Framework of the Zero-Emission Rollout Plan

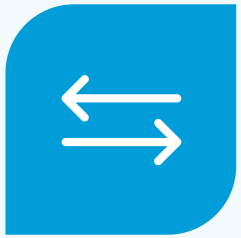
CityBus route to 100% Local Renewable Powered Operations

Climate Action Subcommittee
August 10, 2022

Presenters:
Yuri Koslen – Transit Planner
Shawn Sosa – Administrative Analyst

Transportation and Public Works – Transit

Where we are:



WE KNOW OUR DIRECTION.

WE KNOW THE BENEFITS.

WE HAVE DONE ENOUGH PLANNING.

WE HAVE FUNDING TO GET STARTED.

WE ARE STARTING TO BUILD.

Our direction: Phases

Phase 1

- First funded Grant
- Sonoma Clean Power Study
- PG&E EV Fleet Program
- First 9 battery electric buses (BEB) and 5 dual-port chargers

Phase 2

- Additional
  - 5-10 BEB's
  - 5 dual-port chargers

Resiliency Phase

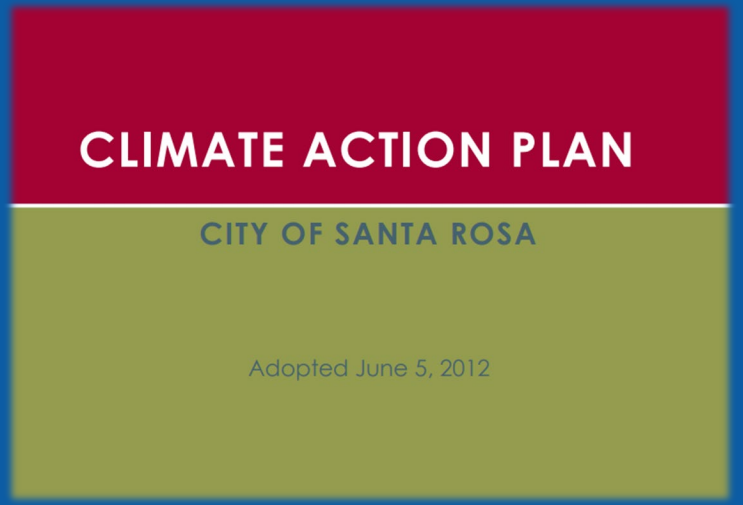
- Understand City-wide vehicle electrification
- Micro-grid
  - Solar
  - Battery Storage
  - Generator

Final Phases

- BEBs and chargers to complete 100%

Our direction

- City Climate Action Plan from 2012
  - Municipal Climate Action Plan
    - Replace diesel powered buses with GHG reducing vehicles
    - Use low-carbon fuel
- FTA Sustainable Transit for a Healthy Planet Challenge
  - City participating along with 171 other transit agencies
  - City's Climate Action Plan shows plan to reduce GHG emissions
  - Next steps
    - Healthy Planet Challenge will require transit agency to develop measurable greenhouse gas (GHG) emission targets
    - Sign on by March 2023



Our direction: State Requirement

- California Air Resources Board (CARB) passed Innovative Clean Transit (ICT) Rule in 2018
  - Requires conversion to zero-emission fleet

- ICT timeline for small agencies:
  - 2023: Submit Council approved Zero-Emission Bus (ZEB) Rollout Plan
  - 2026: Each bus purchase must contain 25% or more ZEB
    - Potentially including paratransit (dependent on bus manufacture testing approvals)
  - 2029: Each bus purchase is 100% ZEB
  - 2040: Full ZEB Fleet

Benefits

- Reduce GHG emissions
  - On-road emissions largest source in Sonoma County
- Encouraging increased ridership into the future as a low carbon transportation choice
- Potential Life Cycle cost savings
- Continued opportunities to qualify for grant funding

Planning

- Partnership with Sonoma Clean Power (SCP) and regional operators
- Study focused on short term deployment
  - Transit yard vs. Transit Mall charging
    - Charging Equipment and management solutions
  - Types of buses
  - Resiliency
    - Solar
    - Back up generator
    - Energy Storage

SPONSORED BY SONOMA CLEAN POWER

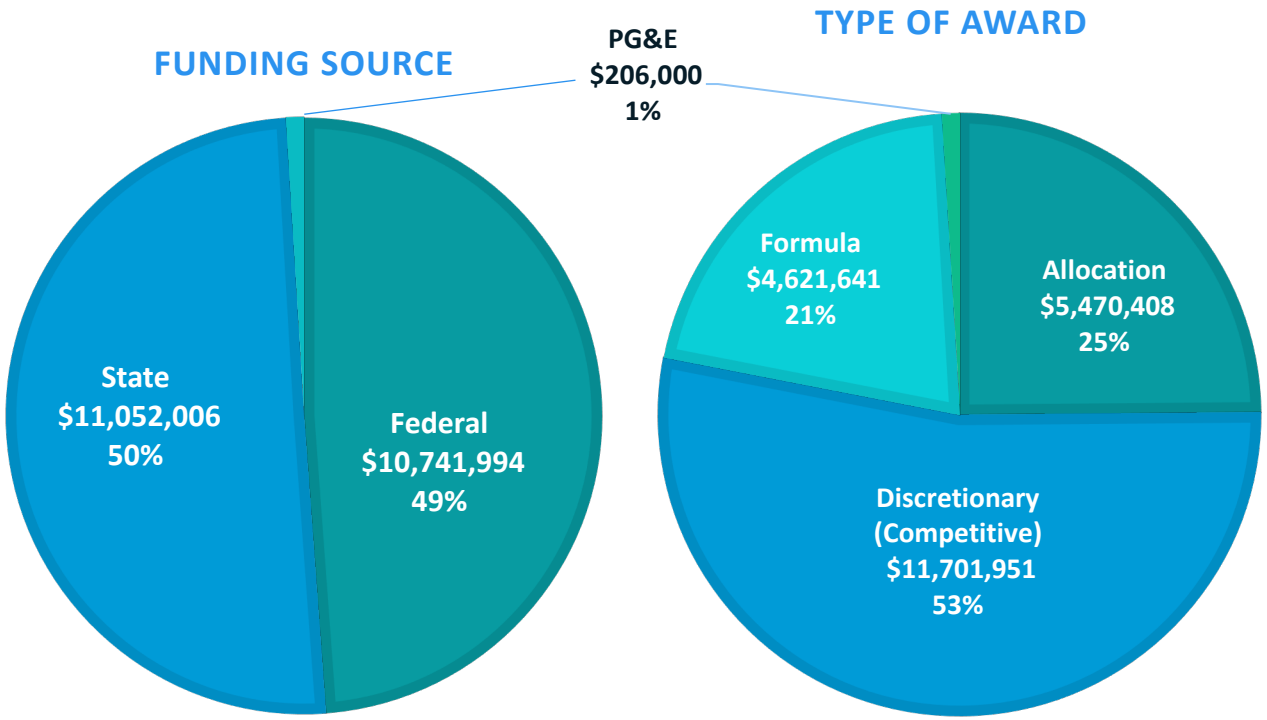
December 31, 2019

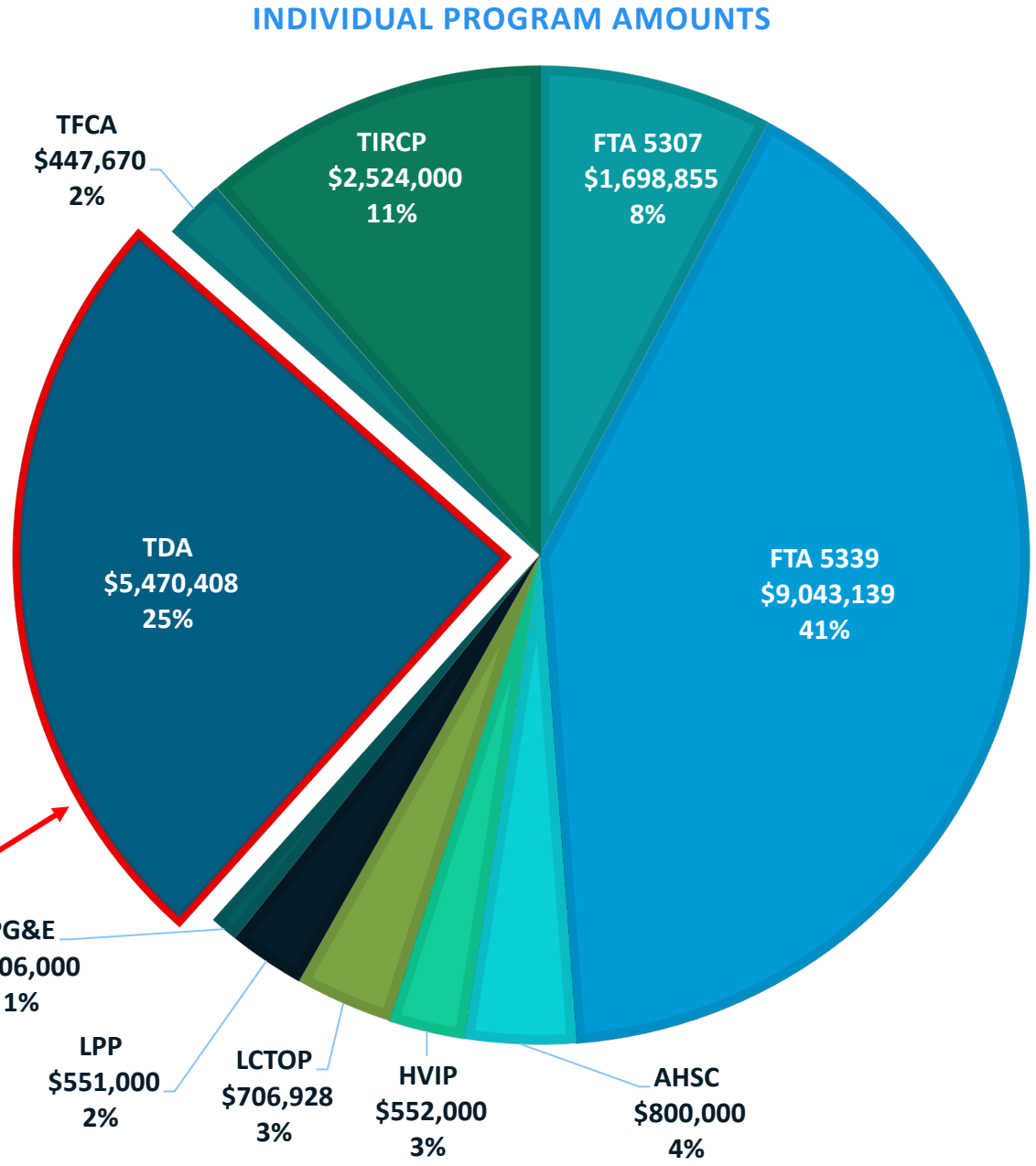
Prepared for:
Santa Rosa CityBus
Transit Operations Building
45 Stony Point Road
Santa Rosa, CA 95401

Prepared by:
The Cadmus Group

Funding: Bus Replacement

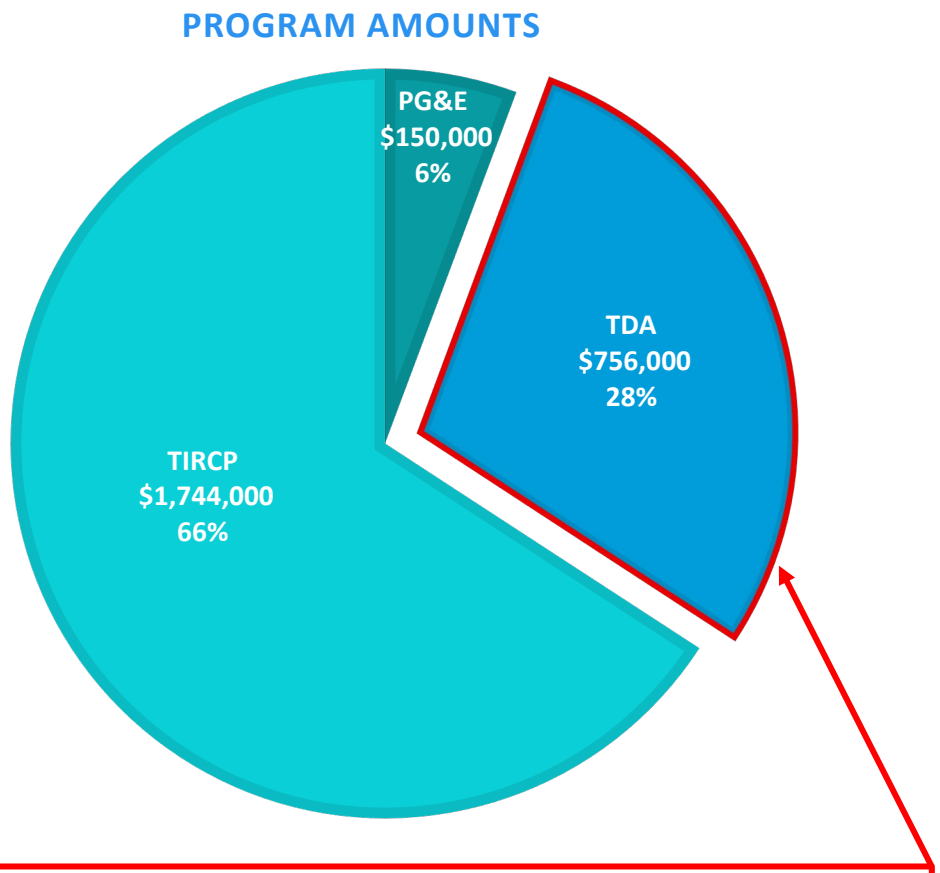
(approx. $22M total committed)

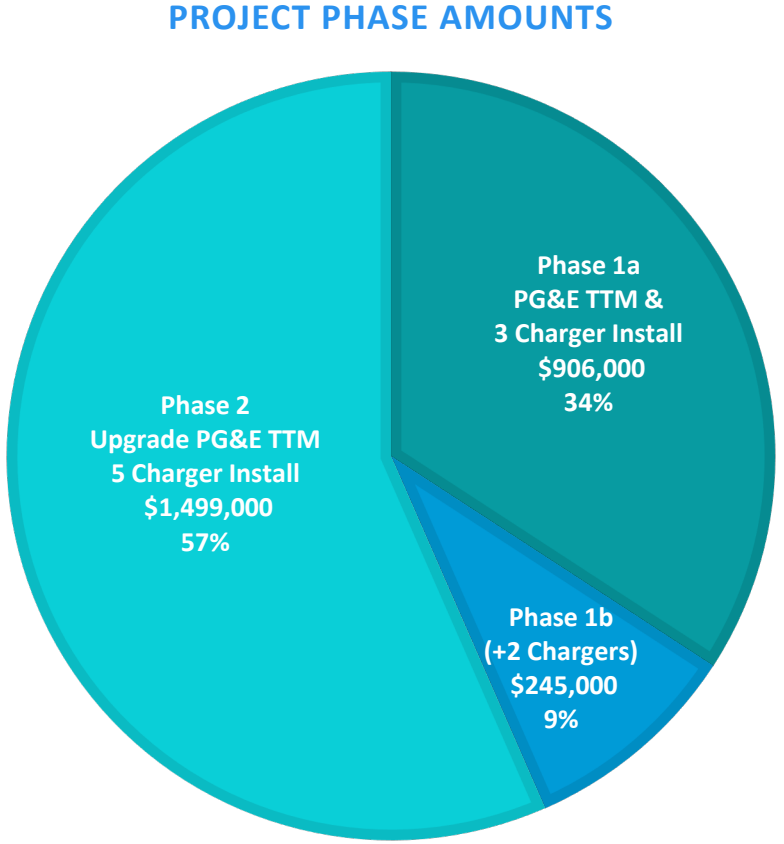




Continuing to pursue eligible funding to offset use of our matching capital reserve (HVIP, etc.)

Funding: Infrastructure (approx. $2.6M total committed)





Continuing to pursue eligible funding to offset use of our matching capital reserve (EnergIIZE, etc.)

We are starting to build.

- The Power: City Evergreen
- The Chargers:
  - PG&E EV Fleet
    - Behind the meter
    - To the meter
- The Buses
  - Oakmont/Paratransit
  - Fixed Route
  - The new BEB

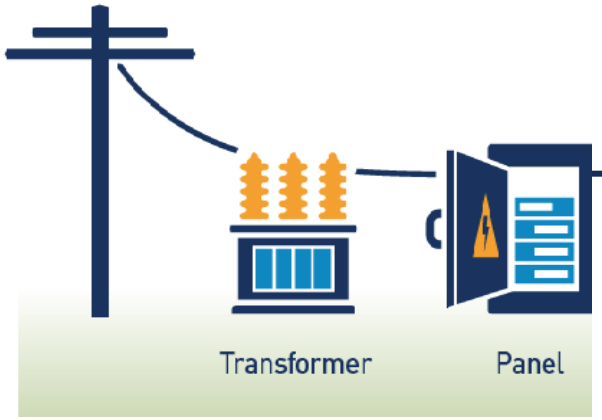
The Power : 100% Local Renewable

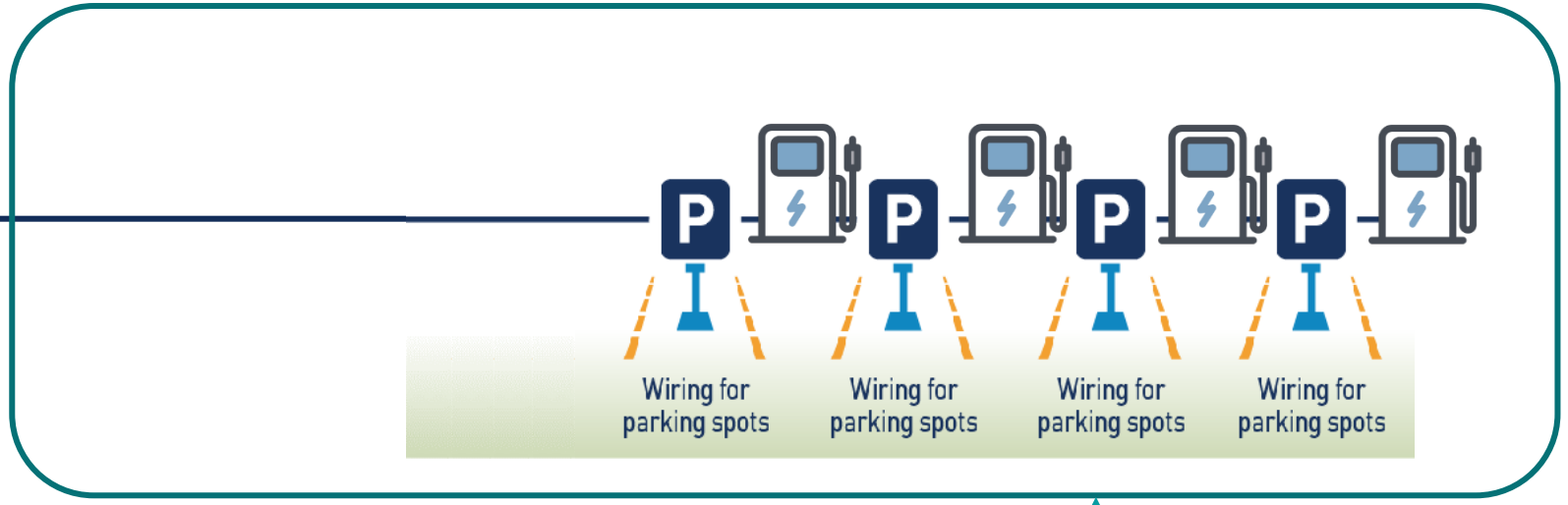
- The Source – The EverGreen program
  - City of Santa Rosa operates on EverGreen power
  - Geothermal power at the Geyser Fields and solar
  - An energy portfolio provided by Sonoma Clean Power (SCP)
  - Sonoma County is uniquely positioned to more significantly reduce our transportation related emissions
  - BEB’s have zero tail pipe emissions. Emissions depend solely on how electricity is produced

Starting to Build: Charging Infrastructure

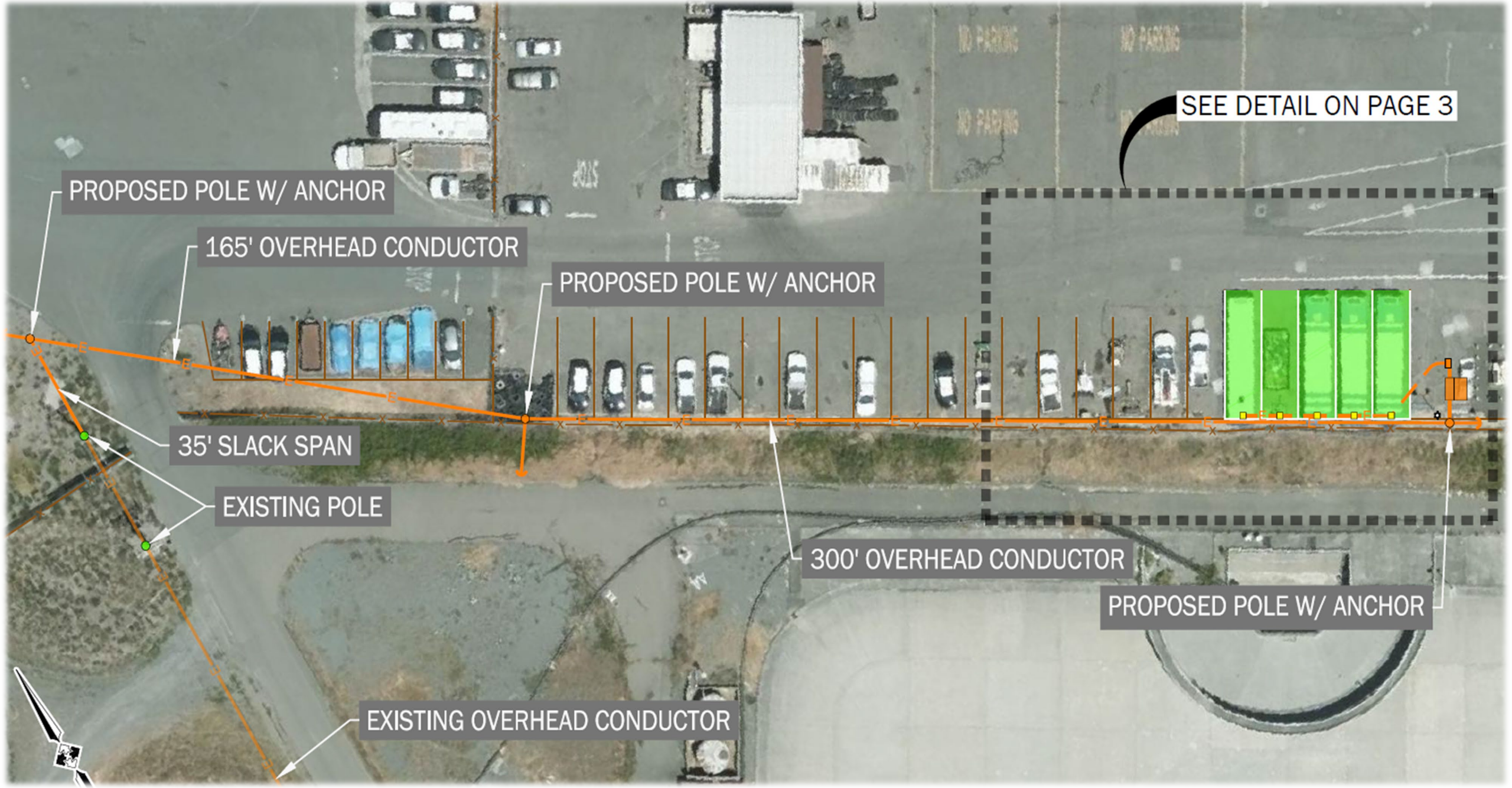
- April 2019 - Council Study Session and Approval for PG&E EV Fleet Program
  - Covers the $140,000 infrastructure cost “to the meter”
  - Plus “behind the meter” incentive rebates to City of up to $206,000
  - City commits to:
    - Purchase 9 BEBs and 5 dual-port chargers by 2024
    - Operate this infrastructure for a minimum of ten years
- May 2020 - Council approved EV Fleet Contract with PG&E
- January 2021 - Council Authorized Design-Build Procurement
- April 2021 – Council approved contract with Cupertino Electric

PG&E pays for, constructs, owns, and maintains all infrastructure “to the meter”



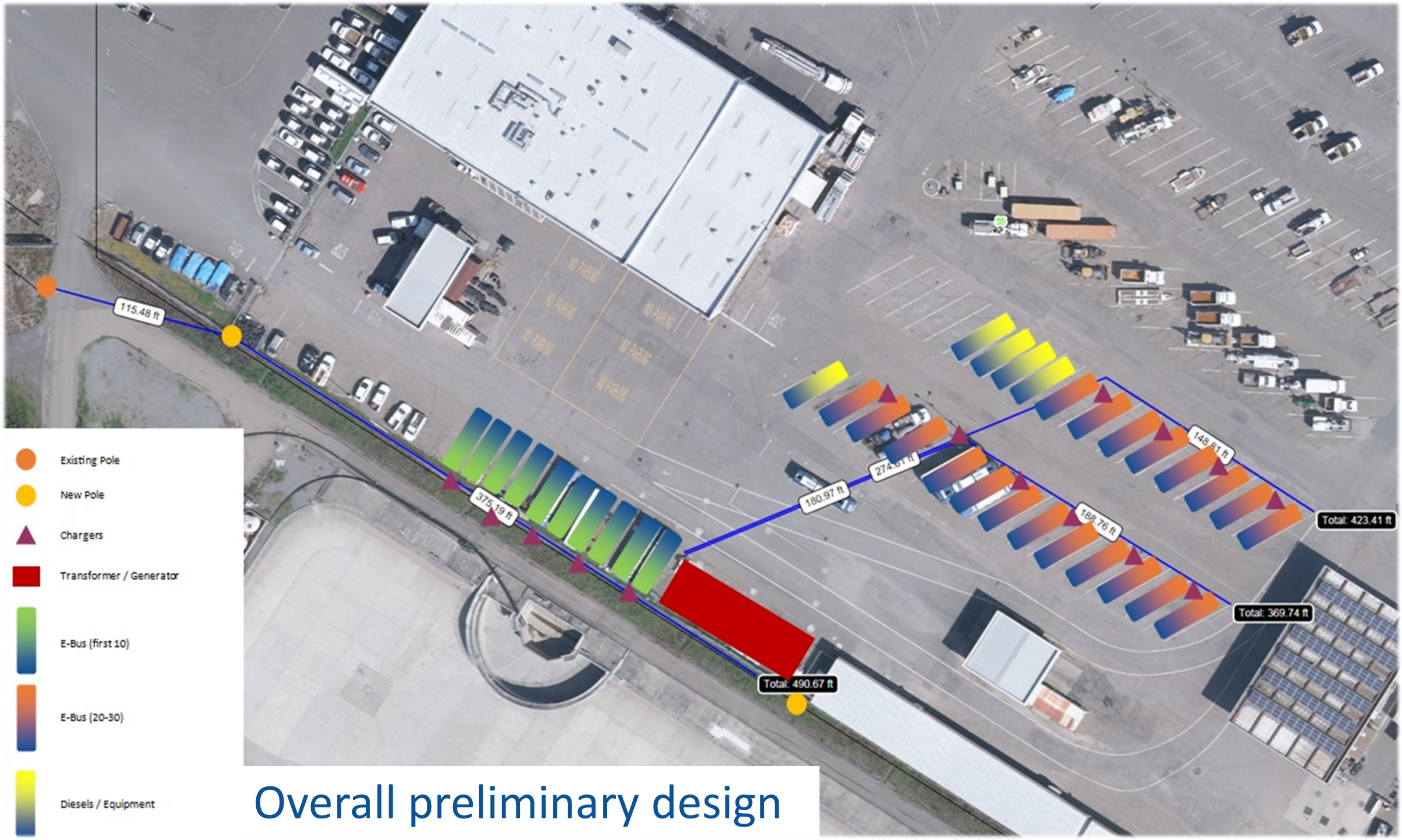


City pays for, constructs, owns, and maintains infrastructure “behind the meter”


SEE DETAIL ON PAGE 3
PROPOSED POLE W/ ANCHOR
165' OVERHEAD CONDUCTOR
PROPOSED POLE W/ ANCHOR
35' SLACK SPAN
EXISTING POLE
300' OVERHEAD CONDUCTOR
PROPOSED POLE W/ ANCHOR
EXISTING OVERHEAD CONDUCTOR

SR190701

ABB
Depot charge box



Overall preliminary design

Santa Rosa

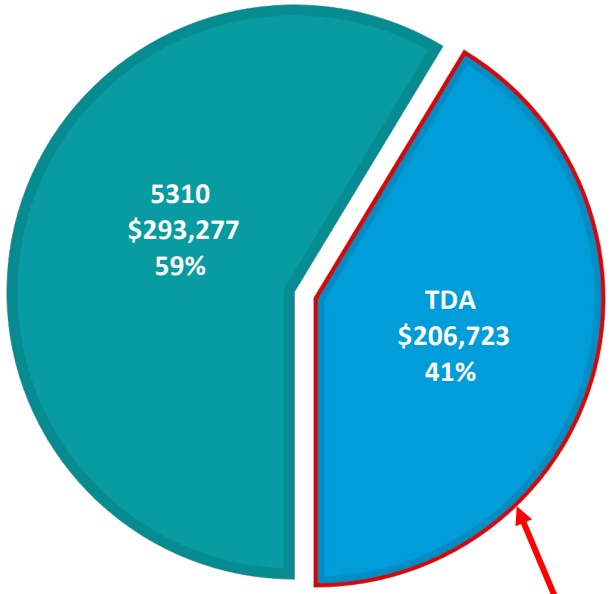
Paratransit

Santa Rosa CityBus

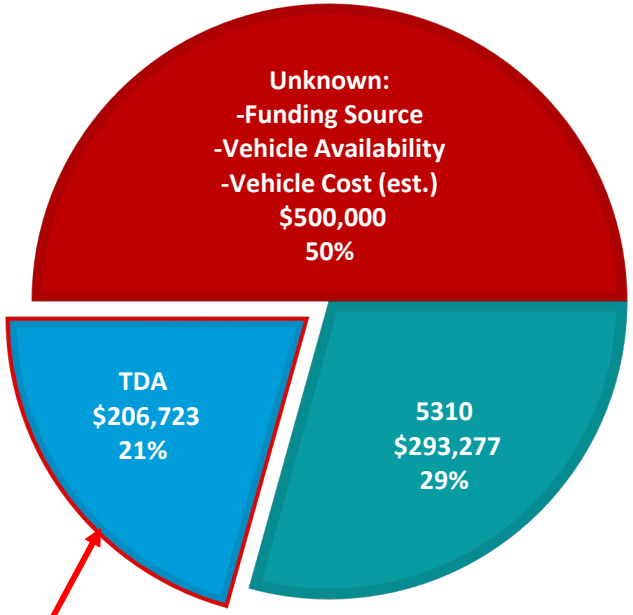
Oakmont

Current Cutaway Fleet

PROJECT FUNDING AMOUNT
(ASSUMING GAS VEHICLE)



PROJECT FUNDING AMOUNT
(ASSUMING ELECTRIC)



Use of capital reserve

Funded for gas vehicle replacements

*Pending award

2010	2014 *	2014 *	2014 *
2014	2014	2014	2015
2020	2020	2020	2020

The Buses

Santa Rosa CityBus

Current Fixed Route Fleet

Funded for replacement

2002	2002	2011	2013	2016	2018
2002	2008	2011	2013	2016	2018
2002	2008	2011	2013	2016	2018
2002	2008	2011	2013	2016	2018
		2011	2013		
		2011	2013		
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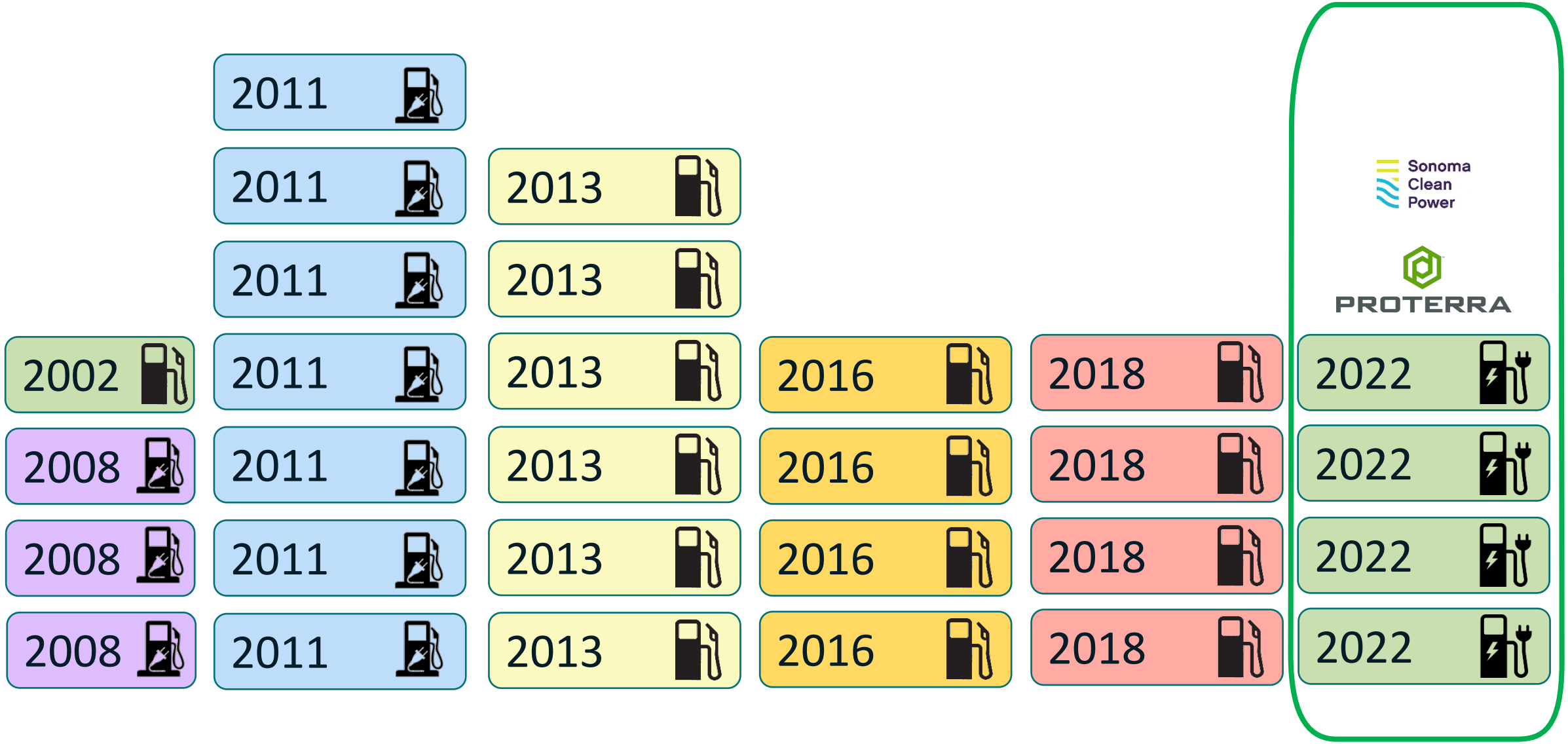
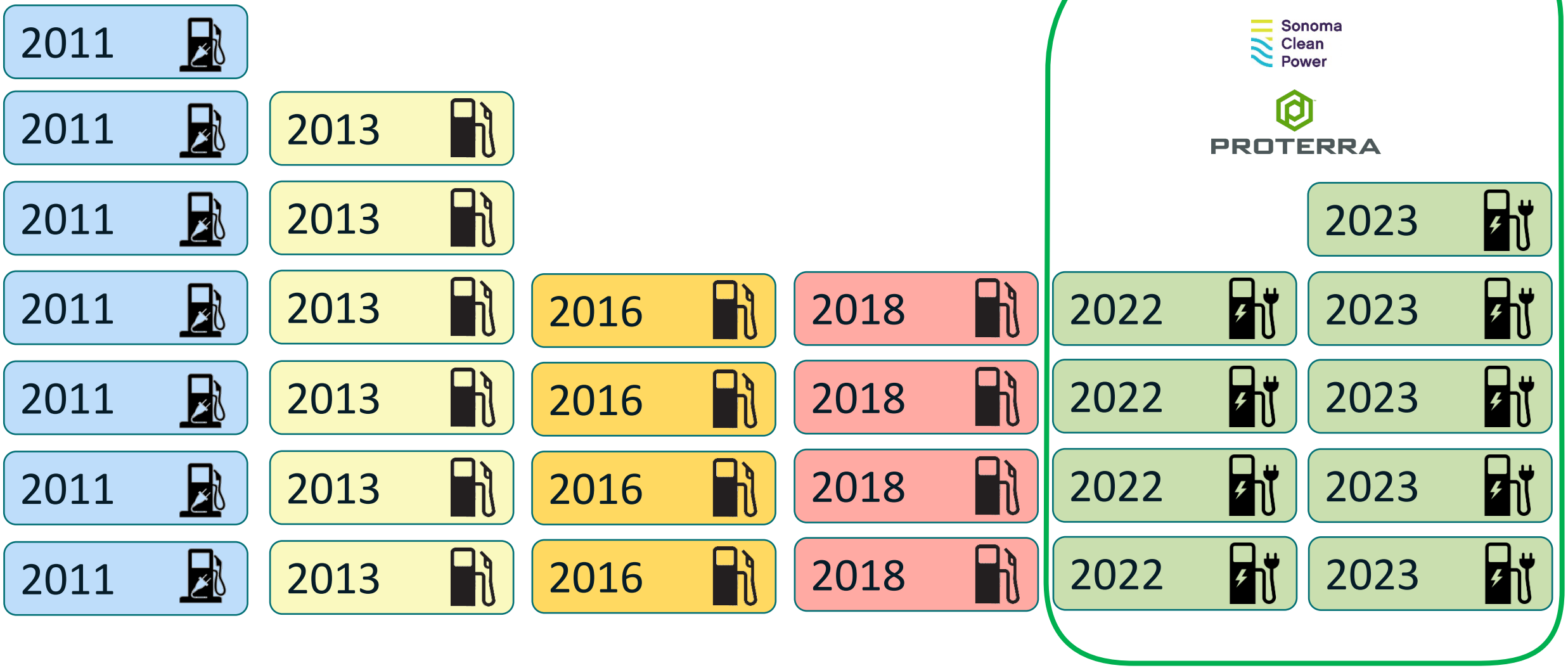
Fixed Route Fleet in Jan 2023

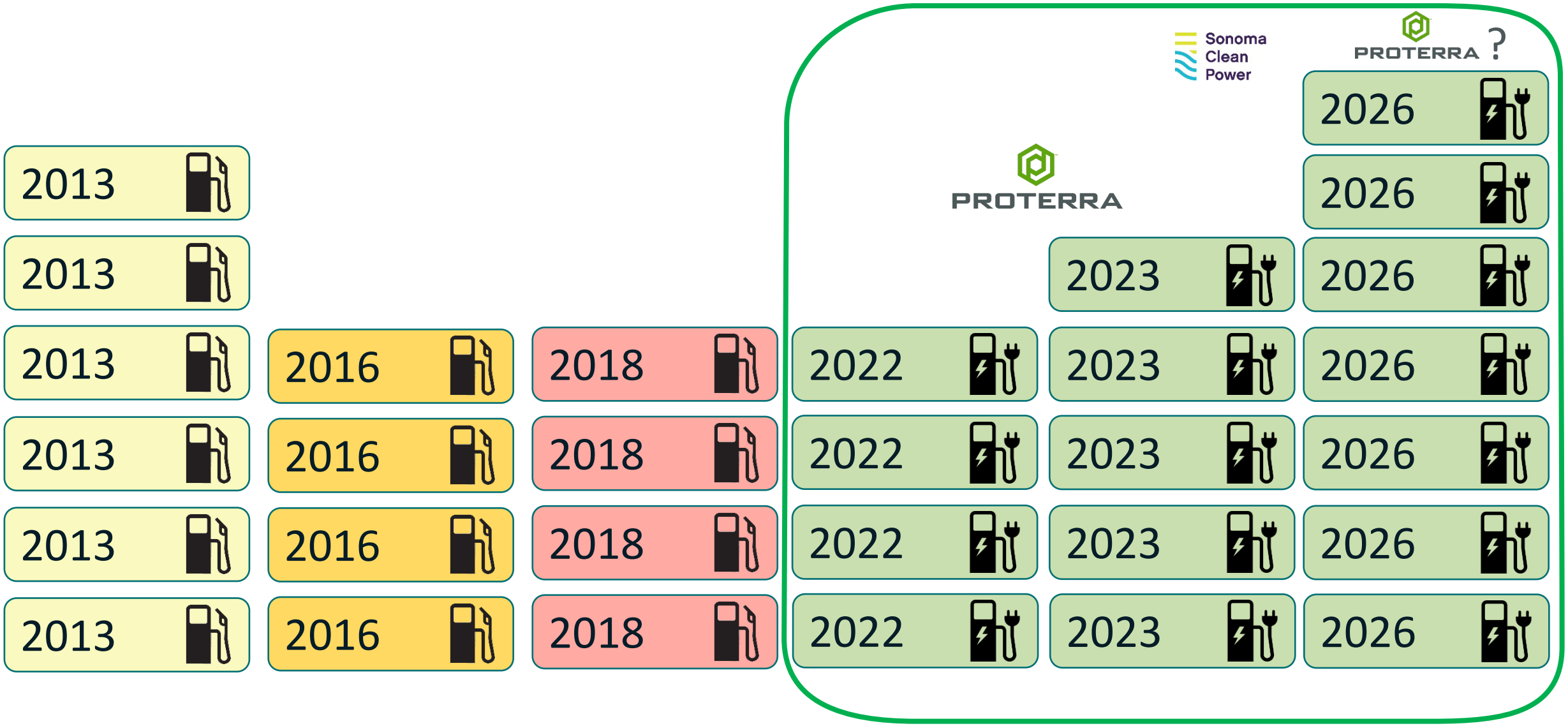


Fixed Route Fleet in Jan 2024

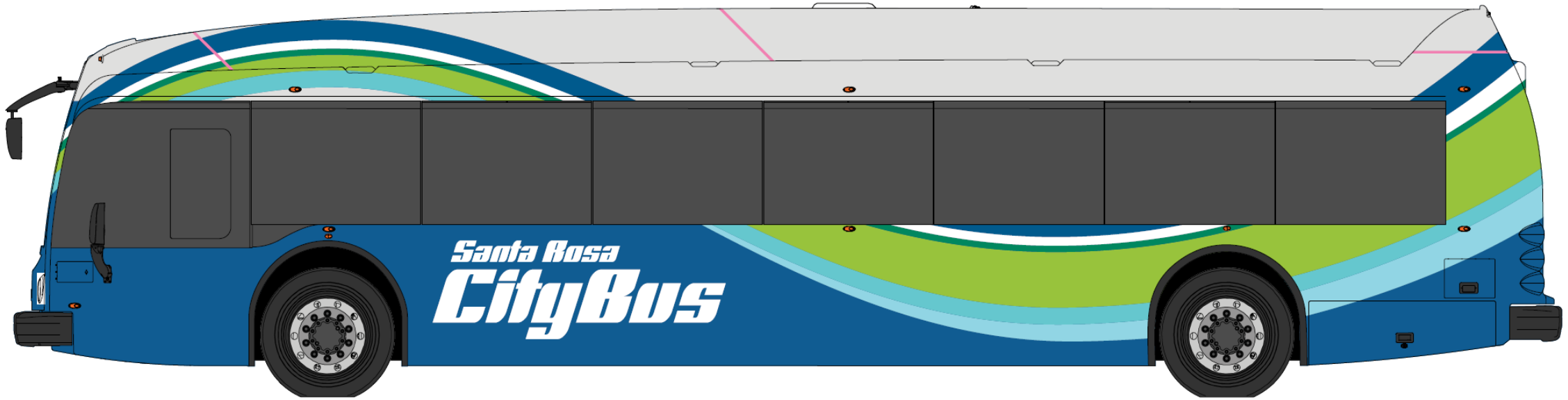


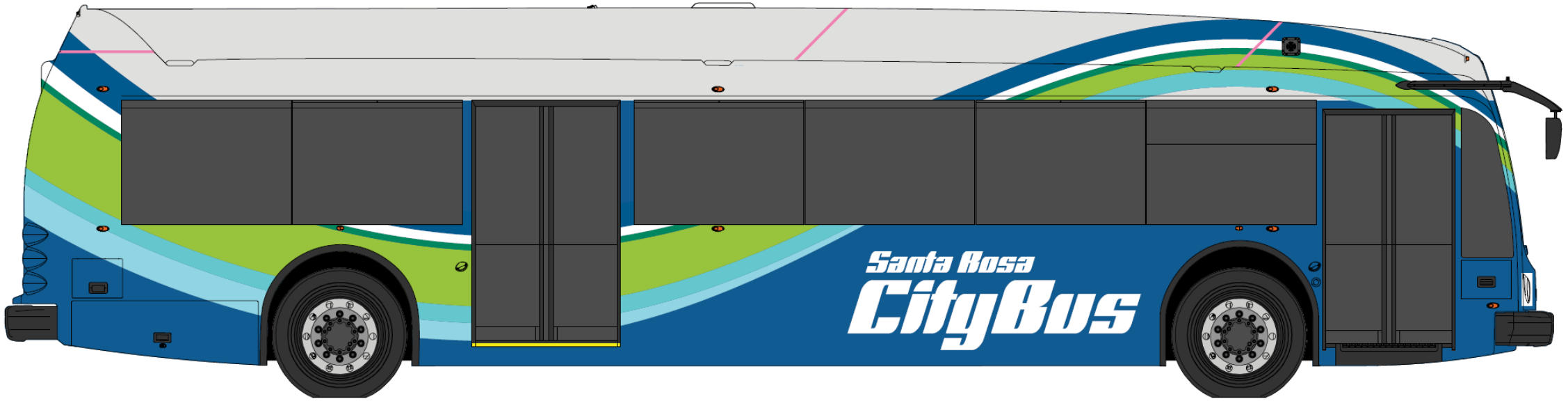
Santa Rosa CityBus

Fixed Route Fleet Projected 2026



The New BEB


Santa Rosa
CityBus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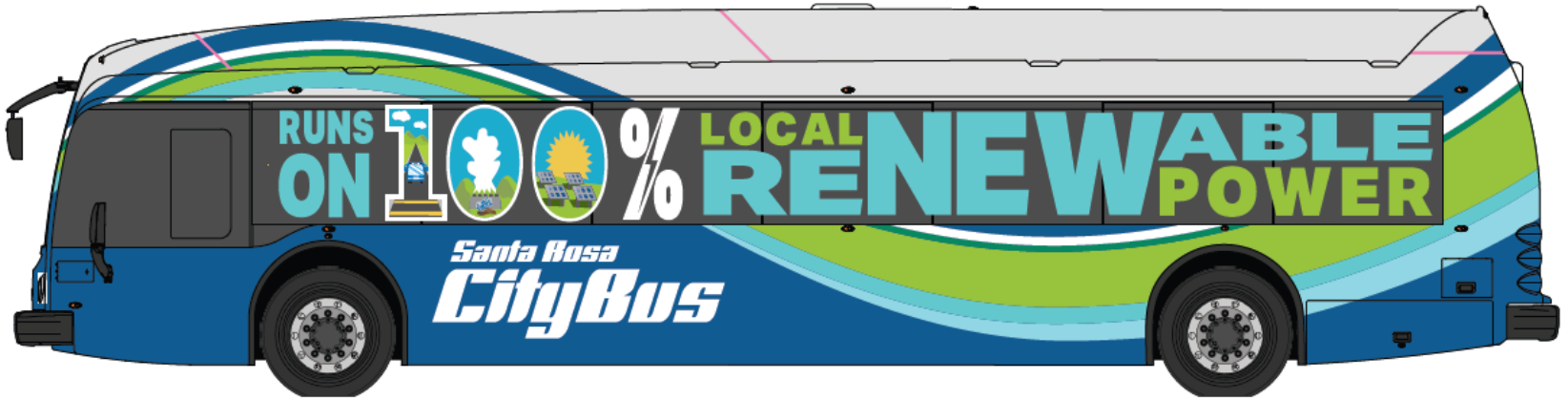
CityBus

The New Look

RUNS ON 100%
LOCAL
RENEWABLE
POWER
Sonoma
Clean Power
Santa Rosa
CityBus
TURN
WARNING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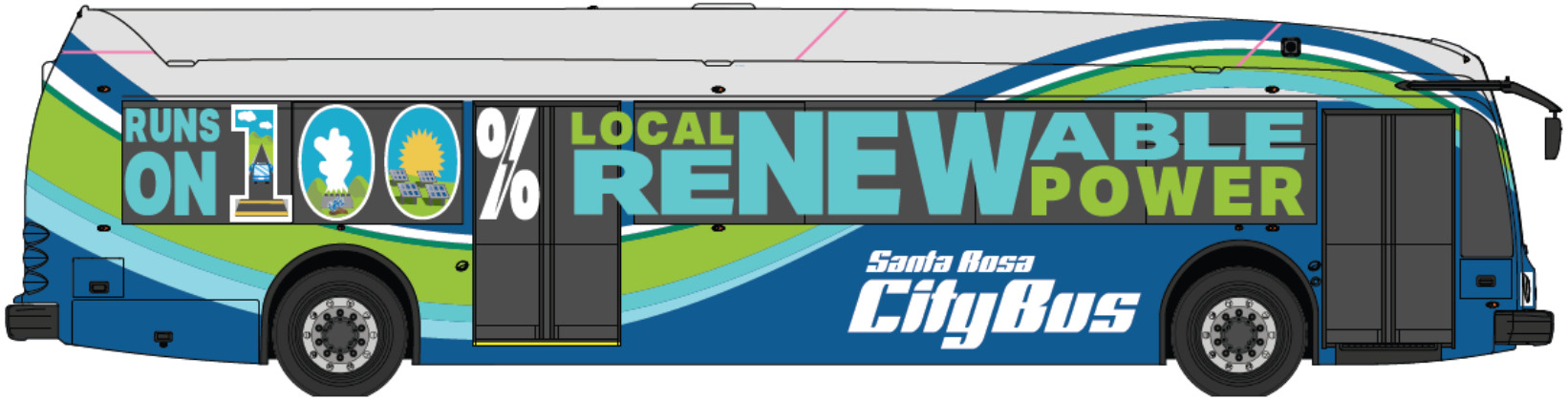
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Next Steps

- August 23: Council consideration of 5 bus purchase
- Late 2022/Early 2023
  - Phase 1 Charger Infrastructure (install 2 additional chargers)
  - Oakmont & Paratransit vehicle purchase (gas vs. electric?)
- Early 2023: CARB ICT Zero Emission Bus Rollout Plan
- March 2023: FTA Sustainable Transit for a Healthy Planet Challenge – Phase 2
  - Would require CityBus to set GHG targets
- 2024-2025
  - Purchase funded bus replacements (#10-15)
  - Design/Construct funded phase 2 bus charging infrastructure
- Ongoing / future
  - Resiliency planning: overall City-wide electrification needs
  - Regional transit collaboration: en-route charging at Transit Mall, etc.
  - Future technologies
    - Telematics (real-time bus energy management)
    - Charger management software (depot charging enhanced management)

Next Steps --- QUESTIONS??

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