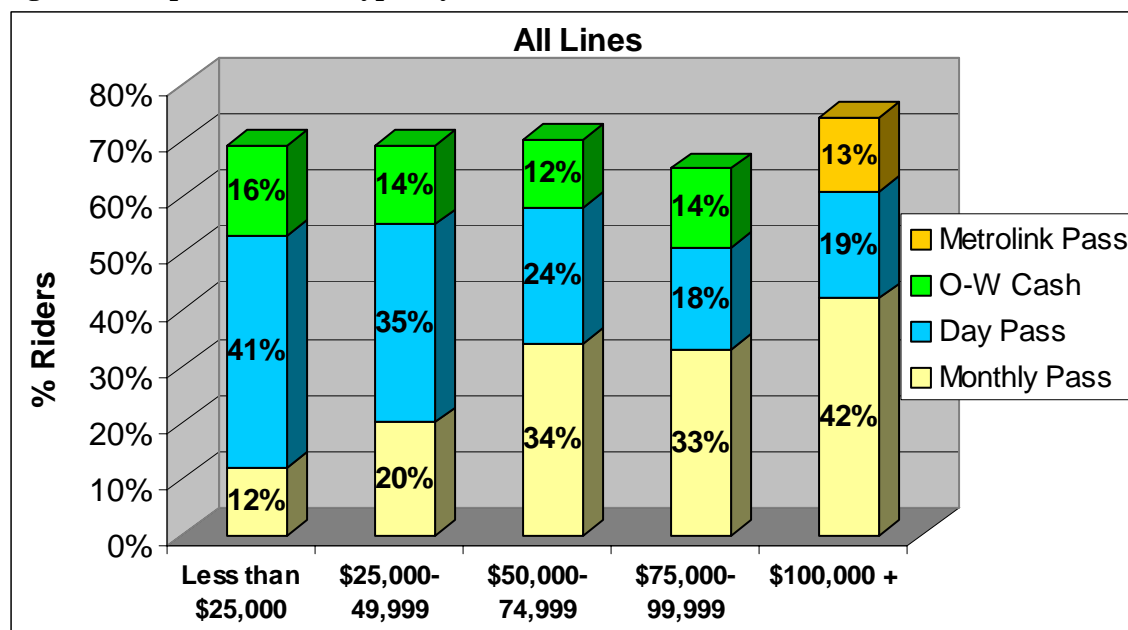
Those in the \$25,000 to \$49,999 income range are also most likely to use the Day Pass at 35 percent. This group also commonly chooses the Monthly Pass (20%) and the One-Way Fare (14%).

Patrons in the middle household income bracket of \$50,000 to \$74,999 are still most likely to use the Monthly Pass at 34 percent. This group is also likely to use the Day Pass, however the percentage falls to 24 percent.

For the income group of \$75,000 to \$99,000, the use of the Monthly Pass is slightly lower at 33 percent. The Day Pass and the One-Way Cash Fare follow with 18 and 14 percent, respectively.

The top income group of more than \$100,000 annual household income prefers the Monthly Pass at 42 percent. The Day Pass follows with 19 percent of riders in this income level. Thirteen percent of respondents in this group also have a Metrolink Pass.

Figure 3.8 Top Three Fare Types by Rider Household Income

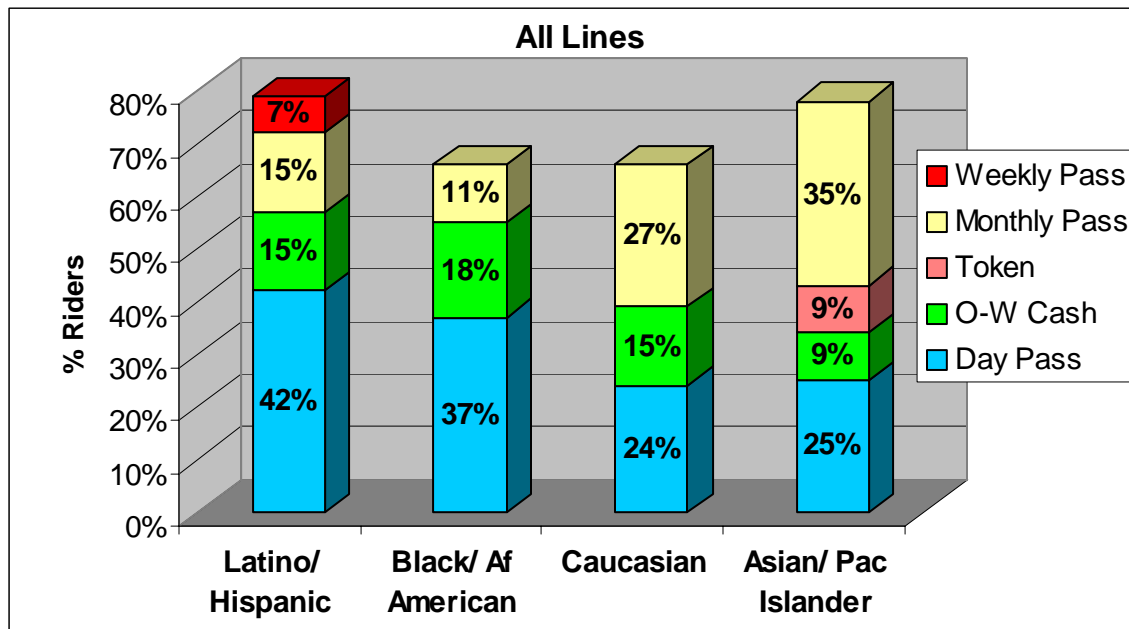


Top Three Fare Types by Ethnicity

All ethnic groups share the same top three fare types: the Day Pass, the One-Way Cash Fare, and the Monthly Pass. While Latinos and African-Americans prefer the Day Pass, Caucasians and Asians/Pacific Islanders prefer the Monthly Pass.

Latinos choose the Monthly Pass and One-Way Cash fare with equal frequency. Asians/ Pacific Islanders, however, choose the use of Tokens in equal proportions with the One-Way Cash Fare.

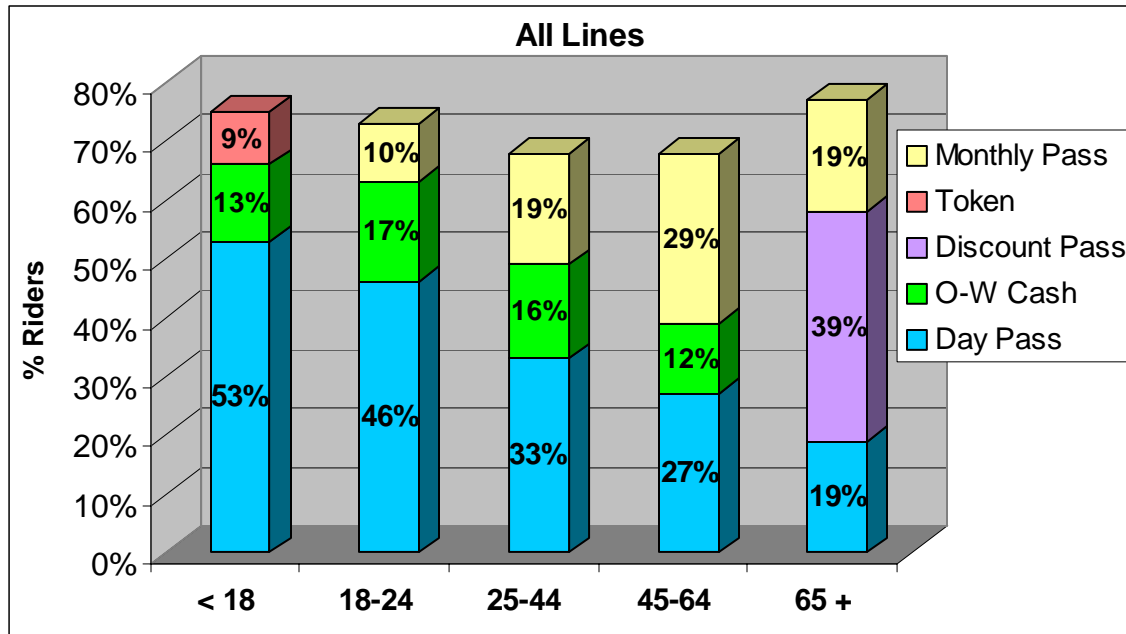
Figure 3.9 Top Three Fare Types by Rider Ethnicity



Top Three Fares Type by Age

The Day Pass is the most popular fare medium across the three youngest age groups. Those 45-64 years of age choose the Monthly Pass over the Day Pass by two percentage points. The oldest age group, those over 65, prefer the Discount Pass and are likely using the Senior Discount fare.

Figure 3.10 Top Three Fare Types by Rider Age



Top Three Fare Types by Frequency of Use

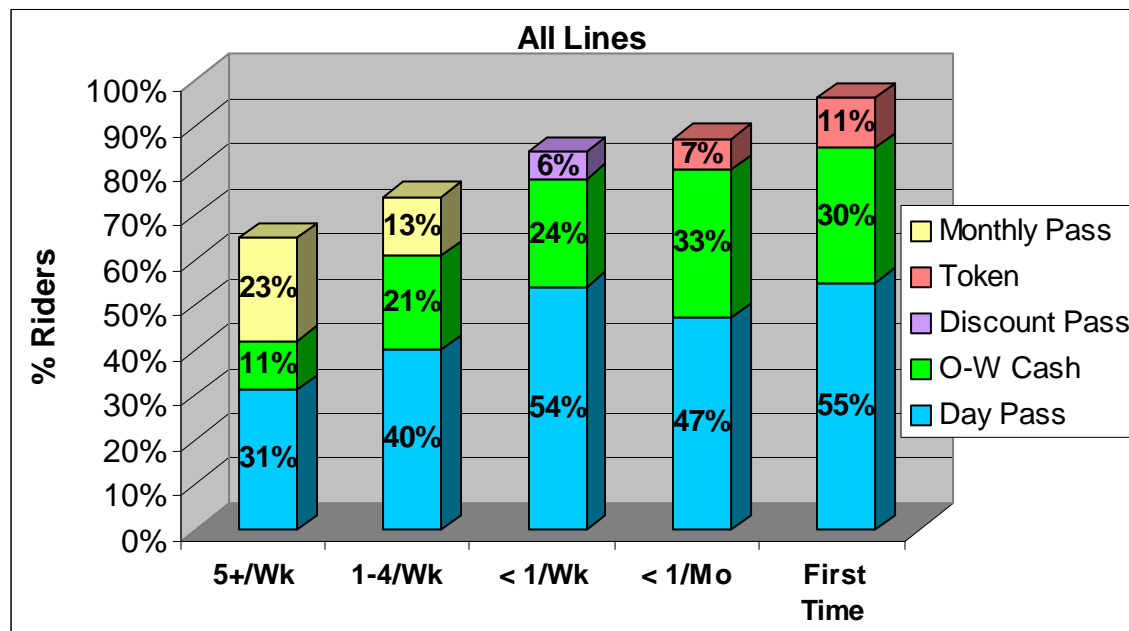
All Metro Rail riders are most likely to choose the Day Pass for their top fare option, no matter the frequency of rail use.

However, there are some differences in fare choice depending on the frequency of use. Those who are first-time Metro Rail riders use the Day Pass in the highest proportion, followed by those who use Metro Rail less than once per week.

The One-Way Cash Fare was the second favorite fare option for most user groups, with the exception of the most frequent users, those who ride Metro Rail more than five times per week. This group favors the Monthly Pass over the One-Way Cash Fare.

Tokens were the third favorite option for those who ride less than once per month and those who are first time riders. The Discount Pass was favored as a third choice by those who ride less than once per week. As 60 percent of those who ride less than once per week are 45 or over, this is likely due to the Senior Discount fare.

Figure 3.11 Top Three Fare Types by Frequency of Use



3.7 Origin and Destination Stations

Metro Rail riders most commonly gave their origin and destination station pair as Sierra Madre Villa to Union Station, with the opposite trip and Allen to Union Station following behind.

The table below outlines the top 25 origin and destination station pairs.

Table 3.4 Top Origin and Destination Station Pairs

TOP STATION PAIRS		
ORIGIN STATION	DESTINATION STATION	NUMBER OF RECORDS
Sierra Madre Villa	Union Station	41
Allen	Union Station	22
Union Station	Sierra Madre Villa	22
I-605 / I-105	Aviation	21
Del Mar	Union Station	20
Lake	Union Station	20
Memorial Park	Union Station	20
Union Station	Memorial Park	20
Highland Park	Union Station	16
North Hollywood	7 th / Metro	15
Aviation	I-605 / I-105	14
Willow	7 th / Metro	14
Fillmore	Union Station	13
I-605 / I-105	Imperial / Rosa Parks	12
Union Station	Allen	12
I-605 / I-105	El Segundo / Nash	11
Sierra Madre Villa	7 th / Metro	11
Union Station	7 th / Metro	11
I-605 / I-105	Mariposa / Nash	10
Lake	7 th / Metro	10
Sierra Madre Villa	Chinatown	10
Mariposa / Nash	I-605 / I-105	9
North Hollywood	Union Station	9
Pershing Square	Union Station	9

4. TRAVEL BEHAVIORS AND USAGE

4.1 Overview

Data on Metro Rail rider travel behavior such as user frequency, longevity and past travel modes is useful in analysis of Metro Rail's impact on other travel modes. In 2002, 72 percent of Metro Rail users rode more than five days per week. This figure fell slightly in 2004. However, the percentages of those who ride less than once a week and first-time riders have increased in 2004.

Table 4.1 Rider Frequency

	2002	2004				
FREQUENCY	All Lines	All Lines	Blue	Red	Green	Gold
5+/Week	72%	69%	72%	69%	70%	58%
1-4/Week	23%	20%	18%	21%	21%	26%
< 1/Week	2%	5%	5%	5%	3%	6%
< 1/Month	2%	4%	4%	3%	3%	6%
First Time	1%	2%	1%	3%	2%	4%

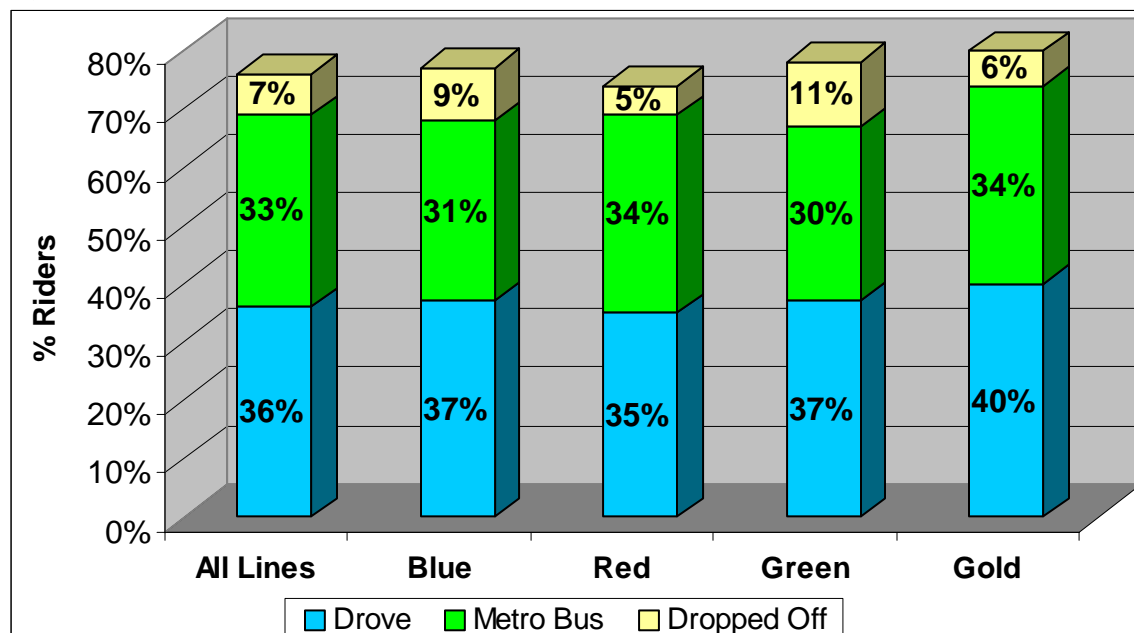
Following are some highlights of the 2004 findings on travel behaviors:

- Driving and Metro Bus were the transit modes most often replaced by Metro Rail, with 69 percent now making the driving or bus trip on Metro Rail instead. Sixteen percent of riders did not make the trip before using Metro Rail.
- The Gold Line has the highest proportion of first time riders (4%). First time riders have a mean age of 34.5, are most likely to be Caucasian (36%) or Asian/ Pacific Islander (26%), and are most frequently in the \$25,000 to \$49,999 income group (43%). First-time riders are just as likely to be male or female.
- The most frequent riders (5 + times per week) can be found in the lowest proportion on the Gold Line (58%) while the Blue Line has the largest proportion (72%). These riders who use Metro Rail five or more times per week have a mean age of 35.4. These riders are also likely to be male (57%), Hispanic (46%) and be in the lowest household income bracket of less than \$25,000 (53%).
- Patrons who have been riding Metro Rail for more than five years also tend to be Hispanic (50%) and have a mean age of 35.5 years. Again, this group is more often male (61%) and tends to be in the lower income bracket of less than \$25,000 (60%).
- The Gold Line has the fewest riders who have been using Metro Rail for more than one year (59%). The Blue and Green Lines have the highest percentages of riders using Metro Rail for more than five years at 43 and 41 percent, respectively. This is consistent with the relative length of time that each line has been open.

4.2 Past Mode Choice

The top three ways that current Metro Rail riders reached their destination before using Metro Rail are driving (36%), using Metro Bus (33%) and being dropped off (7%). Fifteen percent did not make the trip before using Metro Rail. Across all lines, the top three past choices for reaching the destination were the same. Gold Line riders were slightly more likely to have driven than riders of other lines. Red and Gold Line riders were more likely than other rail users to ride Metro Bus. Red Line users were most likely not to have made this trip in the past (17%).

Figure 4.1 Total and Line Ridership by Top Three Past Mode Choice



The following table breaks down the mode choices prior to using Metro Rail for this trip.

Table 4.2 Past Mode Choice

	All Lines	Blue	Red	Green	Gold
Drove	36%	37%	35%	37%	40%
Metro Bus	33%	30%	34%	30%	34%
Didn't Make Trip	15%	14%	17%	10%	14%
Dropped Off	7%	9%	5%	11%	6%
Other Bus	4%	4%	3%	4%	2%
Car/Vanpool	2%	1%	2%	4%	1%
Other	2%	2%	3%	2%	2%
Bicycle	1%	2%	1%	2%	1%

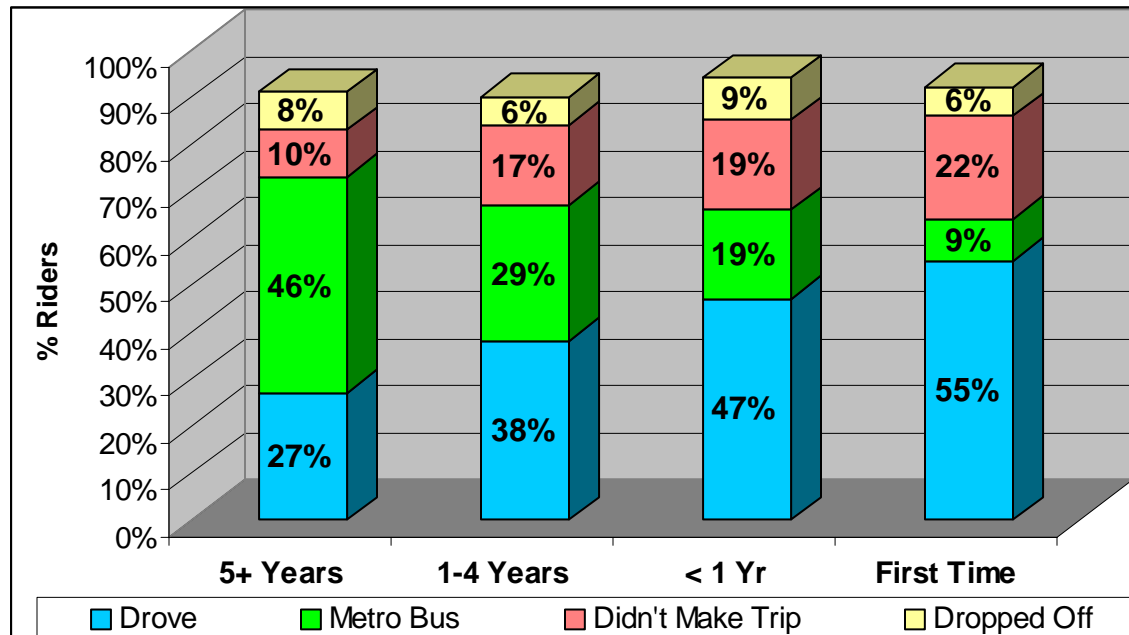
Most Caucasian (55%) and Asian/Pacific Islander (45%) riders had been making this trip by driving. Females were more likely to have replaced Metro Bus with Metro Rail (36%) for this one-way trip, while males would most likely have driven in the past (40%).

Those in the lowest income group of less than \$25,000 were mostly using Metro Bus for this trip before switching to Metro Rail (44%).

Those frequent riders who use Metro Rail more than five times per week either drove (34%) or used Metro Bus (35%) to make this trip.

Long-term riders (5 + years) are most likely to have ridden Metro Bus for this trip in the past (46%), while first time riders were most likely to have driven to their destination (55%) or not to have made this trip in the past (22%).

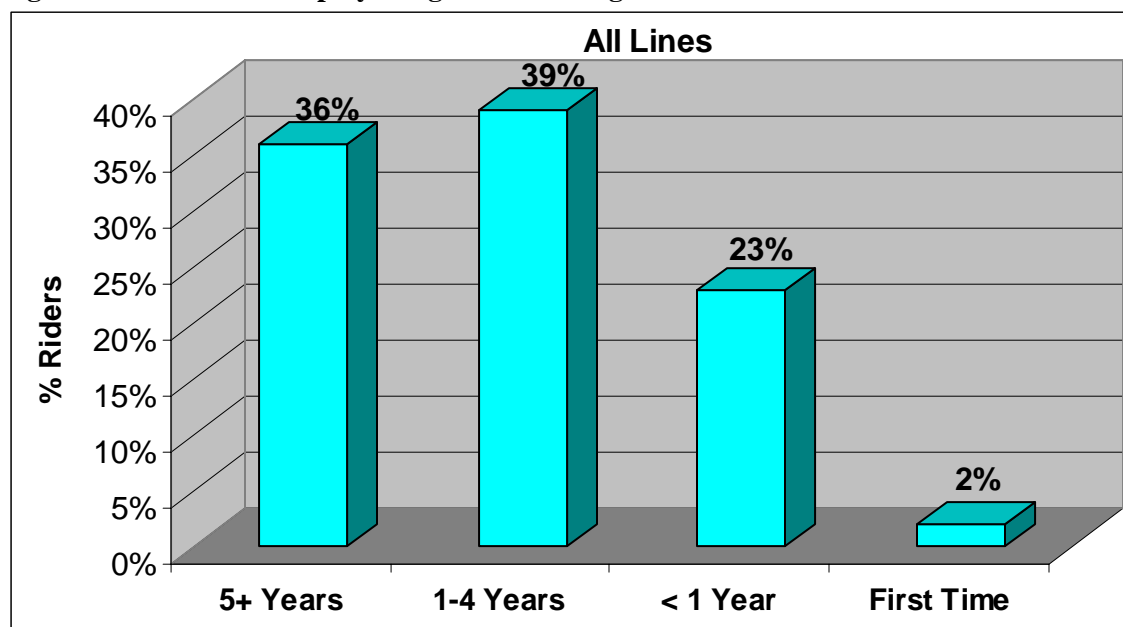
Figure 4.2 Total Ridership Top Four Past Mode Choice by Rider Longevity



4.3 Length of Patronage

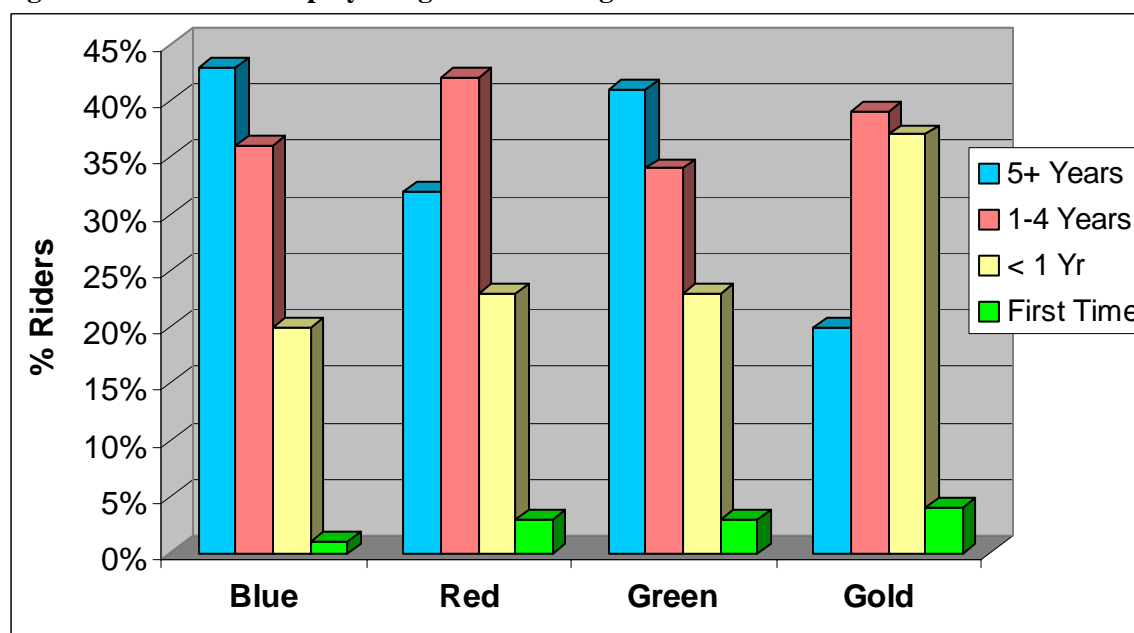
Seventy-five percent of Metro Rail riders have been patrons for more than one year, with 36 percent riding for more than 5 years.

Figure 4.3 Total Ridership by Length of Patronage



The Blue Line has the highest percentage of riders with more than five years as patrons at 43 percent. Gold Line patrons are the newest rail users with 37 percent riding for less than one year, 20 percent riding for more than 5 years, and four percent as first time riders.

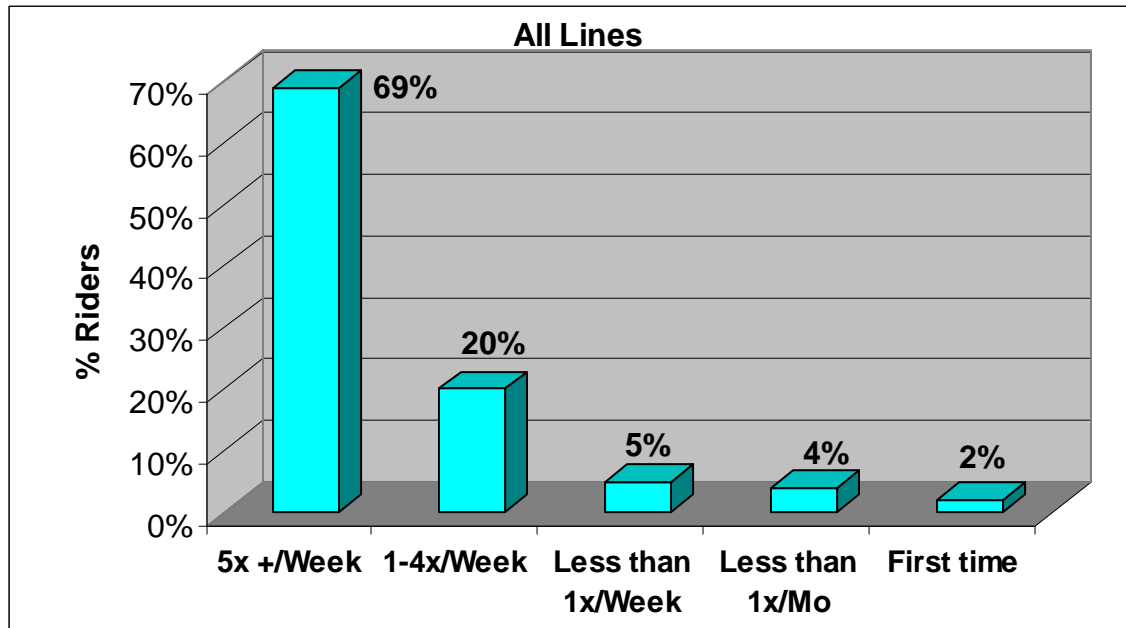
Figure 4.4 Line Ridership by Length of Patronage



4.4 Frequency of Patronage

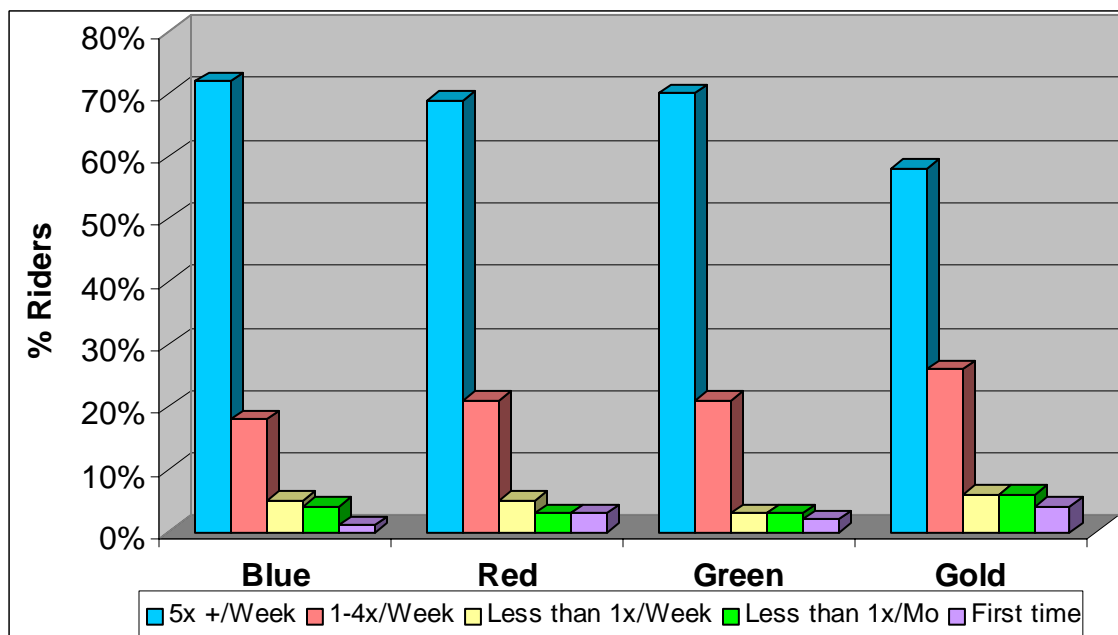
The majority of Metro Rail riders at 69 percent ride five or more times per week. Twenty percent ride one to four times per week.

Table 4.5 Total Ridership by Frequency of Use



The Blue and Green Lines have the most frequent riders at 72 percent and 70 percent, while the Gold Line has the least frequent riders. The Gold Line also has the largest percentage of first time riders at 4 percent. This may be due to the Gold Line having only recently been opened.

Table 4.6 Line Ridership by Frequency of Use



APPENDIX A

Survey Instrument English



Metro

EARN A CHANCE TO WIN A MONTHLY METRO PASS!

Just complete this Metro Rail Passenger Survey*

Español al lado opuesto

This survey asks questions about this CURRENT ONE-WAY TRIP, including this train and other trains or buses that are part of this one-way trip. (not round-trip, just one-way). Please choose only one answer for each question. Thank you!

FIRST STOP OF THIS ONE-WAY TRIP

1. Where did you first get on a bus/train for this ONE-WAY trip?

_____ & _____
(Street/station where you got on the bus/train) (Nearest cross street)

2. City _____

3. Bus # or Rail Line of your first bus/train _____

4. If not Metro, bus/rail company _____

LAST STOP OF THIS ONE-WAY TRIP

5. Where will you get off your last bus/train for this ONE-WAY trip?

_____ & _____
(Street/station where you will get off the bus/train) (Nearest cross street)

6. City _____

7. Bus # or Rail Line of your last bus/train _____

8. If not Metro, bus/rail company _____

9. For this ONE-WAY trip today, how many buses and/or trains will you use?

of buses

of train

10. How did you get to your first bus stop or train station today?

☐ Walked

☐ Dropped off

☐ Other: _____

☐ Bicycled

☐ Drove

11. Where are you going on this one-way trip?

☐ Going home

☐ For medical/dental appointment

☐ For social/recreational purpose

☐ Other: _____

☐ Going to work

☐ Going shopping

☐ Going to school/class

16. Before you started using Metro Rail (*Blue, Green, Red, or Gold Line*), how did you make this one-way trip?

☐ Drove

☐ Used Metro Bus

☐ Used other bus agency

☐ Did not make this trip

☐ Rode my bicycle

☐ Was dropped off

☐ Carpool/Vanpool

☐ Other: _____

17. Are you ... ?

☐ Under 18 years old

☐ 18 - 24

☐ 25 - 44

☐ 45 - 64

☐ 65 or older

18. Are you ... ?

☐ Latino/Hispanic

☐ Black/African American

☐ Other: _____

☐ White/Caucasian

☐ Asian/Pacific Islander

12. How will you get to the place you are going after you get off your last bus/train on this one-way trip?

☐ Walk

☐ Drive

☐ Other: _____

☐ Be picked up

☐ Bicycle

19. What was your total household income in 2003?

☐ Less than \$25,000

☐ \$25,000 - 49,999

☐ \$50,000 - 74,999

☐ \$75,000 - 99,999

☐ \$100,000 or more

20. Are you ... ?

☐ Male

☐ Female

21. What is your home zip code? _____

22. What is your work zip code? _____

All information will be kept confidential.

Your complete survey will be entered into a random drawing to WIN A FREE MONTHLY PASS!

For your chance to win, please provide your name & phone number below.

Name (optional): _____

Phone (optional): _____

Provide your e-mail address if you wish to receive information from Metro (optional)

E-mail address: _____

*Name and phone number needed to contact the winners.

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APPENDIX A

Survey Instrument Spanish



Metro

OBTENGA LA OPORTUNIDAD DE GANAR UN PASE MENSUAL DE METRO!

Solamente complete la Encuesta de Pasajeros de Metro Rail*
English on reverse side

Esta encuesta le hace preguntas sobre este VIAJE DE IDA, incluyendo este tren y otros trenes o autobuses que sean parte de este viaje de ida (no de ida y vuelta, solamente de ida). Por favor solo seleccione una respuesta por cada pregunta. ¡Gracias!

PRIMERA PARADA DE ESTE VIAJE DE IDA

1. ¿Dónde fue que primero subió al autobús o tren para este VIAJE DE IDA?

_____ & _____
(Estación donde tomó el autobús o tren) (Calle de cruce más cercana)

2. Ciudad _____

3. Número o nombre del primer autobús o tren _____

4. Si no es de Metro, ¿de qué compañía es? _____

ULTIMA PARADA DE ESTE VIAJE DE IDA

5. ¿Dónde se bajará de su último autobús o tren de este VIAJE DE IDA?

_____ & _____
(Estación donde bajará del autobús o tren) (Calle de cruce más cercana)

6. Ciudad _____

7. Número o nombre del último autobús o tren _____

8. Si no es de Metro, ¿de qué compañía es? _____

9. Para este VIAJE DE IDA hoy, ¿cuántos autobuses o trenes va a usar?

de autobuses # de trenes

10. ¿Cómo llegó a su primer parada de autobús o estación de tren hoy?

☐ Caminé ☐ En bicicleta
☐ Me llevaron ☐ Llegué en mi auto
☐ Otro: _____

11. ¿Adónde va en este viaje de ida?

☐ Voy a casa ☐ Voy al trabajo
☐ Voy a una cita médica/dental ☐ Voy de compras
☐ Voy con propósito social/recreacional ☐ Voy a la escuela/clases
☐ Otro: _____

12. ¿Cómo llegará a su destino después de que baje del último autobús o tren de este viaje de ida?

☐ Caminaré ☐ Alguien me llevará
☐ Llegaré en mi auto ☐ En bicicleta
☐ Otro: _____

13. ¿Cómo pagó al subir al primer autobús o tren en este viaje de ida?

☐ Pase Diario ☐ Ficha (Token)
☐ En efectivo para este viaje de ida ☐ Pase mensual regular
☐ Pase quincenal regular ☐ Pase semanal regular
☐ Pase "EZ Transit" ☐ Pase de Metrolink
☐ Pase de descuento (Estudiantes, Mayores de 65 años, Discapacitados)
☐ Transbordó de otra compañía de autobús

14. ¿Qué tan seguido usa los trenes de Metro (*Blue, Green, Red, o Gold Line*)?

☐ 5 o más días por semana ☐ Menos de una vez al mes
☐ 1-4 días por semana ☐ Es la primera vez
☐ Menos de una vez por semana

15. ¿Cuánto tiempo tiene usando los trenes de Metro (*Blue, Green, Red o Gold Line*)?

☐ 5 años o más ☐ Menos de un año
☐ 1-4 años ☐ Es la primera vez

16. Antes de que comenzara a usar los trenes de Metro (*Blue, Green, Red, o Gold Line*), ¿cómo hacía este viaje de ida?

☐ Manejaba ☐ Me iba en bicicleta
☐ Usaba Metro Bus ☐ Me llevaban
☐ Usaba otra agencia de autobuses ☐ Me iba en carpool/vanpool
☐ No hacía este viaje ☐ Otro: _____

17. ¿Tiene usted...?

☐ Menos de 18 años de edad ☐ 45 - 64
☐ 18 - 24 ☐ 65 o más
☐ 25 - 44

18. ¿Es usted...?

☐ Latino/Hispano ☐ Blanco/Anglosajón
☐ Negro/Afro-Americano ☐ Asiático/Islands del Pacífico
☐ Otro: _____

19. ¿Cuál fue el ingreso total de su hogar en 2003?

☐ Menos de \$25,000 ☐ \$75,000 - 99,999
☐ \$25,000 - 49,999 ☐ \$100,000 o más
☐ \$50,000 - 74,999

20. ¿Es usted...?

☐ Hombre ☐ Mujer

21. ¿Cuál es el código postal de su casa? _____

22. ¿Cuál es el código postal de su trabajo? _____

Toda la información será estrictamente confidencial.

Su encuesta completa será elegible para participar en una rifa y puede GANAR UN PASE MENSUAL GRATIS!

Para su oportunidad de ganar, por favor escriba su nombre y teléfono abajo.

Nombre (opcional): _____

Teléfono (opcional): _____

Proporcione la dirección de su correo electrónico si desea recibir información de Metro.

Correo electrónico (opcional): _____

*Nombre y número de teléfono son necesarios para poder notificar a los ganadores.

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APPENDIX B

Table B.1 Data Weights

LINE & TIME PERIOD	DATA WEIGHTS		GEOCODE WEIGHTS	
BLUE LINE	NORTH	SOUTH	NORTH	SOUTH
AM PEAK	68.6	44.9	105.2	78.5
BASE	50.8	48.4	88.1	88.1
PM PEAK	95.2	182.5	151.9	266.7
RED LINE	EAST	WEST	EAST	WEST
AM PEAK	137.4	180.4	189.9	295.2
BASE	80.9	70.8	123.4	130.6
PM PEAK	127.3	105.6	172.6	146.9
GREEN LINE	EAST	WEST	EAST	WEST
AM PEAK	33.7	21.5	69.8	35.3
BASE	14.0	14.9	29.2	28.1
PM PEAK	100.0	65.6	169.9	160.5
GOLD LINE	NORTH	SOUTH	NORTH	SOUTH
AM PEAK	12.9	8.1	15.9	9.5
BASE	17.4	15.3	24.3	20.2
PM PEAK	15.7	24.5	21.1	36.5

APPENDIX C

Demographic Profiles

Table C.1 Line

	BLUE	RED	GREEN	GOLD
Age				
< 18	6%	7%	6%	9%
18-24	24%	18%	21%	19%
25-44	44%	42%	44%	40%
45-64	24%	29%	27%	26%
65 +	3%	3%	2%	5%
Gender				
Male	56%	55%	60%	58%
Female	44%	45%	40%	42%
HH Income				
< \$25,000	58%	47%	53%	45%
\$25,000-49,999	24%	24%	21%	23%
\$50,000-74,999	9%	15%	9%	14%
\$75,000-99,999	4%	5%	9%	9%
\$100,000 +	5%	9%	8%	10%
Ethnicity				
Hispanic/Latino	44%	44%	46%	42%
Black/Af American	35%	14%	24%	15%
Other	2%	4%	2%	3%
White/Caucasian	13%	23%	16%	28%
Asian/Pac Islander	7%	15%	13%	12%
Rider Frequency				
5+/Wk	72%	69%	70%	58%
1-4/Wk	18%	21%	21%	26%
<1/Wk	5%	5%	3%	6%
<1/Mo	4%	3%	3%	6%
First Time	1%	3%	2%	4%
Rider Longevity				
5+ Years	43%	32%	41%	20%
1-4 Years	36%	42%	34%	39%
<1 Year	20%	23%	23%	37%
First Time	1%	3%	2%	4%
Fare Type				
Metro Day Pass	34%	34%	38%	39%
O-W Cash	18%	11%	18%	19%
Semi-Month Pass	4%	5%	2%	4%
EZ Transit	6%	3%	6%	2%
Discount Pass	5%	7%	3%	6%
Bus Transfer	3%	0%	1%	1%
Token	8%	4%	15%	4%
Monthly Pass	15%	24%	12%	17%
Weekly Pass	5%	6%	4%	4%
Metrolink Pass	1%	6%	1%	2%

Table C.2 Age

	AGE				
	< 18	18-24	25-44	45-64	65 +
Line					
Blue	21%	29%	26%	23%	19%
Red	25%	21%	22%	26%	24%
Green	23%	30%	29%	26%	21%
Gold	31%	20%	23%	26%	36%
Gender					
Male	47%	55%	59%	55%	59%
Female	53%	45%	41%	45%	41%
HH Income					
< \$25,000	64%	72%	50%	35%	51%
\$25,000-49,999	21%	19%	26%	24%	25%
\$50,000-74,999	6%	6%	13%	16%	11%
\$75,000-99,999	3%	2%	5%	8%	11%
\$100,000 +	6%	1%	6%	16%	2%
Ethnicity					
Hispanic/Latino	65%	53%	48%	29%	17%
Black/Af American	23%	28%	2%	23%	10%
Other	2%	4%	2%	4%	1%
White/Caucasian	4%	6%	17%	32%	44%
Asian/Pac Islander	7%	9%	13%	12%	28%
Rider Frequency					
5+/Wk	59%	71%	72%	69%	53%
1-4/Wk	25%	18%	20%	21%	24%
<1/Wk	10%	4%	3%	5%	9%
<1/Mo	3%	4%	3%	3%	10%
First Time	3%	2%	2%	2%	3%
Rider Longevity					
5+ Years	38%	37%	32%	40%	37%
1-4 Years	39%	34%	40%	42%	45%
<1 Year	20%	27%	27%	16%	14%
First Time	3%	2%	2%	2%	3%
Fare Type					
Metro Day Pass	53%	46%	33%	27%	19%
O-W Cash	13%	17%	16%	12%	14%
Semi-Month Pass	2%	4%	6%	3%	6%
EZ Transit	2%	2%	4%	7%	1%
Discount Pass	8%	4%	3%	6%	39%
Bus Transfer	2%	3%	1%	0%	0%
Token	9%	7%	8%	5%	1%
Monthly Pass	6%	10%	19%	29%	19%
Weekly Pass	4%	6%	6%	5%	0%
Metrolink Pass	1%	1%	3%	6%	2%

Table C.3 Gender

	GENDER	
	Male	Female
Line		
Blue	25%	25%
Red	22%	24%
Green	28%	27%
Gold	25%	24%
Age		
< 18	5%	8%
18-24	20%	21%
25-44	45%	40%
45-64	26%	28%
65 +	3%	3%
HH Income		
< \$25,000	50%	53%
\$25,000-49,999	22%	26%
\$50,000-74,999	12%	12%
\$75,000-99,999	6%	5%
\$100,000 +	10%	5%
Ethnicity		
Hispanic/Latino	42%	46%
Black/Af American	21%	24%
Other	4%	2%
White/Caucasian	22%	15%
Asian/Pac Islander	11%	13%
Rider Frequency		
5+/Wk	70%	69%
1-4/Wk	20%	20%
<1/Wk	4%	5%
<1/Mo	3%	3%
First Time	2%	2%
Rider Longevity		
5+ Years	38%	32%
1-4 Years	36%	43%
<1 Year	24%	23%
First Time	2%	2%
Fare Type		
Metro Day Pass	36%	34%
O-W Cash	14%	16%
Semi-Month Pass	4%	4%
EZ Transit	4%	5%
Discount Pass	6%	6%
Bus Transfer	1%	1%
Token	7%	6%
Monthly Pass	19%	19%
Weekly Pass	6%	5%
Metrolink Pass	3%	4%

Table C.4 Household Income

	INCOME				
	< \$25,000	\$25,000-49,999	\$50,000-74,999	\$75,000-99,999	\$100,000 +
Line					
Blue	29%	26%	18%	15%	13%
Red	22%	23%	28%	18%	26%
Green	29%	28%	22%	29%	23%
Gold	20%	23%	32%	38%	38%
Gender					
Male	56%	54%	58%	64%	74%
Female	44%	46%	42%	36%	26%
Age					
< 18	6%	5%	3%	3%	4%
18-24	28%	16%	11%	6%	4%
25-44	43%	48%	48%	44%	34%
45-64	19%	28%	36%	40%	57%
65 +	3%	3%	3%	6%	1%
Ethnicity					
Hispanic/Latino	55%	44%	23%	17%	12%
Black/Af American	25%	27%	21%	6%	10%
Other	3%	2%	6%	3%	4%
White/Caucasian	9%	19%	32%	46%	51%
Asian/Pac Islander	8%	10%	17%	28%	23%
Rider Frequency					
5+/Wk	73%	69%	67%	65%	63%
1-4/Wk	18%	21%	23%	21%	28%
<1/Wk	5%	4%	4%	8%	3%
<1/Mo	4%	3%	4%	4%	3%
First Time	1%	3%	2%	1%	3%
Rider Longevity					
5+ Years	42%	30%	29%	23%	38%
1-4 Years	38%	40%	43%	38%	40%
<1 Year	19%	27%	26%	38%	19%
First Time	1%	3%	2%	1%	3%
Fare Type					
Metro Day Pass	41%	35%	24%	18%	19%
O-W Cash	16%	14%	12%	14%	8%
Semi-Month Pass	5%	5%	2%	4%	2%
EZ Transit	4%	5%	4%	6%	3%
Discount Pass	7%	6%	3%	2%	2%
Bus Transfer	2%	2%	1%	0%	0%
Token	6%	6%	9%	12%	10%
Monthly Pass	12%	20%	34%	33%	42%
Weekly Pass	7%	4%	2%	1%	0%
Metrolink Pass	1%	2%	9%	10%	13%

Table C.5 Ethnicity

	ETHNICITY				
	Hispanic/ Latino	Black/ Af American	Other	White/ Caucasian	Asian/ Pac Islander
Line					
Blue	26%	37%	18%	15%	14%
Red	24%	15%	35%	25%	30%
Green	27%	33%	22%	22%	29%
Gold	23%	15%	25%	39%	27%
Gender					
Male	54%	53%	69%	65%	52%
Female	46%	47%	31%	35%	48%
Age					
< 18	10%	7%	4%	1%	4%
18-24	24%	25%	28%	7%	15%
25-44	47%	38%	28%	39%	47%
45-64	18%	28%	38%	46%	26%
65 +	1%	1%	1%	7%	7%
HH Income					
< \$25,000	65%	56%	45%	23%	36%
\$25,000-49,999	24%	28%	13%	23%	19%
\$50,000-74,999	6%	11%	25%	20%	17%
\$75,000-99,999	2%	2%	5%	13%	13%
\$100,000 +	2%	3%	11%	21%	15%
Rider Frequency					
5+/Wk	73%	72%	64%	60%	71%
1-4/Wk	20%	19%	18%	26%	15%
<1/Wk	4%	4%	8%	5%	5%
<1/Mo	3%	4%	2%	5%	5%
First Time	1%	1%	8%	4%	4%
Rider Longevity					
5+ Years	41%	46%	34%	23%	17%
1-4 Years	37%	35%	40%	44%	48%
<1 Year	22%	18%	18%	29%	30%
First Time	1%	1%	8%	4%	4%
Fare Type					
Metro Day Pass	42%	37%	39%	24%	25%
O-W Cash	15%	18%	14%	15%	9%
Semi-Month Pass	6%	4%	1%	2%	4%
EZ Transit	3%	4%	3%	6%	5%
Discount Pass	4%	6%	8%	9%	4%
Bus Transfer	1%	4%	0%	0%	1%
Token	5%	9%	10%	7%	9%
Monthly Pass	15%	11%	14%	27%	35%
Weekly Pass	7%	5%	9%	2%	3%
Metrolink Pass	2%	3%	3%	8%	5%

