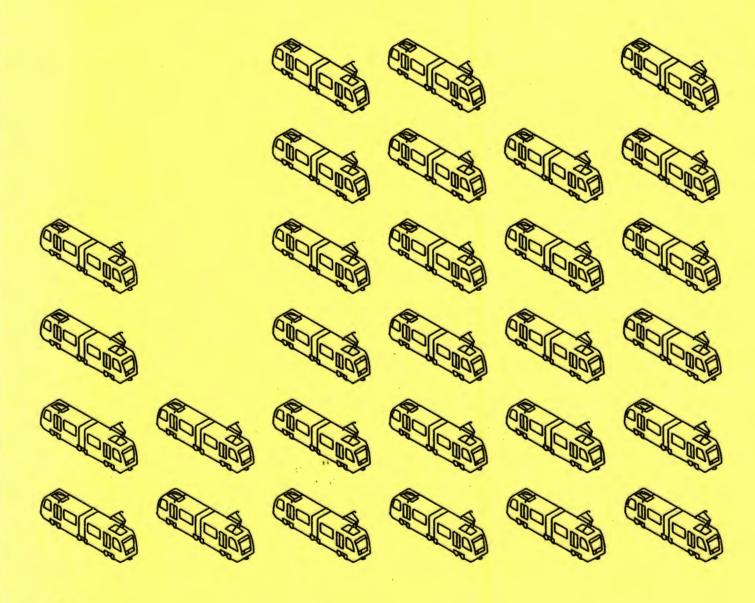
# 2003

# GOLD LINE CORRIDOR SURVEY BEFORE WAVE





# LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

#### GOLD LINE CORRIDOR BEFORE/AFTER SURVEY

BEFORE WAVE: PATRON AWARENESS OF PROPOSED SERVICE CHANGES

Conducted by

STRATEGIC CONSULTING & RESEARCH

#### - EXECUTIVE SUMMARY -

This is a report on patron awareness and support of the Metro Bus service restructuring related to the Metro Gold Line opening. Patrons were surveyed from May 3 through June 7, 2003 on all bus lines in the Metro Gold Line corridor, 7 to 12 weeks before the opening.

The survey was timed to measure the impact of MTA's customary levels of publicity on user awareness of proposed bus routing changes (take-one brochures on buses, newspaper notices, community meetings). The survey was completed before an extraordinary marketing campaign about the opening.

The customary level of effort to publicize changes did not have any effect on the majority of patrons of the impacted lines. A little less than half of the patrons knew that the Gold Line would be opening in the next few months. Only about ¼ of the patrons were aware of the incipient bus routing changes.

Take-one brochures and word-of-mouth were the chief means of finding out about bus service changes among those who knew about the coming changes. Community meetings had little reported impact.

A large majority of patrons, after being asked to review it, were in favor of the bus-rail coordination plan. There was overwhelming support for all but one of its components. Patrons approved the plan overall, route deviations to meet the trains at stations, shuttle service between stations, and maintenance of bus service levels (i.e., for every hour removed from service, an hour of service would have to be added elsewhere). They did not support removing express lines that would be redundant with the Gold Line. The lack of support for this component did not diminish overall support.

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#### CHAPTER 1 INTRODUCTION

#### 1.1 Background

The Metro Gold Line is a Light Rail Line connecting the business centers of Los Angeles and Pasadena. The Gold Line, which began operations in July 2003, was constructed under the auspices of a Joint Power Authority and is operated by the Los Angeles County Metropolitan Transportation Authority (LACMTA.) The Gold Line serves 13 stations along its 13.6-mile route directly serving Los Angeles Union Station, Chinatown, Lincoln Heights, Mount Washington South Pasadena, and Pasadena (see Figure 1.1, Gold Line Service Map on following page.)

An assessment of the impact of the Gold Line and related adjustments to bus service is being conducted through a phased survey of riders; the first phase, conducted before introduction of the Gold Line, and the second immediately following Gold Line service introduction. This report summarizes results of the first phase and focuses on the following areas of interest.

- Passenger Awareness levels of the Gold Line related adjustments to bus service
- Passenger support for the Gold Line and planned adjustments to bus service
- Demographic characteristics of affected riders and apparent relationships between demographic profiles and attitudes and awareness

Travel time and transfer activity of surveyed passenger trips was also collected during the survey. This information will be used after the second survey phase, when a Gold Line impact assessment on trip length (time and distance) and transfer levels will be conducted.

#### 1.2 Report Organization

In addition to summary findings for overall results, survey data has been segmented by line, geographic area and service type (Local and Express.) These segmentations allow for a comprehensive analysis, which considers the variation in demographic variables by community and service type.

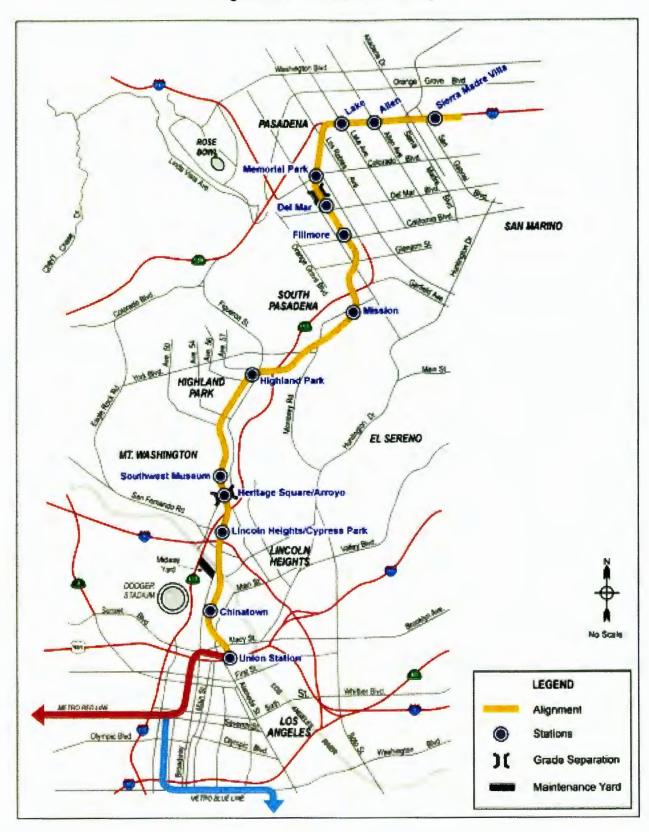
Chapter 2 provides a demographic profile of bus riders in the effected service area including age, income, ethnicity and gender.

Chapter 3 contains a Gold Line corridor-level (all lines) summary of survey results. Survey results are presented by demographic variable for survey questions related to awareness of the Gold Line and support of the Gold Line service-plan strategy.

Chapter 4 presents survey findings by line, geographic service area, and service type for the following communities:

- Downtown Los Angeles and Chinatown
- Figueroa Street communities (Lincoln Heights/Glassel Park/Mount Washington/Highland Park)
- South Pasadena
- Pasadena

Figure 1.1 Gold Line Service Map



#### Chapter 2: Demographic Profile

#### 2.1 Age

The mean age of riders within the project area is 38.9 years, only a little lower than the 39.6 year average for Metro Bus riders systemwide. The mean age is flatter than a normal bell curve; there are significant proportions of riders in the young and mature age categories. The largest age group in the project area is made up of people in their twenties (25%), while an additional 25% are age 50 and above.

Figure 2.1 **Rider Age (n=3,567)** 30 Mean = 38.9 Years 25 21 19 % **Riders** 10 15 11 10 0 Teens 20's 30's 40's 50's 60+

#### 2.2 Income

Household income levels are low. The median household income is approximately \$12,000, the same as the systemwide average for Metro Bus Riders. The largest proportion of riders (39%) has a household income below \$7,500 with 58% below the \$15,000 income level.

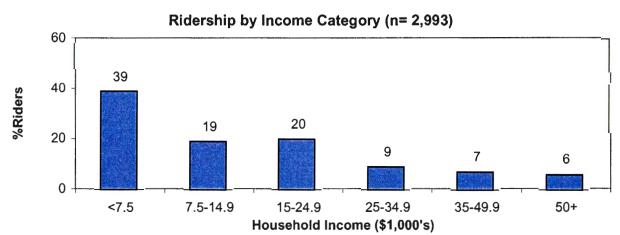


Figure 2.2

#### 2.3 Ethnicity

The Hispanic market is the predominant ethnic rider group by a large margin and contributes 67% of total riders in the project area. This is followed at a much lower level by Asian/Pacific Islanders at 10%, and African American and Caucasian riders, each at 9%. The remaining 4% are listed under "Other". Figure 2.3 shows that the ethnic make-up of patrons in this corridor is very different from the systemwide make-up but is very similar to the ethnic make-up of the San Gabriel Valley sector, which where most of this corridor's patrons live.

Figure 2.3

Ridership by Ethnicity ☐ Gold Line Corridor ☐ San Gabriel Sector ☐ Systemwide 80 67 - 68 58 8 **Riders** 40 20 60 20 12 10 10 8 2 0 Caucasian Latino/Hispanic Asian/Pacific African American Other Islander

#### 2.4 Gender

Fifty-five percent of patrons in the corridor are women, slightly less than the 56% female ridership systemwide. Female ridership is low in the corridor for African Americans (51%) and Caucasians (37%), which for these groups systemwide is 58% and 45%, respectively.

Female Ridership Proportion by Ethnicity 80 70 62 57 60 51 46 50 % Riders 40 30 20 10 Other Latino/Hispanic African American Caucasian Asian (n=144)(n= 2,212) (n=397)(n = 414)(n=450)

Figure 2.4

#### **Chapter 3: Survey Results Summary**

#### 3.1 Gold Line Awareness

The "Before" wave was conducted May 7 through June 3, eight to twelve weeks before the Gold Line's Grand Opening. A major objective of this wave is to measure awareness by market segment, especially awareness of bus service changes coordinated with Gold Line operations.

The patrons were surveyed in a targeted time period.

They were surveyed after:

- 1. Take-one brochures were put in buses announcing the proposed changes (November through January)
- 2. Notices of Public Hearings on the proposed changes were published in newspapers (December through January)
- 3. Public Hearings were held (January)
- 4. Notices were placed in newspapers announcing rail operations testing on the Gold Line (April)
- 5. Banners were placed in or near station areas announcing Gold Line Construction (these were placed by the Pasadena Rail Construction Authority months prior to the survey).

They were surveyed before:

- 1. A full scale media campaign announcing the opening of the Gold Line
  - a. Mid-June through August: print ads in newspapers; rail posters and car cards in buses; radio bulletins; billboards in bus shelters, phone kiosks, etc.
  - b. Mid-June through September: King Ads on bus exteriors; billboards in malls and public places.

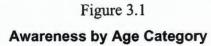
The timing of the survey allowed it to measure the effectiveness of customary levels and methods of publicity about service changes.

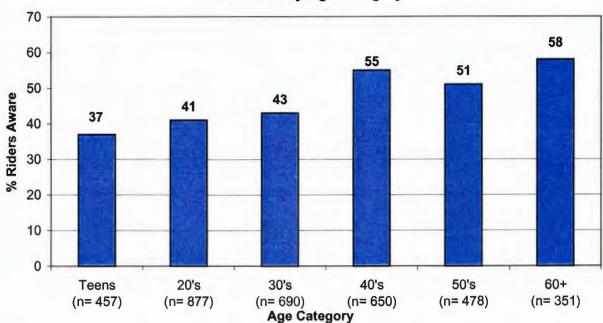
- Overall 47% of surveyed riders indicated that they were aware that the Gold Line is a light-rail trolley service. Forty-five percent indicated awareness that the Gold Line would be opening this summer.
- At the line-level, awareness of the Gold Line as a light rail operation ranged widely from 25% (Lines 251/252) to 77% (Line 401.) The range of awareness concerning the summer opening of the Gold Line was similar, from 23% to 76%, and involved the same lines (see Appendix D). Generally speaking, the lines with the lowest level of patron awareness (Lines 58, 90/91, 92/93, 251/252, 255 and 266) were tangentially involved with the Gold Line right-of-way. In contrast, the lines with the highest levels of patron awareness (Lines 177, 188, 256, 267, 401 and 483) were either duplicating portions of the Gold Line or otherwise competing with it (Line 256 is possibly an exception to this).

- Passenger awareness of coordination of bus service changes with the Gold Line was considerably lower. About one out of four (26%) riders indicated knowing that bus service changes would be coordinated with the opening of the Gold Line.
- Of the demographic variables studied (age, income, ethnicity and gender), the strongest relationship found is that awareness increases with age. To a lesser extent, awareness increases with household income. Men also show more awareness than women.
- Awareness levels are slightly lower among Hispanic and Asian riders, and somewhat higher for Caucasian riders.

Figures 3.1 through 3.2 depict awareness levels by demographic variable.

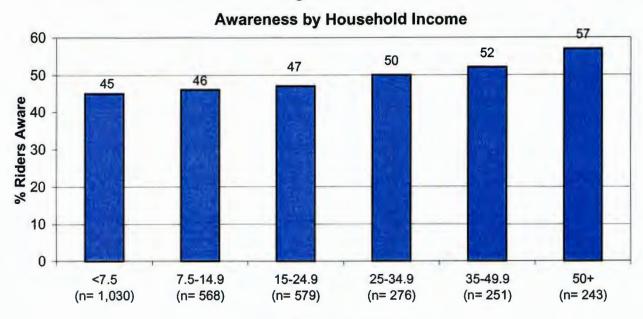
#### Did you know that the Gold Line is new light rail trolley service?





#### Did you know that the Gold Line is new light rail trolley service? (Continued)

Figure 3.2



Household Income (\$1,000's)

Figure 3.3

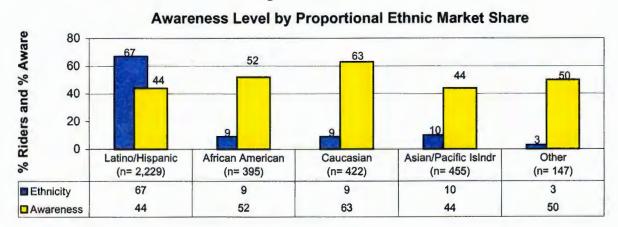
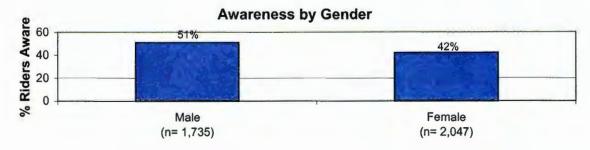


Figure 3.4



#### Q #7 Did you know that bus service changes will be coordinated with Gold Line service?

Figure 3.5

Awareness of Service Change Coordination by Age

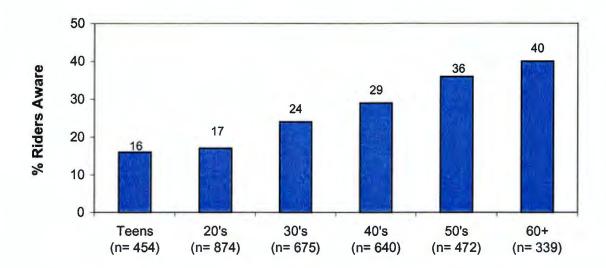


Figure 3.6

Awareness of Service Change Coordination by Income

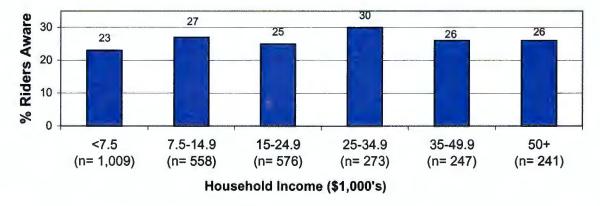
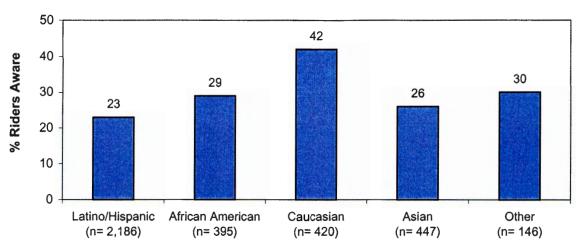


Table 3.1

A STATE OF THE STA	Service Change Coordination By Gender
Gender	% Aware
Male (n=1,710)	29
Female (n=2,016)	23

Figure 3.7

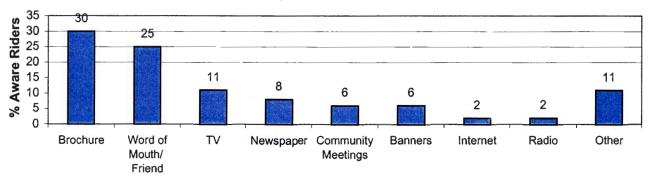
Awareness of Service Change Coordination by Ethnicity



Survey participants indicating awareness of bus service change coordination with the Gold Line were asked to indicate through which information medium they were first informed. Nine distinct communication sources were provided and respondents were asked to select one. Figure 3.8 indicates the percentage of informed patrons first made aware by each information source.

Figure 3.8

If Yes: How did you first find out? (n= 1,058)



The Gold Line brochure, and "word of mouth/friend" were the principal information sources for informed riders. Collectively, brochure and "word of mouth/friend" were cited by 55% of informed riders. Television, newspaper, and "other" were collectively cited by an additional 30% of informed riders, with an incidence share of around 10% each (11%, 8%, and 11%, respectively.) The remaining four information sources collectively accounted for 16% of informed riders; the Internet and radio were the trailers of this group (2% each).

Hispanic riders were slightly more likely to have found out from the brochure at 35% compared to the overall average of 30%, and Asian riders were more likely to learn about it from the newspaper at 22% compared to 9% for the overall average.

Once again, the importance of the brochures was at a given point in time, prior to the major media campaign. Only 26% of patrons knew that bus service changes were to be coordinated with Gold Line service. The media campaign was not geared to provide this information and would have only marginally impacted stated awareness of this.

#### 3.2 Service Plan Support

A series of five survey questions were directed at assessing patron's support of key elements of the Gold Line service strategy, as listed below.

- Do you think bus lines within a block of a Gold Line station should be routed to meet trains?
- Do you think that Express Lines that go where the Gold Line will go should be eliminated?
- Do you think that new bus shuttle service between Gold Line stations is a good idea?
- Do you like the idea of maintaining bus service levels (for every eliminated hour of service an hour is added elsewhere)?
- From the above, do you agree with the plan overall?

High levels of support for the "overall" plan and for individual service plan components were given by riders, with the exception of eliminating duplicative express service. Table 3.2 presents corridor-wide support levels for each of the five questions dealing with the service plan. Support levels for each service element by demographic variable follow. The survey question regarding "overall" support is presented first due to the comprehensive nature of the question. Survey results concerning elimination of duplicating express service is discussed last due to its low support level.

The overwhelming bus patron support for the Gold Line and the very high levels of support for most of the elements of the coordination program were much higher than anticipated. Elimination of duplicative bus lines was not supported. It cannot be determined from this data whether any educational campaign about eliminating duplicative service would be persuasive to the public. The data does show that the public had strong support for the overall program even if a portion of it was not supported.

Table 3.2
Support Levels for Gold Line Service Plan by Service Element

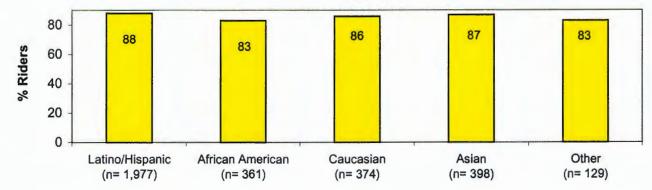
Service Element	% Of Riders Supporting
From the above, do you agree with the plan overall	86 (n=3,497)
Do you think bus lines within a block of the Gold Line should be rerouted to meet trains?	78 (n= 3,764)
Do you think that new bus shuttle service between Gold Line stations is a good idea?	90 (n= 3,734)
Do You like the idea of maintaining bus service levels (for every eliminated hour of service an hour is added elsewhere?	76 (n= 3,608)
Do you think that express lines that go where the Gold Line will go should be eliminated?	21 (n= 3,744)

#### Q #12: From the above do you agree with the plan overall?

Eighty-six percent of all riders indicated that they agree with the plan "overall."

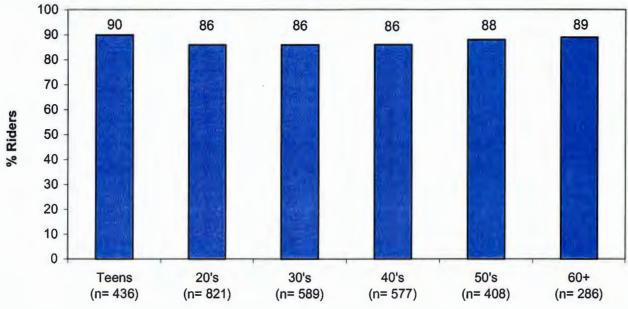
All ethnic groups gave a high level of support to the overall service plan. Support ranged from 83% (African Americans) to 88% (Latino/Hispanic).

Figure 3.9
"Overall" Service Plan Support by Ethnicity



All age groups indicated a high level of support for the overall plan, with an agreement range of only 4%. Specifically the range climbed from 86% (20's, 30's and 40's age groups) to 90% (teens.)

Figure 3.10
"Overall" Service Plan Support by Age Group



The overall plan also received a high level of support from all income groups with a 7% range from 90% (>\$7,500 household income) to 83% (\$50,000 or more household income.) The lowest income groups give the highest support for rail.

100 90 88 84 83 87 85 90 80 70 60 % Riders 50 40 30 20 10 0 <7.5 7.5-14.9 15-24.9 25-34.9 35-49.9 50+ (n = 925)(n=214)(n = 503)(n = 526)(n=244)(n=225)Household Income (\$1,000's)

Figure 3.11
"Overall"Service Plan Support by Income Category

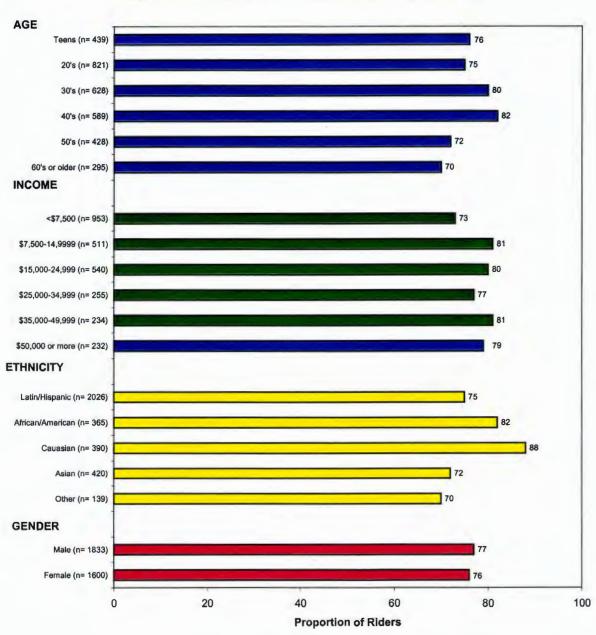
There were virtually no gender differences – 86% of males and 87% of females supported the plan.

Service plan queries dealing with the routing of nearby buses to meet Gold Line trains (Q #8), and maintaining current bus service levels (Q #11) had an almost equal level of support, at 78% and 76%, respectively. The high level of support for these service features cuts across all demographic variables.

# Q# 11 Do you like the idea of maintaining bus service levels (for every eliminated hour of service an hour is added elsewhere?)

Support levels for all major demographic variables (ethnicity, age, income, and gender) met or exceeded 70%. The highest support level for maintaining current service levels came from Caucasian riders (88%)

Figure 3.12
Support: Maintaining Current Service Levels by Demographic Variable

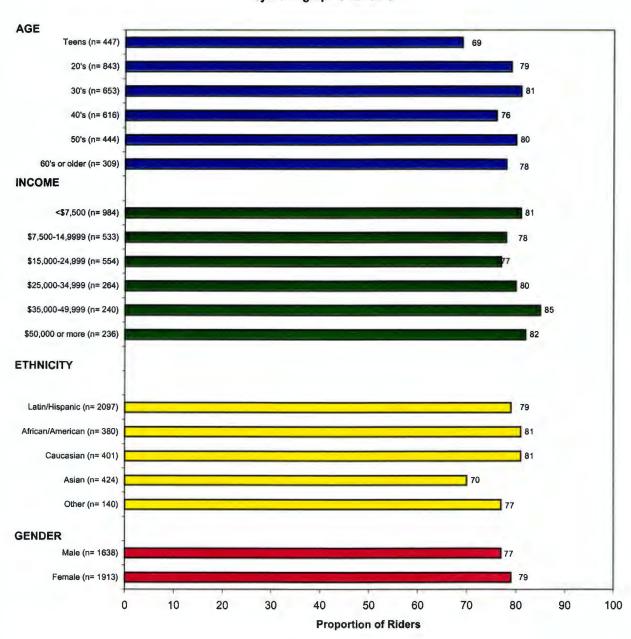


# Q# 8: Do you think bus lines within a block of the Gold Line should be routed to meet trains?

Support for routing nearby buses to meet Gold Line trains had a floor support level of 69% from teens, and a ceiling support level of 85% (income group \$35-49k.) Support from all other demographic groups met or exceeded 70%

Figure 3.13

Support: Buses Should be Routed to Meet Gold Line Trains by Demographic Variable

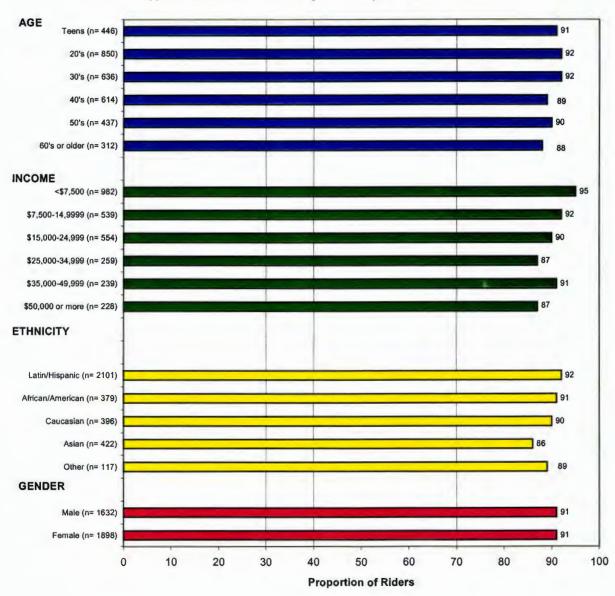


#### Q# 10 Do you think that new bus shuttle service between Gold line stations is a good idea?

The highest level of support for a service plan feature was given to new bus shuttle service between Gold Line stations. At the corridor-level, a new bus shuttle service was supported by 90% of patrons.

For this service concept the range of support by any demographic segment climbed from a high floor of 86% (Asian/Pacific Islander) to a nearly unanimous 95% by those with incomes of less than \$7,500. Support from all other demographic segments met or exceeded 87%.

Figure 3.14
Support: Bus Shuttle Service is a good idea by Demographic Variable



In contrast to other service elements, support for eliminating express service duplicating the Gold Line was low. The highest support level for express service elimination by any demographic segment was 29% for Caucasians, and patrons with incomes over \$50,000. The lowest was 15% for patrons in their 30's.

For the predominant Latino/Hispanic rider group, as well as patrons of African American heritage, only 17% indicate support for this service concept, (conversely 83% do not support this concept.)

Figure 3.15 Support: Express Lines Duplicating the Gold Line Should be Eliminated by Demographic Variable AGE Teens (n= 453) 20's (n= 841) 30's (n= 644) 40's (n= 611) 50's (n= 440) 60's or older (n= 305) INCOME <\$7,500 (n= 980) \$7,500-14,9999 (n= 534) \$15,000-24,999 (n= 544) \$25,000-34,999 (n= 261) \$35,000-49,999 (n= 236) \$50,000 or more (n= 233) **ETHNICITY** Latin/Hispanic (n= 2098) African/American (n= 380) Caucasian (n= 393) Asian (n= 422) Other (n= 138) **GENDER** Male (n= 1632) Female(n= 1901) 5 25 0 10 15 20 30 35 40 45

**Proportion of Riders** 

#### CHAPTER 4 RESULTS BY SERVICE TYPE AND GEOGRAPHIC AREA

The geographic area served by the Gold Line includes several distinct communities that are provided with a mix of MTA Local and Express bus operations. Variations in demographic characteristics are typical for distinct community areas and for patrons of local and express transit operations. Survey data has been segmented by service type and geographic area to assess differences in survey results that may reflect these demographic variations. Surveys were assigned to service areas by line segment where the survey was collected.

Table 4.1

Gold Line: Service Areas, Stations and Services

SERVICE AREA	GOLD LINE		SERVICE TYPE	
	STATIONS	Local to	Local to Other	Express
		Downtown	Areas	
Downtown Los Angeles	Union Station China Town	Los Angeles 28/83, 58, 76, 81/381, 84, 85, 90/91, 92/93, 94/394		401, 410
Mount Washington/ Highland Park	Heritage Square / Arroyo Southwest Museum Lincoln Heights / Cypress Park Highland Park	28/83, 81/381, 84, 85, 94/394,	176, 251, 255, 256	
South Pasadena	Mission Street		176, 177, , 256, 260	483, 401
Pasadena	Del Mar Memorial Park Lake Allen Sierra Madre Fillmore		177, 180/181, 188, 256, 260, 266, 267, 268	401, 483, 487, 489, 491

Table 4.2, (following page) provides a summary of survey results by service area and service type. Highlights of comparative findings are provided below. Line-level results for each community are found in Appendix C.

- Patrons of Express operations demonstrated a higher level of awareness than local service patrons concerning the Gold Line (59% for Express compared to 45% on Local services).
- Support levels for individual service components of the Gold Line service plan are very similar for Express and Local patrons. However, a greater proportion of local service patrons supported the "overall" plan (87% compared to 80%). On the other hand, Express

- and Local patrons were equally unlikely to support express line elimination; it was not purely a matter of which service they use.
- Greater ethnic diversification and higher income levels characterized Express operations when compared to Local operations. The primary ridership group remains Latino/Hispanic on Express services but by a slimmer margin (45% versus 70% on local operations).

Table 4.2
Summary of Results by Community Area and Service Type

		-			L	ocal Ope	rations								
	Awa	areness (	% Aware)		Suppor	t (% Agre	e)	<b>海</b>	机机器	THE WAR	Demo	graphic	s (% of F	Riders)	CLASSICAL NAT
SERVICE AREA	a Light Rail	this	Service Changes will be Coordinated	Bus Lines Should be Rerouted		Maintain Service Levels	Shuttle Service is a Good Idea	Agree with Overall Plan	Latino	Asian	White	Black	Female	House - hold Income (Mean)	Age (Mean)
DOWNTOWN LOS ANGELES	46	43	26	78	19	75	91	88	71	10	8	8	53	2.3	3.4
MOUNT WASHINGTON - HIGHLAND	46	43	25	77	18	74	91	87	75	8	6	7	55	2.2	3.3
SOUTH PASADENA	49	46	26	77	18	75	91	88	76	8	7	8	57	2.3	3.3
PASADENA	43	42	22	76	25	77	91	87	72	8	9	9	59	2.5	3.1
Subtotal: Local Services		43	25	77	21		91	87	70	10	9	8	55		=

					Limited S	top/Expr	ess Operat	ions							
	Aw	areness (	% Aware)	· " " · · · · · · · · · · · · · · · · ·	Suppor	t (% Agre	e)	學是學	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	and where	Demo	graphic	s (% of F	Riders)	A 1 5 1 1 1
SERVICE AREA	Rail	opening this	will be	Bus Lines should be rerouted		Maintain Service Levels	Shuttle Service is good idea		Latino	Asian	White	Black	Female	House - hold Income (Mean)	Age (Mean)
DOWNTOWN LOS ANGELES	69	68	45	78	23	77	91	83	44	18	17	17	51	3	3
MOUNT WASHINGTON - HIGHLAND	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
SOUTH PASADENA	67	68	46	81	21	79	79	69	40	6	20	30	49	3	4
PASADENA	54	55	34	83	21	79	85	79	47	12	17	20	52	3	3
Subtotal: Express Service	58					78								2.9	

TOTAL

3 Sec. 127				and the same of th			· · · · · · · · · · · · · · · · · · ·					The part of the same of the sa		
47	45	26	78	21	76	90	86	67	10	9	9	55	2.4	3.3

### APPENDIX A

### SURVEY INSTRUMENT



## Los Angeles County Metropolitan Transportation Authority



Twelve MTA monthly passes will be awarded

WHERE ARE YOU COMING FROM?	WHERE	ARE YOU G	OING?
Where did you first get on a bus for this trip?     (If you transferred, your first stop on your first bus)	3. Where is the stop this trip? (If you w your last bus)		
& &		&	
(Street bus traveled on) (Nearest cross street)	(Street bus traveled on)		learest cross street)
1a. City:	3a. City:		
2. Bus Line #	4. Bus Line #		
2a. If not MTA, Bus Agency	4a. If not MTA, Bus A	gency	
	ERVICE PLAN		
5. Did you know that the Gold Line is a new light rail tro	olley service?	Yes	□ 2 No
6. Did you know that the Gold Line is opening this sum	mer?	☐ · Yes	□ 2 No
7. Did you know that bus service changes will be coord service?	inated with Gold Line	☐ ≀ Yes	□ 2 No
7a. If yes, how did you <i>first</i> find out: (check one)      From a brochure	TV 7 Radio [	☐ a Newspaper	Other
2 Community Meetings 4 Internet 6	Banners		
8. Do you think bus lines within a block of a Gold Line s routed to meet trains?	station should be	☐ ≀ Yes	□ 2 No
9. Do you think that express lines that go where the Go be eliminated?	ld Line will go should	☐ ¹ Yes	☐ 2 No
10. Do you think that new bus shuttle service between G good idea?	old Line stations is a	☐ ¹ Yes	□ 2 No
11. Do you like the idea of maintaining bus service levels hour of service an hour is added elsewhere?)	s (for every eliminated	☐ ¹ Yes	□ 2 No
12. From the above, do you agree with the plan overall?		☐ ¹ Yes	☐ 2 No
TELL US ABO	UT YOURSELF		A.
13. Gender:    Male   2 Female	14. Year of birth: 19		
15. Ethnicity:  1 Latino/Hispanic	16. Household Incom	3 \$15,000-24,99	_
Contact information needed to particip	ate in monthly pass drawing (or	otional).	
All information will			
Name:			



### Los Angeles County Metropolitan Transportation Authority

Doce pases mensuales de MTA seran premiados

¿DE DÓNDE VIENE?		A DÓN	DE VA	4?
1. ¿Dónde fue que primero subió al autobús para este viaje? (Si transbordó, su primer parada en su primer autobús)	3. ¿Dónde está la p su último autob (Si va a transboi último autobús)	ús de e dar, su	ste viaj	je?
(Calle donde viaja el autobús)  y (Calle de cruce más cercana)  1a. Ciudad:	(Calle donde viaja el auto	bús)	(Cal	lle de cruce más cercana)
2. Número de la línea de autobús	4. Número de la líne	ea de au	ıtobús	
2a. Si no fue de MTA, indique la agencia de autobús	4a. Si no fue de MT	A, indiq	ue la a	gencia de autobús
PLAN DE SERVICIO P	ARA LA GOLD LI	NE	Arriva Carry	
5. ¿Sabía usted que la Gold Line es un servicio nuevo de		<u> </u>		□ 2 No
6. ¿Sabía usted que la Gold Line abre este verano?		□ 1	Sí	□ 2 No
7. ¿Sabía usted que los cambios de servicio de autobús con el servicio de la Gold Line?	seran coordinados	<u> </u>	Sí	□ 2 No
7a. Si la respuesta es Sí, ¿cómo se entero por primera  1 De un folleto 3 Verbalmente/Por amistades 5 Tele  2 Reunión Comunitaria 4 Internet 6 Letre	visión 7 Radio	□ 8 P	eriódico	Otro
8. ¿Piensa usted que las líneas de autobús que llegan a estaciónes de la Gold Line se deben dirigir a conecta		<u> </u>	Sí	□ 2 No
9. ¿Piensa usted que las líneas rápidas que van a donde deben ser eliminadas?	la Gold Line irá	☐ 1	Sí	□ 2 No
10. ¿Piensa usted que el servicio nuevo de autobuses ent la Gold Line es una buena idea?	tre estaciones de	1	Sí	□ 2 No
11. ¿Le gusta la idea de mantener el nivel de servicio de a cada hora eliminada de servicio, una hora es agregad		1	Sí	□ 2 No
12. De lo que se ha mencionado, ¿está de acuerdo con el		1	Sí	□ 2 No
DÍGANOS UN POC	O SOBRE USTED			
13. Genero:    Masculino   2 Femenino   2   2   2   2   2   3   3   3   3   3	14. Año de nacimier	nto: 19		
15. Etnicidad:  1 Latino/Hispano  2 Negro/Afro-Americano  3 Blanco  4 Asiático/De las Islas del Pacífico  5 Indígena Americana/Indígena de Alaska  6 Otro	_	☐ 3 \$15,i	000-24,9	99
Su información es necesaria para tomar parte Toda la información		ales (opci	onal).	
Nombre:				

No se necesita comprar para ganar. Para ser elegible, debe entregar esta encuesta al entrevistador abordo del autobús, o enviar la encuesta por correo para recibirla antes del 14 de junio de 2003. Los ganadores se seleccionarán por sorteo al azar. Para participar, sólo se aceptarán los formularios de encuesta oficiales. Los parientes del equipo de entrevistadores, los empleados de MTA y sus parientes no son elegibles para participar. No se pueden transferir los premios y no se pueden cambiar por dinero en efectivo. Se aplican todas las leyes federales, estatales y locales. En caso de que el ganador sea menor de edad, los padres o un guardián legal deben aceptar el premio. Los ganadores deben cumplir con todos los requisitos de elegibilidad.

#### APPENDIX B

#### **OBJECTIVES AND METHODOLOGY**

#### **Objectives**

Key objectives of the survey were to obtain 100 passenger surveys from each of the 28 lines serving the Gold Line corridor. This level of surveying was determined to be adequate for impact analysis of the Gold Line on travel time and patterns. In instances where low passenger levels precluded a survey size of 100, a survey census was performed. Lines 410, and 483 were lines where 100 surveys (70 and 58 surveys, respectively) were not obtained. Nine of ten trips were surveyed on the 410. Interlining on the 483 Line resulted in scheduling inaccuracies, which resulted in an over-sampling of the 485 branch and under sampling on the 483.

An accuracy rate of 1.5% was achieved for the survey target overall, with a collective accuracy rate of 1.7% for local operations and 3.1% for Express operations. Line-level accuracy rates varied between 4.9% and 12.7% as detailed in Appendix B.

A total of 4,177 legible passenger surveys were returned out of 4,739 distributed forms, resulting in an 88% participation rate overall. It should be noted that this participation rate is based on the number of surveys accepted by passengers. The number of passengers refusing a survey was not documented. Of the 4,177 surveys returned, 2,915 contained verifiable origin and/or destination address points that were formatted to correspond to the MTA bus stop database.

#### Methodology

The passenger survey was conducted onboard 27 MTA bus lines over a four-week period between May 7 and June 3, 2003. Passengers were surveyed from approximately 6 AM to 6 PM, on weekdays. The survey instrument was one page in length and printed in English and Spanish. Both language versions are contained in Appendix A. Sequential serial numbers were printed on the forms to assist in data tracking, expansion, programming and distribution.

The surveys were self-administered onboard with assistance offered by survey attendants. Business-reply envelopes were made available to passengers near terminal points and upon passenger request to avoid short-trip bias..

Given the number of lines and the geographic size of the study area, the study team elected to focus on line segments most affected by the Gold Line operation. The benefit of focusing available resources on effected line segments offered the opportunity to survey a greater number of trips and to reach a higher proportion of affected riders. Table 1.1 identifies the survey boundaries of the lines included in the study.

Table B.1

ine	Survey Boundary	Survey Boundary
28/83	Olympic/Figueroa	Eagle Rock/York
58	Patsaouras Plaza	Patsaouras Plaza
76	Washington/Olive	Valley/Fremont
176	Fletcher/San Fernando	El Monte Station
177	Jet Propulsion Laboratory (JPL)	Rosemead/Foothill
188	Fair Oaks/Mendocino	Santa Anita Fashion Parl
255	Herber/Whittier	Ave.43/Figueroa
256	Huntington/Monteray	Mendocino/Lake
260	Atlantic/Garvey	Altadena/Lake
264	Altadena/Lake	San Gabriel/Garvey
266	Foothill/Michelinda	Lakewood/Telegraph
267	El Monte Station	Altadena/Lake
268	Washington/Fair Oaks	Baldwin/Las Tunas
401	Terminal 28	New York/Allen
410	Terminal 28	Brand Broadway
483	Terminal 28	Fair Oaks/Mendocino
485	Terminal 28	Fontenet/Lake
487	Wilshire/Union	Sierra Madre/Baldwin
489	Wilshire/Union	Hastings Ranch/Alegria
491	Wilshire/Union	Sierra Madre/Baldwin
180/181/ 380	Brand/Broadway	Altadena/Lake
251/252	Pacific/Florence	Soto/1st
81/381	Figueroa/Vernon	Figueroa/York
84	Olympic/Figueroa	Colorado/Eagledale
85	Olympic/Figueroa	Verdugo/Towne
90/91	Main/11 <sup>th</sup>	Glendale/Broadway
92/93	Terminal 28	Brand/Broadway
94/394	Terminal 28	San Fernando/Los Feliz

#### **Data Sampling**

To ensure a cost-effective and representative sample, bus trips were sampled in clusters by bus run and selected for inclusion in the survey sample using a random selection process.

In the case of partially surveyed route alignments (line segments) it was necessary to survey contiguous bus trips with the first surveyed trip of the daily assignment selected from the random bus run list.

Because a majority of bus runs begin service in the AM time period a random selection process was also used in determining whether surveying activities for a selected bus run began in the AM (before noon) or PM (after noon).

#### **Data Expansion**

MTA passenger 24-hour boarding counts were used in conjunction with line-level survey counts for data expansion. On lines where a segment of the line was surveyed, data was weighted to segment ridership levels. On routes where the entire line was surveyed, data was weighted to total line boardings.

For example, development of the weighting factor Line 76, which was surveyed on the line segment operating between Washington & Olive and Valley & Fremont is shown below in Table 1.2. Table 1.3 illustrates the development of the weight for Line 58 where the entire line was surveyed.

Table B.2
Segment Weight Factor

Line 76			
Number of boardings from Washington/Olive – Valley/Fremont	Number of responses to Survey question #1 on Line 76		Weight Factor
1,236	/ 92	=	13.43

Table B.3
Line Weight Factor

Line 58				
Number of total weekday	Number of re	sponses to Survey		Weight Factor
boardings on Line 58	question #1 o	n Line 58		
532	/	24	=	22.17

### APPENDIX C

### LINE-LEVEL ACCURACY RATES

# Accuracy Level By Line and Service Type

	APC	Survey			
Line	Count	Count	Accuracy	Survey Boundary	Survey Boundary
28/83	24033	125	8.7	Olympic/Figueroa	Eagle Rock/York
58	398	118	7.6	Patsaouras Plaza	Patsaouras Plaza
76	4728	131	8.4	Washington/Olive	Valley/Fremont
176	1802	99	9.6	Fletcher/San Fernando	El Monte Station
177	421	205	4.9	Jet Propulsion Laboratories	Rosemead/Foothill
188	2619	106	9.3	Fair Oaks/Mendocino	Santa Anita Fashion Par
255	1299	142	7.8	Herber/Whittier	Ave. 43/ Figueroa
256	646	179	6.2	Huntington/Monteray	Mendocino/Lake
260	5005	152	7.8	Atlantic/Garvey	Altadena/Lake
264	666	111	8.5	Altadena/Lake	San Gabriel/Garvey
266	2757	127	8.5	Foothill/Michelinda	Lakewood/Telegraph
267	1845	116	8.8	El Monte Station	Altadena/Lake
268	1285	146	7.6	Washington/Fair Oaks	Baldwin/Las Tunas
180/181/380	7721	138	8.3	Brand/Broadway	Altadena/Lake
251/252	10704	136	8.4	Pacific/Florence	Soto/1st
81/381	13419	217	6.6	Figueroa/Vernon	Figueroa/York
84	5117	139	8.2	Olympic/Figueroa	Colorado/Eagledale
85	3198	157	7.6	Olympic/Figueroa	Verdugo/Towne
90/91	3449	174	7.2	Main/11th	Glendale/Broadway
92/93	4089	285	5.6	Terminal 28	Brand/Broadway
94/394	5736	255	6.0	Terminal 28	San Fernando/Los Feliz
Local	100937	3258	1.7		
401	3240	219	6.4	Terminal 28	New York/Allen
410	697	70	11.1	Terminal 28	Brand Broadway
483	3049	180	7.1	Terminal 28	Fair Oaks/Mendocino
485	1934	58	12.7	Terminal 28	Fontenet/Lake
487	1669	206	6.4	Wilshire/Union	Sierra Madre/Baldwin
489	752	117	+	Wilshire/Union	Hastings Ranch/Alegria
491	1209	99	-	Wilshire/Union	Sierra Madre/Baldwin
Express	12550	949	3.1		Diena maaro/ Balanni
Total	113487	4177	1.5		
Total	113407	41//	1.5		

#### APPENDIX D

# LINE-LEVEL RESULTS BY GEOGRAPHIC AREA AND SERVICE TYPE

LACMTA Gold Line Survey Results: All Lines

			_													OIL A	7 1100	ilio. A										_							
Line		(B)	miled Sto	S Know February	Spice - 60/0/ 188	Son this Me is Light	Fammer all Tru	16 1 16 COON 16 16 16 16 16 16 16 16 16 16 16 16 16	chere on the state	Fare by Walnum	of frame of the Orthon	F. S. T. O. T. O.	Due 1 Property	Harris Gy Banners	Ology Tology	SER 10, 100 BOO	Bus Lines Park	Should the Polock of	26 New by Color Margins	ike washume of the Gold	38 Agre Mainting Sanica is	OS WITH OF SOUNGE & 3000 IN	csiene con orealistics	Fem HILOS IN	196 M	(neem (ueem)	Black Hispani	Gun Anisan	Sie Merian	Nation Solic,	The Americander	You Can Alba	Sehold Inc.	Somo Medi	(ue)
28/ 83	IX			50	46	27	31	9	22	3	9	0	0	6	19		74	14	92	72	86		44 [	56	39	72	6	9 1	10	2	2	7			
58	1x	-		37	33	18	47	11	16	0	0	5	0	5	16		82	25	86	78	91					51	12	10	25	0	1	20			
76	X	_		45	47	30	39	3	8	0	8	13	0	13	16		74	25	92	79	88					74	6	3	13	1	4	13			
81/ 381	X			54	51	28	26	11	19	4	11		2	4	7		82	18	92	79	90						15	7	6	1	2	10			
84	X	_		38	39	21	36	14	18	4	_	4	0	4	11		77	23	87	77	85		48			69	8	6	11	2	4	15			
85	X	-		43	39	28	18	8	33	3	18		3	5	3		85	34	89	74	91					71	2	7	16	1	2	12			
90/ 91	X			36	27	21	27	7	20	3	13		3	10	7	1 4	. 77	24	87	71	89					67	3	14	10	1	5	9			
92/93	X			27	27	15	32	0	21	5	10	8	3	8	13		82	20	90	78	86					65	8	10	12	1	3	14			
94/ 394	X	X		45	40	27	36	8	18	0	11	5	2	8	11		76	19	86	76	88				41	79	5	7	7	1	1	11			
176	X			49	45	17	37	0	31	0	12	12	0	0	6	- 750	81	19	88	71	81					80	2	4	11	2	1	7			
177	X			67	69	35	34	8	33	8	0	2	2	9	5		82	21	92	83	92		40	60	39	47	16	21	10	1	5	15			
180/380	x			50	49	21	22	0	37	0	26	0	0	7	7		76	25	89	79	91		47	53	37	39	11	25	20	0	4	17			
188	X			61	64	39	37	5	22	0	12	5	0	15	5		85	20	92	78	79						_	10	14	1	5	13			
251/252	X			25	23	14	50	0	7	0	21		14	0	0		74	20	91	74	86					96	3	0	1	0	1	11			
255	X			34	29	13	29	0	6	6	17	0	12	17	12		74	19	88	61	88				36	93	2	3	2	0	0	8			
256	X			60	60	31	28	6	30	6	0	9	2	4	15		81	21	89	83	84					63	8	16	7	1	6	13			
260	X			57	54	32	27	2	30	0	5	7	7	16	7		80	30	91	81	88						10	9	13	0	1	13			
264	X			55	52	31	33	0	30	3	6	3	0	12	12		76	21	86	77	92						15	12	26	0	2	17			
266	X			28	29	16	40	0	30	5	5	0	0	15	5		73	31	94	77	84					76	8	8	3	2	3	12			
267	X			62	62	34	28	0	25	3	8	8	3	17	10		77	20	91	80	88						28	12	8	0	5	14			
268	X			50	53	29	24	5	26	3	24	5	0	8	5		77	20	92	76	82					_	21	$\overline{}$	11	0	3	12			
401	-	X		77	76	50	29	8	35	0	5	5	1	12	6		77	24	91	77	84					_	20		14	0	3	14			
410	-	X		31	32	24	0	0	19	25	25	6	6	6	13		82	20	95	77	77					31	3	19	36	0	10	25			
483 485	-	X		67	68	46	13	3	49	0	8	3	0	10	15		81	21	79	76	69							20	6	0	4	18			
	+	X		55	55	36	33	6	31	2	6	4	0	10	8		87	21	93	86	89						_	12	12	0	1	15			
487	+-	X	- ,	41	41	26	35	5	21	2	9	7	2	9	9		80	20	83	77	80				_	54	6	18	15	1	6	13			
489 491	+	X	199	57	56	36	44	5	39	0	2	0	0	5	5		66	25	83	76	69					38	4	16	34	2	7	24			
		1		42	43 45		6 30	6	56 25	0	11	6	6	12	6 11		85 78	24 21	90	76 76	90 86		38 45			51 67		14	22 10	1	6	28 13			
System To	Cill .	1	3	4/	40	1 40	30	1 0	43	1		0	~	0	111		18	1 21	1 90	10	1 00		401	221	30	0/	9	9	10	1	3	13			

#### DOWNTOWN LOS ANGELES SERVICE AREA LOS ANGELES UNION AND CHINA TOWN STATIONS

		_	700						70														-									
Line	Local-L.A.	AWARE Stop / Exp.	Know that Gold YES	Opening Services Light	Service C.	If aware: B.	If aware:	If aware. Is	Mouth/friend of	If aware:	If aware.	If aware. Banners	If aware.	If aware.	SERVICE	Bus Lines within 8 by	Express lines that	New bus should be rerouted	Like maint	Agree with	DEMOCE DIAN OVERBILL	Malegory)	Female	Age (Mean)	Latino/Hisp.	Black/Afric	Caucasian American	Asian/Pacie	Native A.	Other Other	Household	ome (Median)
58	X		37	33	18	47	11	16	0	0	5	0	5	16		82	25	86	78	91		63	37		51	12	10	25	0	1	20	
76	X		45	47	30	39	3	8	0	8	13	0	13	16		74	25	92	79	88		42	58	40	74	6	3	13	1	4	13	
81/381	X		54	51	28	26	11	19	4	11	18	2	4	7		82	18	92	79	90		48	52	38	70	15	7	6	1	2	10	
28/83	X		50	46	27	31	9	22	3	9	0	0	6	19		74	14	92	72	86		44	56	39	72	6	9	10	2	2	7	
84	X		38	39	21	36	14	18	4	11	4	0	4	11		77	23	87	77	85		48	52	36	69	8	6	11	2	4	15	
85	X		43	39	28	18	8	33	3	18	10	3	5	3		85	34	89	74	91		42	58	38	71	2	7	16	1	2	12	
90/91	X		36	27	21	27	7	20	3	13	10	3	10	7		77	24	87	71	89		56	44	39	67	3	14	10	1	5	9	
92/93	X		27	27	15	32	0	21	5	10	8	3	8	13		82	20	90	78	86		55	45	39	65	8	10	12	1	3	14	
94/394	X		45	40	27	36	8	18	0	11	5	2	8	11		76	19	86	76	88		53	47	41	79	5	7	7	1	1	11	
Subtotal: I	Local	The Court	46	43	26	31	9	20	3	10	7	1	6	13		78	19	91	75	88		47	53	39	71	8	8	10	1	2	12	
401	X		77	76	50	29	8	35	0	5	5	1	12	6		77	24	91	77	84		51	49	37	47	20	16	14	0	3	14	
410	X	Consti	31	32	24	0	0	19	25	25	6	6	6	13		82	20	95	77	77		37	63	44	31	3	19	36	0	10	25	
Supple	HOFEES		169	68	45	26	7	33	2	7	5	1	11			78	23	61	177	(4)		48	51	40	44	17	17	18	0	4	17	
System		1000	47	45	26	30	6	25	2	11	6	2	8	11		78	21	90	76	86	- 1	45	55	39	67	9	9	10	1	3	2	

## MOUNT WASHINGTON - HIGHLAND LINCOLN HEIGHTS/CYPRESS PARK, HERITAGE SQUARE/ARROYO, SOUTHWEST MUSEUM, HIGHLAND PARK STATIONS

Line	Loca/	Limited Stop / E.	v that	By Sold Line Is	Summe	e Change	If aware: Bross Coordinate.	If aware:	If aware.	Jo puo	If aware. T	If BWB	9	If aware.	If aware.	SERVIN	20 0	Tell s	(%yes) should be rerouted	idea (% YES)	(%) Pus servi	2010		Female	Age (Mean)	Latino/Hiss	BlackAfri	Caucasian American	Asian/Pacie	Native Am	Other "Sancan/Albetair	Househola,	ncome (Median)
28/83	X		50	4	6 27		31	9	22	3	9	0	0	6	19		74	14	92	72	86		44	56	7	72	6	9	10	2	2	7	
81/381	X		54	5	1 28	3	26	11	19	4	11	18	2	4	7	the second	82	18	92	79	90		48	52	10	70	15	7	6	1	2	10	
84	X		38	3	9 2	T	36	14	18	4	11	4	0	4	11	in the second	77	23	87	77	85		48	52	36	69	8	6	11	2	4	15	
85	X		43	3	9 28	3	18	8	33	3	18	10	3	5	3		85	34	89	74	91		42	58	38	71	2	7	16	1	2	12	
94/394	X		45	4	0 27		36	8	18	0	11	5	2	8	11		76	19	86	76	88			47	41	79	5	7	7	1	1	11	
176	X		49	4	5 17		37	0	31	0	31	0	12	12	0		87	17	90	70	84		33		41	83	0	3	11	0		7	
251	X	0	25	2	3 14	1	50	0	7	0	21	7	14	0	0		74	20	91	74	86		39	61	37	96	3	0	1	0	1	11	
255	X		34	2	9 13	3 3	29	0	6	6	17	0	12	17	12		74	19	88	61	88		37	63	36	93	2	3	2	0	0	8	
256	X		60	6	0 3	1	28	6	30	6	0	9	2	4	15		81	21	89	83	84		47	53	34	63	8	16	7	1	6	13	
Subtotal:	Local		46	4	3 25	5 :	31	9	21	3	12	7	1	5	12	STATE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS N	77	18	91	74	87		45	55	38	75	7	6	8	1	2	11	
System			47	4	5 26	3 3	30	6	25	2	11	6	2	8	11	In land in	78	21	90	76	86		45	55	38	67	9	9	10	1	3	2	

#### SOUTH PASADENA MISSION STREET

Line Local L.A. Limited Stop / Exc.	2	" Tolle	mis summer?	8	If aware:	ė	1 2 6	If aware. T	If SWare:	ر في		If aware.	) 3	0	Pes thai	New bus share	Like malne.	Vels? "Wining bus sen	DEWIND PIAN OVERBILD	Male MAPHICS	Female	Age (Mear.)	Latino/His	Black/Afri	Caucasian American	Asian/Paris		Other Merican/Albeitale	Household	moome (Median)
176 X	49	45	17	37	0	31	0	12	12	0	0	6		81	19	88	71	81		28	72	41	80	2	4	11	2	1	7	
177 X	67	69	35	34	8	33	8	0	2	2	9	5	8332	82	21	92	83	92		40	60	39	47	16	21	10	1	5	15	
256 X	60	60	31	28	6	30	6	0	9	2	4	15		81	21	89	83	84		47	53	34	63	8	16	7	1	6	13	
260 X	57	54	32	27	2	30	0	5	7	7	16	7		80	30	91	81	88		39	61	38	67	10	9	13	0	1	13	
Subtotal:Local	49	46	26	30	9	22	3	10	7	2	5	12		77	18	91	75	88		43	57	38	76	8	7	8	1	1	12	
401 X	77	76	50	29	8	35	0	5	5	1	12	6		77	24	91	77	84		51	49	37	47	20	16	14	0	3	14	
483 X	67	68	46	13	3	49	0	8	3	0	10	15		81	21	79	76	69		51	49	42	40	30	20	6	0	4	18	
Subtotal:Express	67	68	46	13	3	49	0	8	3	0	10	15		81	21	79	76	69		51	49	41	40	30	20	6	0	4	15	
System	47	45	26	30	6	25	2	11	6	2	8	11		78	21	90	76	86		45	55	40	67	9	9	10	1	3	2	

# PASADENA SERVICE AREA STATIONS: FILMORE, DEL MAR, MEMORIAL PARK, LAKE AVENUE, ALLEN AVENUE, SIERRA MADRE VILLA

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		1,400°	160 Stop	Know the Se Less	Trolley Sold Like	Thing this a wood	fam. Clans	Sie Broshum	If am Comm.	White Word All	If any frience	To Viole	If am Ban	If aw. Radily	If any Nong	Ser Onla	Bus Lines Mar 18	Express III Sold	New 6. Should duply	Like ros shutte se rerouted	Agree intering of the is	OKS SO	Way Or Oom	Solution	9/8	(Aetinga)	WHISDANIC **	African	Asianican	Native Pacific Ist.	America ander	House	Sold home Median
Line	7	9		200	o d	S	T By	T. S.	T. O.	100	11	11	1 3	1	11	86	Bus	400	200	83.	O A	OB	Na	200	Pos	Lati	8/9	S	18/5	Nati	8	70	
180/181	X			50	49	21	22	0	37	0	26	0	0	7	7		76	25	89	79	91		47	53	37	39	11	25	20	0	4	17	
177	X			67	69	35	34	8	33	8	0	2	2	9	5		82	21	92	83	92		40	60	39	47	16	21	10	1	5	15	
188	X		of Carrier and Car	61	64	39	37	5	22	0	12	5	0	15	5		85	20	92	78	79		45	55	36	52	19	10	14	1	5	13	
256	X		To Continue	60	60	31	28	6	30	6	0	9	2	4	15		81	21	89	83	84		47	53	36	63	8	16	7	1	6	13	
260	X			57	54	32	27	2	30	0	5	7	7	16	7		80	30	91	81	88		39	61	38	67	10	9	13	0	1	13	
266	X	Т		28	29	16	40	0	30	5	5	0	0	15	5		73	31	94	77	84		43	57	35	76	8	8	3	2	3	12	
267	X			62	62	34	28	0	25	3	8	8	3	17	10		77	20	91	80	88		37	63	33	48	28	12	8	0	5	14	
268	X			50	53	29	24	5	26	3	24	5	0	8	5		77	20	92	76	82		42	58	34	55	21	10	11	0	3	12	
Subtotal:L	.oca	ı		43	42	22	30	1	28	1	14	5	4	10	6		76	25	91	77	87		41	59	36	72	9	9	8	0	1	13	
401		X		77	76	50	29	8	35	0	5	5	1	12	6		77	24	91	77	84		51	49	37	47	20	16	14	0	3	14	
483		X		67	68	46	13	3	49	0	8	3	0	10	15		81	21	79	76	69		51	49	42	40	30	20	6	0	4	18	
487		X		41	41	26	35	5	21	2	9	7	2	9	9		80	20	83	77	80		40	60	40	54	6	18	15	1	6	13	
489				57	56	36	44	5	39	0	2	0	0	5	5		66	25	83	76	69		41	59	40	38	4	16	34	2	7	24	
491		X		42	43	18	6	6	56	0	6	0	6	12	6		85	24	90	76	90		38	62	37	51	6	14	22	1	6	28	
Subtotal:E	xpr	ess				34	20	4	41	1		3	9	10	12		83	21	85	79	79		48		40	47	20	17	12	0	4	17	
System				47	45	26	30	6	25	2	11	6	2	8	11		78	21	90	76	86		45	55	37	67	9	9	10	1	3	2	

**Metropolitan Transportation Authority** 

One Gateway Plaza Los Angeles, CA 90012-2952 metro.net

213.922.6000 Tel

