CITY OF SAN ANTONIO
OFFICE OF SUSTAINABILITY

CITY OF SAN ANTONIO
BUILDING & EQUIPMENT SERVICES DEPARTMENT

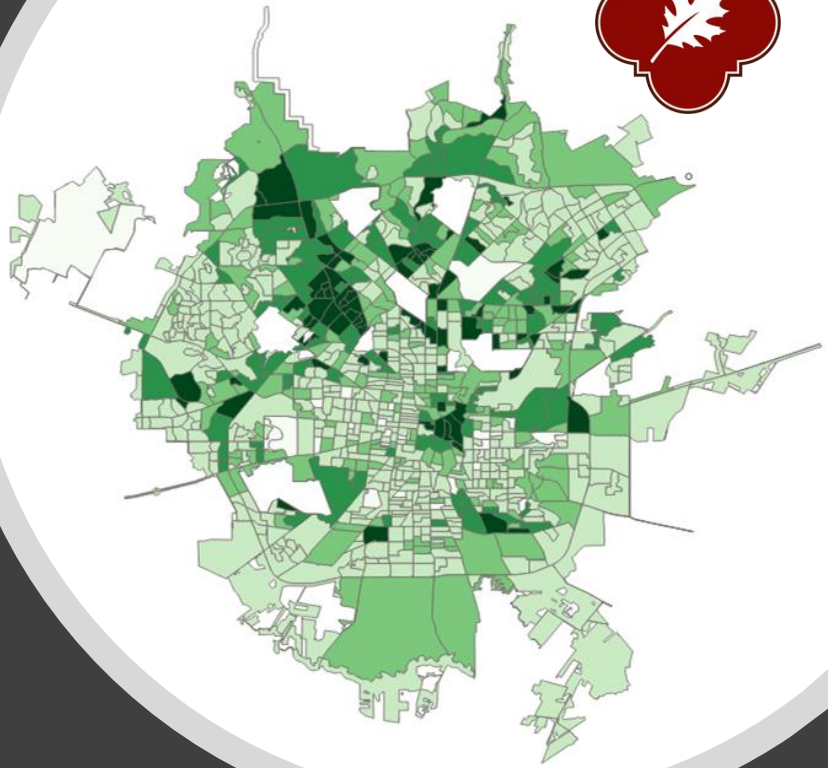
EV SA
ELECTRIC VEHICLES SAN ANTONIO

City of San Antonio's Commitment to Electric Vehicles

Innovation & Technology Committee Meeting
October 29, 2019

Why Electric Vehicles?

- Zero emissions at the tailpipe, which reduces health-related impacts, improves City's air quality, and lowers greenhouse gases
- Lower fuel costs than internal combustion engine (ICE) vehicles
- Lower vehicle maintenance costs than ICE vehicles
- Refueled anywhere with a plug
- Quiet, no engine noise
- Environmental benefit as grid is decarbonized
- Helps City of San Antonio lead by example

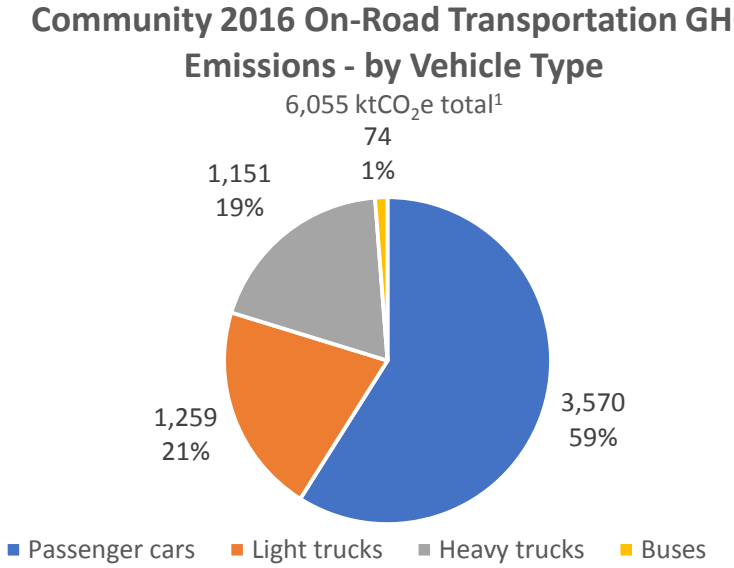


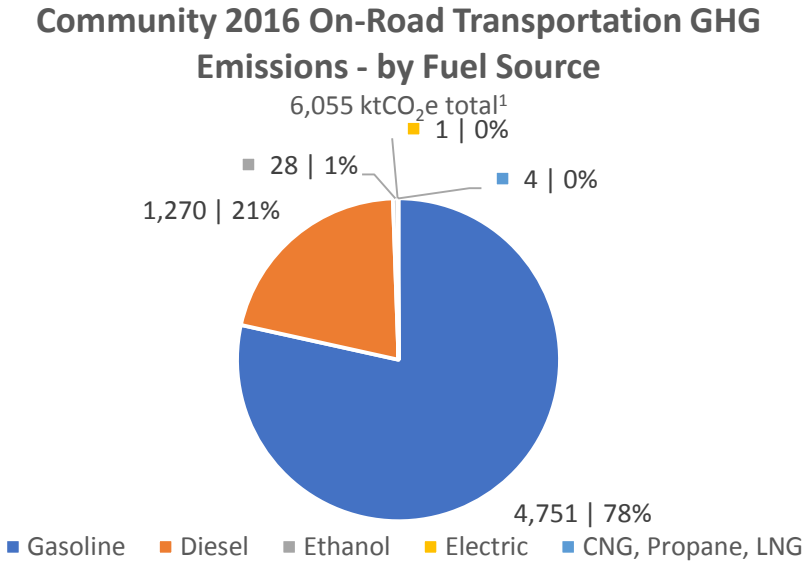
City Goals and Policy Direction

Fleet electrification and EV charging infrastructure are key strategies in CoSA policies around ozone attainment and greenhouse gas reduction goals.

- ***SA Tomorrow Sustainability Plan***, adopted August 11, 2016
- ***Ozone Attainment Master Plan***, adopted June 6, 2019
- ***Climate Action & Adaptation Plan***, adopted October 17, 2019
  - goal of net-zero greenhouse gas emissions by 2050
- ***American Cities Climate Challenge***
  - goal to advance electric vehicle adoption by the end of 2020

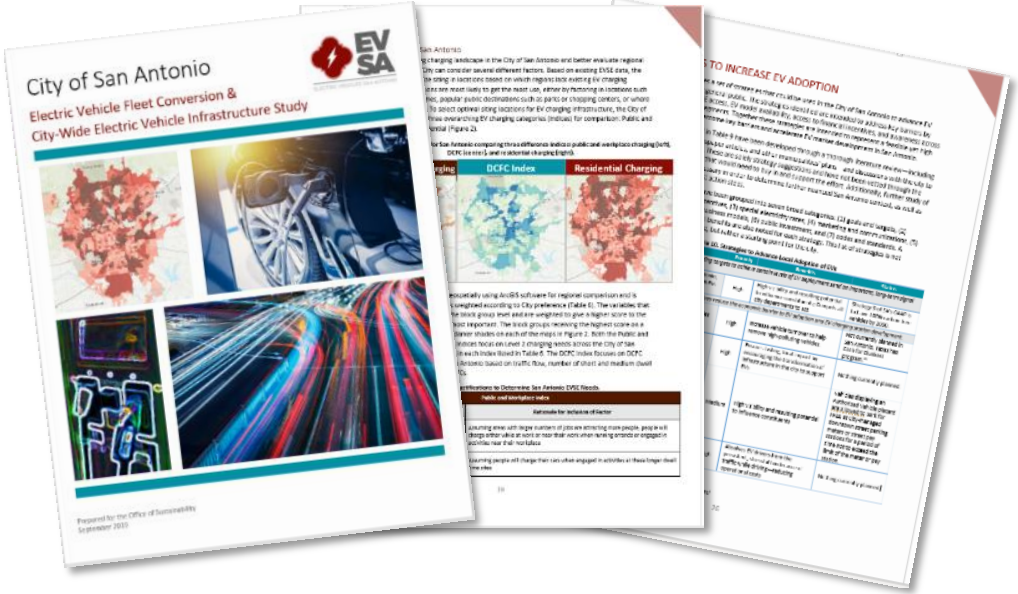
Greenhouse Gas Inventory: Transportation Sector = 38%





- Passenger cars contribute the greatest share of transportation GHG emissions, followed by light trucks.
- Gasoline is the primary emission source for the on-road transportation and transit sectors in San Antonio.

CoSA Fleet & Community Infrastructure Analysis



- Municipal fleet electrification plan
- Public charging spatial analysis
- Barriers to EV adoption
- EV equity
- Finalized by end of 2020

Electric Vehicles in San Antonio

Current Status

~3,000 EVs
in Bexar County (June 2019)

1.6 EVs per 1,000 people
Compared to 3.9 nationally

240 public charging ports
38 DCFC and 202 public L2 (June 2019)

1 charging port per 12.5 EVs
Compared to 5-10 in leading EV cities

Barriers

56% of HOMES are single family with a garage or driveway (AHS, 2017)

12 EV models currently on sale in SA. No pick-up, full SUV, or van.

Most new EVs currently retail at prices out of reach for many.

Tax credits are available for some models.

EVSA Public Information Campaign

- Online Survey in English & Spanish
- FAQs and "One-pagers"
- Events, Focus Groups, Driver Testimonials
- Dealer Engagement Program
- Mapping tool to prioritize infrastructure requests
- CMAQ grant for 3 year campaign

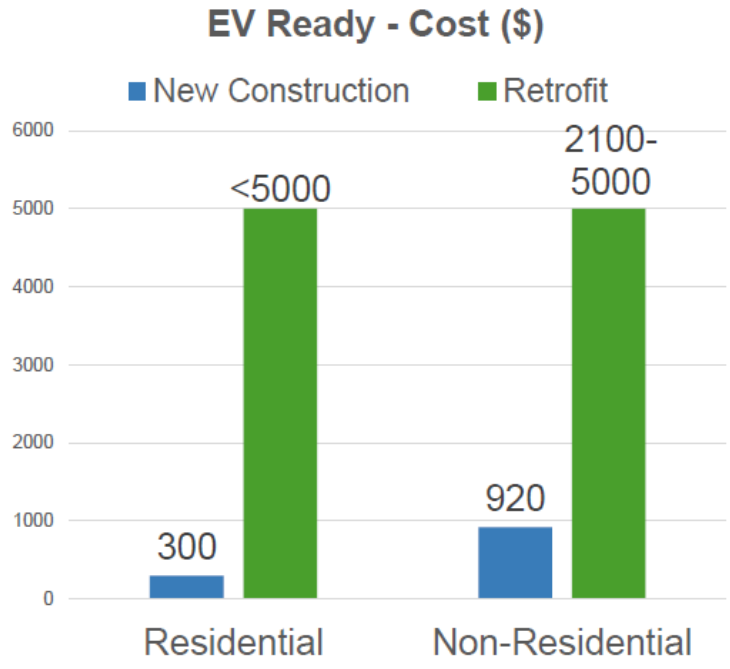
Policy Considerations

EV READINESS BUILDING CODE

- Designed to reduce implementation costs when compared with retrofits
- Prepares for shifts in market demand as more residents drive electric vehicles

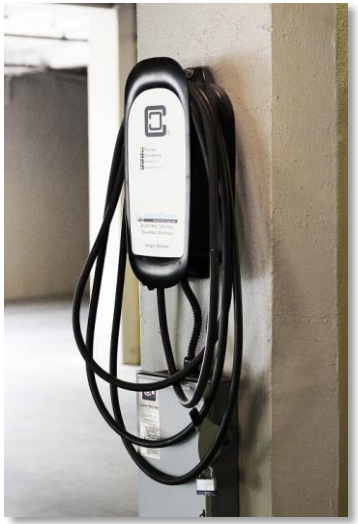
GREEN FLEET PROCUREMENT POLICY

- Updating the current policy to be consistent with CoSA's greenhouse gas reduction and ozone attainment goals
- Guidance for future vehicle and fuel acquisitions for the City's fleet



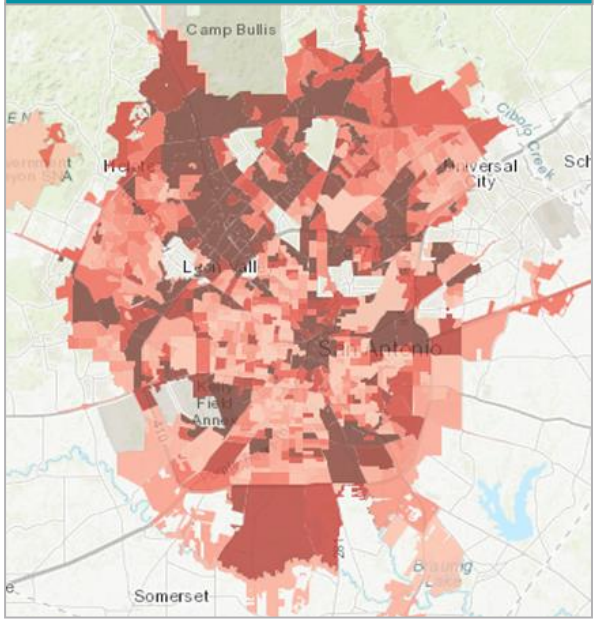
EV Charging Infrastructure

- Exploring business models and partnership opportunities with providers to install, operate, maintain, and publicly-accessible EV charging infrastructure on City property
- Sites may include parking lots and garages, parks, community centers and libraries
- Evaluated on increasing access to EV charging, technology and customer interface
- Preparation for future TxVEMP call for grant proposals for publicly-accessible chargers
- RFI closes November 20, 2019

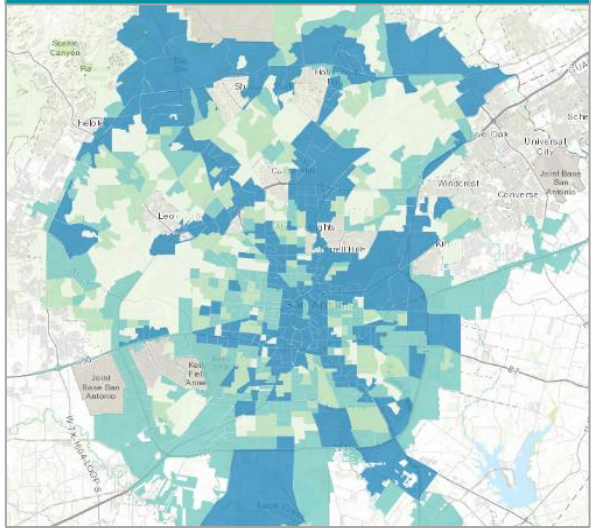


Geospatial Analysis of Charging Needs

Public Workplace Index



DCFC Index



- Analyzed high-priority locations for EV chargers based on greatest need, dwell times, and other factors
- Layers include residential index, public workplace index, and DC Fast Charging (DCFC) index
- Working with ITSD to develop a public-facing tool to map infrastructure placement suggestions

Municipal Fleet Overview

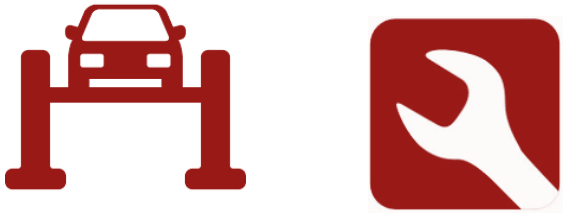
- CoSA has a total fleet inventory profile of 5,393 units
- 2,362 on-road vehicles, including sedans, vans, SUVs, and trucks, were evaluated for electrification opportunities
- Study's baseline inventory excludes law enforcement vehicles, emergency responder vehicles, off-road vehicles, trailers and other non-self-propelled units
- Vehicles under review are used in administrative, utility, and service functions, spanning across multiple City departments

Municipal EV Strategy & Considerations

- Transition CoSA fleet vehicles to electric vehicle fleet technology over the coming years
- Identify best electric vehicle candidates
- Evaluate vehicle parking locations and existing electrical capacity for charging infrastructure
- Determine optimal new EV charger locations
- Develop funding source to address EV charging stations for City vehicles
- Address Fleet Technician training

Municipal Fleet Analysis

- CoSA fleet vehicles were scored for EV suitability based on usage, capital costs, operation and maintenance costs, and impact on the reduction of greenhouse gases
- 503 compact and midsize vehicles targeted for electrification
- Evaluated market availability of EV models
- EVs typically have a higher initial capital cost, but lower life-cycle costs than ICE vehicles
- Four administrative vehicles to be replaced with EV models in FY20



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