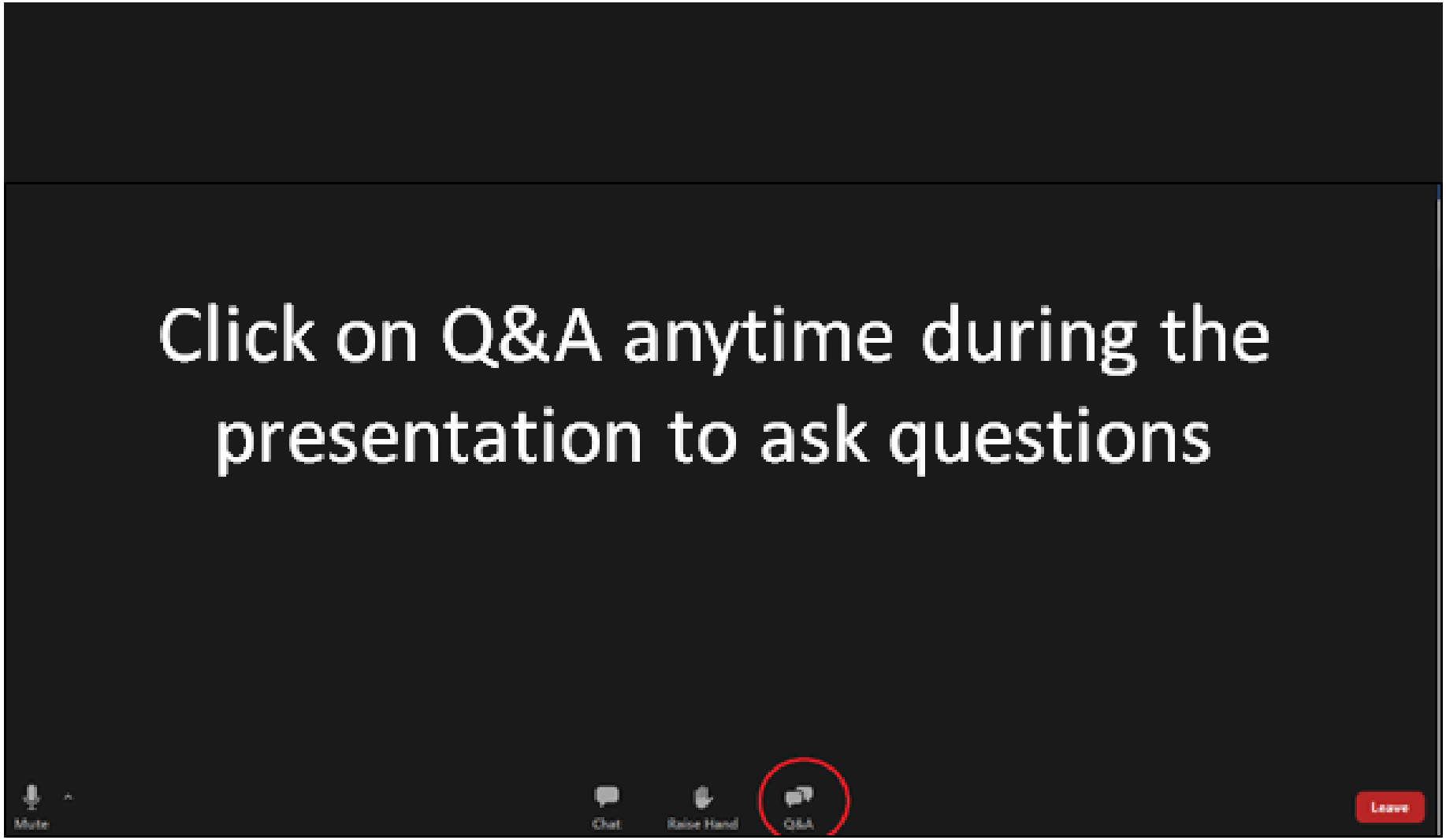
CITY OF PALO ALTO

Welcome!

‘Getting to 80 X 30: Your Transportation Vision for Palo Alto’ webinar will begin shortly

November 18, 2020

Questions?


Click on Q&A anytime during the presentation to ask questions
Mute
Chat
Raise Hand
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Today's Presenters

CITY OF PALO ALTO

Moderator:

Karin North
Public Works

Presenters:

Sylvia Star-Lack
Office of Transportation

Hiromi Kelty
Utilities

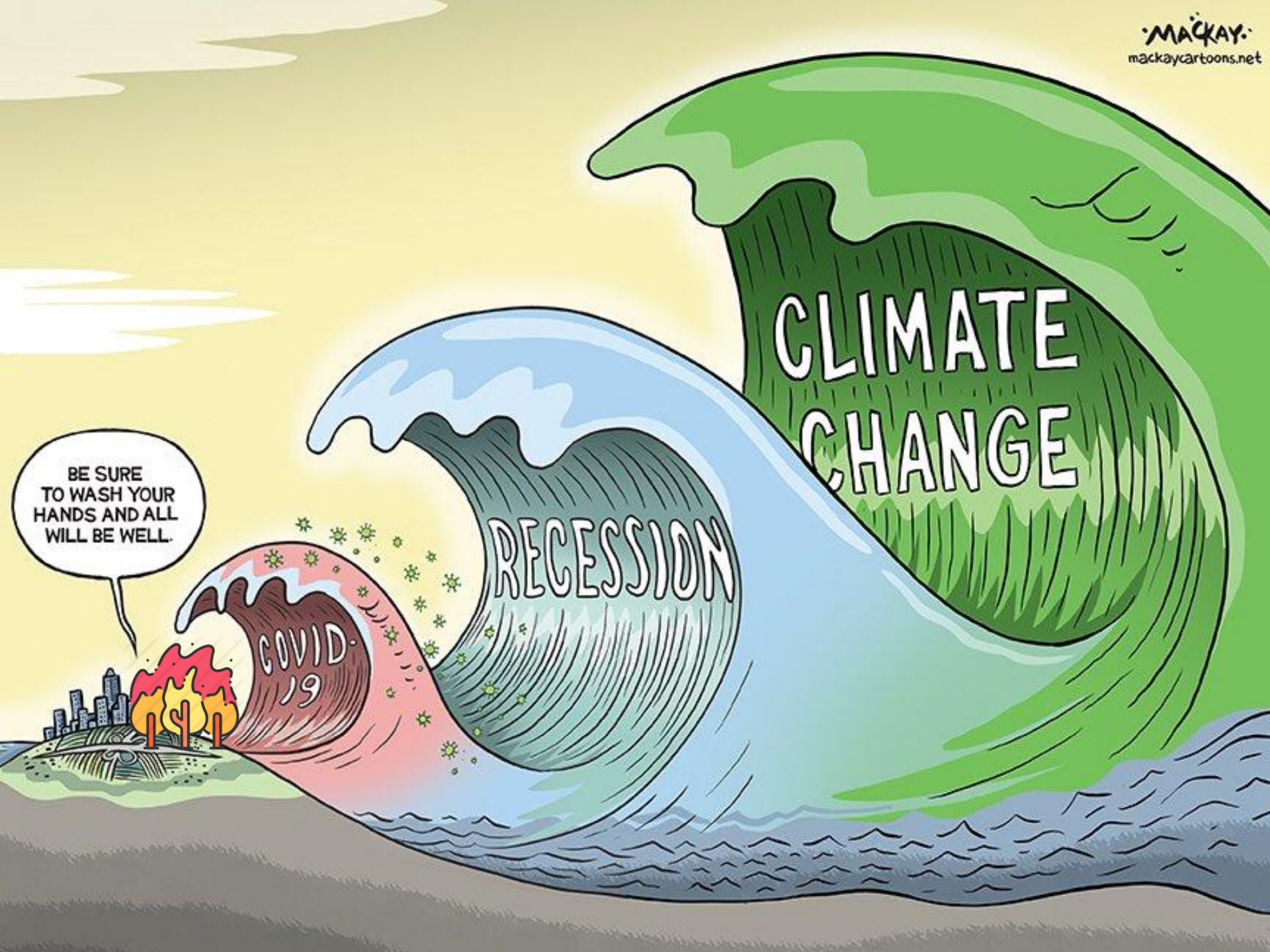
Panelists:

Rosie Mesterhazy
Transportation
Safe Routes to School

Nathan Baird
Transportation
Parking Manager

Jonathan Abendschein
Assistant Director Utilities

Shiva Swaminathan
Utilities
Senior Resource Planner

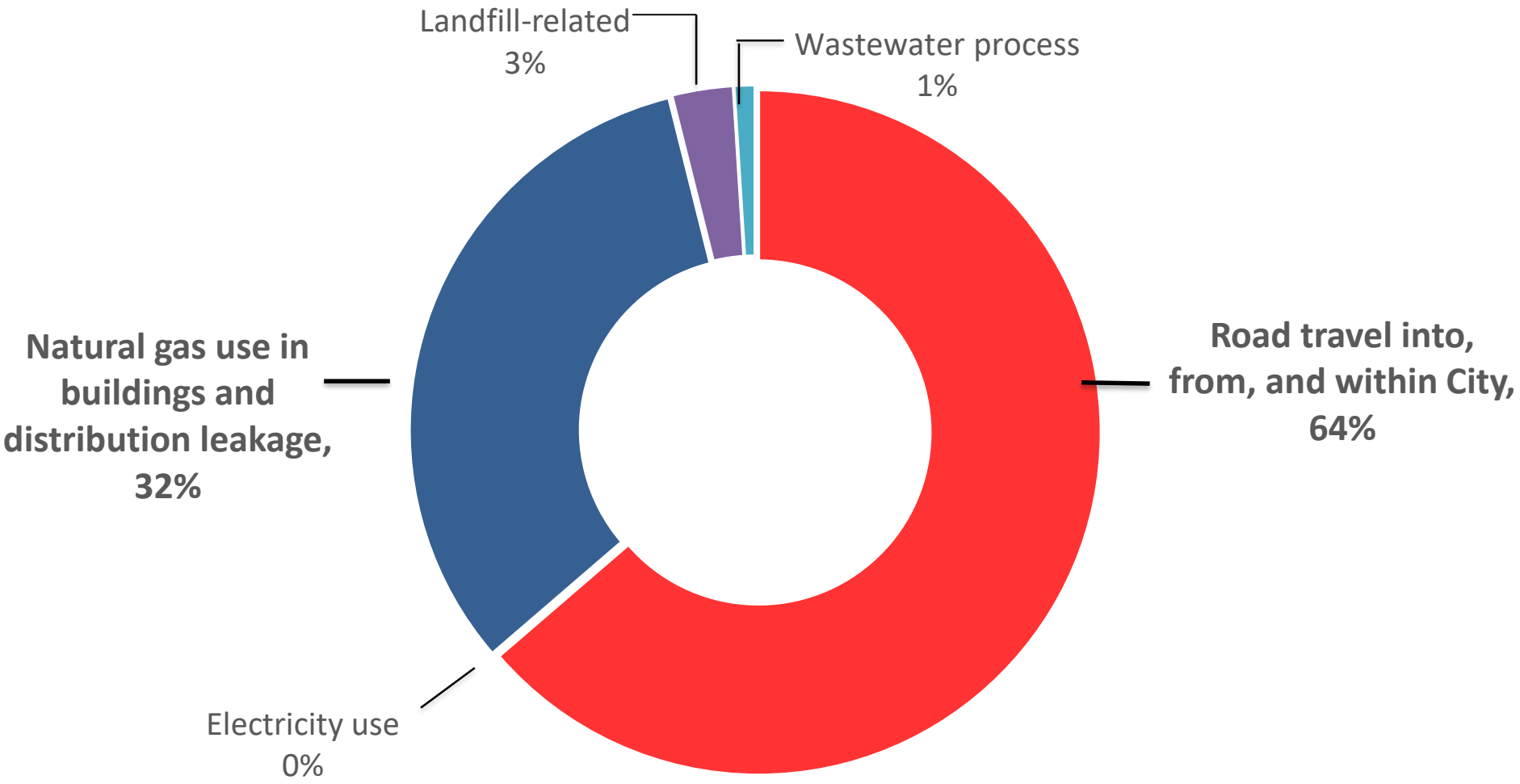

MACKAY
mackaycartoons.net
BE SURE TO WASH YOUR HANDS AND ALL WILL BE WELL.
COVID-19
RECESSION
CLIMATE CHANGE

Today's Objective

- Review the 2020 Sustainability and Climate Action Plan (S/CAP) Potential High Impact Goals and Key Actions related to greenhouse gas (GHG) emissions reduction

- Review the Spectrum of Tools for Achieving Climate Goals
- Get your feedback on the updated High Impact Goals & Key Actions

GHG Emission Sources in Palo Alto



Source: 2018 Palo Alto Municipal Operations & Community GHG Emissions

Emissions from Typical Passenger Vehicles

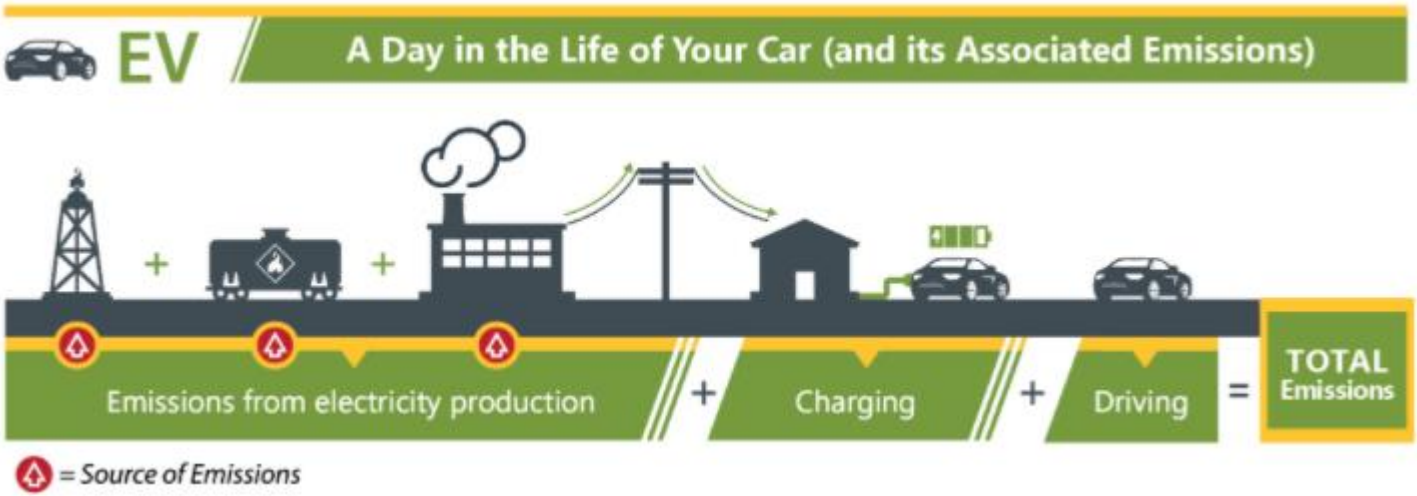
- Gas-fueled passenger vehicle → 4.6 metric tons of CO2 per year

Upstream emissions are the GHGs associated with the production and distribution of gasoline and electricity.

Vehicle tailpipe emissions are the GHGs your car produces when driving.

1 lb. of CO2/mile!

- All electric vehicle → 0 metric tons CO2 per year

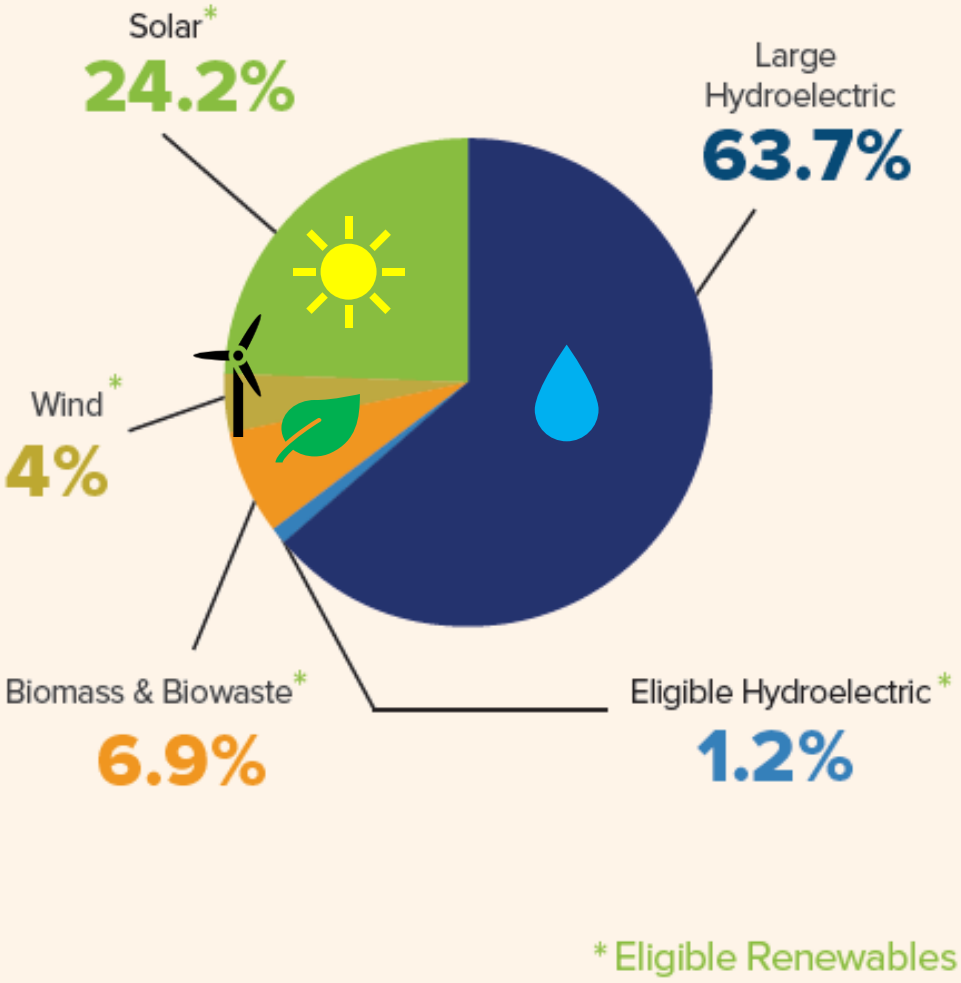


Source: United States Environmental Protection Agency www.fueleconomy.gov

Where Does Palo Alto's Electricity Come From?

Palo Alto's electricity has been 100% carbon neutral since 2013

cityofpaloalto.org/CarbonNeutral

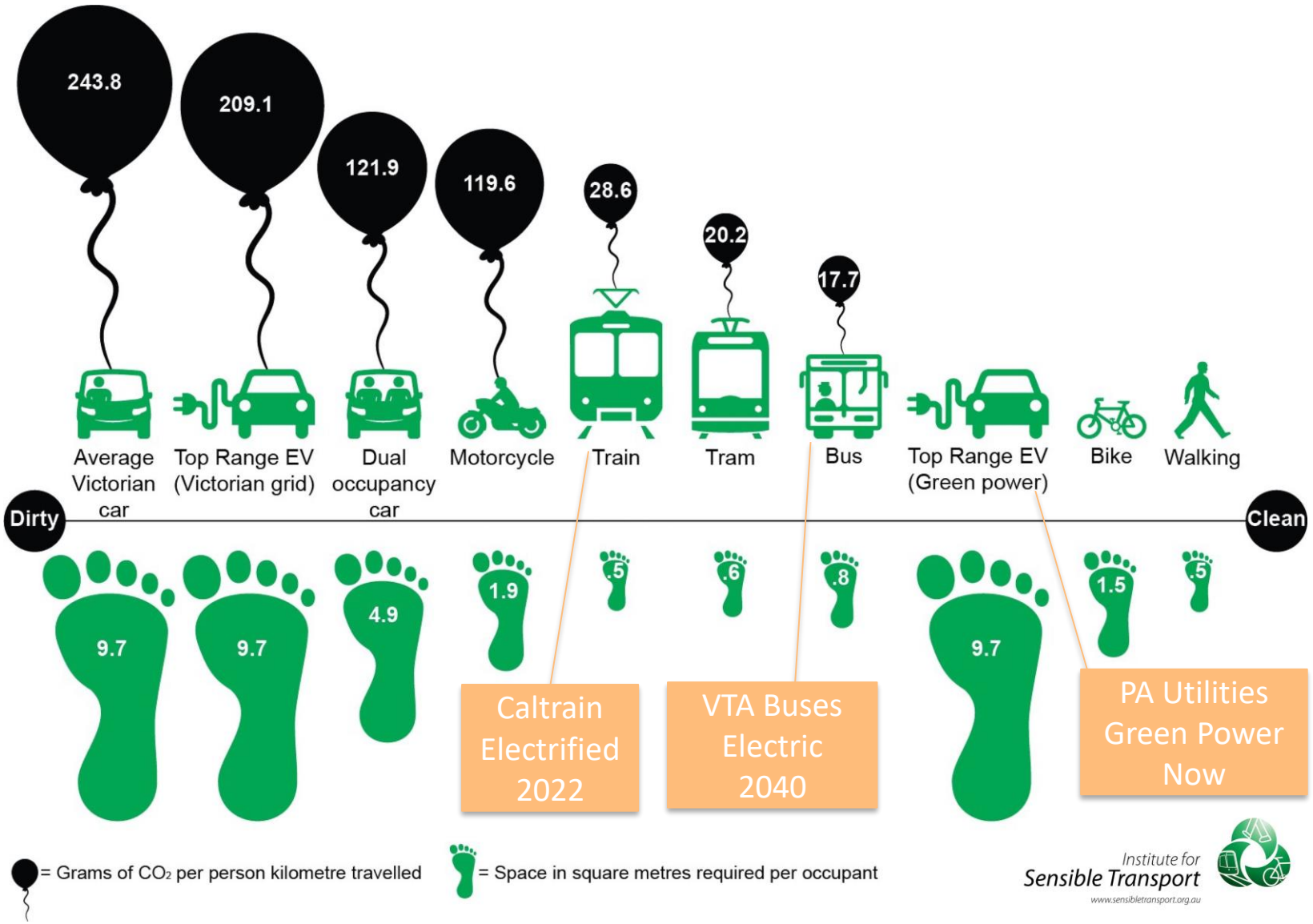


Source: City of Palo Alto Utilities 2019 Power Content Label

Areas of Highest Potential GHG Reduction

GHG Reduction Areas
Reduce Vehicle Miles Traveled (VMT)
Electrify majority of vehicle trips
Electrify most residential buildings
Reduce fossil fuel use in large commercial buildings

GHG Emissions & Space per Occupant in Melbourne, 2018



Proposed Goal: Reduce Transportation Related Emissions From 300,000 MT CO_2e to 60,000 MT CO_2e by 2030

Mobility

a. Increase the mode share for active transportation (walking, biking, and transit)

b. Increase availability of transit and shared mobility services

c. Create a housing density & land-use mix that supports transit & non-SOV transportation

d. Utilize pricing, fees, & other tools to encourage reductions in GHGs & VMT

Electric Vehicles

a. Increase EVs in Palo Alto from 4,500 (2019) to 42,000 (80% of vehicles)

b. Increase the share of EV commute vehicles from single digits to 80% by 2030

c. Develop a public and private charging network to support high levels of EV penetration

Spectrum of Tools for Achieving Climate Goals

Low Intervention

Examples:

- Early Adopters
- Voluntary Programs
- Education and Outreach
- Pilot Projects

Some Intervention

Examples:

- Council Policies, Plans, and Reach Codes
- Local and State Financial Incentives
- State level grants to reduce GHG emissions
- Governor's ZEV Executive Order

Higher Intervention

Examples:

- City-wide Voter-Approved Mandates or Financing
- Utility-scale Infrastructure Shift
- Council Bans and Mandates

Voluntary Market driven solutions → **Government driven solutions**

Mobility High Impact Key Actions

1. Provide safer streets
2. Reduce parking requirements and price parking
3. Build transit-supportive roadways
4. Enhance the traffic signal system
5. Improve trip reduction strategies – i.e. normalize telecommuting
6. Create neighborhoods to accommodate walking, biking, and transit

Metrics: 10-minute milk test
20-minute walk/bike/transit test

EVs High Impact Key Actions

18 Level 2 and 1 DC Fast Charger installation at Ellen Fletcher Middle School

1. Require a percentage of all parking spaces at Palo Alto's 800+ multi-family properties install EV chargers
2. Require a percentage of EV charger installations at all commercial parking spots
3. Implement a Palo Alto-specific Internal Combustion Engine (ICE) vehicle fee or tax
4. Ban the registration of gasoline vehicles in Palo Alto by 2030

Note: The above are proposed key actions. Final decisions will ultimately be community driven.

Transportation Choices

Some Transportation Mode Considerations

Mode/ Category	Walk	Bicycle	E-Bike	EV	Gas Car	Uber/ Lyft	E-Uber/ Lyft*	Bus/ Shuttle	Caltrain
Reduces GHG	+	+	+	+	-	-	+	+	+
Reduces Circling for Parking/ Riders/Idling	+	+	+	-	-	-	-	+	+
Reduces Congestion	+	+	+	-	-	-	-	+	+
Reduces Stress	+	+	+	-	-	+	+	+	+
Supports Public Health	+	+	+	-	-	-	-	+	+
Road Safety	+	+	+	-	-	-	-	+	+
Cost	+	+	+	-	-	+	+	+	+
Trip Distance Maximum	Local	Local	Local+	Region	Region	Region	Region	Region	Region

*Uber & Lyft have committed to electrify their fleets by 2030.
Note: 81% of all US 1 to 2-mile trips are made by car, National Household Travel Survey

Barriers to Going EV

- Perceived higher purchase price
- Range anxiety - Concern about refueling infrastructure
- Uncertainty towards EV technology

EV vs Gas – Which is Cheaper to Own?

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Economy Model Comparison

CO2 EMISSIONS REDUCTION
N/A

CO2 EMISSIONS REDUCTION
7,412 lbs/yr = 154 trees

CO2 EMISSIONS REDUCTION
7,154 lbs/yr = 149 trees

Description	Hyundai Kona AWD	Hyundai Kona Electric	Nissan LEAF Plus
Vehicle Cost Net Incentives	$20,300	$29,690 $37,190 ($7,500)	$23,200 $30,700 ($7,500)
Annual Maintenance	$600	$350	$352
Annual Insurance	$1,680	$1,780	$1,790
Annual Electricity/Gas	$1,269	$597	$640
MPG	26		
Range		258	226
Annual Cost of Ownership	**$6,015**	**$6,334**	**$5,601**

EV vs Gas – Which is Cheaper to Own?

The 'Model 3' Comparison

CO2 EMISSIONS REDUCTION
N/A

CO2 EMISSIONS REDUCTION
N/A

CO2 EMISSIONS REDUCTION
4,508 lbs/yr = 94 trees

Description	Audi A4 All Road Quattro	Toyota Avalon Hybrid XLE	Tesla Model 3 Standard Range Plus
Vehicle Cost Net Incentives	$37,400	$35,875	$37,990
Annual Maintenance	$660	$660	$341
Annual Insurance	$1,760	$1,760	$1,760
Annual Electricity/Gas	$1,435	$767	$512
MPG	23	43	
Range			310
Annual Cost of Ownership	**$8,399**	**$7,546**	**$7,229**

EV Cost Calculator: cityofpaloalto.org/ev

Case Studies

Scenario #1 – The Golden Years

- Longtime Palo Alto resident
- Empty-nester
- 1-2 car household

How could we help this resident transition to a greener transportation future?

- Walking – Safe Routes for Older Adults
- Biking – Adult tricycles, electric bicycles, biking classes for older adults
- Transit – How to use VTA, on-demand transit, carsharing/Zipcar, Uber/Lyft (upcoming electrification), Caltrain (electrified soon!)
- Electric Vehicle – Incentives to purchase a new or used EV, education and outreach, EV charging infrastructure

Scenario #2 – Families with Children

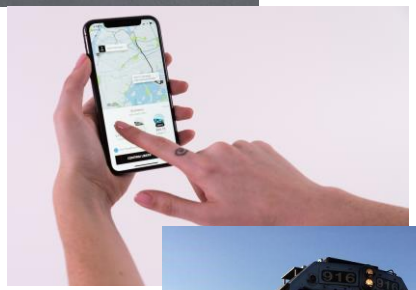
- Families account for 12% of households but 50% of program participation
- Family with school-age children
- 2-3 car household

How could we help this family transition to a greener transportation future?

- Walking – Safe Routes to School
- Biking – Safe Routes to School, electric bicycles, bike plan, infrastructure
- Transit – On-demand Shuttle
- Electric Vehicle – Incentives to purchase a new or used EV, expanding EV charging network

Scenario #3 – Single

- Singles account for over 53% of households and 26% of program participation
- 0-1 car household



How could we help this resident transition to a greener transportation future?

- **Walking** – Walkable, vibrant neighborhoods with shopping/ services
- **Biking** – Infrastructure, bike parking, electric bicycles, bike-share/e-scooters
- **Transit** – Transit-supportive roadways, on-demand transit, car-sharing and ride-shares, Caltrain (electric soon!)
- **Electric Vehicle** – EV Charging infrastructure at MF properties, incentives for new or used EVs

We Want to Hear From You

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POLL QUESTION 1: What are some barriers that prevent you from going EV? (Select all that apply)

1. Cost
2. Current EVs don't have enough range
3. I live at a multifamily residence and cannot install EV charging
4. I rent a single family home and cannot install EV charging
5. Concern about power outages
6. My current car is not ready for retirement
7. I am not interested in owning a vehicle

POLL QUESTION 2: If you are interested in an EV, what could the City provide to help you make this decision? (Select all that apply)

1. More publicly accessible EV chargers
2. Education – workshops and ride and drive events
3. Financial assistance – rebates
4. Special electricity rate for EVs
5. Not interested or other reason

We Want to Hear From You

CITY OF PALO ALTO

POLL QUESTION 3: Would you support protected bike lanes on busier streets if it means less available street parking? Protected bike lanes have barriers between moving vehicles and the bike lane.

1. Yes
2. No
3. Depends

POLL QUESTION 4: Would you support a ballot measure that raises funds to reduce Greenhouse Gas emissions?

1. Yes
2. No
3. Depends

For a post webinar survey: https://www.surveymonkey.com/r/SKLWNR2

Upcoming Webinars & Next Steps

- December 8: The Importance of the Natural Environment in Meeting our Sustainability Goals
- November / December: Update on the Sea Level Rise Adaptation Plan
- February 2021: Virtual Forum – Reviewing the Results of the Impact Analysis
- Spring 2021: Webinar on S/CAP Packages Of Options

Thank You!

Sylvia Star-Lack - Office of Transportation

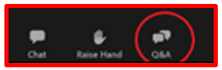
Hiromi Kelty - Utilities

CITY OF PALO ALTO

SUSTAINABILITY & CLIMATE ACTION PLAN: *Acting Now for a Resilient Future*

Questions?

Click on the Q&A at the bottom of your screen



Web Resources

cityofpaloalto.org/ev

cityofpaloalto.org/transportation

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