

How Do We Properly Bounce Back?

Reflections on Climate Change Impacts, Infrastructure, and Equity

June 9, 2020

Presented by:

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June 9: Metro Employee Day of Remembrance



Los Angeles County – The Largest US Economy



- 88 incorporated cities
- Large area – 4,752 mi² (12,307 km²)
- Larger than the states of Rhode Island and Delaware combined
- Large Population
 - Over 10 million people
 - 17.6 million in surrounding counties
 - More than 42 states
- Diverse – More than 40% foreign-born, over 220 languages spoken
- The 21st largest economy in the world; 16th if four surrounding counties are included (SacBee, 2012)



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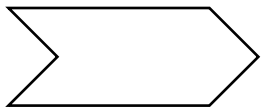
LA Metro is Los Angeles County's...



Regional Transit Planner/Funder



Regional Transit System Builder



Regional Transit Operator





Metro® Transit Program (Existing and Future)





Metro® Transit Program (Existing and Future)

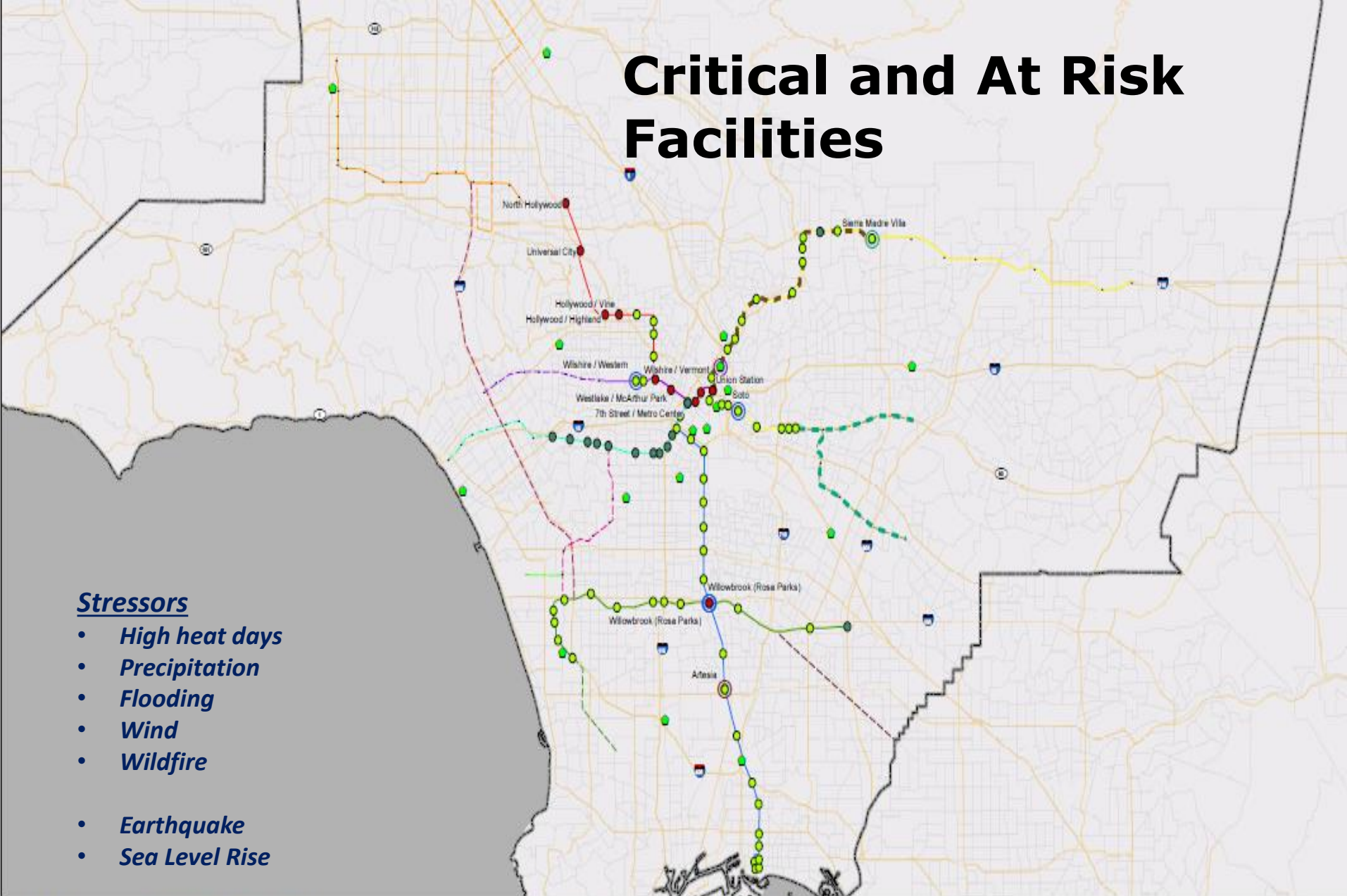
Metro Transit & Highway Projects: The 40-Year Plan



Critical and At Risk Facilities

Stressors

- *High heat days*
 - *Precipitation*
 - *Flooding*
 - *Wind*
 - *Wildfire*
-
- *Earthquake*
 - *Sea Level Rise*



Metro Rail and stations

- Red Line
- Green Line
- Purple Line
- Gold Line
- Blue Line
- Expo Line

Under Construction/Future Lines and stations

- Expo Line Phase 2
- Gold Line Foothill Extension
- Crenshaw Line
- Westside Extension
- Green Line Extension
- Green Line Extension to LAX
- West Santa Ana Transit Corridor
- Sepulveda Pass Transit Corridor
- Orange Line Extension
- Eastside Transit Corridor Phase 2
- Regional Connector Transit Corridor

Metro Bus and stations

- Orange Line (BRT)
- Bus

Maintenance Facility

Stations

- Critical
- Not Critical
- Unknown

Stations at Risk*

- Temperature
- Winds
- Flooding
- Storms

Rail Lines at Risk*

- Temperature
- Winds

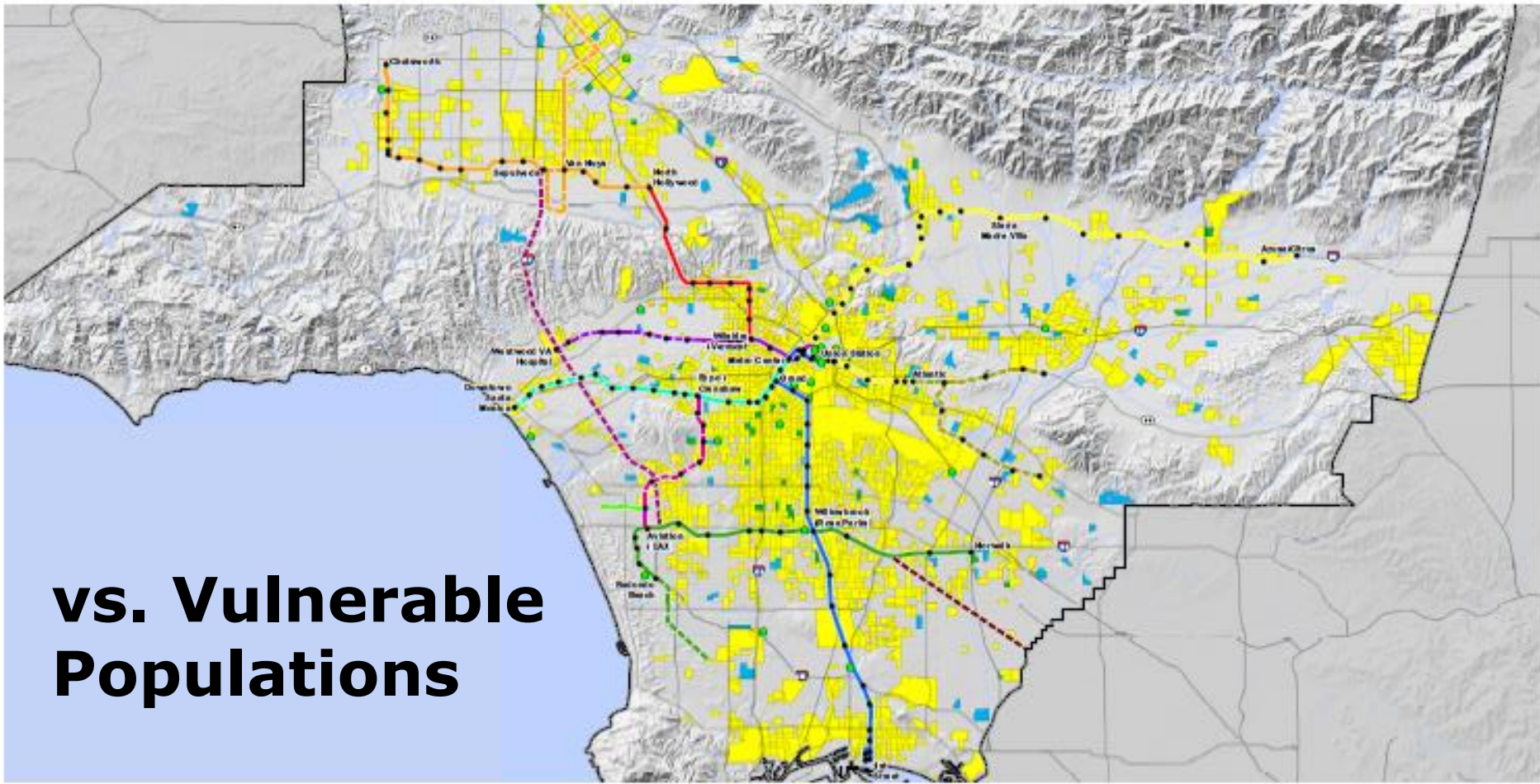
*Assess identified as historically vulnerable by LA Metro staff

NORTH

Scale: 1 inch = 5 miles

0 5 10 Miles

Source: Los Angeles County
Los Angeles Metropolitan Transportation Authority



vs. Vulnerable Populations



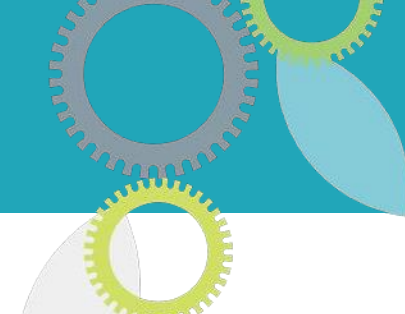
Source: Los Angeles County; Los Angeles Metropolitan Transportation Authority 2013, AECOM 2013.

Then the pandemic hit...

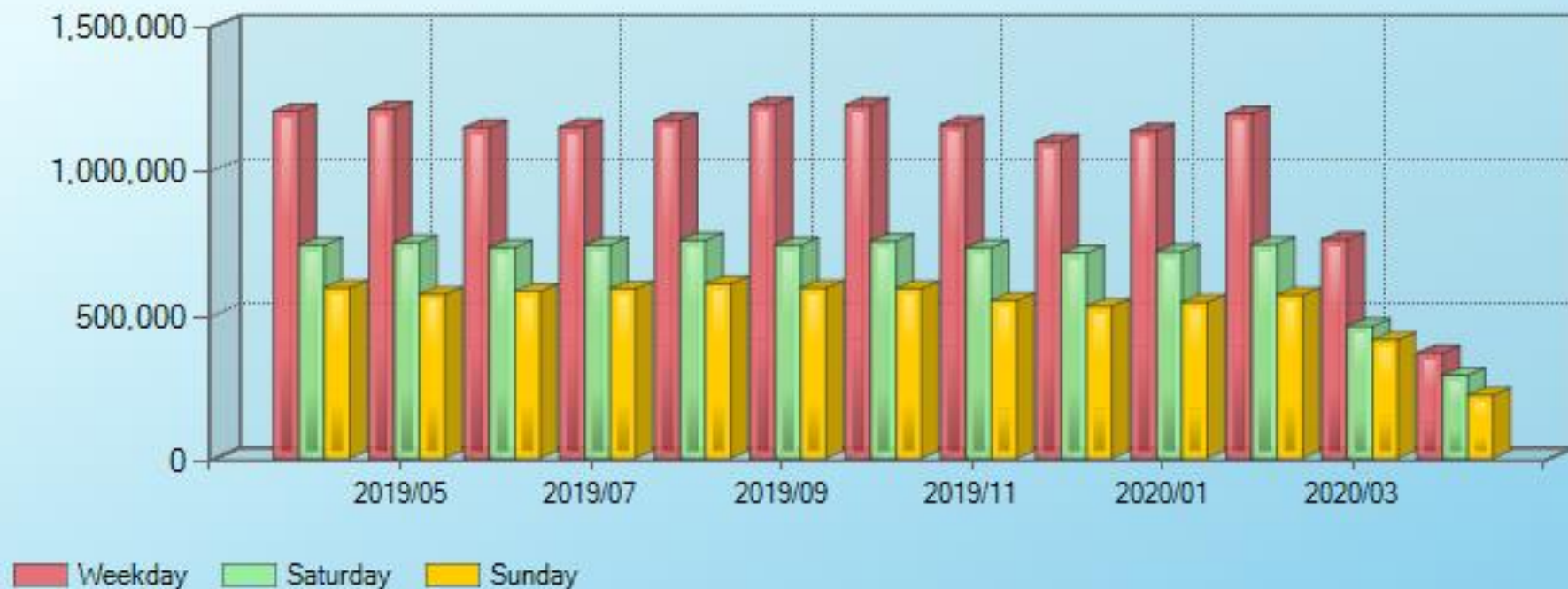


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COVID 19 Impact 1: Ridership



Average Estimated Ridership - Systemwide Bus and Rail



<http://isotp.metro.net/MetroRidership/Index.aspx>



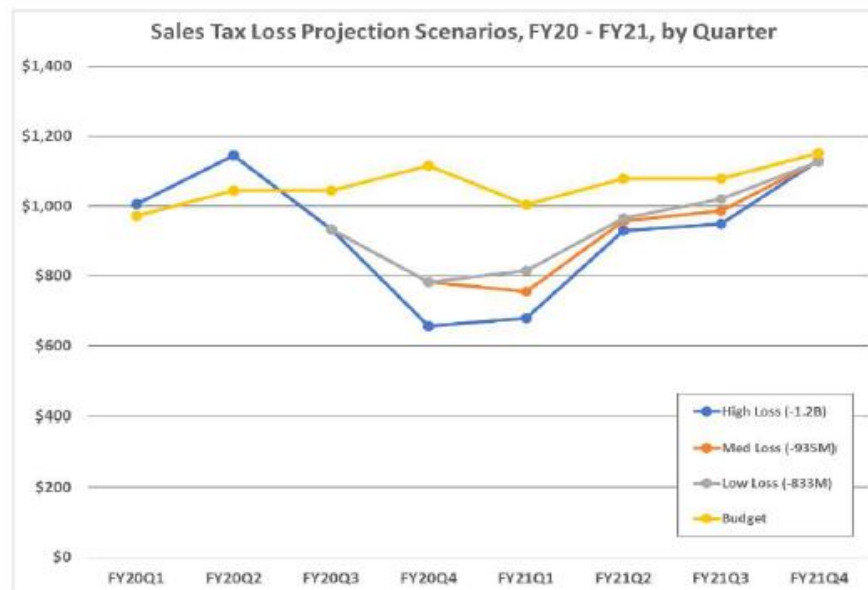
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COVID 19 Impact 1: Revenue

❖ LA Metro Sources of Revenue

- ❖ Sales Tax
- ❖ Fare box recovery
- ❖ Toll Revenue
- ❖ Others

<https://boardagendas.metro.net/board-report/2020-0310/>





What it would take to keep L.A. traffic from returning to soul-crushing levels? by Nick Goldberg

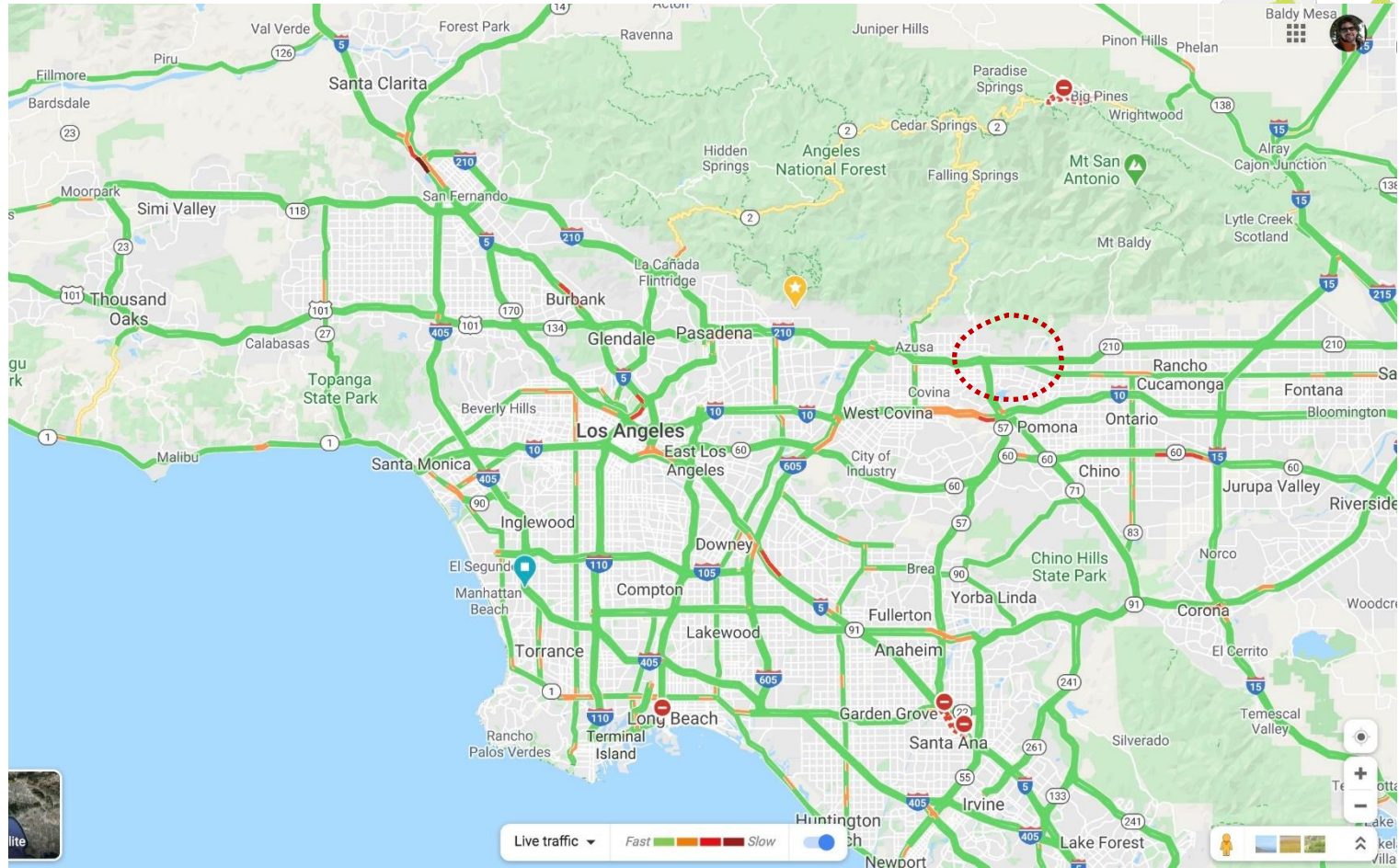
The article concluded:

“Apparently neither the soul-crushing traffic nor the cataclysmic threat of global climate change is enough to convince us to change our behavior. So, make good use of the extra time in your day while you have it. It’s not likely to last.”



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Traffic Observations: May 18

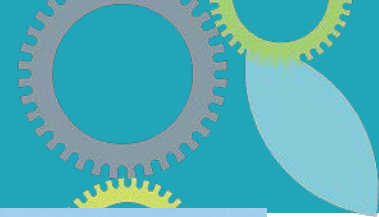


Steve Hymon, Metro, 2020



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Traffic Observations: June 3, 2020





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Draft: Long Range Transportation Plan



Los Angeles County
Metropolitan Transportation Authority

OUR NEXT LA*

2020 Long Range Transportation Plan

DRAFT



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Our Next LA* is better transit.

Transit Investment
Strategies & Actions
Performance Measures

Our Next LA* is less congestion.

Highway Investment
Strategies & Actions
Performance Measures

Our Next LA* is complete streets.

Active Transportation Investment
Strategies & Actions
Performance Measures

Our Next LA* is access to opportunity.

Joint Development Projects
Strategies & Actions
Performance Measures

Funding a Transportation Revolution

Supporting Our Partners
Operations & Maintenance

Bold New Policies & Programs

Plans for today, and the decades to come.

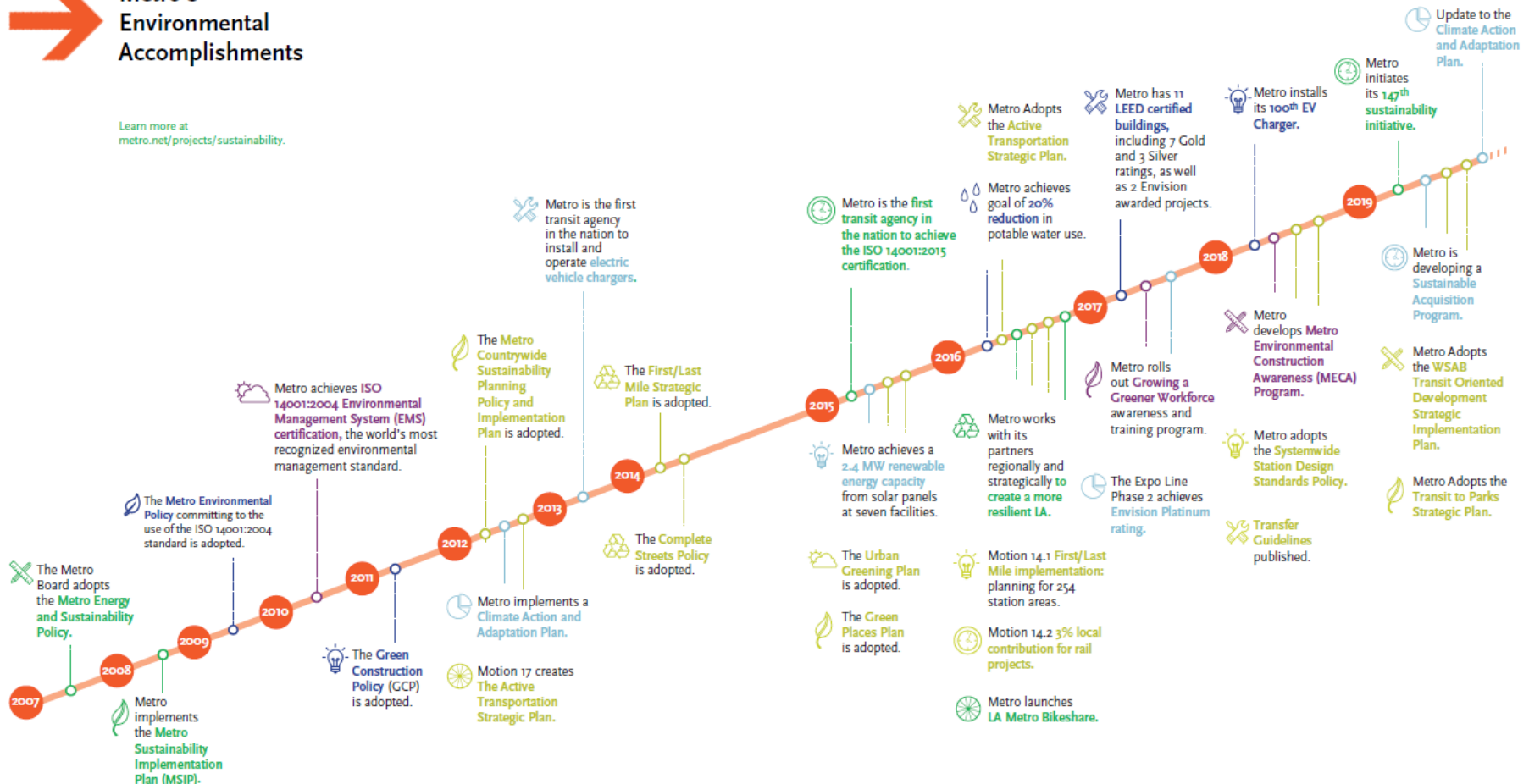


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Sustainability Accomplishments Timeline

Metro's Environmental Accomplishments

Learn more at metro.net/projects/sustainability.





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2019 Climate Action & Adaptation Plan



Mitigating GHG Emissions

Goals

- 2030: 79% reduction relative to 2017 levels
- 2050: 100% (zero emissions) relative to 2017

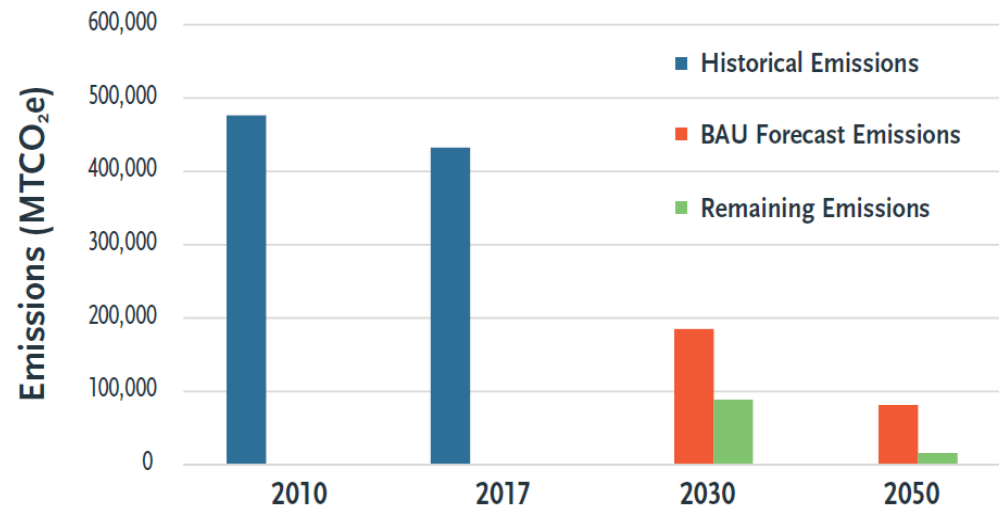
Metro reduced GHGe by

12% from 2010 to 2017

GHG Mitigation Measures

- Zero emission fleets
- Renewable energy supply
- Green buildings
- EV employee commuting

Forecasted emissions with Metro's 13 reduction measures versus Business as Usual (BAU) emissions.



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2019 Climate Action & Adaptation Plan



Building Climate Resilience

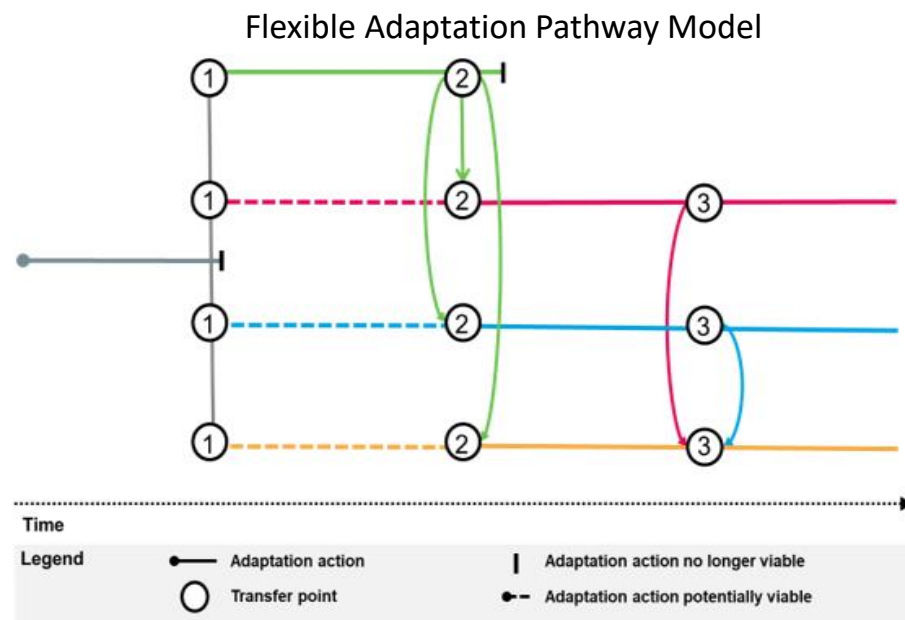
Goal

- Create a climate-resilient organization and transit system: prepared, ready and able to provide consistent services to the people of LA County

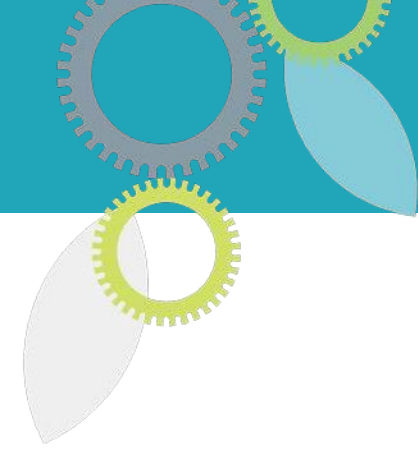
Resiliency Strategies

1. Make climate resilience an organizational priority
2. Establish a flexible approach to adaptation

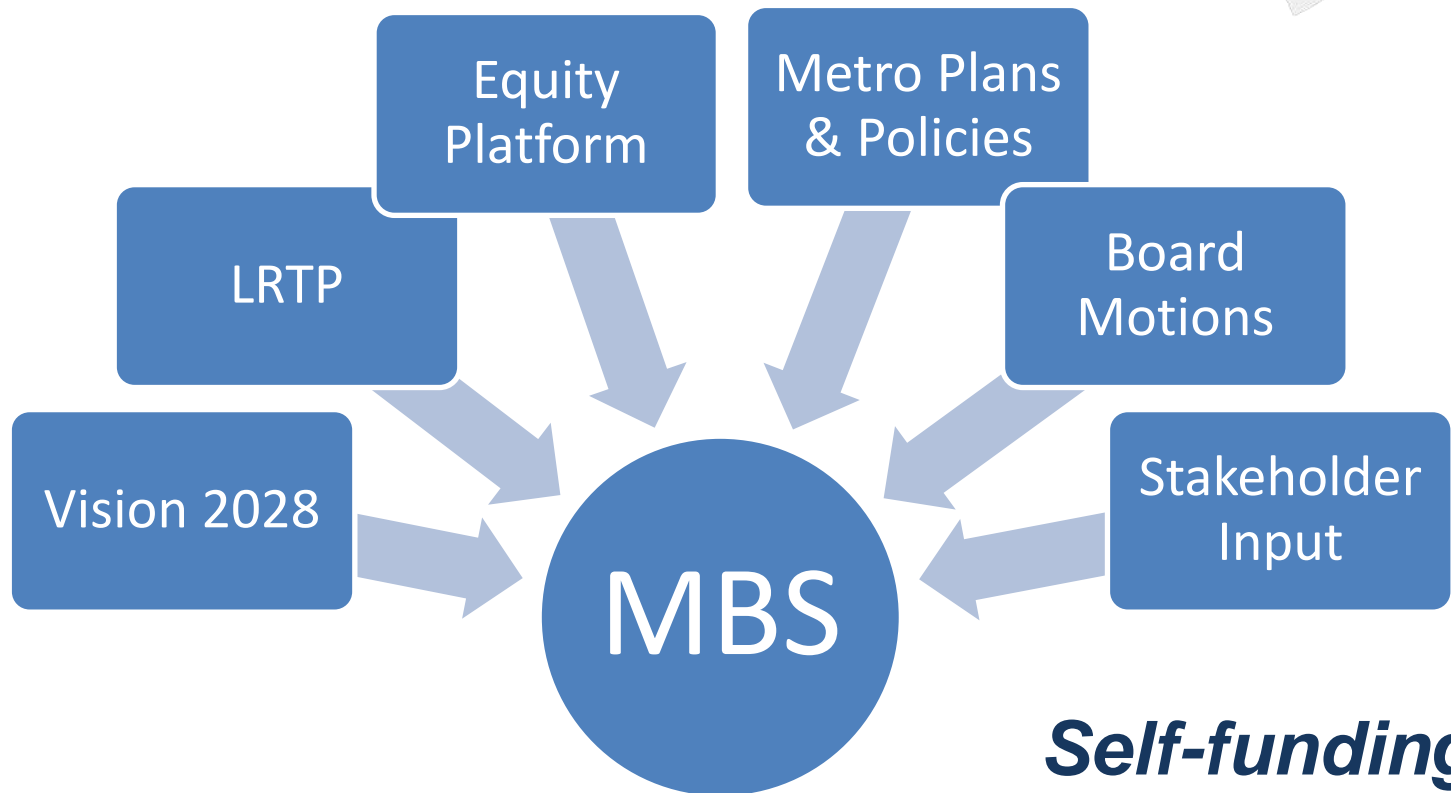
Metro increased the number of climate hazards analyzed from 3 to 7 and considered far more assets than just Metro owned assets.



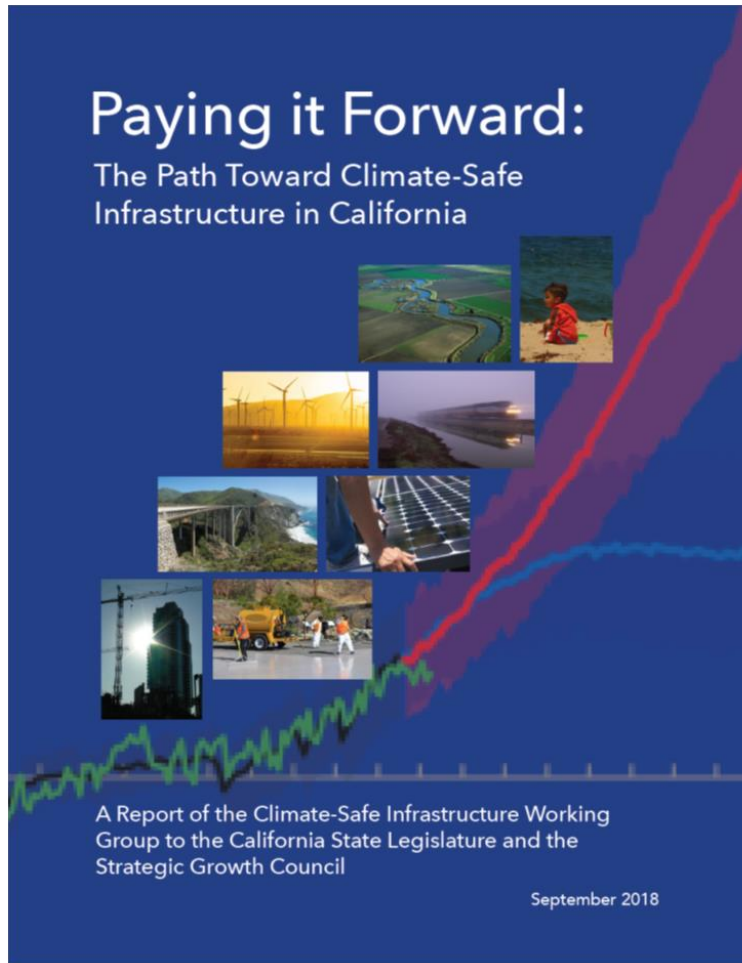
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Comprehensive Planning



Self-funding

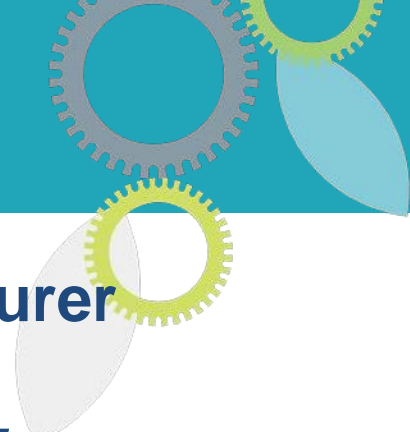


- Climate Safe Infrastructure as Policy
- Permanent Funding for Science and Infrastructure
- Reinvent Engineering Process
- Training: All Phases of Infrastructure
- Development of Standards/MOPs
- Changes in Procurement
- Climate Safe Commission
- *AB2800 (Quirk/Gonzales: June 4, 2020): Making the provisions of the original bill extended indefinitely.*



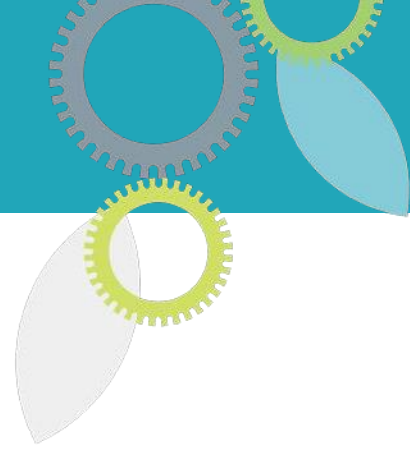
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CA Green Bonds Committee



- ❖ Convened and Chaired by the CA State Treasurer
- ❖ Purpose: *Expand financing for climate-friendly infrastructure through green bonds*
- ❖ Consists of 27 academics, engineers, investors, public policy experts, attorneys, and climate scientists
- ❖ Outcomes
 - ❖ Facilitate and educate investors and public on the power of green bonds and similar
 - ❖ Develop a green bonds framework in CA



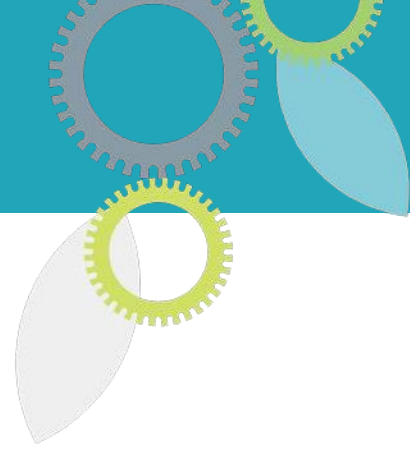


❖ **Efforts on the ASCE Sustainability Roadmap**

- ❖ **Standards**
- ❖ **Incorporating Climate Data into Practice**
- ❖ **Developing Procurement Documents**
- ❖ **Certification**

❖ **International Coalition on Sustainable Infrastructure**

- ❖ **Guidance, Tools and Standards**
- ❖ **Finance and Funding**
- ❖ **Innovation**
- ❖ **Leadership and Life-Cycle**



- ❖ **Everything has changed**

- ❖ **Assumptions**

- ❖ **Baseline conditions**

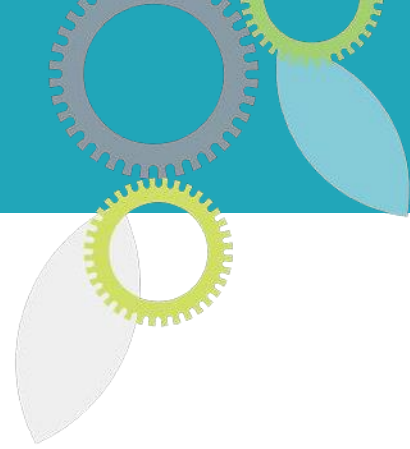
- ❖ **LA Metro Recovery Task Force**

- ❖ **What happens to the things that we are already doing?**

- ❖ **Are using adequate and correct tools?**



- ❖ **Post Lock-Down Conditions are making us rethink the new LA Metro**
- ❖ **Operations challenges**
 - ❖ **Logistics, workforce and cost challenges**
 - ❖ **What does the transition look like?**
 - ❖ **What does the tipping point look like?**
- ❖ **Adjustment to climate and sustainability goals: 2030/2050**
- ❖ **Operations adjustments due to structural deficit**

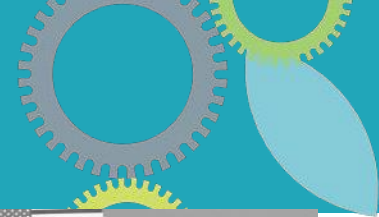


- ❖ **Leverage Agency Activities to Reduce High Unemployment**
- ❖ **Reduce the Impacts of Lost Ridership**
- ❖ **Rethink the Use of Infrastructure Due to Decreased Congestion**
- ❖ **Protect and Create Better Environment for Workers**
- ❖ **Towards A More Equitable Society**



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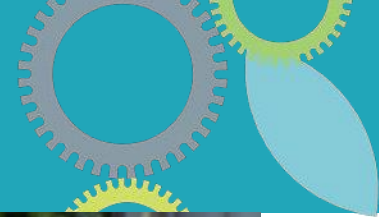
The New Reality?





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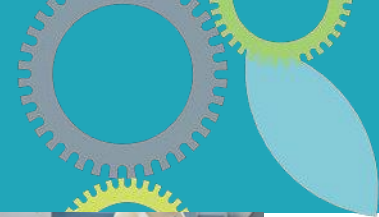
The New Reality?





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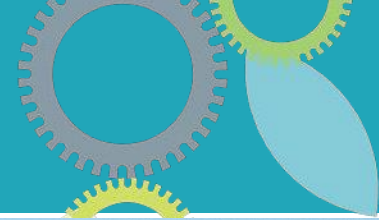
The New Reality?





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The New Reality?

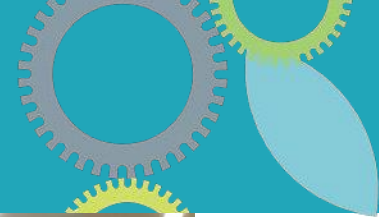


COVID-19 Test Location

Mariachi Plaza, Metro Gold Line

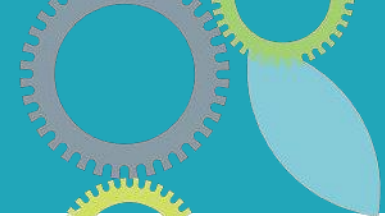


Metro® The New Reality?





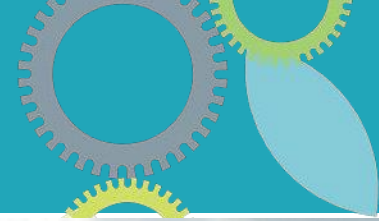
Metro® The New Reality?



Joe Lemmon, Metro, 2020



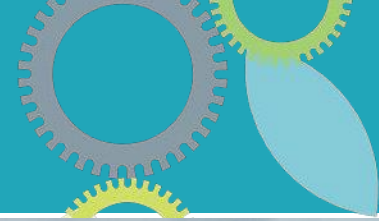
Metro® The New Reality?



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Metro® The New Reality?

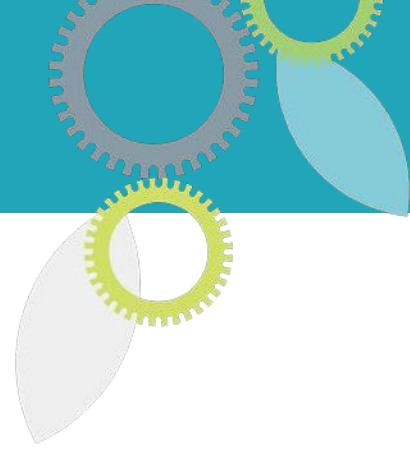


Joe Lemmon, Metro, 2020



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When You Have A Chance...



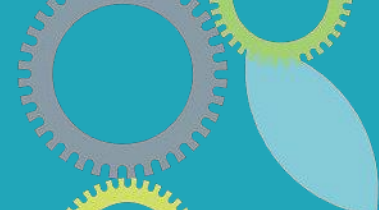
Metro is still in service for those who serve us...

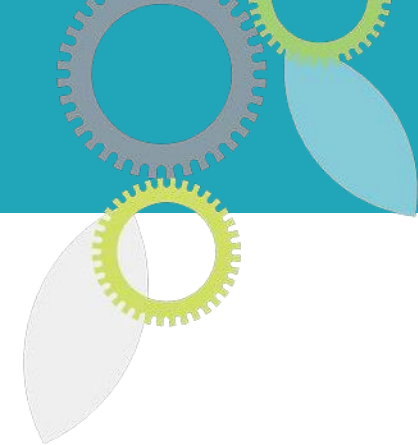
Where we were on [03/31/20](#)



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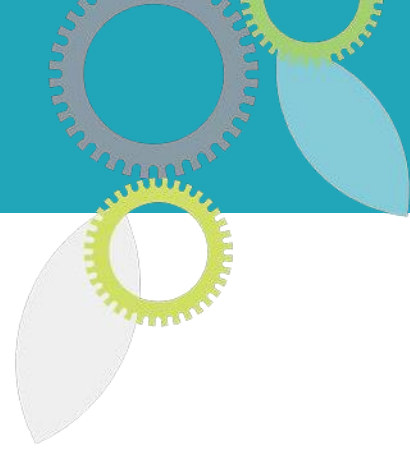
Why Are Really Doing These...







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Questions/Discussion

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