

Transforming Transportation in LA County:

*Update of the 2017 SLAGC
URSP LA County Energy
Report Card*

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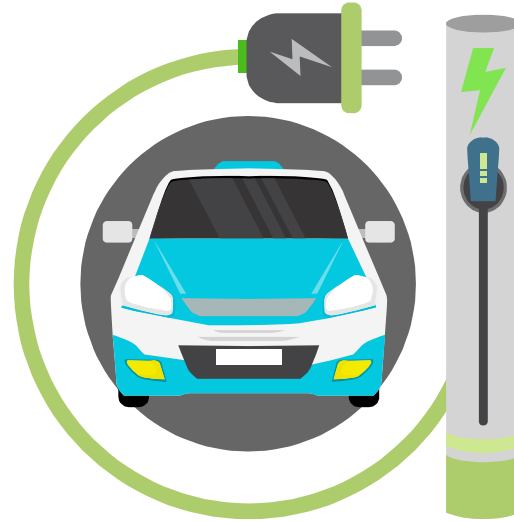
Methodology

Data sources &
indicators

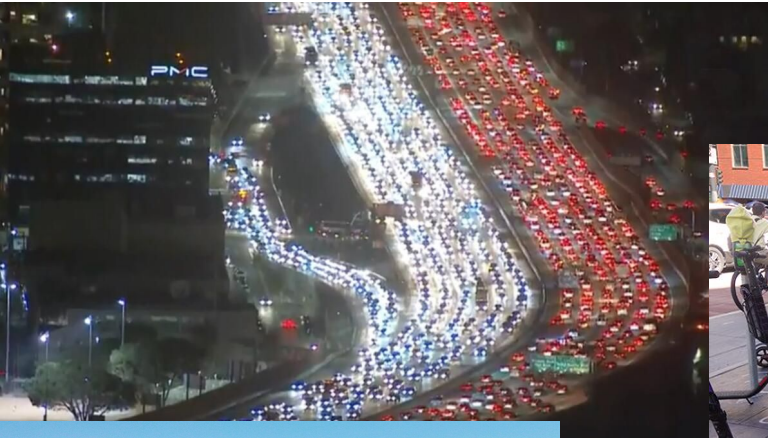
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Challenges & Results

Preliminary findings,
visualizations



Context



The U.S.

Context

California

Our commitments to making the Paris Climate Agreement come true



CO₂ emissions reduction compared with 2018¹



CO₂ emissions¹

CALIFORNIA'S CLIMATE PLAN LAYS THE ROADMAP TO 2045

- CUT AIR POLLUTION **71%**
- SLASH GREENHOUSE GAS EMISSIONS **85%**
- DROP GAS CONSUMPTION **94%**
- CREATE **4 MILLION** NEW JOBS
- SAVE CALIFORNIANS **\$200 BILLION** IN HEALTH COSTS DUE TO POLLUTION



AMPING UP CALIFORNIA'S EV INFRASTRUCTURE

- 90,000** NEW CHARGERS EXPECTED TO HIT CA ROADS
- 50%** IN COMMUNITIES HIT HARDEST BY POLLUTION
- \$2.9 BILLION** CLEAN TRANSPORTATION PLAN APPROVED



ZERO-EMISSION CAR SALES IN CALIFORNIA



SOURCE: CALIFORNIA AIR RESOURCES BOARD



Context



ENERGY & AIR QUALITY | 2017

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UCLA Grand Challenges

Sustainable LA

TRANSPORTATION

INDICATORS

- GASOLINE & DIESEL FUEL SOLD
 - VEHICLE MILES TRAVELED
 - COMMUTE TIMES & MODE OF TRANSPORTATION
- USE OF TRANSIT: PASSENGER MILES TRAVELED & PASSENGER TRIPS
 - NUMBER OF REGISTERED ELECTRIC VEHICLES
- NUMBER OF EV CHARGING STATIONS

HIGHLIGHT

- TRANSPORTATION AFFORDABILITY & ALLTRANSIT™ PERFORMANCE SCORE



G INCOMPLETE

2017 Report Card

- Deemed "incomplete" for assessing LA County's transportation needs
- **Action:** Identify missing elements from the 2017 Report Card & propose additional evaluative indicators

Transit Operations

- Existing metrics (PMT, UPT) out-of-date, lack depth
- **Action:** Develop comprehensive, multi-dim. transportation metrics incorporating latest data



Background & Literature Review

Transit Ridership

- Decreased frequency of transfers during commutes; overall drop in public transit use
- **Action:** Investigate underlying causes & project future patterns of ridership

Personal EVs

- Goal for zero-emission vehicles by 2035; currently skewed higher-income demographics
- **Action:** Explore strategies for equitable access/distribution of EVs across all income levels

Objectives



1

Revise the 2017 LA County Energy Report

Addressing identified gaps by updating the six indicators previously assessed & incorporating new indicators to accurately represent the evolving transportation landscape.



2

Analyze collected data to provide in-depth insights on transportation infrastructure, equity, public health

Addressing policy implications, equity concerns, & health impacts in the transportation sector.

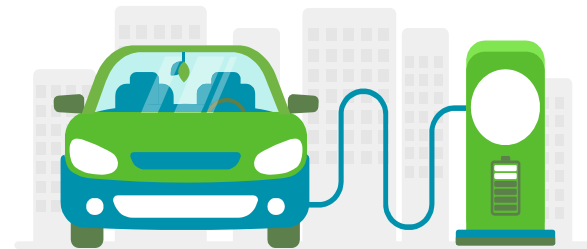
Methodology

Collecting Data

- Compiling data from LA county-wide datasets, including CalEnviroScreen, LA Metro, LADOT, LADPH, LACTMA
- Categorizing datasets based on indicator type

Leveraging Indicators

- 3 broad categories: Transportation infrastructure, equity, & health impacts
- Currently evaluating data based on our 12 specific indicators



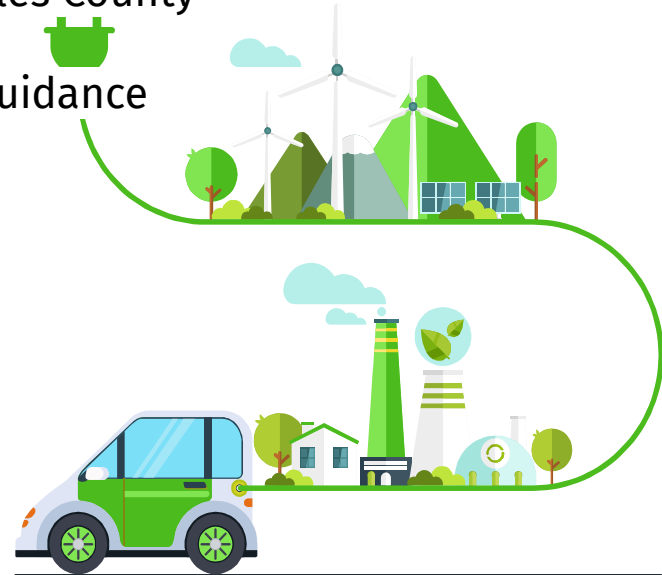
Methodology

Conversations with Transportation Experts

- Meetings with transportation experts from the National Renewable Energy Laboratory, & UCLA's Institute of Transportation Studies & Luskin School of Public Affairs
- Gain valuable insight into the current state of Los Angeles County transportation
- Possibilities of future collaboration, review, & further guidance

Analysis

- Use coding language R to visualize data & present observable trends
 - E.g. graphs produced in R in the results section
- Use data to supplement writing for new report
- Reconnect with experts



Challenges

Establishing our focus

We need to establish concrete indicators rather than abstract, qualitative measures

Finding relevant sources

Some focus on implications based on future projections; others have paywalls & signups that are required for access

Evaluating LA County

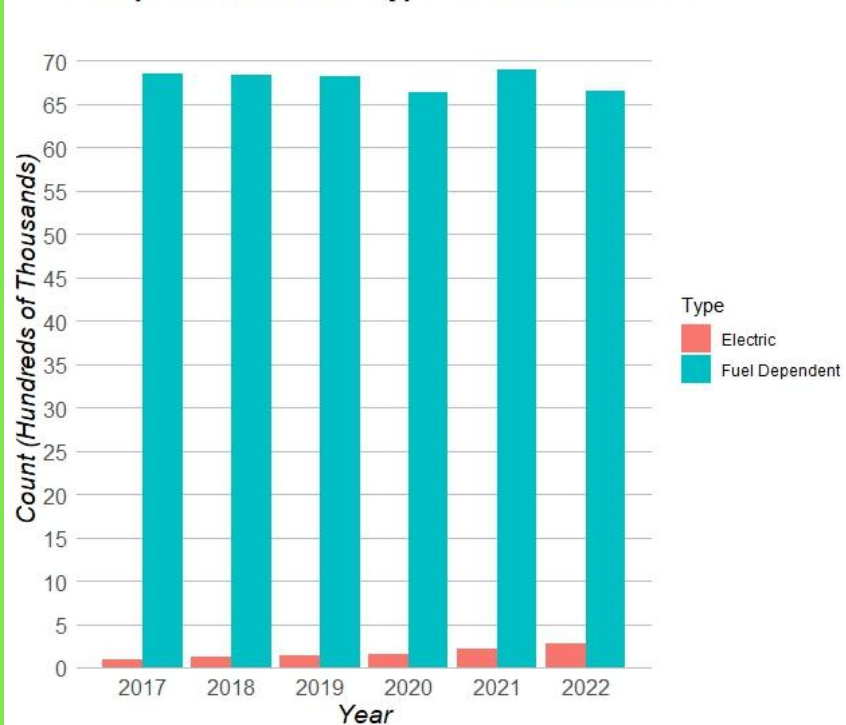
We need to consult experts with results to come up with an evaluation; how do we assess progress?

- What are positives?
- What are negatives?

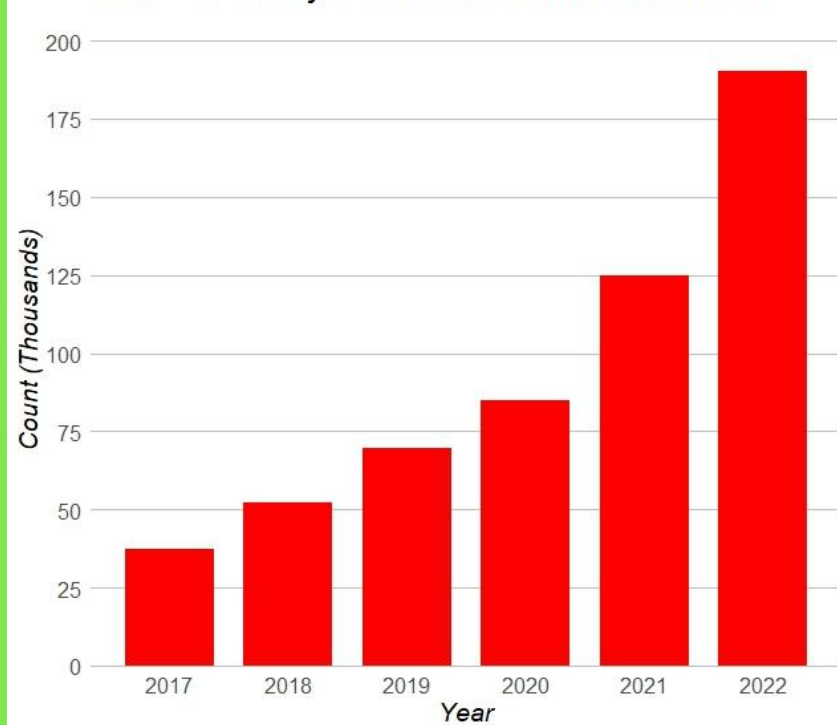


Results: Building on 2017 Data

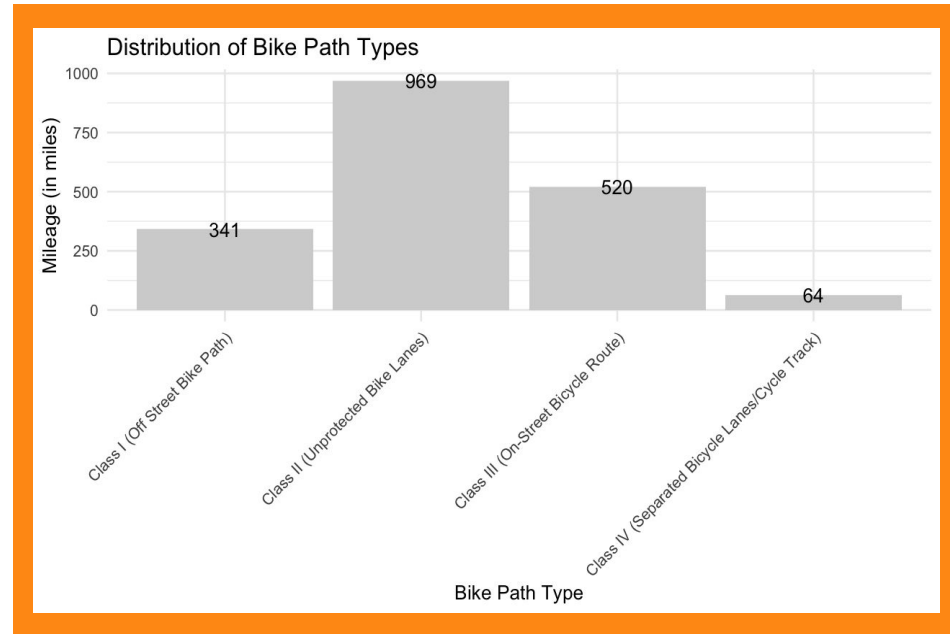
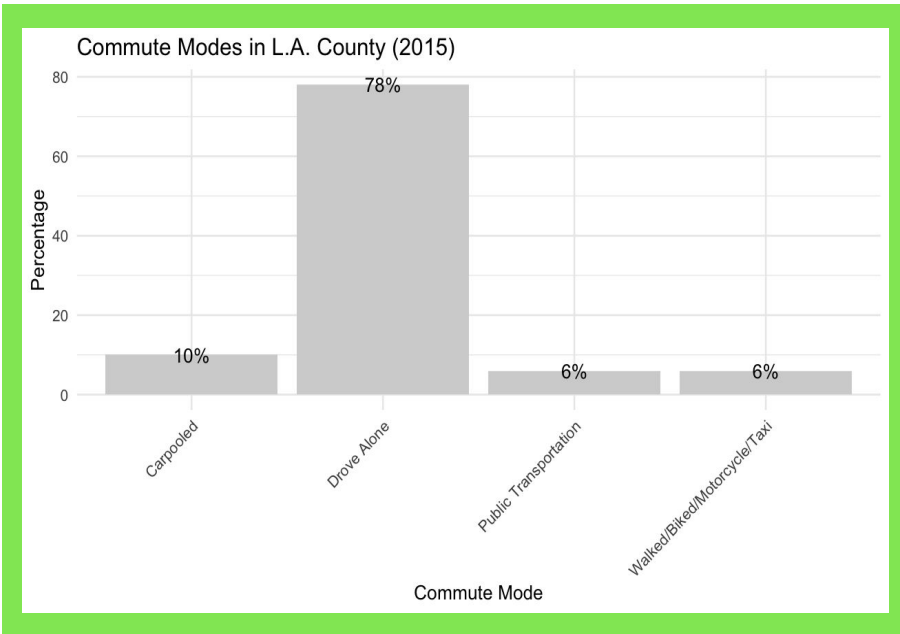
Comparison of Vehicle Types from 2017 to 2022



Number of Battery Electric Vehicles from 2017 to 2022



Results: Building on 2017 Data + New Insights



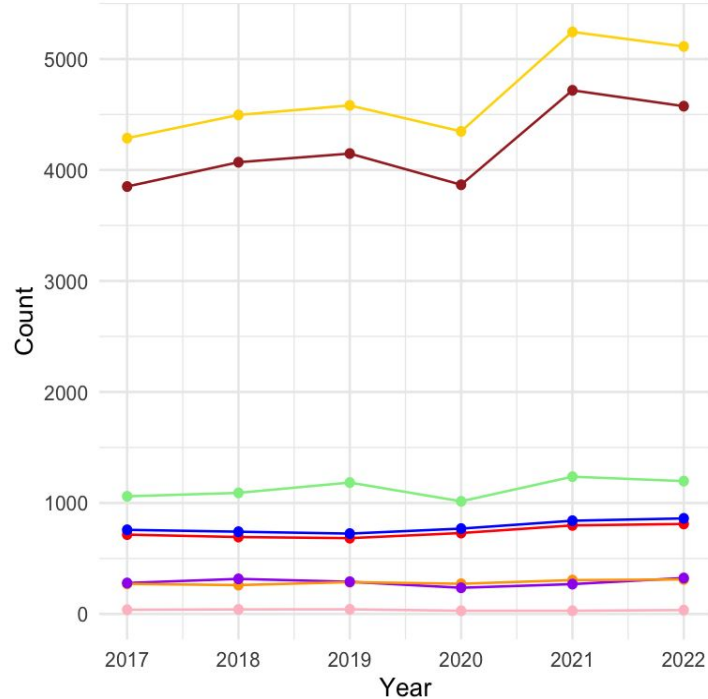
Mass mobility combined with micro mobility

Results: New Data for a New Indicator

Road Safety Statistics (2017-2022)

Category

- Bicyclist Fatalities
- Bicyclist Fatalities and Serious Injuries
- Car Fatalities
- Car Fatalities and Serious Injuries
- Fatal and Serious Injury Crashes
- Fatal Crashes
- Pedestrian Fatalities
- Pedestrian Fatalities and Serious Injuries



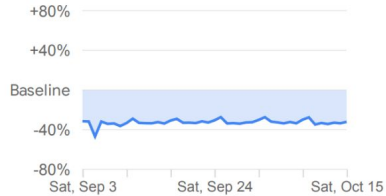
- Addressing equity concerns & health impacts
- Injury & fatalities among drivers & passengers, bicyclists, & pedestrians

Results: Data from the COVID-19 Pandemic

Transit stations

-32%

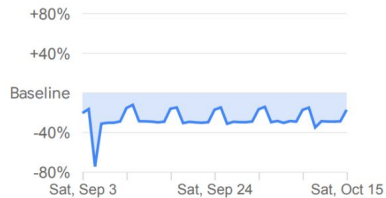
compared to baseline



Workplaces

-17%

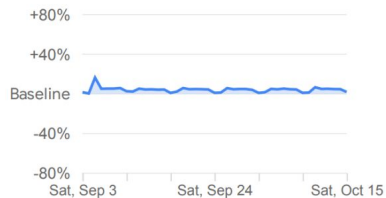
compared to baseline



Residential

+2%

compared to baseline



➤ Mobility trends for public transportation hubs (subway, bus, train stations)

➤ Mobility trends for workplaces

➤ Mobility trends for residential areas

- Addressing policy implications
- Looking at policy implications of the COVID-19 lockdown

Thank You!



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