



## Board Report

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**EXECUTIVE MANAGEMENT COMMITTEE  
NOVEMBER 15, 2018**

**SUBJECT: TRANSIT LINE OPERATIONAL NAMING CONVENTION**

**ACTION: APPROVE RECOMMENDATION**

**RECOMMENDATION**

CONSIDER:

- A. AUTHORIZING the CEO to establish a Transit Line Operational Naming Convention to change the current naming convention to a color and letter designation for rail lines and bus rapid transit lines; and
- B. APPROVING a phased implementation plan that takes advantage of planned capital projects and a phased transition through the completion of the Regional Connector Project.

**ISSUE**

The Los Angeles County Metropolitan Transportation Authority (Metro) is implementing the largest transportation expansion program in the nation. As Metro grows, the agency will add more rail and bus rapid transit (BRT) lines across LA County. In addition, when the Regional Connector Project is complete, the agency will unite the operations of the Blue and Gold Lines, providing a one-seat ride between Azusa and Long Beach, and the operations of the Gold and Expo Lines, facilitating a one-seat ride between East LA and Santa Monica. Now is a timely opportunity for the agency to establish a consistent operational naming convention for the rail and BRT system that can sustain the agency's expansion and enhance the customer experience.

**BACKGROUND**

Metro's current transit line naming convention is inconsistent, and the system is growing and changing. All current line names are based on colors (Blue, Red, Gold, Purple, etc.) with one exception - the Expo Line. As the system grows, continuing with color names will mean selecting line names based on shades of color (i.e. Lime, Rose, Aqua, Olive, Lavender, etc.) rather than basic colors. This can pose visual and language barriers and can sometimes be difficult to decipher on maps and signage.

## **DISCUSSION**

There are currently eight rail and BRT lines operating in Metro's system. With the passage of Measure M in 2016, the agency will build out and operate several additional rail and BRT lines in the coming years. Staff believes the time is right to establish the naming convention of the future due to the following logic:

### **Clarity and Consistency**

- The agency needs a clear, consistent, uniform wayfinding system to enhance the riding experience.
- Clarity of information and making it easy to use the system reflects the goals of The Metro Vision 2028 Strategic Plan, which commits to the agency being customer-focused and working to improve customer satisfaction.
- Adding a second identifier (i.e. letters or numbers) to the line identification will improve legibility of signage and informational materials.

### **The Timing is Right**

- The New Blue Improvements Project is an opportunity to launch a new naming convention at minimal cost.
- The Crenshaw/LAX Light Rail Project will soon be fabricating signage and a new naming convention can be incorporated at no additional cost.
- The Regional Connector Project will unite the Gold and Blue Lines between Azusa and Long Beach, and the Gold and Expo Lines between East LA and Santa Monica, which will change the existing operations and how the agency will refer to the lines.

### **World-Class System**

- Metro already serves a diverse population that lives, works and plays in LA County, which will grow, especially when the agency welcomes the world for the 2028 Olympic and Paralympic Games.
- Major international transit systems utilize this degree of clarity and consistency, which is considered an industry-wide best practice.

Staff researched naming conventions used by various transit agencies around the world and found some common alternatives: colors and numbers, colors and letters, and colors only. In some cases, agencies name their lines for destinations or geographic location. Colors are used in all cases to define the differences among lines on maps and other informational materials. However, because similar colors can be difficult to decipher, colors are often paired with a second identifier to improve legibility.

### **Public Opinion Research**

Staff conducted public research in collaboration with a consultant partnership of Consensus and FM3 Research through a series of focus groups, an online public survey and pop-up events. In these research efforts the team tested the alternatives most commonly used in the transit industry: colors and numbers, colors and letters, colors only and Metro's current naming convention, a combination of colors and geographic location. Five focus groups were conducted at different locations around LA County with a cross-section of participants representing diverse backgrounds from each county

supervisory district. The focus groups were conducted with English-speaking riders, English-speaking non-riders, Spanish-speaking riders, English-speaking visually impaired individuals, and Korean-speaking residents to get feedback from a group whose language uses a different alphabet. While focus groups do not result in statistically precise data, they are an opportunity to collect qualitative feedback that helps guide a rationale for preferences.

Several findings emerged from the focus groups. Participants felt that consistency across the system is the most important factor when naming lines. They also said if Metro decides to change its operational naming system, to do it as soon as possible to give people the chance to get used to it as the system grows.

Following the focus groups, staff conducted an online survey to get quantitative research data and Metro's consultant team held field research pop-up events at some Metro rail stations and community events. Both research efforts tested ease of use and navigation of the four naming conventions, and which one was easiest to recognize and use if riders were in a hurry.

The survey was targeted to a diverse cross-section of geographic and demographic representation across LA County via Facebook. In the pop-up engagement events, staff showed participants the naming alternatives on boards and cell phones and recorded their reactions through the online survey. In all, the effort resulted in 3,500 completed surveys from current riders, potential riders and potential visitors including English and Spanish-speaking participants.

When participants were asked which naming option would be easiest to understand and navigate, colors and numbers and colors and letters ended up in a virtual tie. Many respondents feel that having a second identifier along with the color provides more clarity and helps to differentiate the lines from one other. A challenge of adding letters as a second identifier is that people sometimes want to associate letters with something else, like E means East or Express, or S means South or Santa Monica. The biggest challenge of adding numbers is that they conflict with both the agency's number-based bus system as well as its rail station platform numbering.

Once all research results were compiled, a team of cross-departmental staff and consultants held a work session to evaluate the research along with industry best practices and lessons learned to build the staff recommendation for Metro's future transit line naming convention.

Various factors were considered in shaping the staff recommendation for a future operational naming convention. Clear, consistent, simple information enhances the customer experience and makes riding Metro less intimidating. Legacy names like the Expo Line, Gold Line, Crenshaw/LAX Line, etc. and the operational names of the lines can live in harmony. People can still refer to the legacy or corridor names, but consistent operational names are important for navigation purposes. And finally, no naming convention is perfect; there are benefits and challenges with all of them.

Taking all factors into consideration, staff believes the best transit line naming convention for the future is colors and letters for both rail lines and bus rapid transit lines. This prevents confusion with the numbering of the bus system and rail station platforms and provides an ample number of letter names to accommodate Metro's planned transit lines. Staff recommends assigning line names based on the chronology of line openings, so the Blue Line would be the A Line, Red Line the B Line, etc.

### **Phased Implementation Approach**

Staff recommends transitioning to the new transit line naming system through a phased implementation plan that minimizes costs and takes advantage of planned capital projects (i.e. New Blue Improvements Project, Crenshaw/LAX Project, Regional Connector Project). The Blue Line would be the first line to debut the new naming convention when the line reopens to the public after the New Blue Improvements Project.

With the opening of the Crenshaw/LAX Line and simultaneous operational changes to the Green Line, the rest of the lines would then transition to their new names with the exception of the Gold Line. When the Regional Connector Project is complete, the north segment of the Gold Line will join the Blue Line (the A Line) and be shown as a blue line on the map to show a one-seat ride between Long Beach and Azusa. Also at that time, the east segment of the Gold Line will join the Expo Line (the E Line) and be shown as a gold line on the map for a one-seat ride between East LA and Santa Monica. This will prevent the Gold Line from having to change to a letter name twice. Following the completion of the Regional Connector, the conversion to the new naming convention will be complete.

### **FINANCIAL IMPACT**

Staff has developed a cost estimate for a phased approach to change signage and customer information across the system, as well as marketing and outreach to educate the public. The estimated cost for phased implementation is \$8.9 million.

As the gradual conversion is made, staff recommends that changes in signage and information are funded from system advertising revenues.

If the Board chooses to keep the existing naming convention but decides to change the naming convention in the future after some capital projects are complete, it will require retrofitting signage and customer information, which will ultimately result in increased costs.

### **NEXT STEPS**

If the Board approves the staff recommendation, staff will begin the process of transitioning to the new naming convention, starting with the Blue Line while the New Blue Improvements Project is underway. This will take advantage of the shutdown to change the naming convention of the line during the project so that the line can debut with its new name when it reopens to the public. Staff will also work with the relative Metro departments to complete the transition to the new naming convention with the completion of the Crenshaw/LAX and Regional Connector Projects.

A robust public education and marketing program will be a key component to helping riders understand the system's naming convention, while also helping non-riders find the experience easy, inviting and less intimidating. So, Communications staff will develop and rollout a comprehensive public education program during each phase of the naming convention implementation program.

As the agency works to achieve the customer satisfaction goals of the Metro Vision 2028 Strategic Plan, implementing a consistent, easy-to-understand, customer-focused transit line naming

convention is a significant step in enhancing the overall customer experience.

**ATTACHMENT**

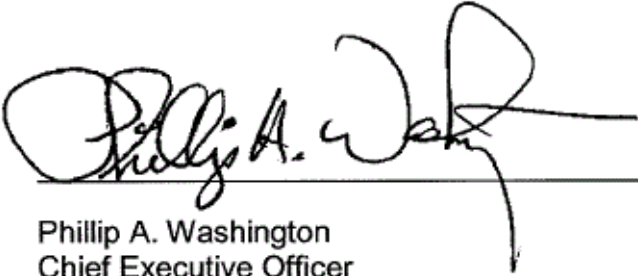
Attachment A - Summary of Public Opinion Research and Staff Recommendation

Attachment B - Line Naming Change Cost Estimate Summary

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Phillip A. Washington  
Chief Executive Officer



# Rail/BRT Line Name Research



Executive Management Committee  
11.15.18

# We've gotten public feedback in two primary ways

## Focus Groups

Provides:


























- Foundational insights to help inform online survey and staff recommendation
- Pros/cons of each option and hypotheses to test further
- Initial read on public opinion
- Input from harder-to-survey audiences:
  - Visually impaired
  - Non-English speakers

## Public Survey

Provides:

- Assessment of perceived ease-of-use of naming options
- Robust sample
- Input from wide range of demographic and geographic groups

# We tested four common naming options

Colors & Numbers	Colors & Letters	Colors Only	Some Colors, Some Areas
1	A	Blue Line 	Blue Line 
2	B	Red Line 	Red Line 
3	C	Green Line 	Green Line 
4	D	Purple Line 	Purple Line 
5	E	Gold Line 	Gold Line 
6	F	Orange Line 	Orange Line 
7	G	Silver Line 	Silver Line 
9	K	Olive Line 	LAX/South Bay Line 
10	L	Aqua Line 	Arroyo Verdugo Line 
11	N	Brown Line 	North San Fernando Valley Line 
12	Q	Lime Line 	Sepulveda Line 
13	R	Lavender Line 	Vermont Line 
14	S	Pink Line 	West Santa Ana Line 

Order of options was randomized



# Key Focus Group Findings

- Riders and Potential Riders think the way the lines are named is important.
- Naming consistency across the system is one of the most important factors.
  - Hence the Some Colors, Some Areas option is the least preferred.
- General consensus is that we should make a change sooner rather than later, so everyone gains comfort with it before we add many more lines.
- Most would be satisfied with either Numbers or Letters.
- Readability matters to many.
  - Some mentioned difficulty telling colors apart – e.g. Red vs. Orange
  - Many felt the added point of reference of Letters or Numbers gave more certainty when following signage
- Some (including frequent riders) are confused by the “E” on the light blue dot for the Expo Line and think it stands for “East,” “Express” or “Extension.”



# Focus Group Findings – Pros & Cons

	Colors & Numbers	Colors & Letters	Colors Only	Some Colors, Some Areas
Pros	<ul style="list-style-type: none"> <li>• Consistent</li> <li>• Simple</li> <li>• Intuitive to many</li> <li>• Second point of reference</li> <li>• Makes map clearer at end points and transfer points</li> <li>• Preferred by Korean group</li> <li>• More universal for users of non-Roman alphabet languages</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent</li> <li>• Simple</li> <li>• Intuitive to many</li> <li>• Second point of reference</li> <li>• Makes map clearer at end points and transfer points</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent</li> <li>• Similar to current system</li> <li>• Simple</li> <li>• Preferred by Spanish-dominant speakers</li> </ul>	<ul style="list-style-type: none"> <li>• Continuation of current system</li> <li>• For some lines, gives a sense of where the line goes</li> </ul>
Cons	<ul style="list-style-type: none"> <li>• Different from current system</li> <li>• Conflicts with bus numbers</li> <li>• Conflicts with platform numbers</li> </ul>	<ul style="list-style-type: none"> <li>• Different from current system</li> <li>• Some people try to associate letters with places or color names</li> <li>• Letters often have meaning (H=Hospital, E=East, etc.)</li> <li>• More difficult for people whose languages don't include the Roman alphabet/lack English literacy</li> </ul>	<ul style="list-style-type: none"> <li>• Can be hard to distinguish between similar colors; color blindness</li> <li>• Only one point of reference</li> <li>• Hard for quick references when catching a train/bus</li> <li>• Multiple terms for the same color (i.e., aqua, sky blue, light blue, turquoise, etc.)</li> <li>• Colors are “just words” to those born blind</li> </ul>	<ul style="list-style-type: none"> <li>• Inconsistent, which goes against key user need</li> <li>• Some names are too long to say</li> <li>• Hard for quick references when catching a train/bus</li> </ul>



**Metro**



# Online Survey Methodology & Sample

## Who We Surveyed

**Total of 3,456 respondents**

### **Los Angeles County Residents:**

#### **Metro Riders, n=2,293**

- Mirroring On-Board Survey demographic proportions

#### **Potential Riders, n=834**

- Mirroring Census demographic proportions minus Metro Rider demographics

### **Potential Visitors**

#### **Non Los Angeles County Residents, n=329**

- Self-identified travelers from across the United States and in over 30 countries

#### **Top States**

New York  
Illinois  
San Diego  
Colorado  
Massachusetts  
Pennsylvania  
Tennessee  
Texas  
Virginia

#### **Top Countries**

UK  
Canada  
Italy  
France  
Brazil  
Argentina  
Australia  
Israel  
Hungary  
Belgium  
Portugal  
Taiwan  
Spain  
Ukraine  
Germany  
India  
Venezuela  
Colombia  
Hong Kong  
Poland  
Slovakia  
Japan

## How We Reached Them

### **Facebook & Metro.net Advertisements to Online Survey, n=3,225**

Targeted to:

- Riders and Potential Riders
- English & Spanish Speakers
- 7 LA County Regions

### **Face-to-Face Pop-Ups, n=231**

- 10 events across county
- In English & Spanish



# Surveys were completed across Los Angeles County

Survey results were weighted to mirror population ratios of regions



Showing unweighted number of survey completes

# Survey Structure & Contents

**Objective:** Assess perceived ease-of-use of four naming options

Section	Question(s)	Purpose
1. Set Context	Introduce 2028 Rail & Busway Map	<ul style="list-style-type: none"> <li>To inform and level-set</li> </ul>
	Introduce 4 Naming Options	
2. Familiarize	Rate Ease of Giving Directions Using Naming Options	<ul style="list-style-type: none"> <li>To get respondents to 'simulate' using the system</li> </ul>
	Rate Ease of Station Signage Navigation	
3. Summarize	Rate Overall Ease-of-Use	<ul style="list-style-type: none"> <li>To provide an overall summary rating</li> </ul>
4. Explain	Why Rated Each Option	<ul style="list-style-type: none"> <li>To help understand ratings</li> <li>Ensure no additional considerations have been overlooked</li> </ul>
5. Profile	Demographics, Geography, Metro Riding Frequency	<ul style="list-style-type: none"> <li>To ensure we survey appropriate balance of demographics</li> <li>To assess similarities/differences between groups</li> </ul>

# Overview of three main survey questions

## EASE OF GIVING DIRECTIONS

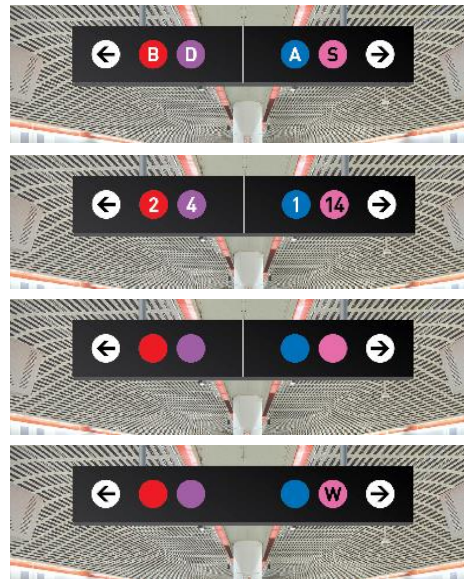
Based on the [NAMING OPTION] line names, how easy would it be to give a friend directions from [LOCATION] to [LOCATION]?



4 routes rotated between naming options

## SIGNAGE EASE-OF-USE

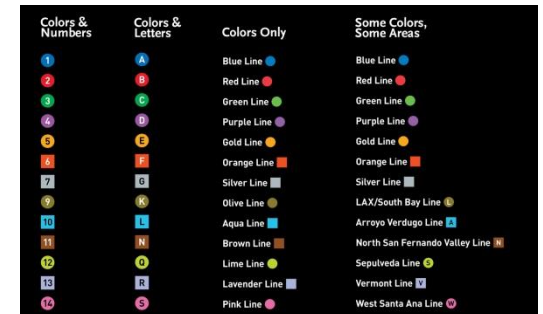
Imagine you were rushing to catch a train and only had a second to glance up at a sign to see which way to go. For each sign shown below, how easy would it be to determine which way to go?



Order of naming options was randomized

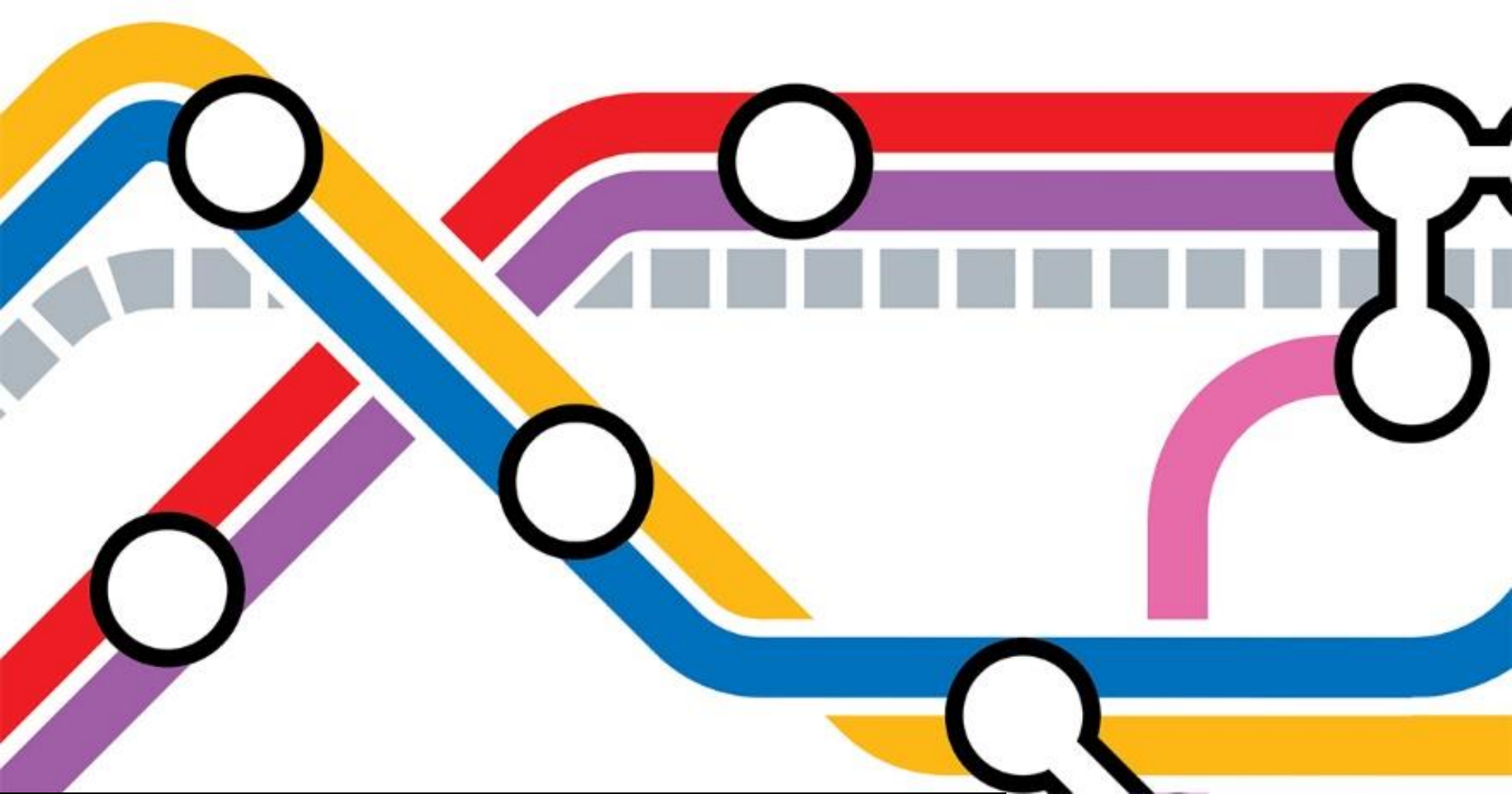
## OVERALL EASE-OF-USE

How easy or difficult do you think it would be to find your way around on Metro using each of the following naming options?



Order of naming options was randomized

- Very easy
- Somewhat easy
- Neither easy nor difficult
- Somewhat difficult
- Very difficult



# Survey Results

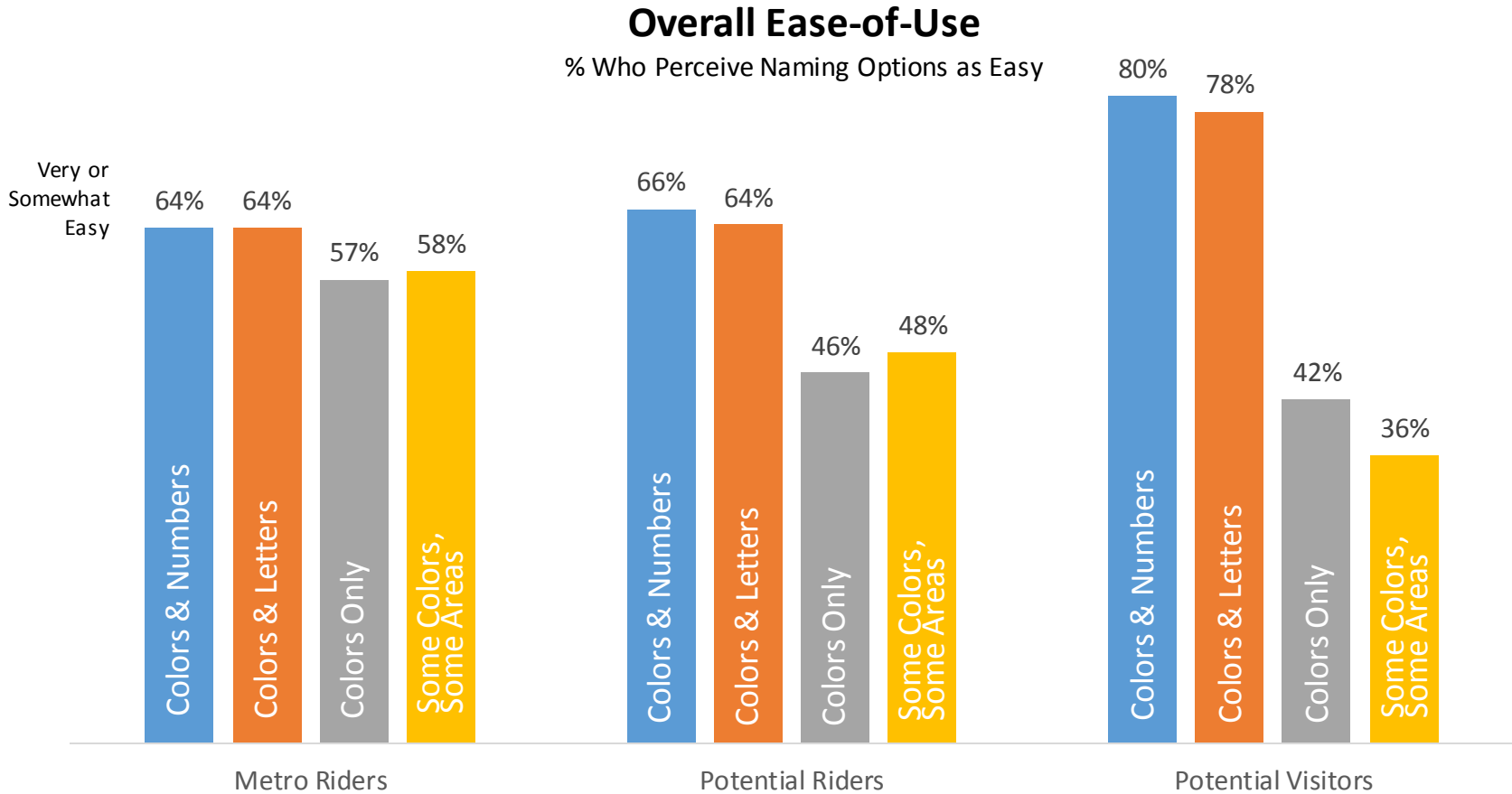
# Important Analysis Considerations

- A 1-2% difference is, for all intents and purposes, a tie.
  - While there is a robust sample size, when projecting the results out to the population, there could be some variance of about 1-2% points
- Key subgroups have unique experiences that influence their responses.
  - **Riders** are more comfortable than other groups with existing approaches of Colors Only and Some Colors, Some Areas
  - **Riders** rate Colors Only and Some Colors, Some Areas higher than Potential Riders. However, Letters and Numbers are still seen as easiest.
  - **Potential Visitors** aren't familiar with the current system and will learn the naming convention
  - **Potential Visitors** can skew towards a certain language or experience with transit line names. As such, results should be considered with caution.
- A naming convention should consider how Riders, Potential Riders, and Potential Visitors rate the options.
  - **Potential Riders** are the largest audience



# Regarding Overall Ease-of-Use, Colors & Numbers and Colors & Letters are perceived as easiest across the three groups

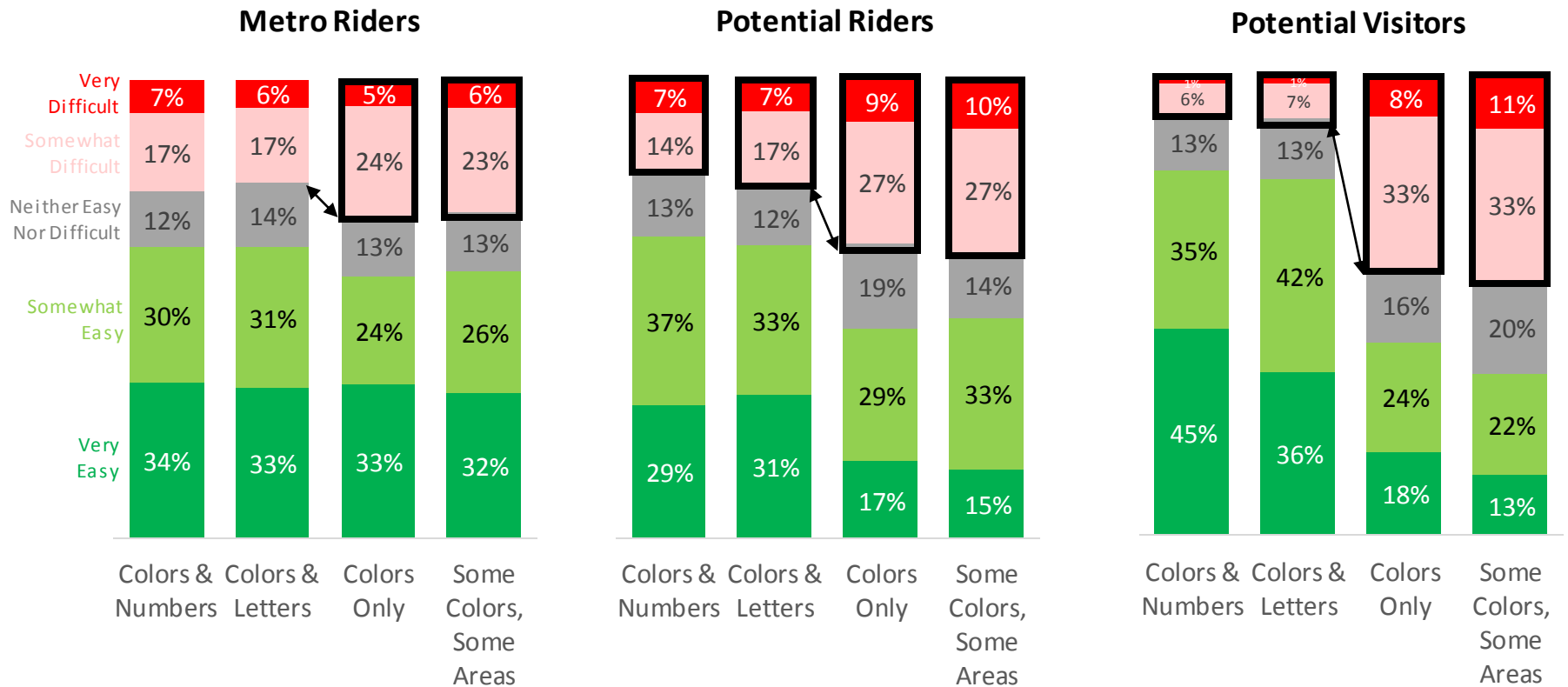
- For those less familiar with the current system, Numbers and Letters are even more of the clear choice



Q: How easy or difficult do you think it would be to find your way around on Metro using each of the following naming options?

# Colors Only and Some Colors, Some Areas have greater perceived difficulty across all groups

## Overall Ease-of-Use



Q: How easy or difficult do you think it would be to find your way around on Metro using each of the following naming options?

# Overall, Colors & Numbers and Colors & Letters are consistently rated as easier across all demographic and geographic groups

Regions	Ethnicity	Transit Usage	Income Ranges	Age Ranges	Gender
Central LA	African American	Metro Riders	Less than \$35k	18-34	Females
Gateway Cities	Asian	Potential Riders	\$35-\$49.9k	35-54	Males
San Fernando Valley	Latino/Hispanic <ul style="list-style-type: none"> <li>• English-Dominant</li> <li>• Bilingual</li> <li>• Spanish-Dominant</li> </ul>	Potential Visitors	\$50-\$74.9k	55+	
San Gabriel Valley	Caucasian		\$75k or more		
Santa Clarita & Antelope Valleys					
South Bay					
Westside Cities					



## In their own words...

### Why is Colors Only rated as more difficult?

*Because I'm colorblind and using colors is very difficult for me.*

Monthly Rail Rider  
Mar Vista

*The similarity between some pairs of colors is absolutely maddening, especially for lines that cross each other.*

Potential Rider  
Brentwood

*Even the best of us would have difficulty distinguishing olive from green and lime from yellow at a glance*

Monthly Rail Rider,  
Redondo Beach

*Colors only are very confusing for me. I only know basic colors.*

Daily Bus & Rail Rider  
Downtown

## In their own words...

### Why is Some Colors, Some Areas rated as more difficult?

*When I hear the San Fernando line...I think of the city and my first thought, is "Oh no I don't want to go that way!"*

20 year Gold Line  
#30 Bus Rider

*Area and other names take longer to say, harder to keep track of, and are less friendly to tourists.*

Potential Rider  
Long Beach

*With a mixture it's more difficult to figure out how to refer to a line and a direction.*

Frequent Bus &  
Rail Rider  
West Hollywood

*Area names are arbitrary, and not intuitive even though I have lived in LA County for 5 years.*

Frequent Rider  
Hollywood

*It should be consistent. To mix colors and destinations is confusing.*

Occasional Rail  
Rider  
SF Valley

## In their own words...

# Why Colors & Letters or Colors & Numbers?

*Numbers and letters are just so much faster to relay directions.*

Frequent Rider  
Montecito  
Heights

*It's easier to determine the correct line when the color is reinforced by some other signifier, like a letter.*

Weekly Rail Rider  
Azusa

*I live in China and know how difficult it is to get around when you cannot read/understand signs. A combination of letters or numbers along with colors makes it really simple.*

Potential Visitor  
China

*I've used systems in North American cities and in Europe. I've found for myself that the simpler naming system is the easier it is to use.*

Frequent Bus  
Rider  
Mar Vista

*Numbers and letters are much easier to memorize, see, hear, etc.*

Frequent Rail  
Rider  
DTLA

## In their own words...

### Why Letters over Numbers?

*If you say 'the 5' and 'the 10', people will probably think you are talking about the freeways.*

Frequent  
Rail/Bus Rider  
Westwood

*Letters are easy and common in different cities. Numbers are also easy but can be confused with the bus numbers.*

Potential Rider  
Windsor Hills

*I've often defaulted numbers to platform numbers, so using colors and numbers for line names could be confusing.*

Occasional Rider  
Norwalk

*I think the letters and colors do a good job of separating the Metro rail and BRT lines from the bus network.*

Occasional Rider  
Van Nuys

*When lines have letters and not numbers, it is easier and avoids confusion when explaining how many stops to take on each line.*

Frequent Rider  
Hollywood

## Some Current Riders are not excited about change, but many say they'll adapt, particularly with good education

*Regardless, LA will get used to whatever system is used just make sure you have a very long and thoughtful public service campaign to educate users.*

Rider  
South Pasadena

*While those of us who rely on the Metro will learn whatever you toss our way, the rest that live for their cars and traffic need to be pampered.*

Frequent Bus Rider  
Lawndale

*I think with learning any new system there will always be difficulty but over time most can adapt.*

Potential Rider  
Glendale

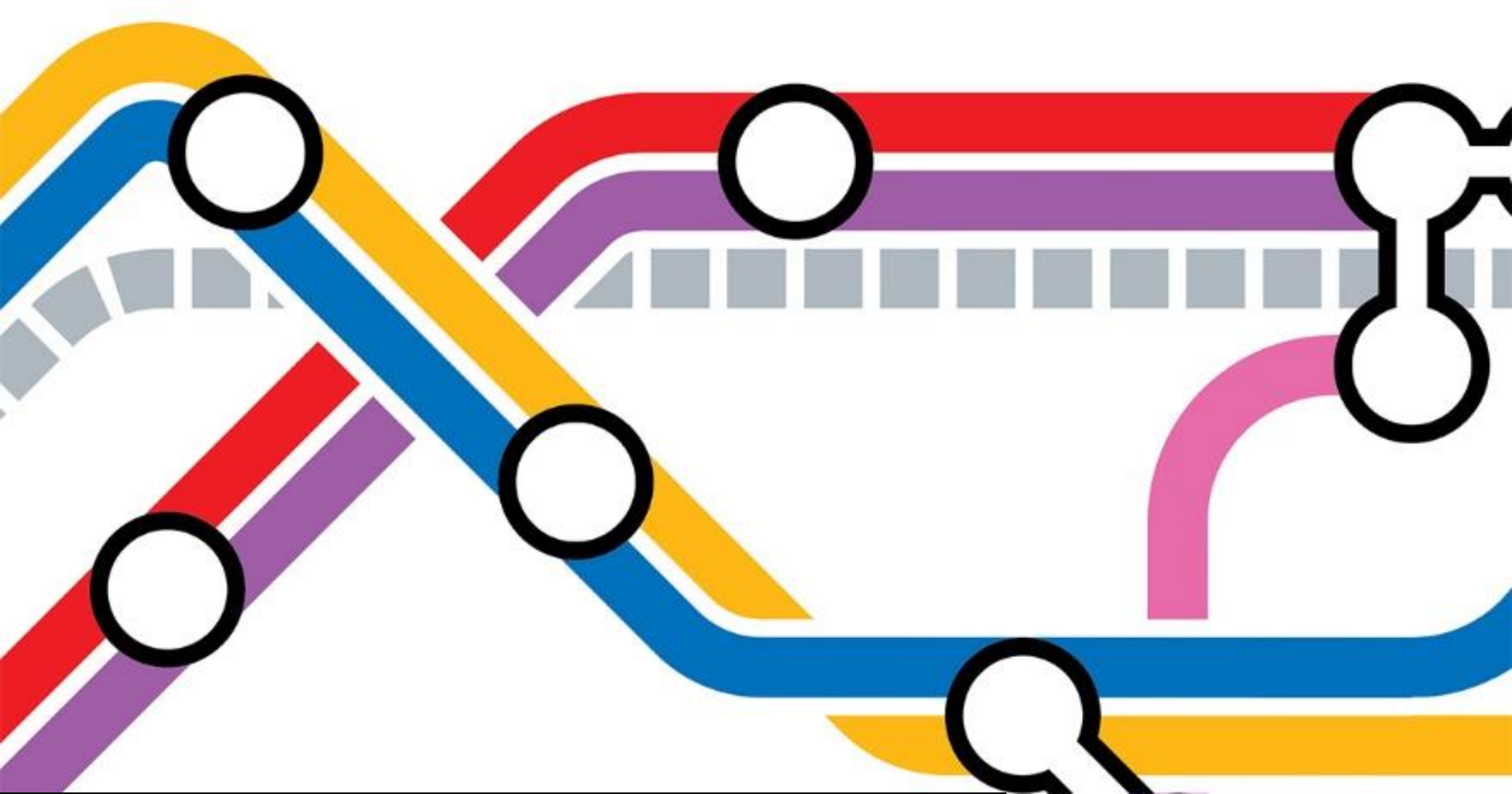
*Well, honestly as humans we adjust to most situations so whatever we are presented with we will learn.*

Bi-Weekly Rail Rider  
Carson



# Staff Recommendation

- Color and Letter-based naming convention for rail and bus rapid transit lines
  - Consistency
  - Second identifier
  - No confusion with numbering of bus system and rail station platforms
  - Ample letters to accommodate future lines
  - Letter assignment will follow chronology of line openings
  - Makes map clearer at end points and transfer points
- Phased implementation plan
  - Blue Line transitions first during New Blue Improvements Project
  - Rest of the rail/BRT system transitions with the opening of the Crenshaw/LAX Line
  - When Regional Connector Project is complete, only the Gold Line letter will change
  - Expo/Gold Line one-seat ride can be the E Line and gold color on the map
  - Blue/Gold Line one-seat ride can be the A Line and blue color on the map
  - Total cost: \$8.9 million



# Appendix

# 2018 Focus Group Methodology

- Various locations and recruitment criteria to reflect some of the diversity of current and potential Metro riders

Date	Location	Group Type
August 22	Sherman Oaks	English-Speaking Potential Riders
August 25	Downtown LA	English-Speaking Metro Riders
August 25	Downtown LA	Spanish-Speaking Metro Riders
August 28	Mid-City	English-Speaking Visually-Impaired Residents
August 28	Koreatown	Korean-Speaking Residents

# Focus Group Votes

## First Choice for Naming Convention after All Information

	Colors	Letters	Numbers	Combination
English-Speaking Non-Riders	2	3	5	0
English-Speaking Metro Riders	2	4	3	1
Spanish-Speaking Metro Riders	5	1	4	0
English-Speaking Visually-Impaired Riders	1	3	0	3
Korean-Speaking Residents	0	0	10	0
<b>Total</b>	<b>10</b>	<b>11</b>	<b>22</b>	<b>4</b>

# Field Research Format & Methodology



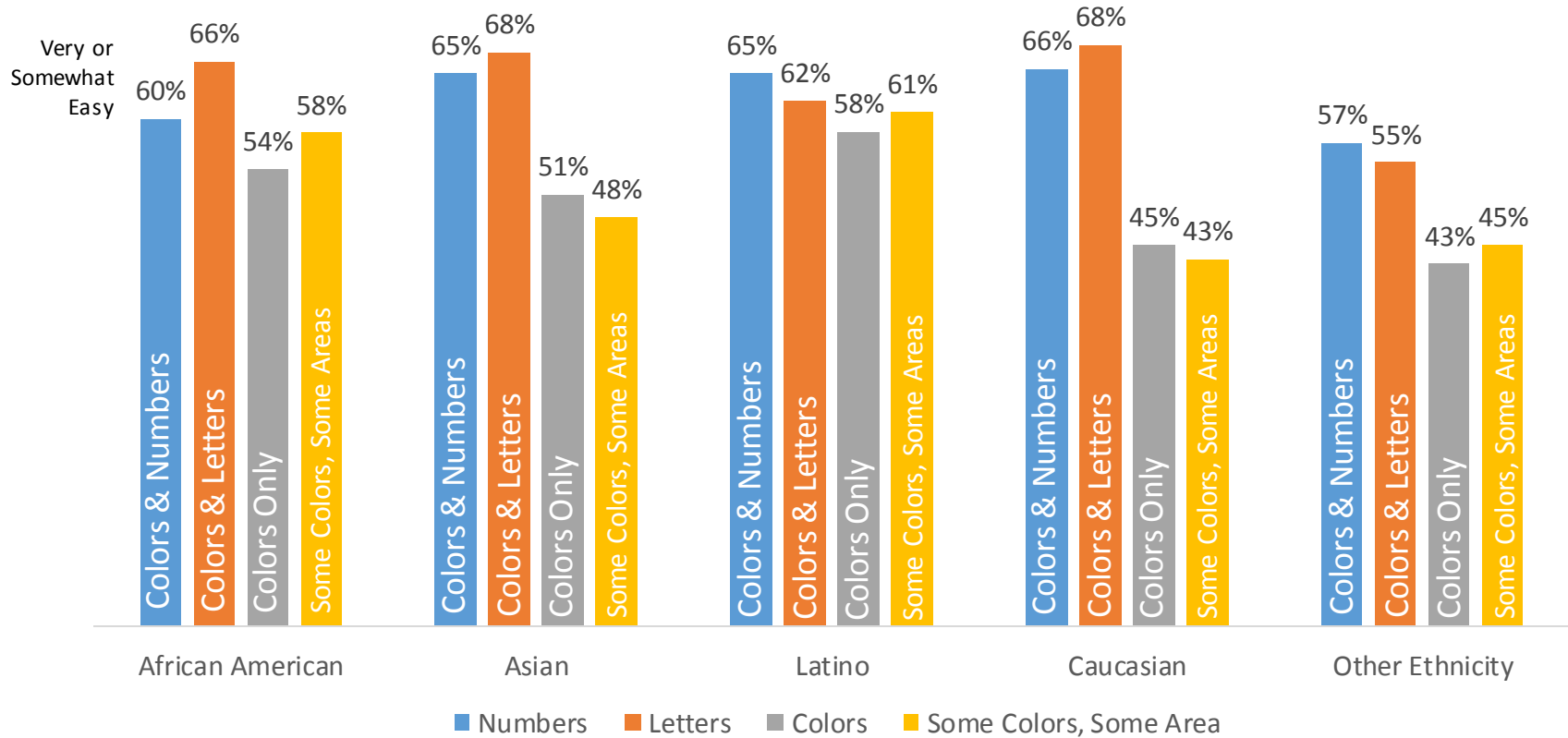
Date	Location	Event/Area
October 9	Blue Line	Green Rides Expo Metro Pop-Up
October 12	Expo LA	LAFC Game
October 15	Blue Line	Care Harbor LA
October 16	Downtown LA	Taco Tuesday at The BLOC
October 16	North Hollywood	North Hollywood Station
October 19	Boyle Heights	Mariachi Plaza
October 20	Expo Westside	Grant Elementary School Fall Festival
October 25	Downtown LA	Union Station
October 26	Downtown LA	Older Adults Transportation Expo
October 26	Pasadena	UCLA Game Day at Del Mar Station

# Field Research Format & Methodology



# Latino and other ethnicities give a slight edge to Numbers.

**Overall Ease-of-Use**  
% Who Perceive Naming Options as Easy



## System Expansion Line ID Signage &amp; Info Impacts Cost Estimate

<b>Construction/Installation of Signs</b>	
Vinyl Decals (Stations/Fleet)	\$ 1,269,836.97
Illuminated Signs	\$ 3,988,393.02
Tactile/Braille Signs	\$ 458,246.25
Other Signs	\$ 165,000.00
Construction Management/General Requirements	\$ 1,040,750.00
<b>Communications</b>	
Maps/Announcements/Web/Signage Design/Education & Outreach	\$ 2,007,394.00
<b>Consolidated Total</b>	<b>\$ 8,929,620.24</b>