



# **NEXTGEN** Bus Plan



**Metro**

NOVEMBER, 2019

# Metro Vision 2028

**World Class  
Transportation  
System**

**Many elements ensure a world class system...**

**Bike &  
Mobility**

**Customer  
Service**

**Customer  
Envir.**

**Sustainability**

**Convenience**

**Access**

**Technology**

**Equity**

**Experience**

**Safety &  
Security**

**Streets &  
Roads**

**Rail**

**World  
Class Bus**

# Metro Vision 2028



## World Class Bus

### Attractive

- Safe / secure
- Clean
- Comfortable
- Real time info
- Easy fare payment
- First/last mile

### NextGen

- NextGen is an essential component of Metro's vision to build a comprehensive World Class Transportation System
- A **competitive** bus system that is fast, frequent, reliable & accessible
- Increased ridership
- Providing riders the best possible experience

# NextGen Working Group

Your journey with us...

**March  
2018**

Overview of  
study

Listening session  
to get a baseline  
understanding of  
constituent needs

**May  
2018**

Travel patterns

Attitudes and  
preferences

Additional insights

**July  
2018**

Challenges and  
opportunities that  
exist with Metro's  
current bus  
system

Market analysis

Evaluation criteria

**Sept.  
2018**

Service concepts  
and policy choices

Close examination  
of individual  
Service Council  
area needs

Trade-offs

**April  
2019**

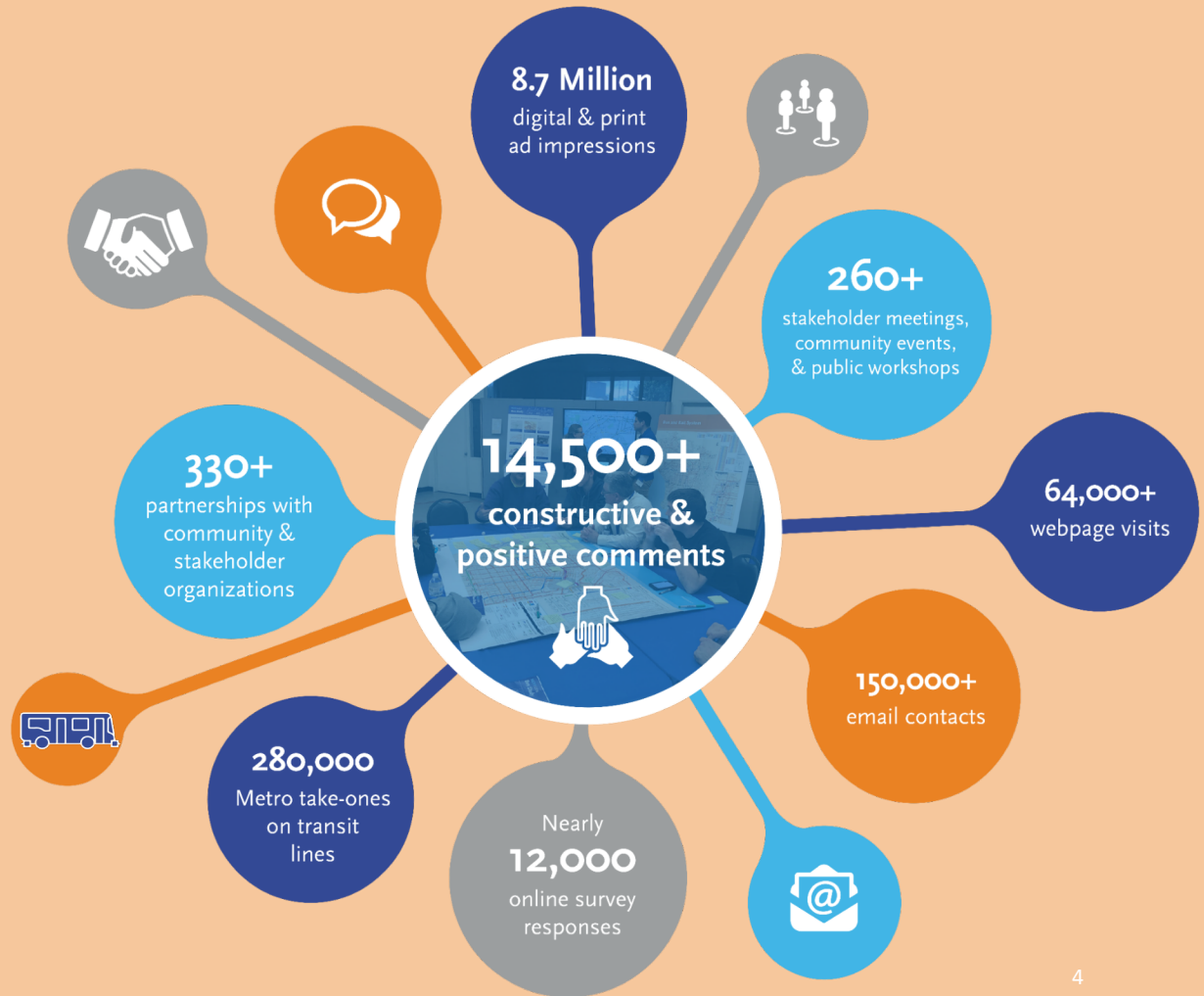
Practical  
applications of  
the data, service  
concepts and  
design  
considerations

**May  
2019**

Metro Equity  
Platform  
manifestation  
and reflection in  
the bus network  
redesign



# We're Reaching **10 Million+** People Equitably



# Public input led to service concepts

“ Routes 4 & 704 are too long. ”

● **Shorten route lengths**

“ Need more connections in San Gabriel Valley. ”

● **Use subarea transit hubs**

“ The 81 bus always gets stuck in traffic. ”

● **Introduce transit-supportive infrastructure**

“ Create more Rapid buses with only 3 stops. ”

● **Fix hybrid Local/Rapid stop spacing**

“ Build stops that take me to the Gold Line. ”

● **Reroute to reflect travel patterns**

“ Add service between uptown Whittier & Puente Hills Mall. ”

● **Coordinate with municipal service providers**

# Tools in the Toolbox

Based on what we heard, the data analytics, and the service evaluation...

## Fix

Align travel patterns with travel propensity

Develop service tiers

Establish seamless connectivity with local Municipal Operators

## Increase

Increase # of routes operating frequently

Assure all fixed-route service are 30 minutes or better headways

Create standardized frequencies by service tier

## Simplify

Make the network easier for riders to understand

## Reallocate

Align schedules for midday, evening and weekend riders

## Optimize

Consolidate Rapids/Locals into single service  
Consolidate stops

# Tools in the Toolbox

Based on what we heard, the data analytics, and the service evaluation...

## Fix

Align travel patterns with travel propensity

Develop service tiers

Establish seamless connectivity with local Municipal Operators

## Increase

Operating frequently

Assure all fixed-route service  $\geq 30$  min

Create standardized frequencies by service tier

## Simplify

Routes and schedules easier for riders to understand

## Reallocate

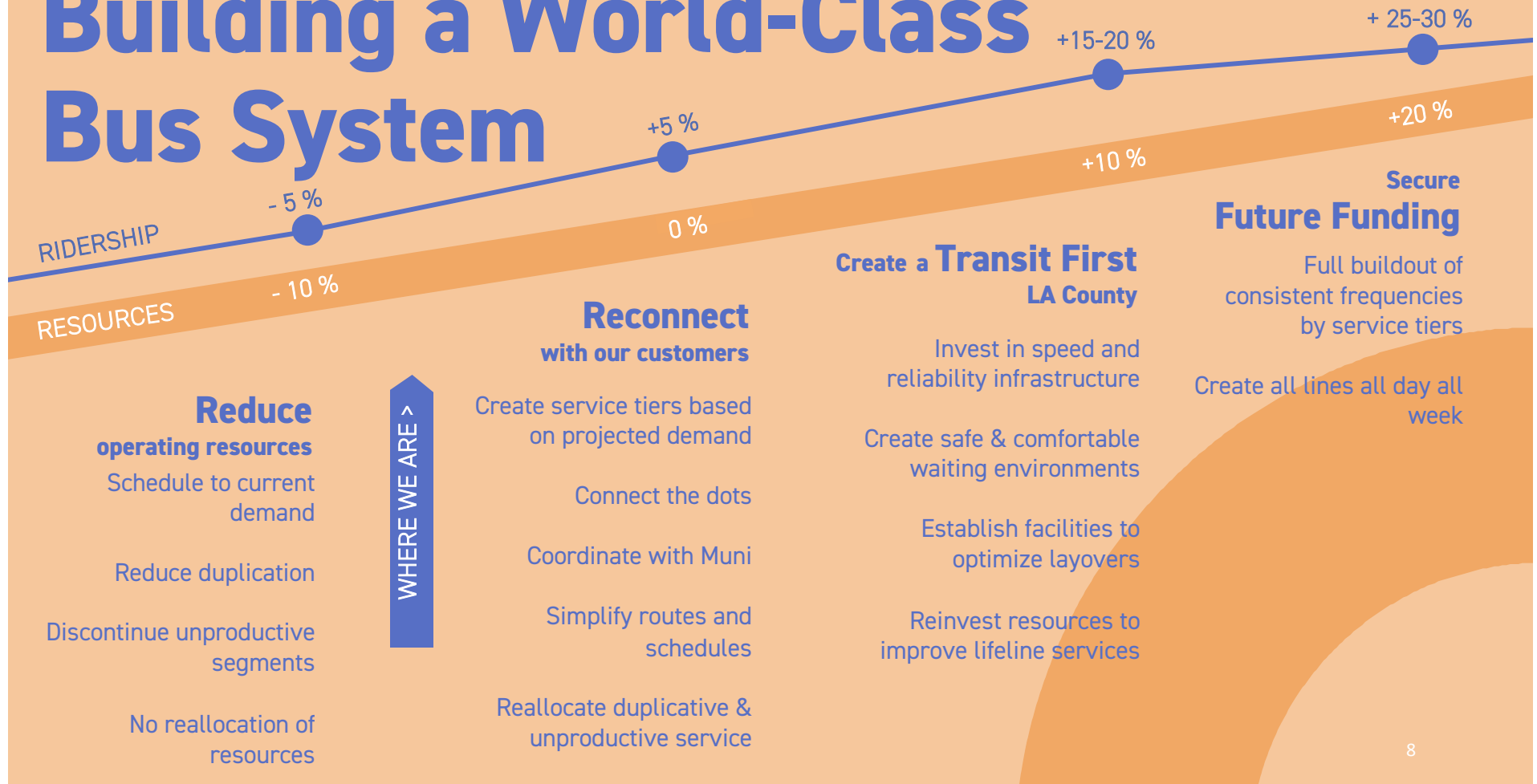
Resources for Friday, evening and weekend riders

## Optimize

Consolidate Rapids/Locals into single service  
Consolidate stops

**All of these network design strategies are applied through an equity lens**

# Building a World-Class Bus System



# Translating Lessons Learned Into Service Concepts

- **84% of LA County residents have used transit at least once in the past year**  
**Minimize discontinued segments**
- **Fast/Frequent/Reliable service is key**  
**Create a competitive transit network**
- **Metro's current system is not always competitive to get people where they want to go**  
**Build a network that reflects travel today & tomorrow**
- **The greatest opportunity to grow ridership is between midday & evening when many trips are short distance**  
**Improve service for midday, evening & weekend**
- **Need to integrate Metro's Equity Framework into the planning process**  
**Provide better service in equity-focused areas**

**84%** of LA County residents have used transit in the last year.

**Riders beyond walking distance of Transit First service**

**Ridership Impact**

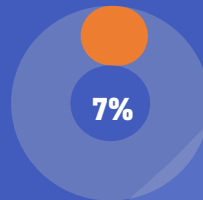
(Weekday Daily)

5 min walk: 2,900 (0.3%)

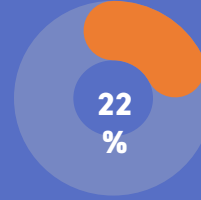
10 min walk: 900 (0.1%)



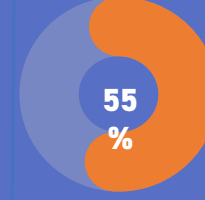
**Frequent**



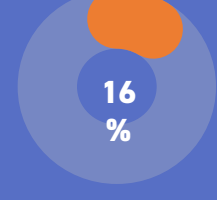
**Occasional**



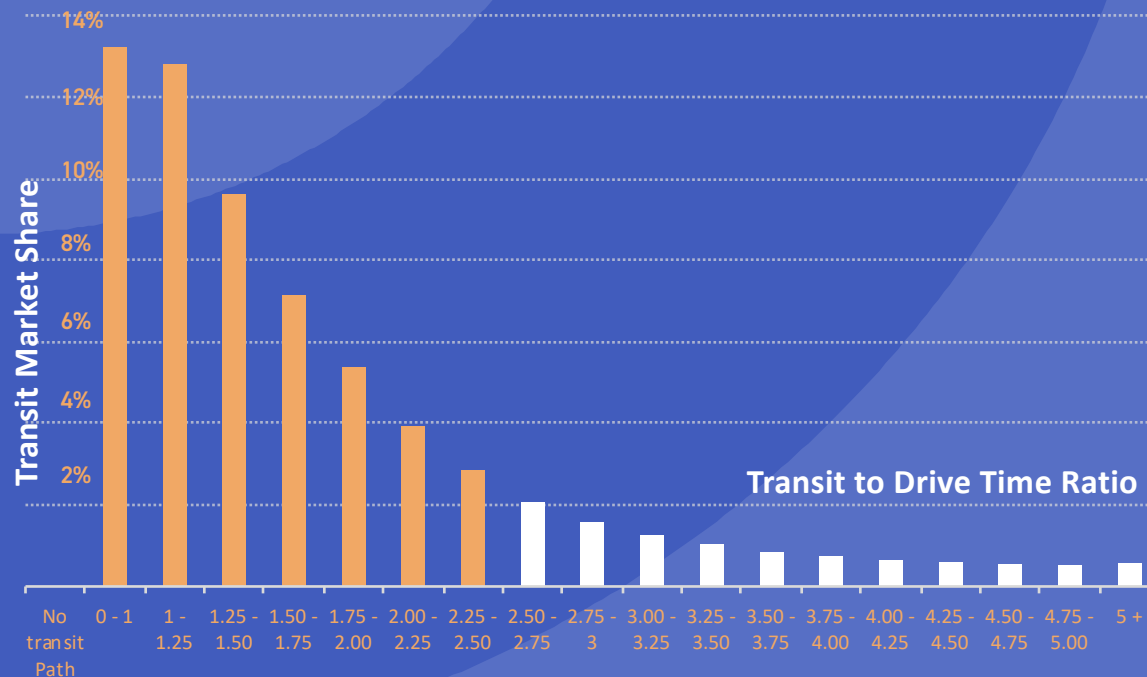
**Infrequent**



**Non-Rider**



# Fast, Frequent & Reliable Service is Key



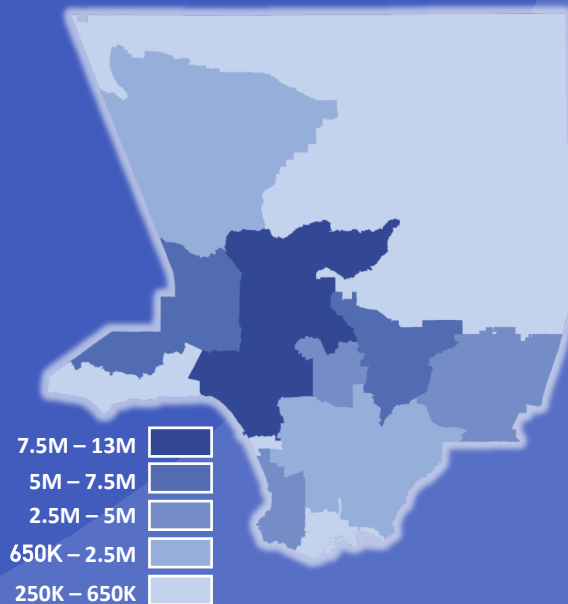
## Goals

- Create a competitive transit network
- Assure service is no more than 2.5x slower than driving

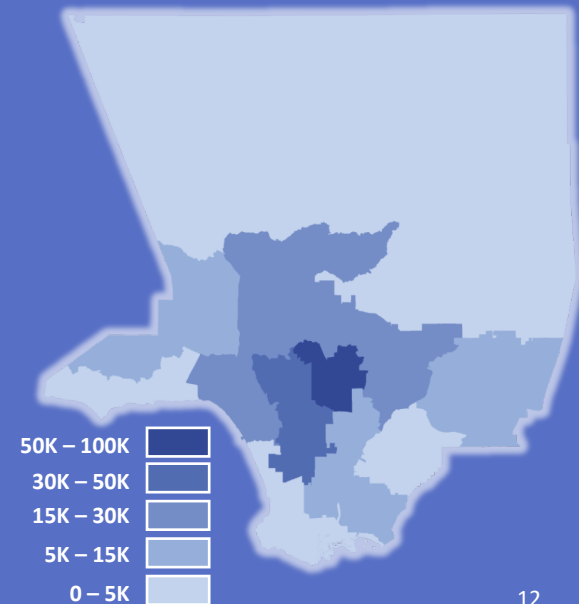


# Metro's current system is not always competitive to get people where they want to go

All Trip Origins  
(cell phone data)



Transit Origins  
(TAP data)





## Existing Conditions Today

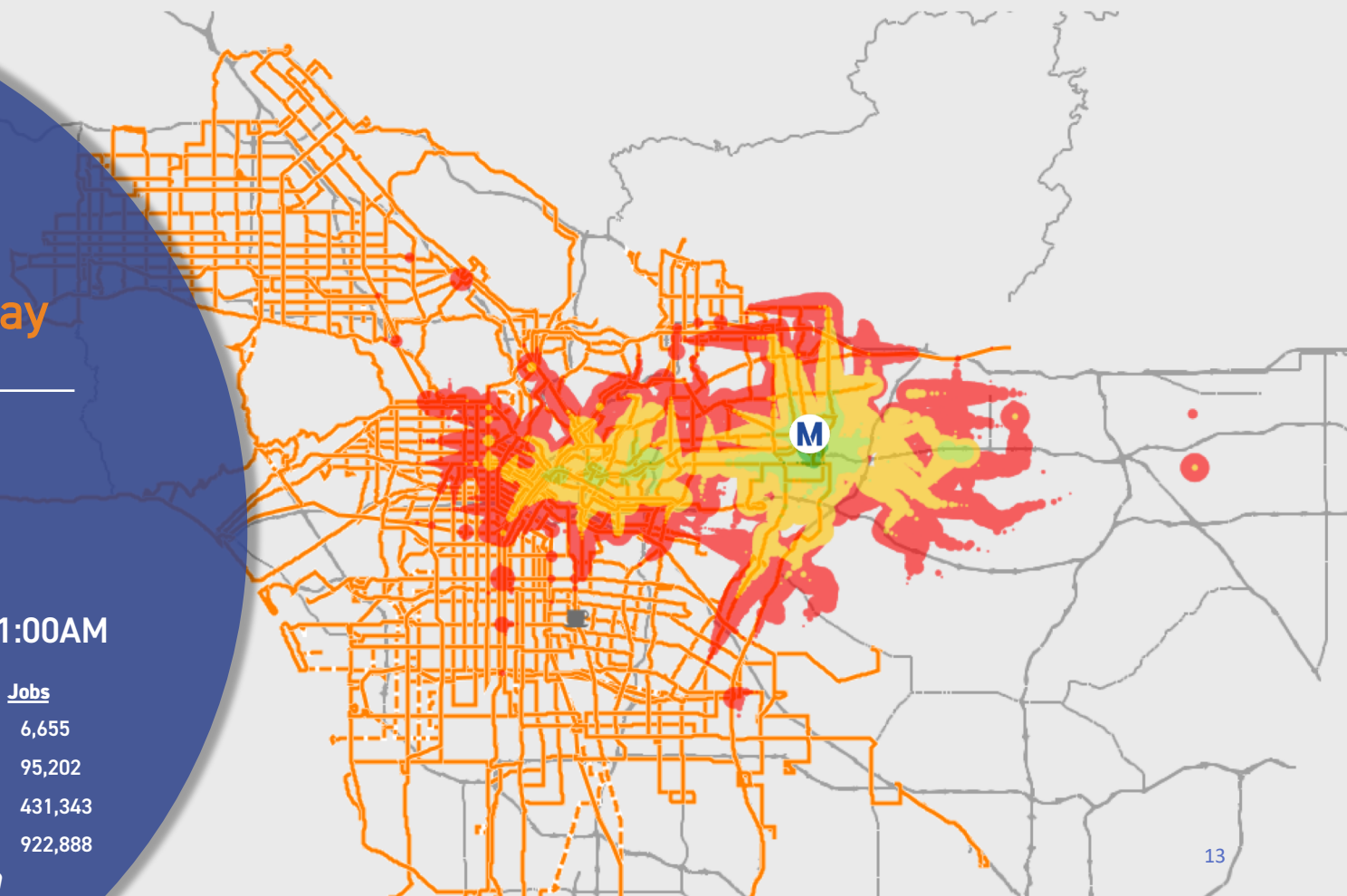
## Reach Map

Where can I go from...

El Monte Station @ 11:00AM

In...

	< 15 min	<u>Population</u>	<u>Jobs</u>
	< 30 min	14,070	6,655
	< 45 min	176,173	95,202
	< 60 min	879,224	431,343
		2,147,402	922,888
		(cumulative)	







## Scenario A Reconnect

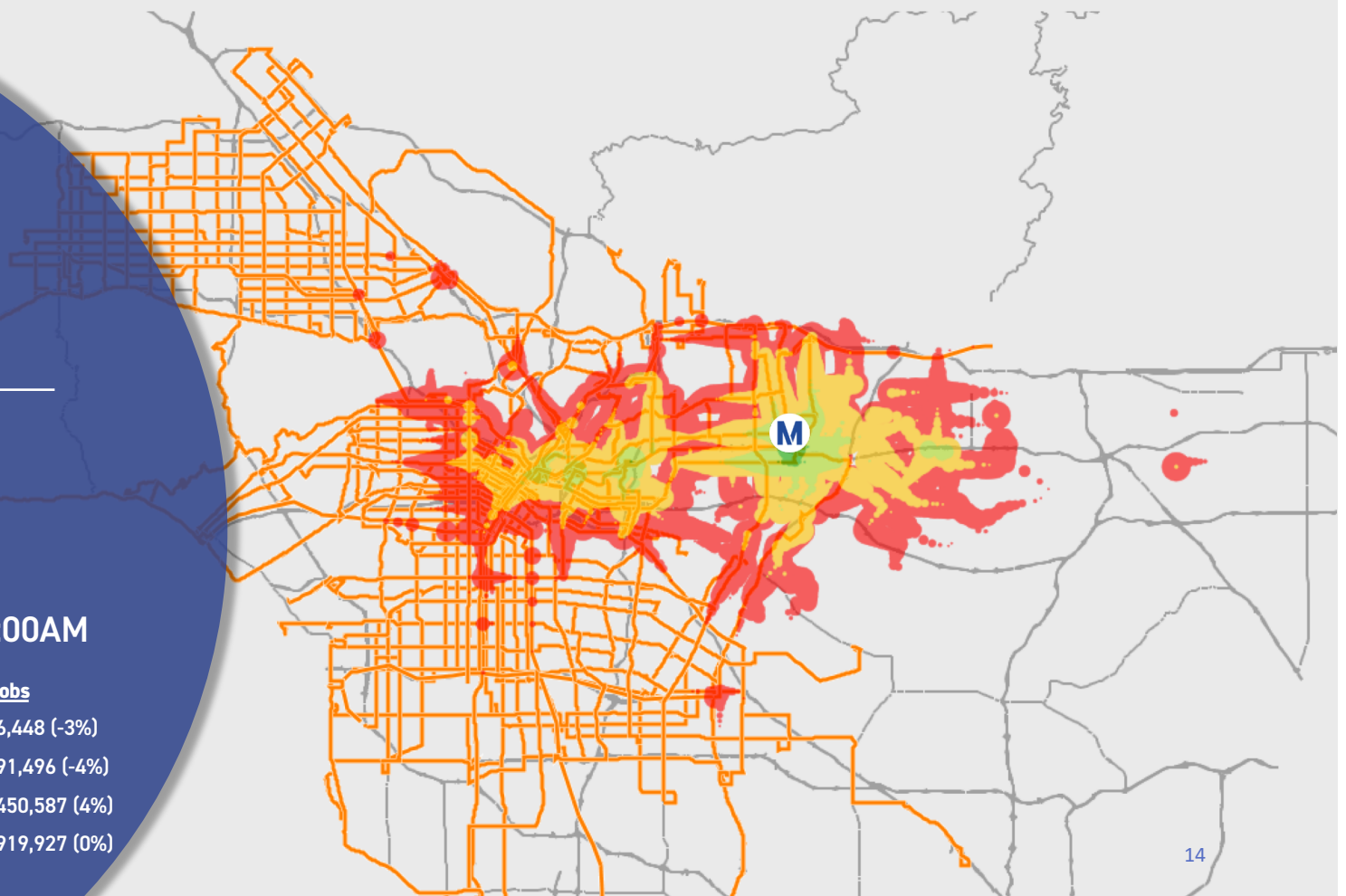
### Reach Map

Where can I go from...

El Monte Station @ 11:00AM

In...

	<u>Population</u>	<u>Jobs</u>
 < 15 min	13,667 (-3%)	6,448 (-3%)
 < 30 min	158,042 (-10%)	91,496 (-4%)
 < 45 min	895,949 (2%)	450,587 (4%)
 < 60 min	2,172,162 (1%)	919,927 (0%)
(cumulative)		







## Scenario B Transit First

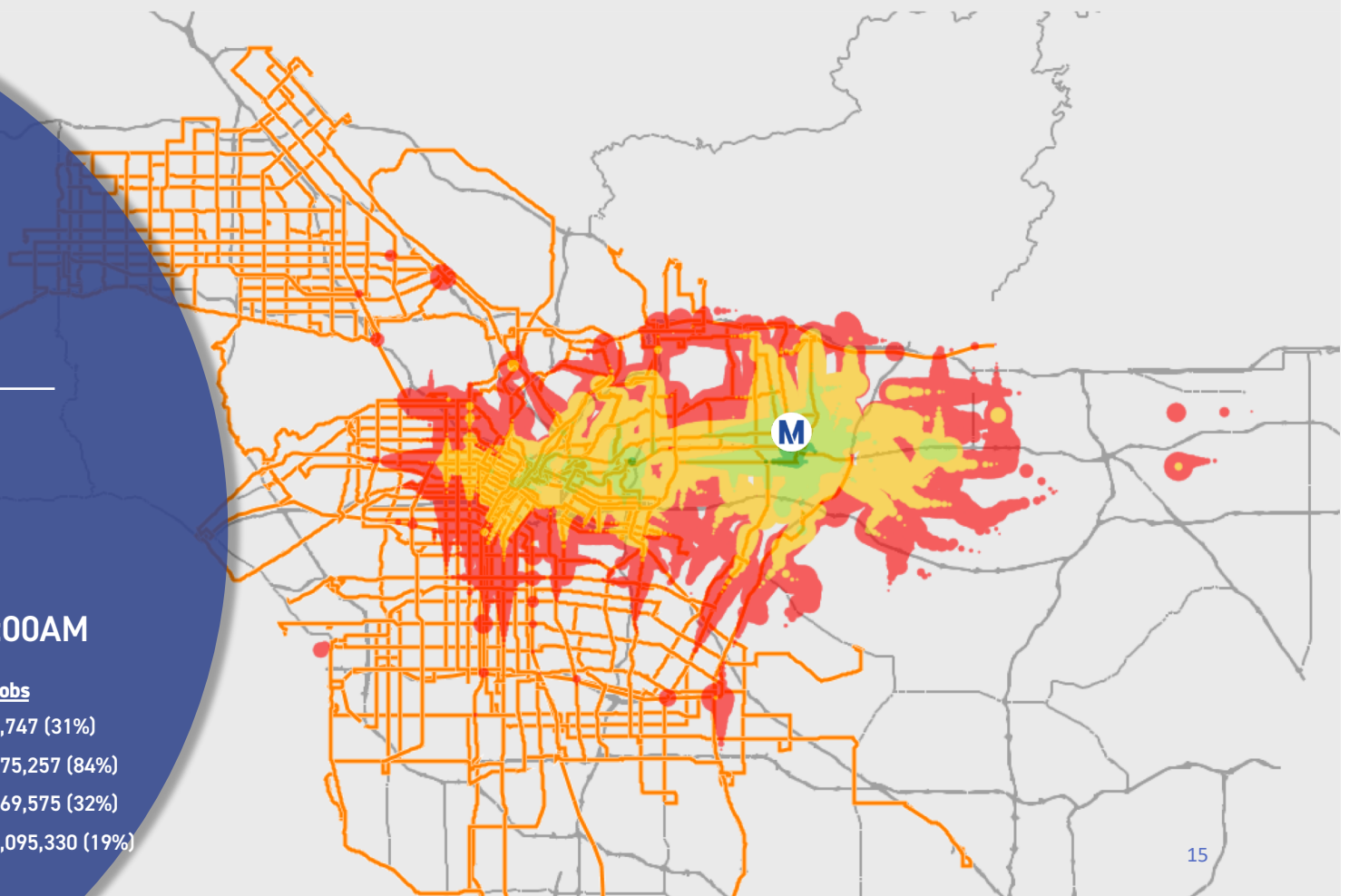
### Reach Map

Where can I go from...

El Monte Station @ 11:00AM

In...

	<u>Population</u>	<u>Jobs</u>
 < 15 min	21,097 (50%)	8,747 (31%)
 < 30 min	281,228 (60%)	175,257 (84%)
 < 45 min	1,251,198 (42%)	569,575 (32%)
 < 60 min	2,598,170 (21%)	1,095,330 (19%)
(cumulative)		






## Existing Conditions Today

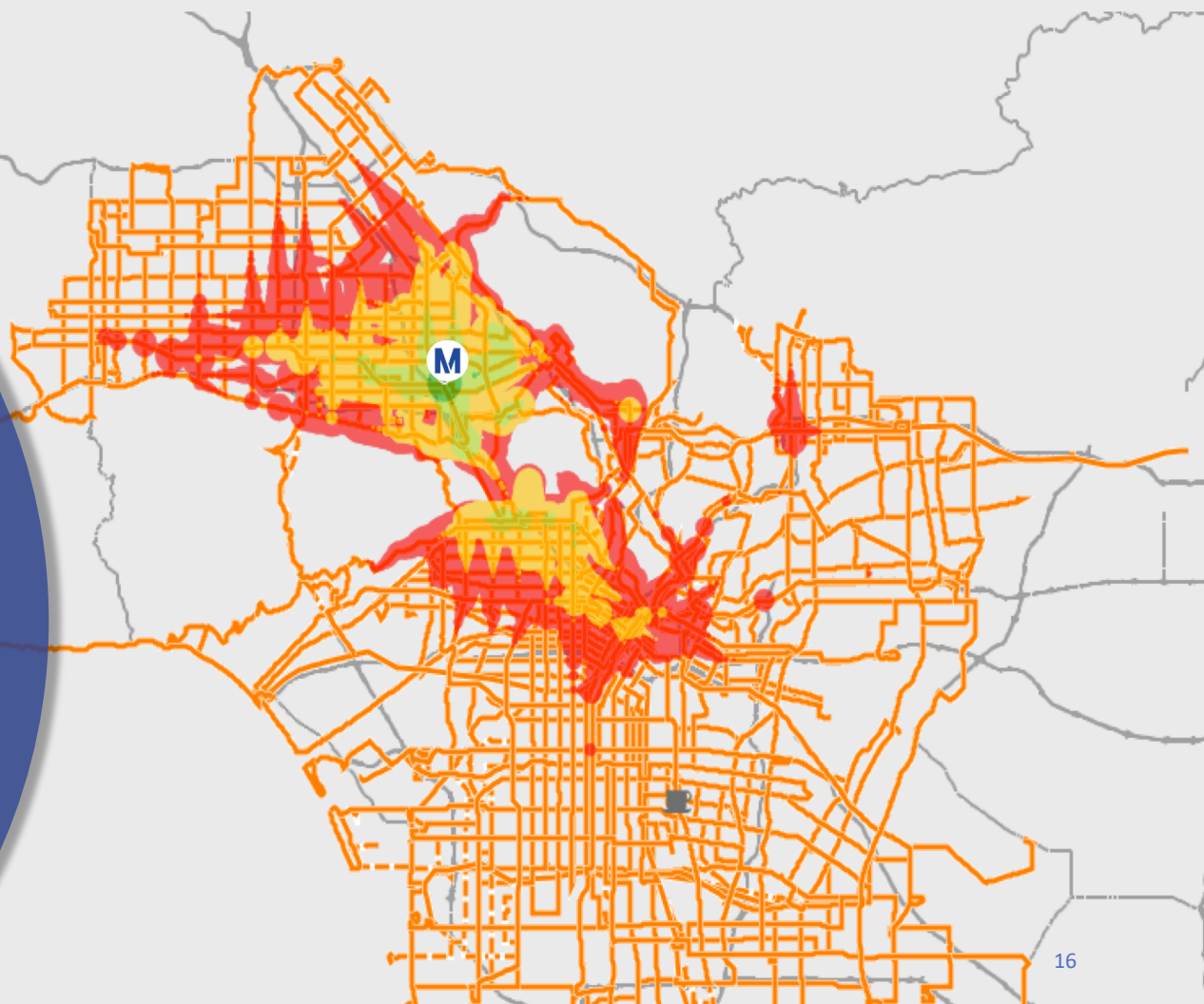
### Reach Map

Where can I go from...

N Hollywood Station @ 12:00PM

In...

	< 15 min	<u>Population</u>	<u>Jobs</u>
	< 30 min	20,560	7,865
	< 45 min	158,519	78,030
	< 60 min	779,623	405,969
		1,742,274	948,320
		(cumulative)	







## Scenario A Reconnect

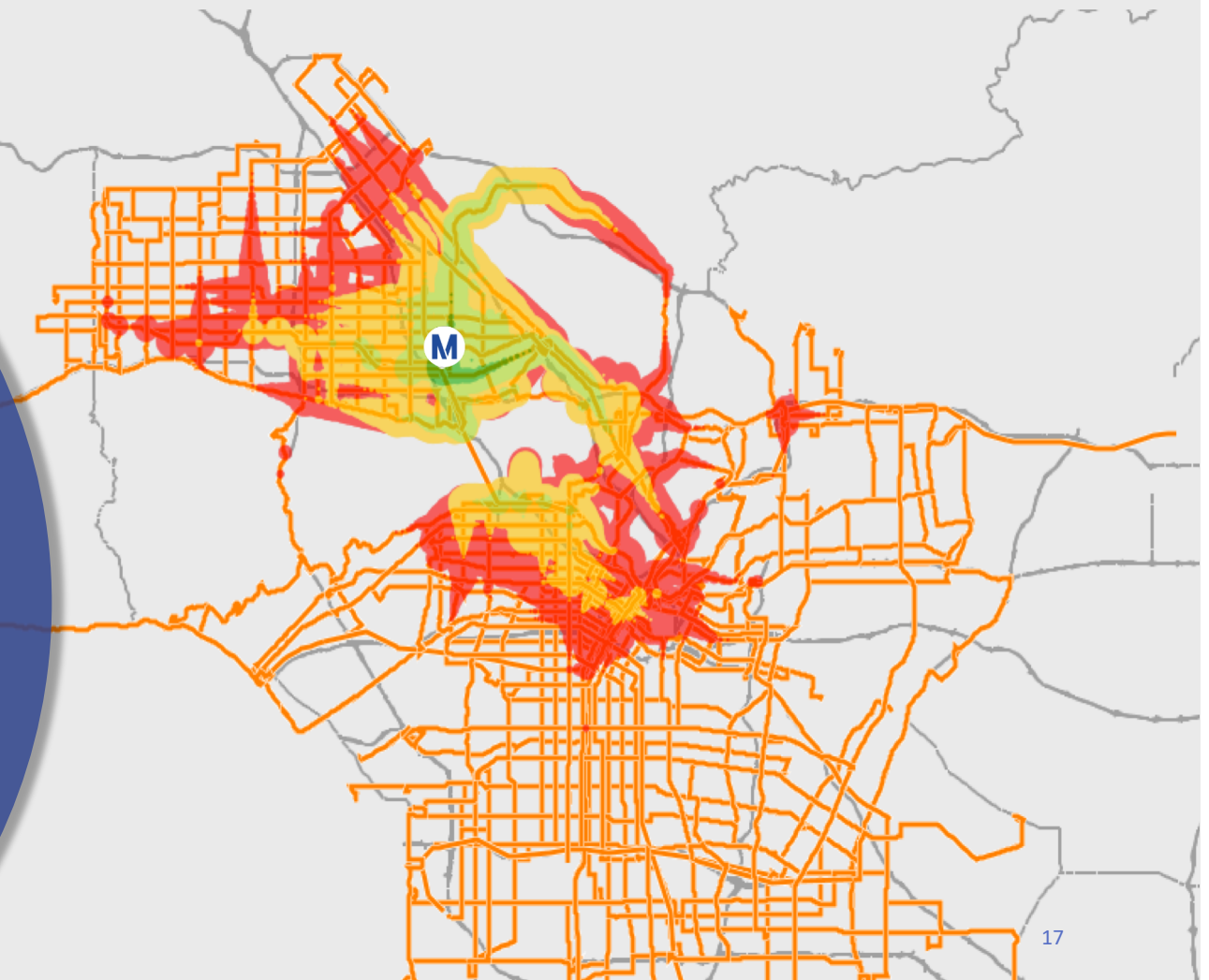
### Reach Map

Where can I go from...

N Hollywood Station @ 12:00PM

In...

	<u>Population</u>	<u>Jobs</u>
 < 15 min	42,900 (109%)	15,860 (102%)
 < 30 min	304,921 (92%)	156,356 (100%)
 < 45 min	1,054,400 (35%)	560,588 (38%)
 < 60 min	2,029,808 (17%)	1,035,732 (9%)
(cumulative)		









## Scenario B Transit First

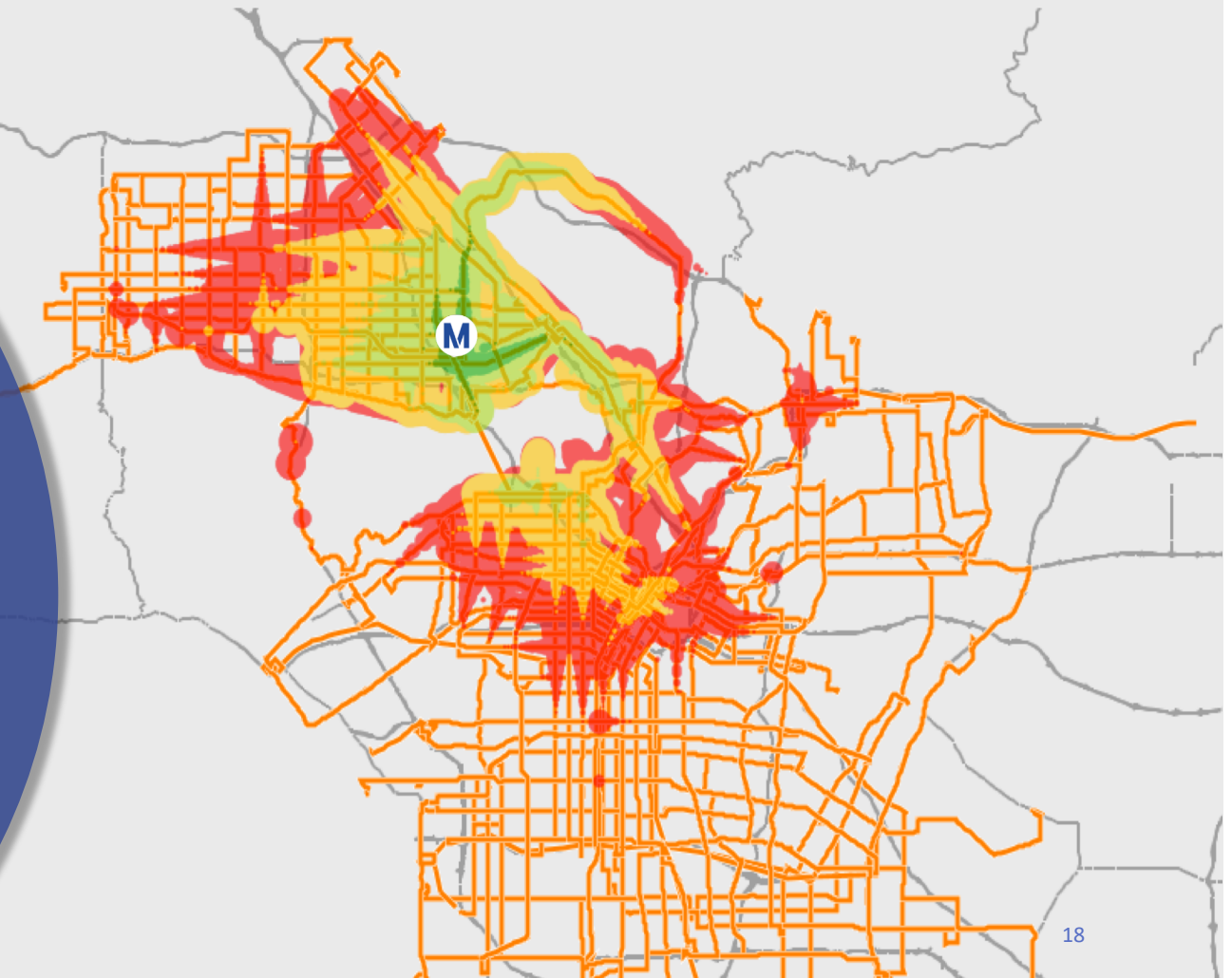
### Reach Map

Where can I go from...

N Hollywood Station @ 12:00PM

In...

	<u>Population</u>	<u>Jobs</u>
 < 15 min	67,835 (230%)	23,538 (199%)
 < 30 min	426,064 (169%)	204,223 (162%)
 < 45 min	1,302,915 (67%)	669,201 (65%)
 < 60 min	2,424,966 (39%)	1,172,484 (24%)
(cumulative)		







## Existing Conditions Today

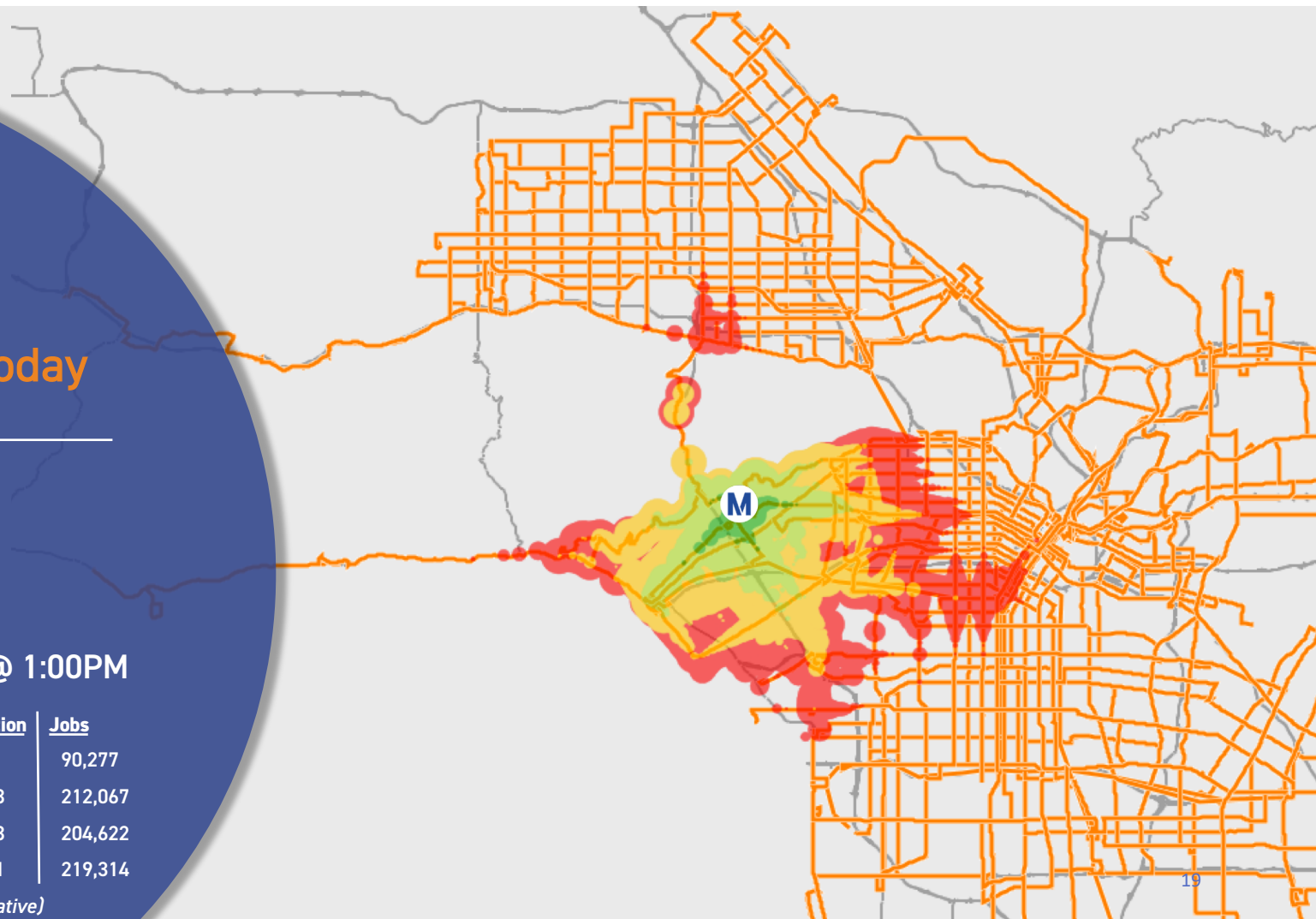
### Reach Map

Where can I go from...

Westwood/UCLA @ 1:00PM

In...

	<u>Population</u>	<u>Jobs</u>
 < 15 min	48,642	90,277
 < 30 min	183,823	212,067
 < 45 min	310,383	204,622
 < 60 min	497,971	219,314
(cumulative)		









## Scenario A Reconnect

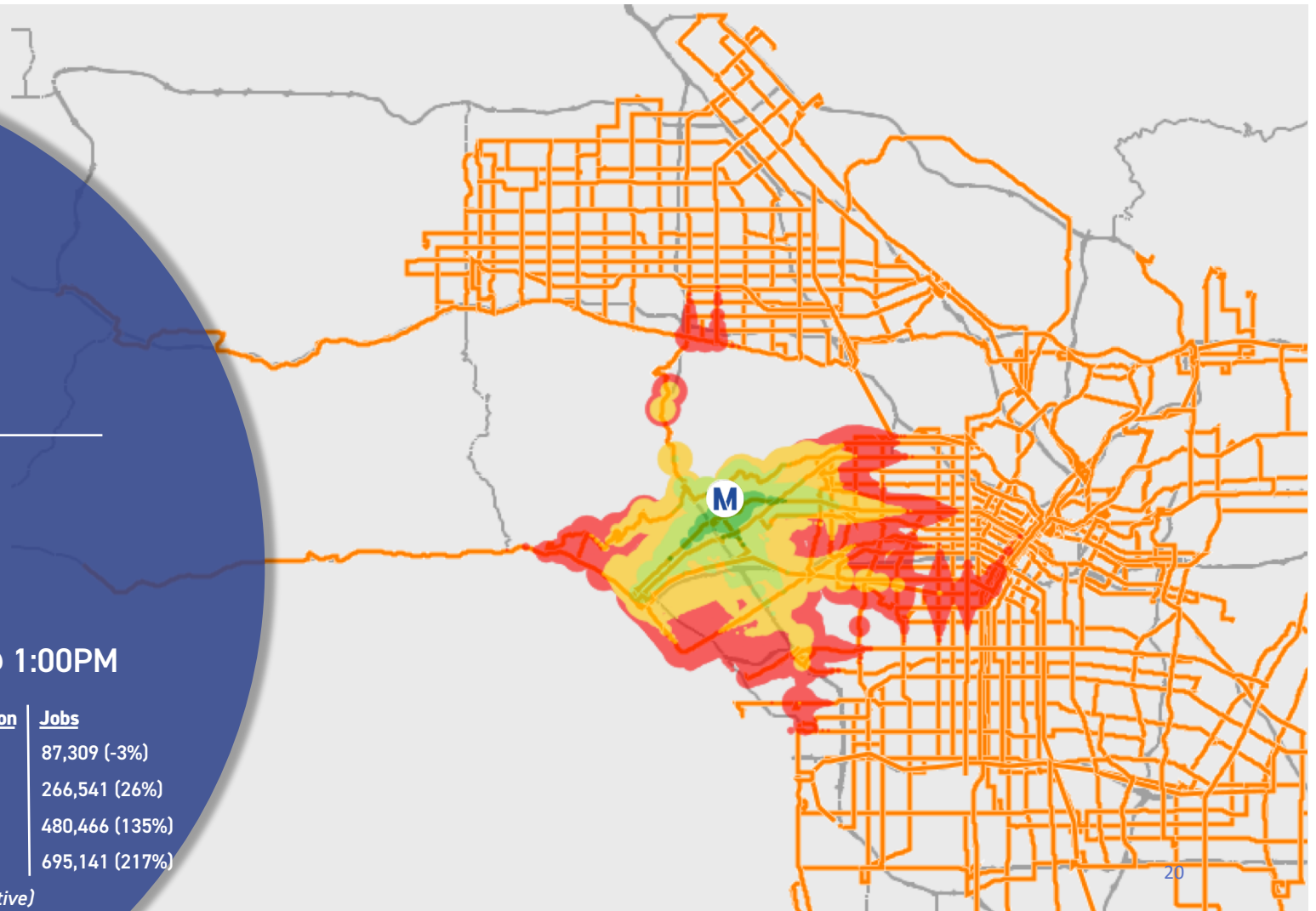
### Reach Map

Where can I go from...

Westwood/UCLA @ 1:00PM

In...

	<u>Population</u>	<u>Jobs</u>
 < 15 min	46,159 (-5%)	87,309 (-3%)
 < 30 min	211,348 (15%)	266,541 (26%)
 < 45 min	477,115 (54%)	480,466 (135%)
 < 60 min	963,046 (93%)	695,141 (217%)
(cumulative)		







## Scenario B Transit First

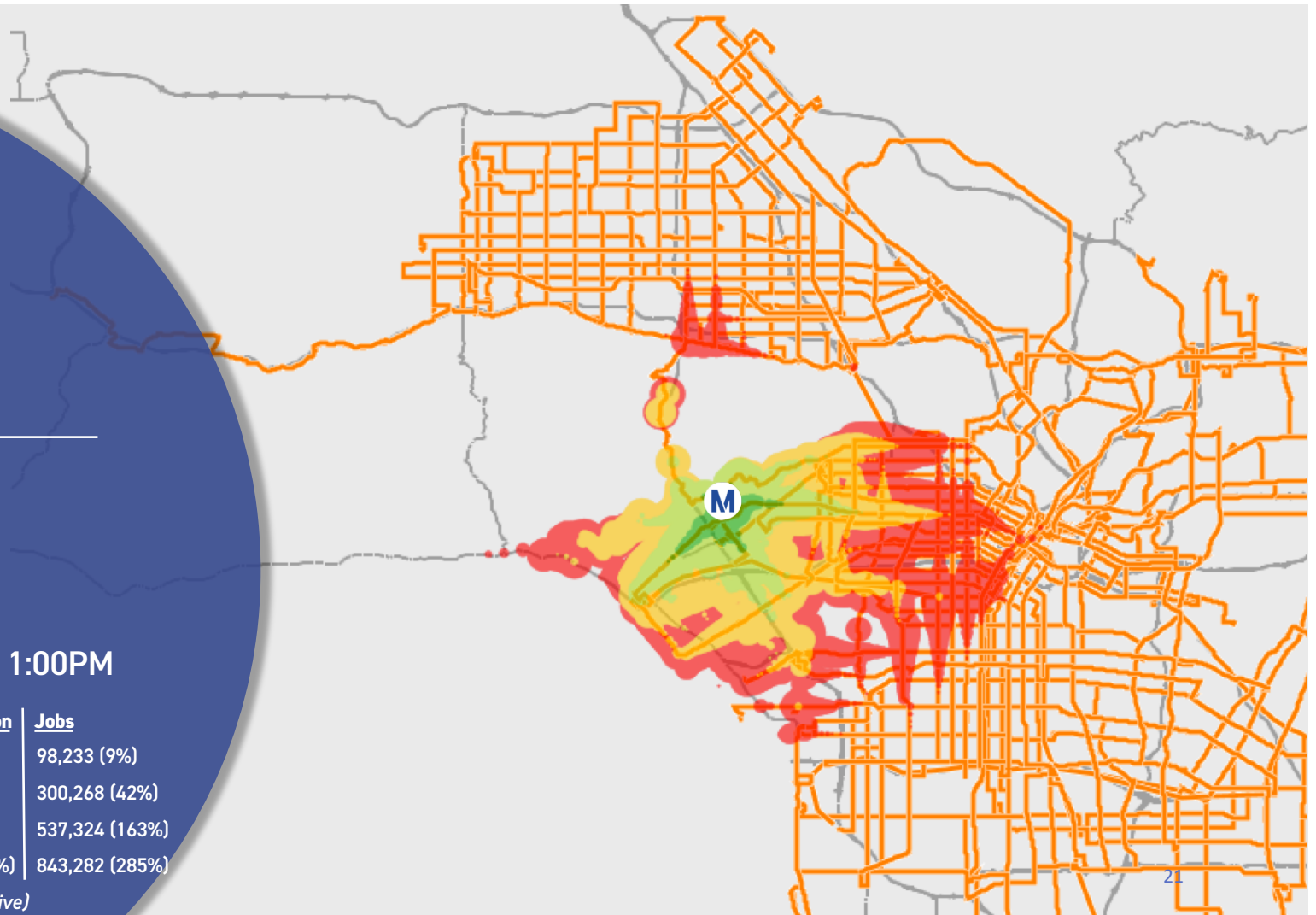
### Reach Map

Where can I go from...

Westwood/UCLA @ 1:00PM

In...

	<u>Population</u>	<u>Jobs</u>
 < 15 min	56,442 (16%)	98,233 (9%)
 < 30 min	242,413 (32%)	300,268 (42%)
 < 45 min	599,134 (93%)	537,324 (163%)
 < 60 min	1,349,980 (171%)	843,282 (285%)
(cumulative)		



## Existing Conditions Today

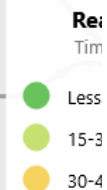
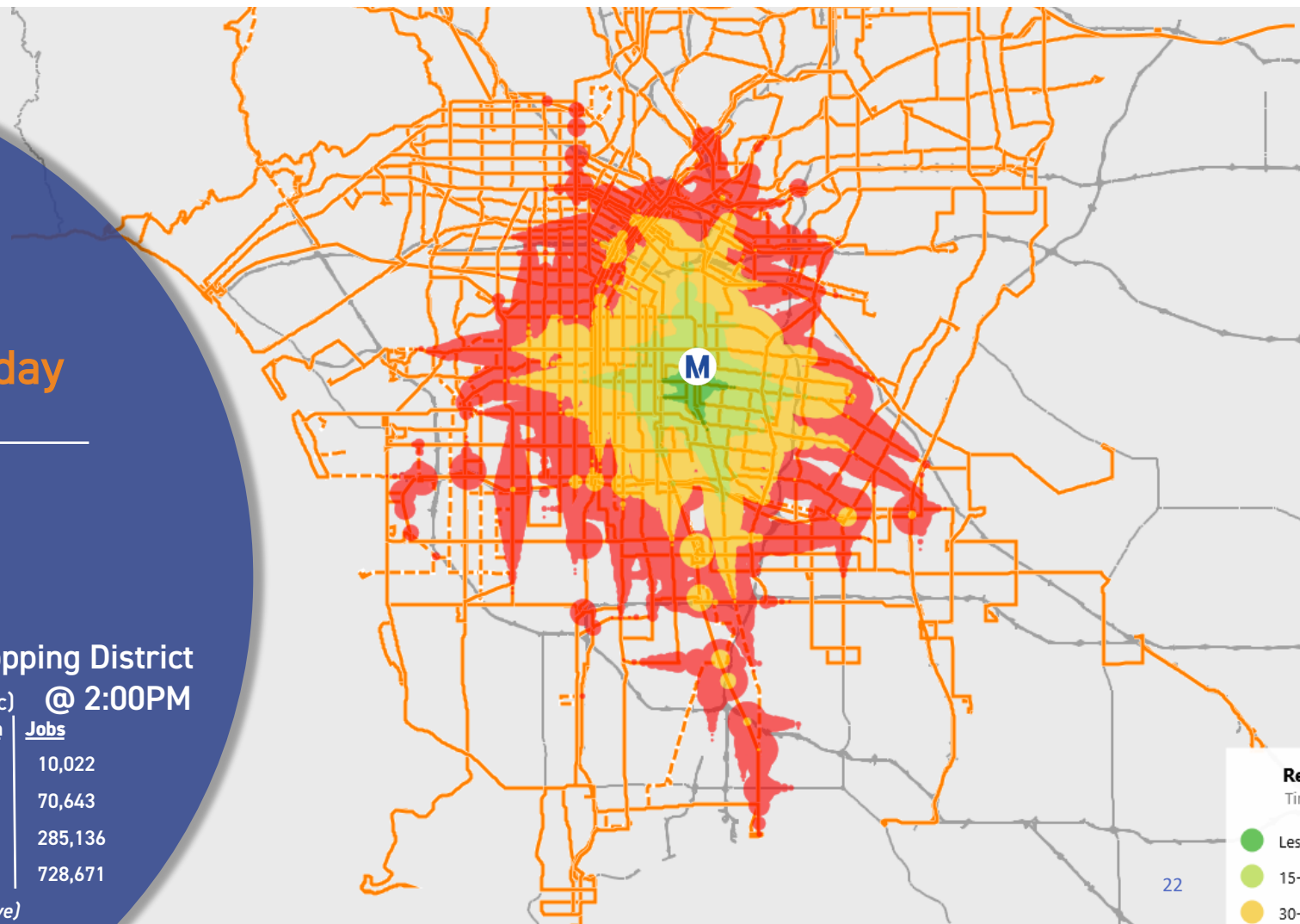
### Reach Map

Where can I go from...

Huntington Park Shopping District

In... (Florence and Pacific) @ 2:00PM

	<u>Population</u>	<u>Jobs</u>
<span style="color: green;">●</span> < 15 min	40,747	10,022
<span style="color: lightgreen;">●</span> < 30 min	264,040	70,643
<span style="color: yellow;">●</span> < 45 min	894,304	285,136
<span style="color: red;">●</span> < 60 min	1,990,799	728,671
(cumulative)		







## Scenario A Reconnect

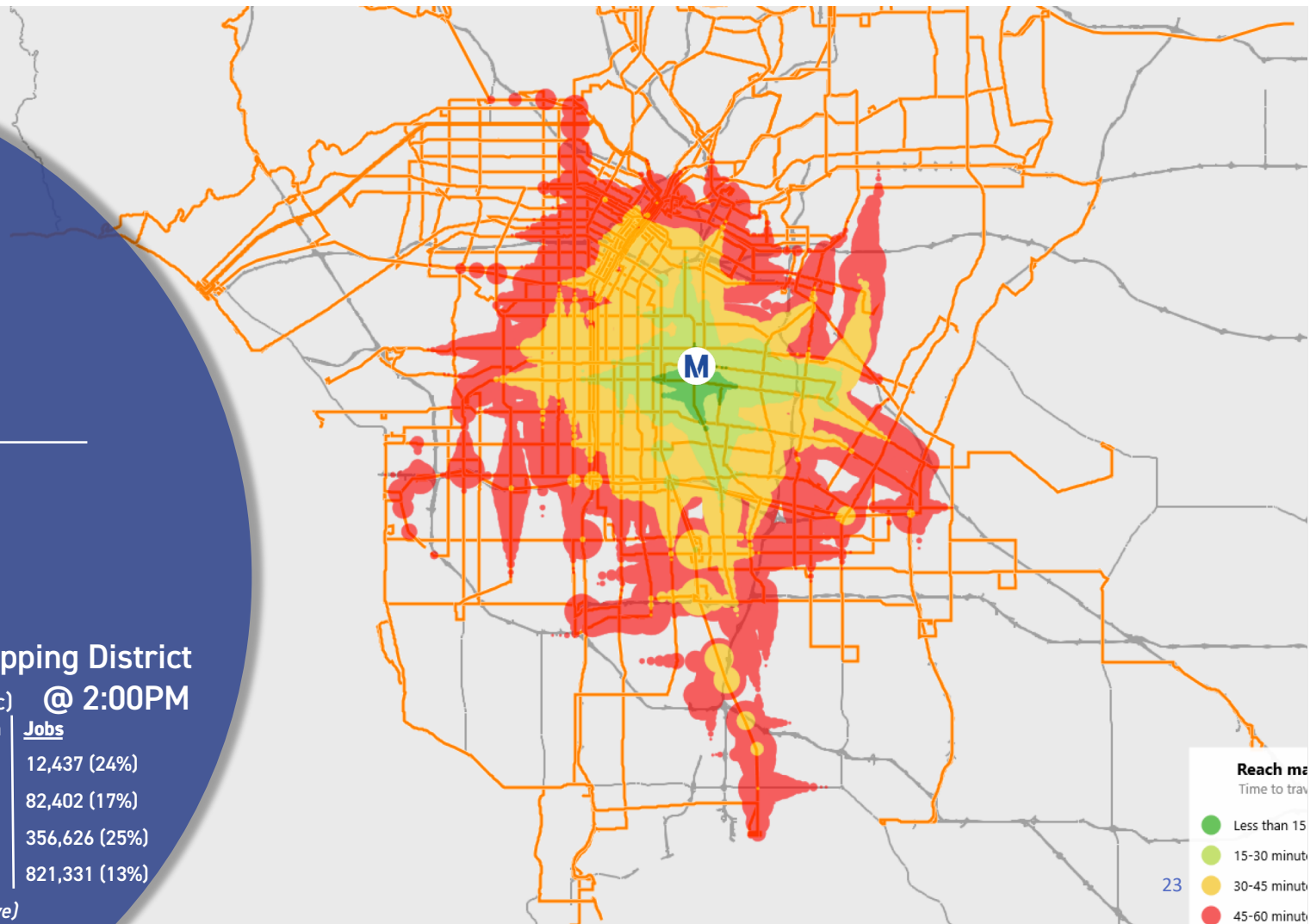
### Reach Map

Where can I go from...

Huntington Park Shopping District

In... (Florence and Pacific) @ 2:00PM

	<u>Population</u>	<u>Jobs</u>
 < 15 min	53,419 (31%)	12,437 (24%)
 < 30 min	332,420 (26%)	82,402 (17%)
 < 45 min	991,806 (11%)	356,626 (25%)
 < 60 min	2,187,467 (10%)	821,331 (13%)
(cumulative)		



## Scenario B Transit First

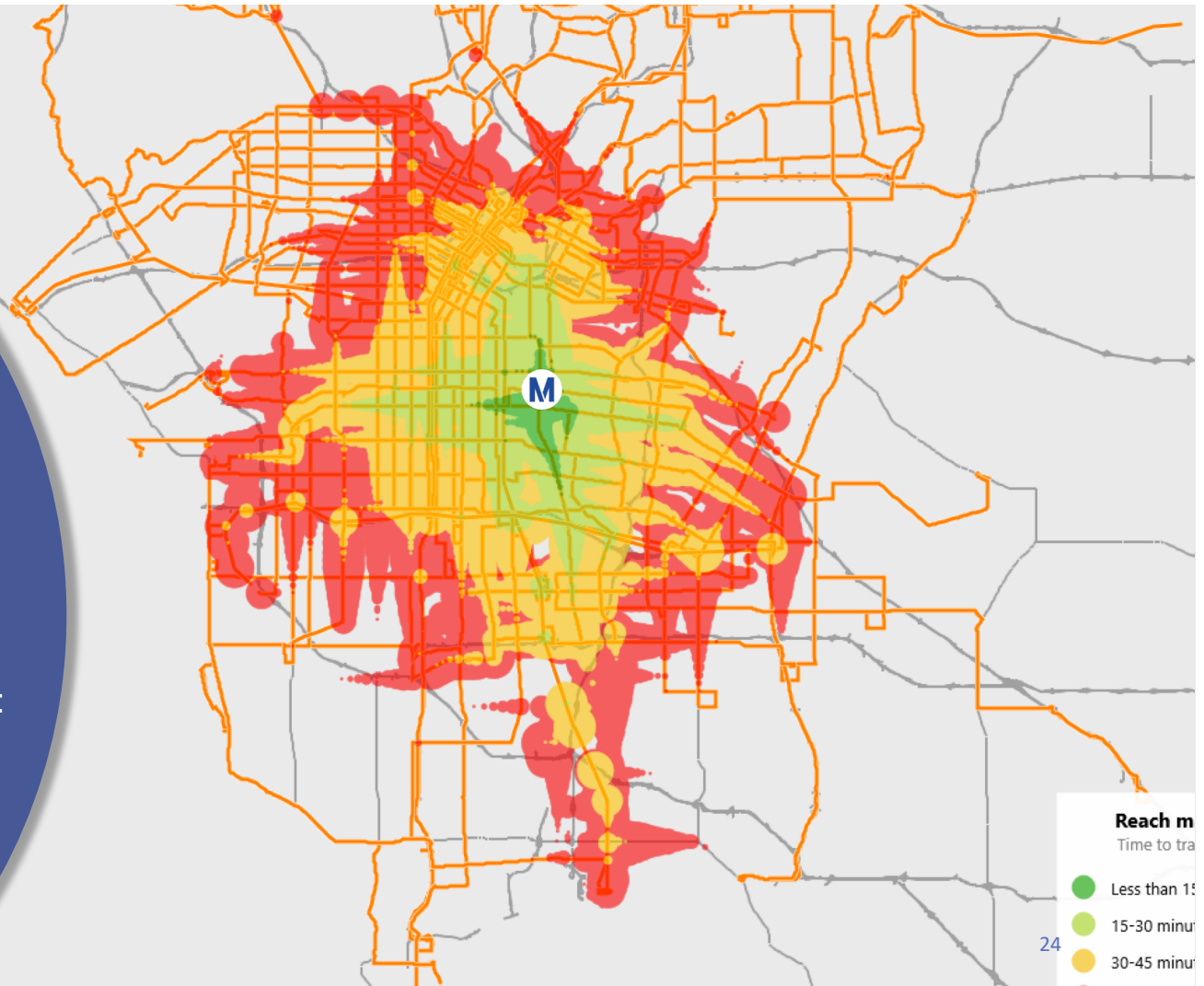
### Reach Map

Where can I go from...

Huntington Park Shopping District

In... (Florence and Pacific) @ 2:00PM

	<u>Population</u>	<u>Jobs</u>
<span style="color: green;">●</span> < 15 min	72,126 (77%)	17,736 (77%)
<span style="color: lightgreen;">●</span> < 30 min	506,217 (92%)	132,298 (87%)
<span style="color: yellow;">●</span> < 45 min	1,484,795 (66%)	537,880 (89%)
<span style="color: red;">●</span> < 60 min	2,815,706 (41%)	1,038,193 (42%)
	(cumulative)	






## Existing Conditions Today

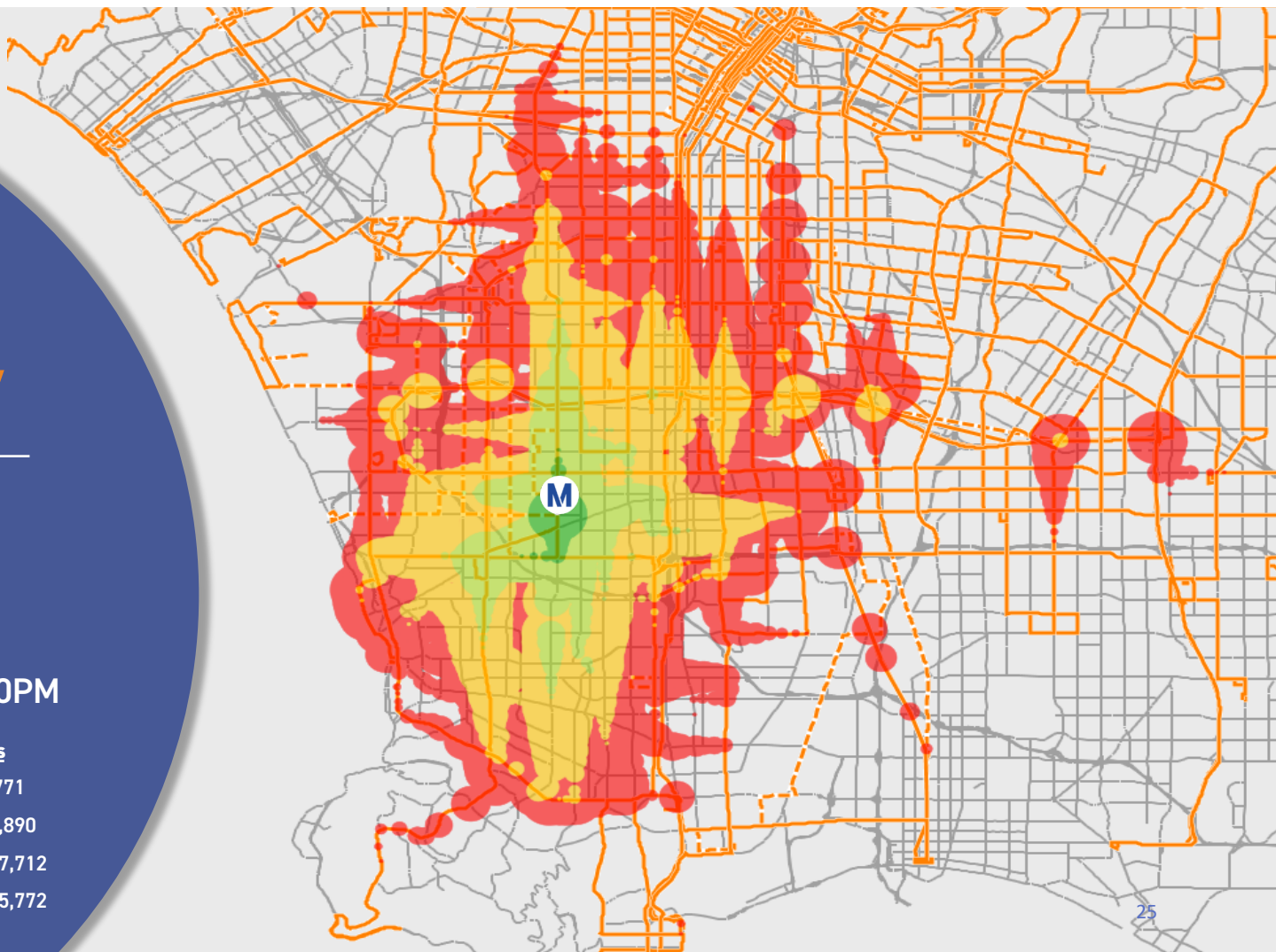
### Reach Map

Where can I go from...

El Camino College @ 1:30PM

In...

	<u>Population</u>	<u>Jobs</u>
 < 15 min	17,964	2,771
 < 30 min	145,742	56,890
 < 45 min	555,430	227,712
 < 60 min	1,380,127	475,772
(cumulative)		







## Scenario A Reconnect

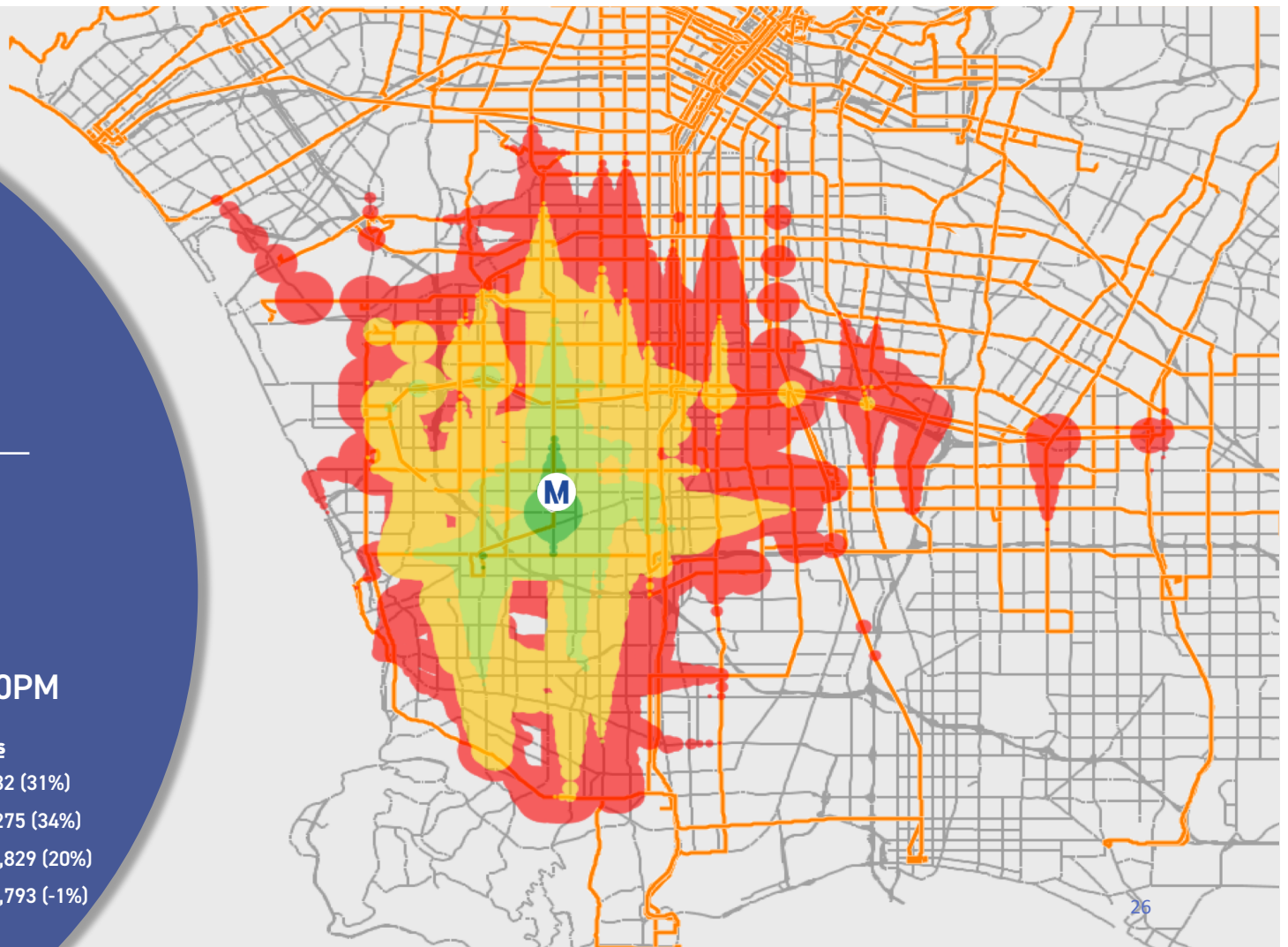
### Reach Map

Where can I go from...

El Camino College @ 1:30PM

In...

	<u>Population</u>	<u>Jobs</u>
 < 15 min	22,612 (26%)	3,632 (31%)
 < 30 min	187,046 (28%)	76,275 (34%)
 < 45 min	593,815 (7%)	272,829 (20%)
 < 60 min	1,345,681 (-2%)	470,793 (-1%)
(cumulative)		







## Scenario B Transit First

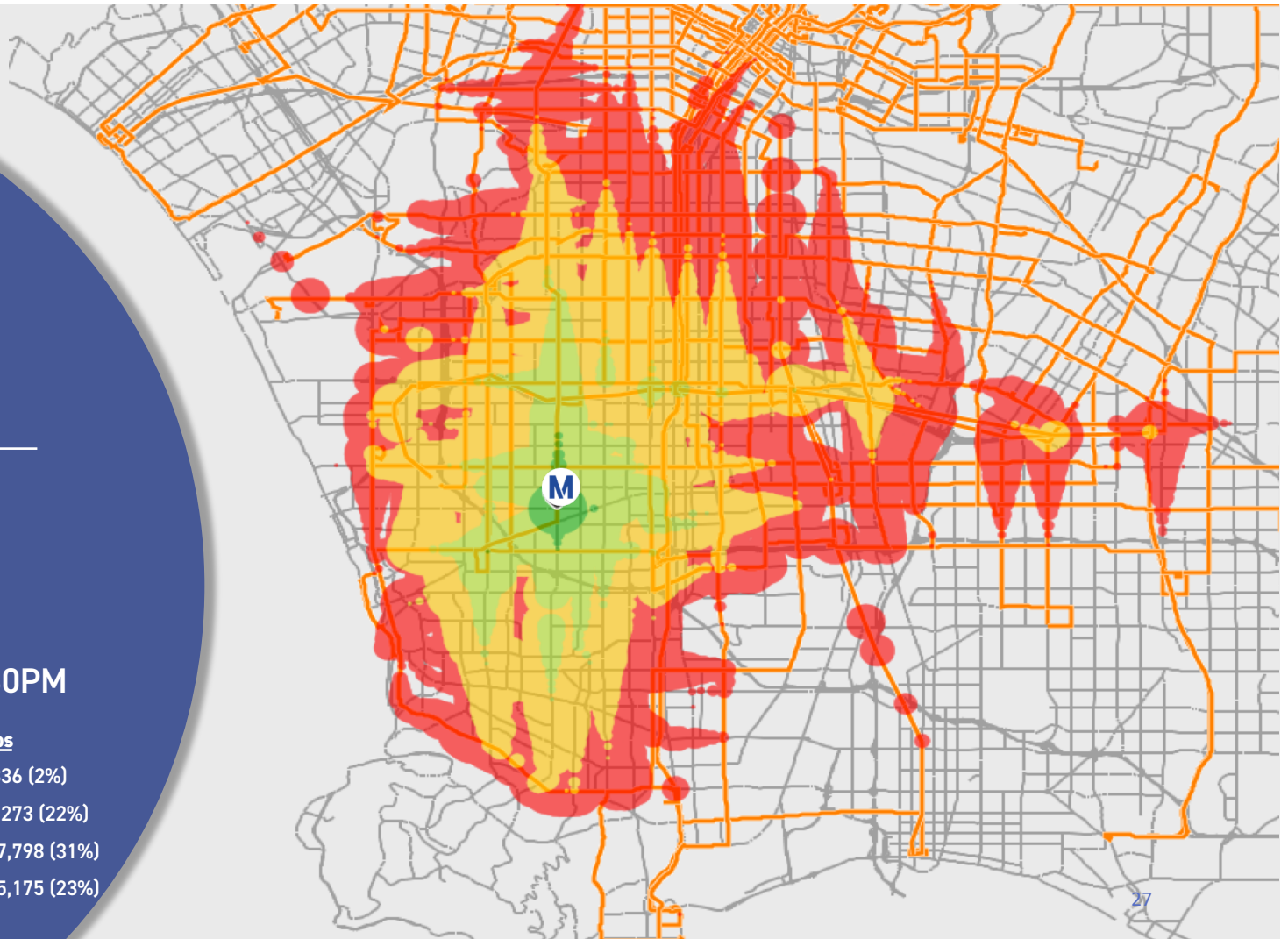
### Reach Map

Where can I go from...

El Camino College @ 1:30PM

In...

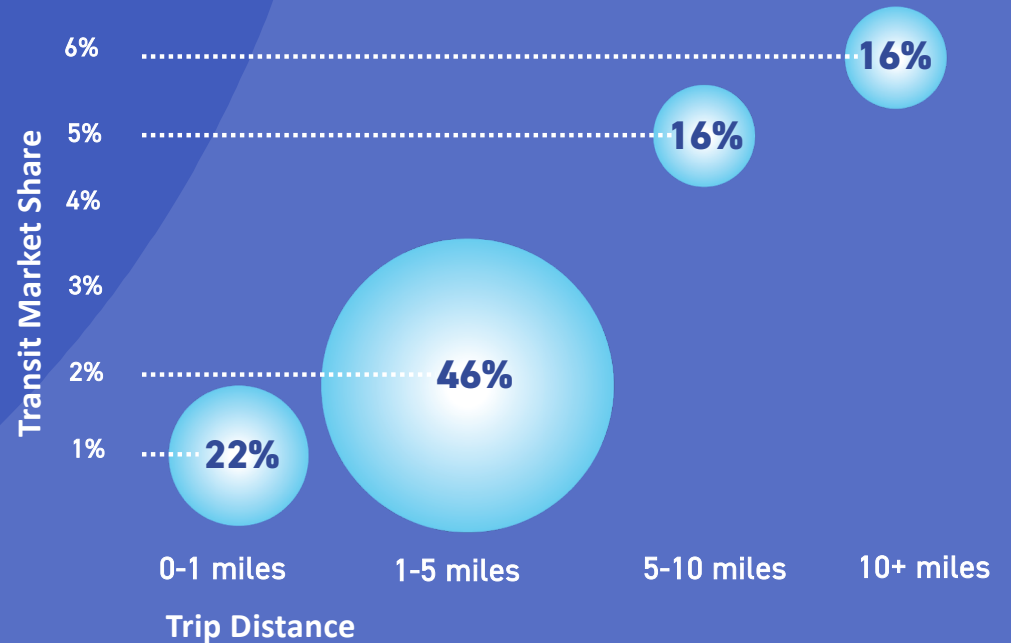
	<u>Population</u>	<u>Jobs</u>
 < 15 min	17,199 (-4%)	2,836 (2%)
 < 30 min	201,029 (38%)	69,273 (22%)
 < 45 min	803,770 (45%)	297,798 (31%)
 < 60 min	1,834,254 (33%)	585,175 (23%)
(cumulative)		



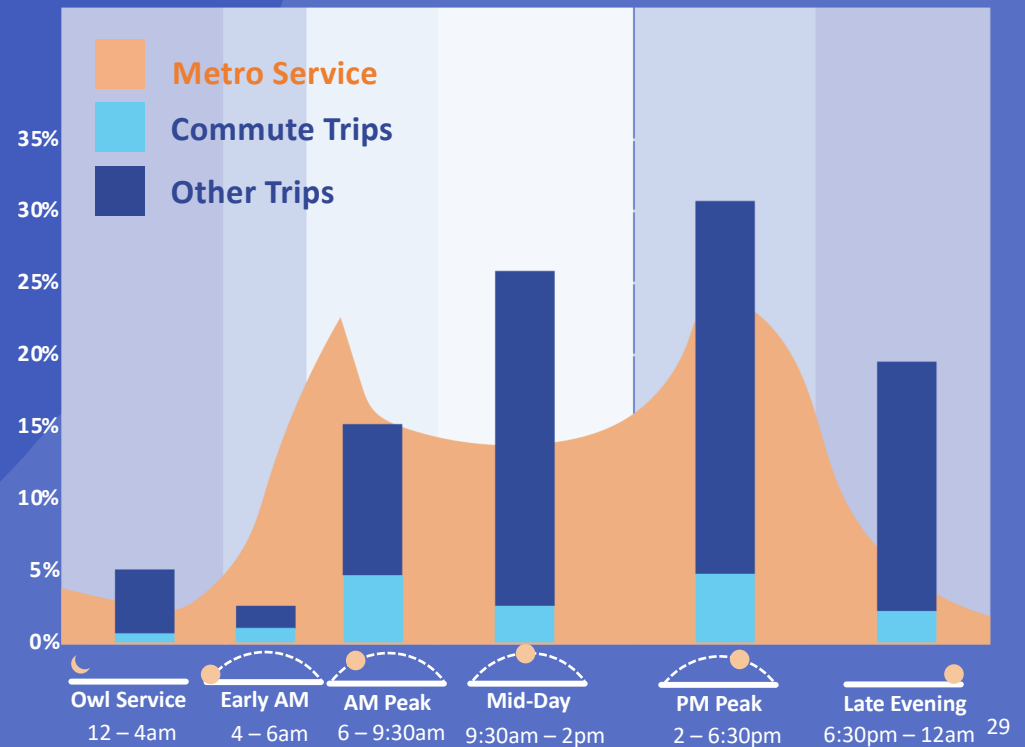


# The greatest opportunity to grow ridership is between midday & evening when many trips are short distance

Increasing our transit share of short distance trips to 6% means 500,000 new trips



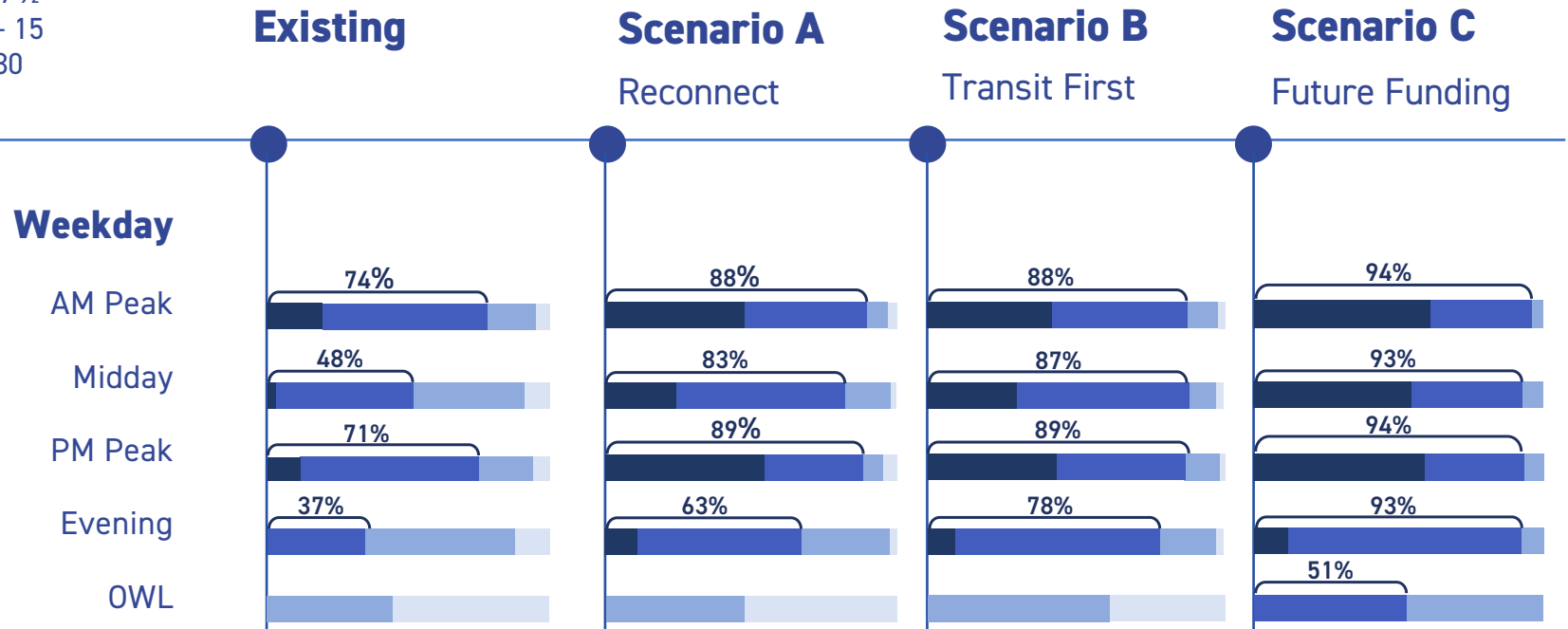
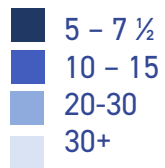
**The greatest opportunity to grow ridership is between midday & evening when many trips are short distance**



# Improving Frequency

## Weekdays

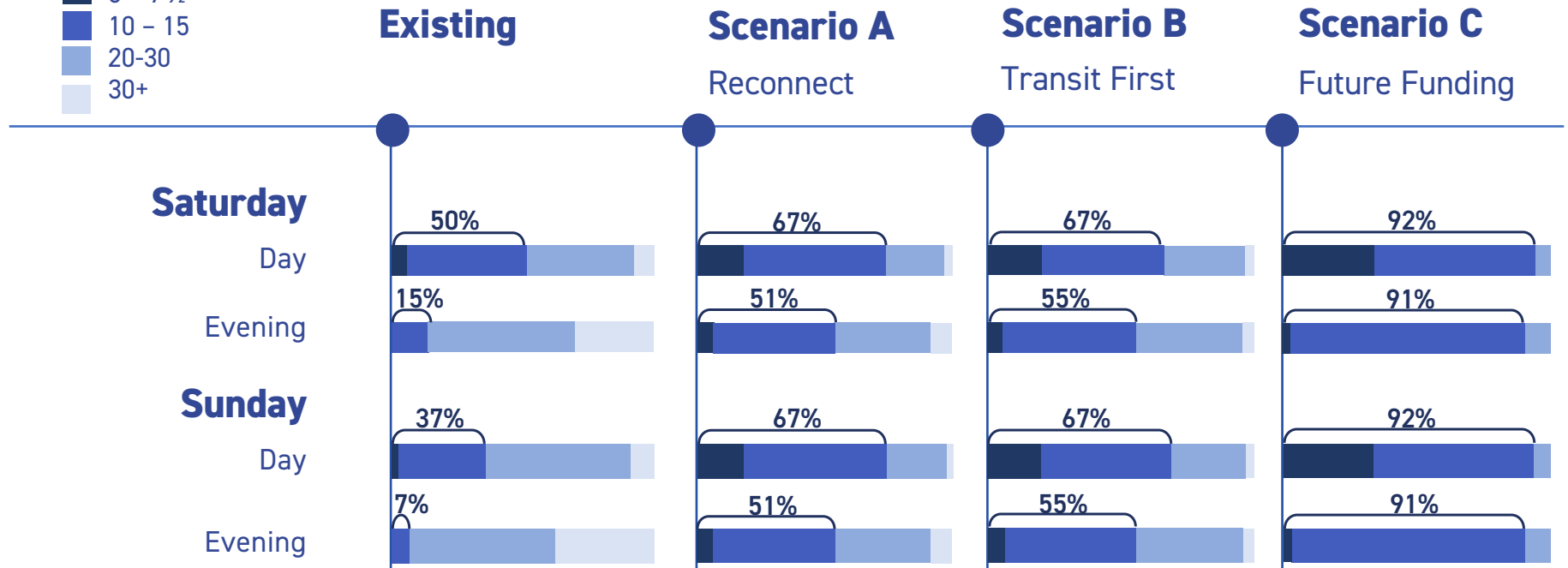
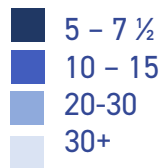
Percentage of Riders



# Improving Frequency

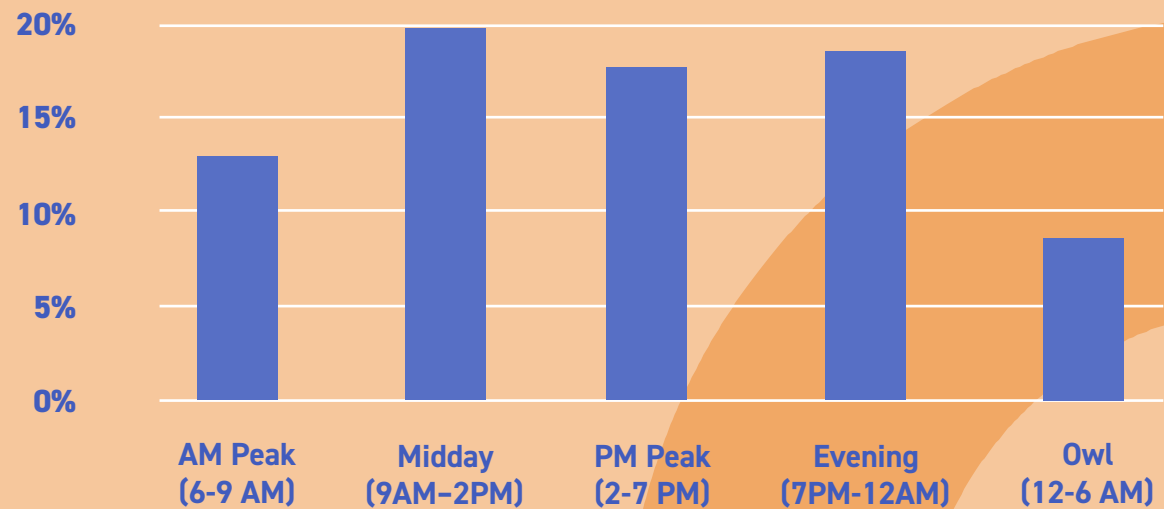
## Weekends

Percentage of Riders



# Ridership Growth

Weekday  
ridership  
expected to grow  
systemwide by  
**15-20%**



# Incorporating Metro's Equity Framework is key

Title VI/EJ protects minority & low-income groups

Metro and the NextGen Plan goes beyond Title VI/EJ by considering additional needs and ensuring positive outcomes

Race /  
Ethnicity  
(Non-White)

Income  
<\$35k

Limited  
English  
Households

Gender  
(Female)

Disability

Age  
(<18, >65)

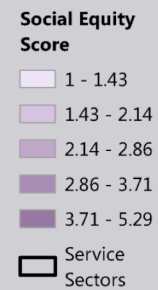
Transit  
Dependent

TITLE VI/EJ

COMMUNITIES WITH GREATEST MOBILITY NEEDS

## Existing Conditions Today

## Equity Focused Communities



# Infrastructure

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The Metro experience should be world-class for **all parts of the network.**



# Metro's Top Corridors

...include both bus & rail

## Weekday

Top 15 Corridors

131,033	Red Line
62,324	A Line (Blue Line)
61,218	Wilshire-Whittier
54,030	E Line (Expo Line)
43,235	Vermont
42,108	Gold Line
30,240	Western
30,239	Green Line
27,101	Sunset-Alvarado
26,416	Santa Monica
25,616	Orange Line
25,227	Avalon
23,442	Hollywood-Pasadena
23,226	Chavez-Garvey
22,383	West Third

## Saturday

Top 15 Corridors

75,981	Red Line
39,726	Wilshire-Whittier
33,474	E Line (Expo Line)
32,224	A Line (Blue Line)
30,640	Gold Line
30,211	Vermont
21,347	Western
20,434	Santa Monica
20,161	Avalon
19,456	Sunset-Alvarado
17,012	Green Line
16,242	Hollywood-Pasadena
16,203	West Third
15,711	Broadway
14,956	Chavez-Garvey

## Sunday

Top 15 Corridors

62,704	Red Line
31,417	Wilshire-Whittier
29,187	E Line (Expo Line)
28,902	A Line (Blue Line)
23,813	Gold Line
23,747	Vermont
16,867	Santa Monica
16,696	Western
14,540	Sunset-Alvarado
13,918	Avalon
13,855	Green Line
13,421	Hollywood-Pasadena
12,779	West Third
12,014	Chavez-Garvey
11,917	Venice

# The Metro Customer Experience



## 1 Speed & Reliability

Walk up & ride  
Fast, reliable,  
& predictable  
Consistent & simple  
routing



## 2 Stop Access & Waiting

Easy to find & access  
Comfortable, convenient,  
& well-informed  
Secure



## 3 Boarding & Riding

Fast all-door boarding  
Smooth, quiet ride  
On-board information

# 1. Speed & Reliability

---



# Speed & Reliability



## Rights of Way

Bus Lanes  
Bus Bulbs  
Transit Signal Priority

Speed Improvements:

17-24%



## Stops & Stations

Stop consolidation  
Stop relocation

4-8%



## Operations

Dedicated line management  
Advanced operating practices  
Integrated operations tech

4-6%

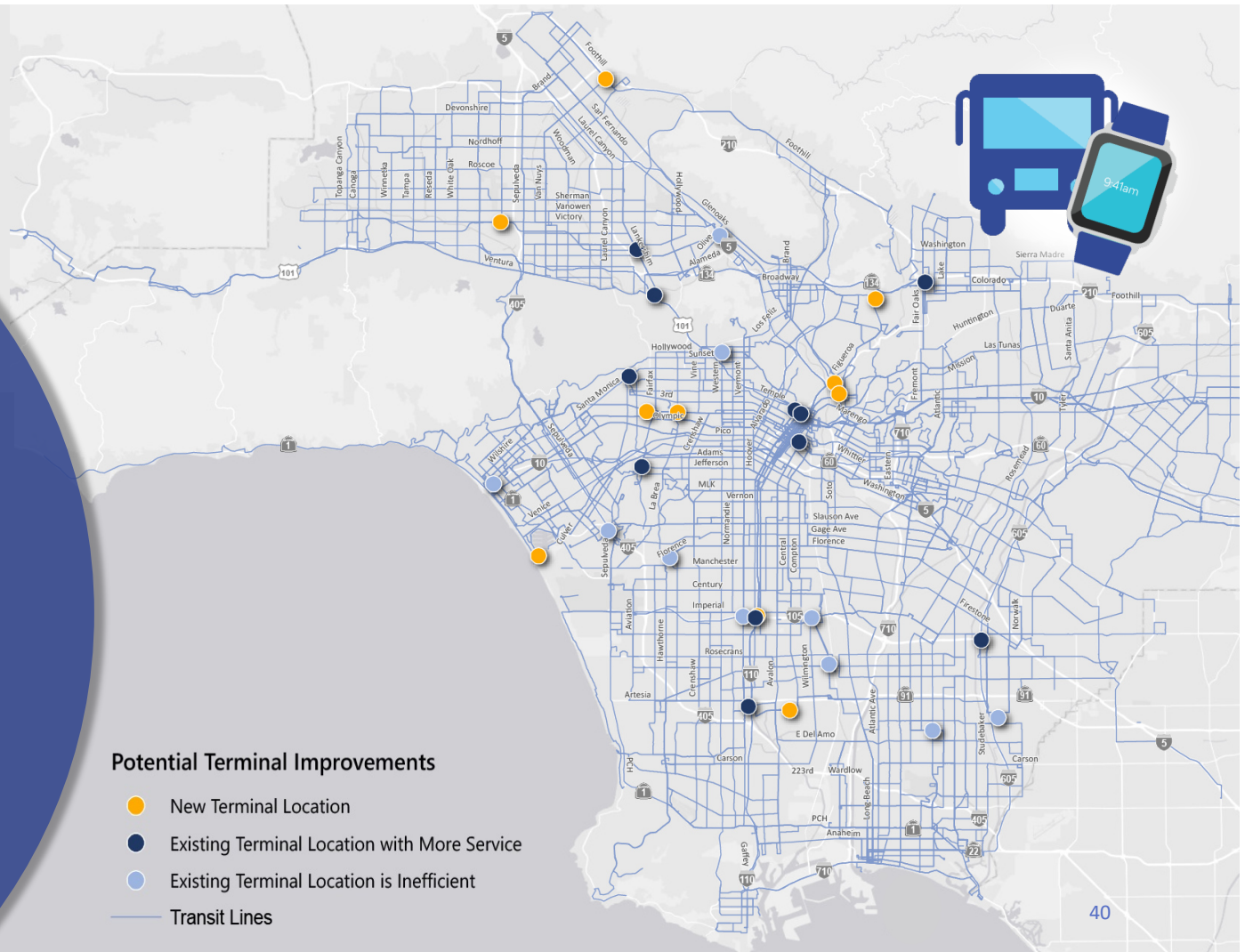
# Optimizing Terminals

## Focus regional mobility coordination

Improve bus service  
predictability & reliability

Reduce unnecessary operating cost

## New electric charging infrastructure



## **2. Stop Access & Waiting**

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# Stop Access & Waiting



## Placement

5-min walk access  
Far-side stops



## Comfort & Information

Bus shelters & seating  
Real-time information  
Neighborhood maps



## Security

Pylons with locator lights  
Emergency beacons  
Video monitoring  
Streamlined incident response  
Night-time courtesy drop-offs



# Stop Access & Waiting



Placement



Comfort & Information



Security

These improvements are outlined in Metro's **Transfer Design Guide** & reflect key findings in Metro's **Understanding How Women Travel** Report.



# Stop Consolidation

## Metro Local

( 0.15 – 0.20 mi avg)



## Metro Rapid

( 0.06 mi avg)



## NEXTGEN

( 0.25 mi avg)



**NextGen stop consolidation  
provides short walks, shorter  
waits, & faster travel.**

# **3. Boarding & Riding**

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# Boarding & Riding



## All-Door Boarding

Fast boarding  
Easy fare payment



## Boarding Access

Level platforms  
Precision docking  
No ramps



## On-Board Info

Next stop announcements



## Zero-Emissions

Quieter  
Smoother  
Better acceleration  
Green travel

# Implementing the Tools

An illustration on an orange background shows four hands interacting with a white notepad. A hand in a blue sleeve points to the top of the notepad. A hand in an orange sleeve points to the bottom. Two other hands, one in an orange sleeve and one in a grey sleeve, hold yellow pencils. The notepad contains text about transit implementation tools.

## Metro will..

- Optimize stop spacing
- Perform dedicated line management
- Choose headway-based operations
- Assure all-door boarding
- Use zero emission buses

## Both can work together to...

- Improve stop amenities
- Assure level platform boarding
- Enhance security

## Cities & Counties can install...

- Bus lanes
- Bus bulbs & islands
- Transit signal priority

# Transit First Improvements

**1**

All regular  
bus lines  
operate 7  
days a week

**2**

Add  
weekend  
service to  
8 routes  
(8% increase)

**3**

Add Owl  
service to  
8 routes  
(30% increase)

**4**

Increase  
weekday  
evening  
service levels  
(by 17%)

**5**

Increase  
weekday  
midday  
service levels  
(by 8%)

**6**

Improve  
service on 9  
lines from  
every 45-60  
mins to every  
30 mins

# Capital Improvement Costs



## 1 Speed & Reliability

Infrastructure & Operations  
\$750 M



## 2 Stop Access & Waiting

Stop Upgrades  
\$150 M

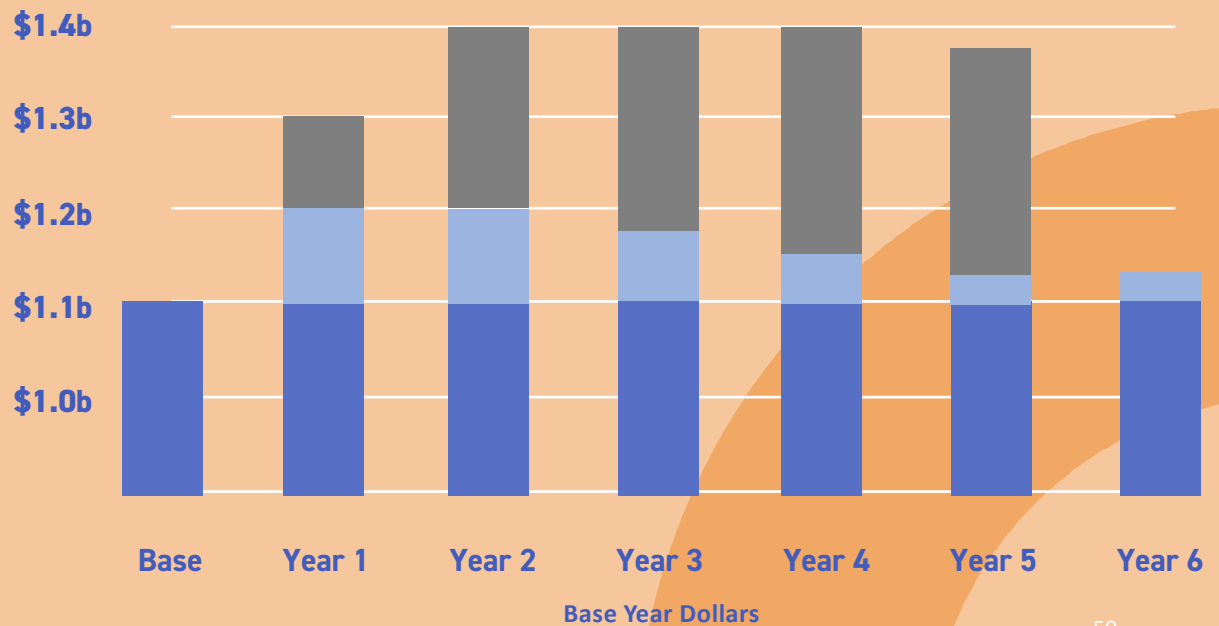
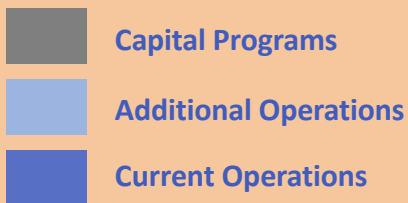


## 3 Boarding & Riding

All-Door Boarding  
\$100 M

# Phasing Improvements

Capital investments create additional service.





**With NextGen, the vast majority of riders will be able to get to their destinations **faster, more easily, & with a nicer ride.****



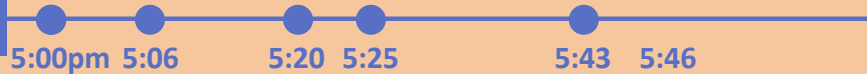
# A better ride

"I need to get pick up my child from daycare by 6:00 PM"

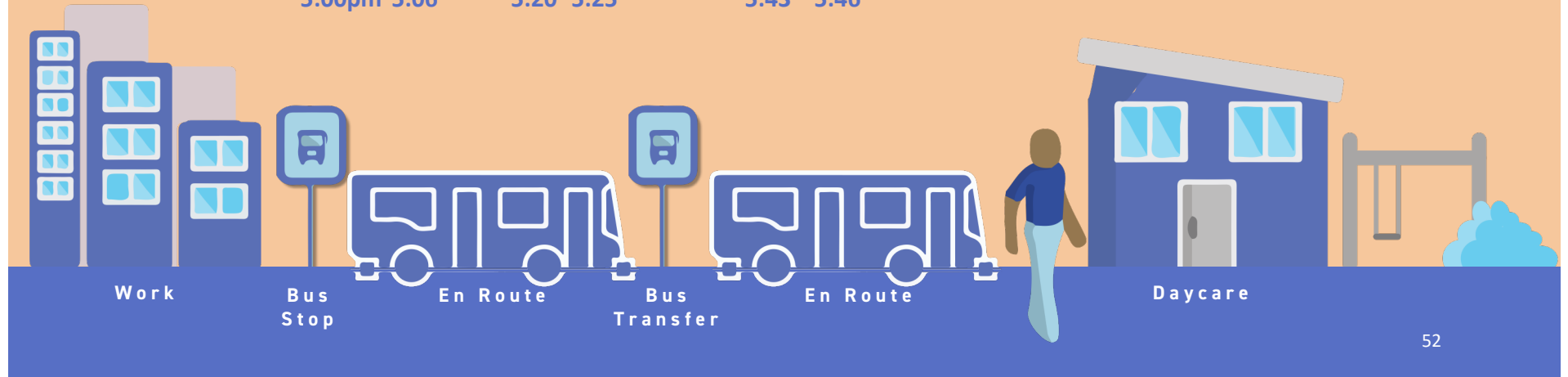
**Now**



**NEXTGEN**



**Shorter wait  
Faster travel times  
More frequent buses**



# A better ride

"I get off of work late and want to get home ASAP."

**Now**



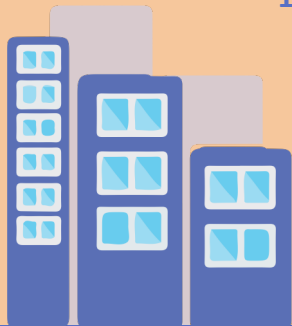
**NEXTGEN**



**New late-night  
service**

**More direct routes**

**Get home sooner**



Work



Bus  
Stop



En Route



Home



# Comparing the Alternatives

	Existing Conditions Today	Scenario A Reconnect	Scenario B Transit First	Scenario C Future Funding
<b>RESOURCES (REV. HRS)</b>	7 MILLION	7 MILLION	7 MILLION	9.4 MILLION
<b>High-Frequency Lines (weekday)</b> <i>Every 10 min or better</i>	16	28	29	46
<b>High-Frequency Lines (weekend)</b> <i>Every 10 min or better</i>	2	14	14	19
<b>People w/walk access to high-frequency service</b> <i>(weekday)</i>	900,000	2.15m	2.17m	2.96m
<b>People w/walk access to high-frequency service</b> <i>(weekend)</i>	630,000	1.14m	1.18m	1.49m
<b>Ridership Increase</b>	0	+5-10%	+15-20%	+25-30%
<b>% riders who lose convenient walk access to transit</b>	0	0.3%	0.3%	0.3%

# Next Steps

