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ICT Progress Report – Board Retreat

February 12, 2026

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Agenda

- Innovative Clean Transit (ICT) Review
- Status of the current FCEB procurement (108 buses)
- Infrastructure: Battery Charging and Permanent H2 Fuel Station
- Zero Emission Bus (ZEB) Performance Update
- ICT Plans of other California Transit Properties
- Discussion and Feedback: options for next 62 bus procurement
- Fuel and Energy Cost (sample) Comparison
- Next steps – Seek Board Direction

Innovative Clean Transit (ICT) Review

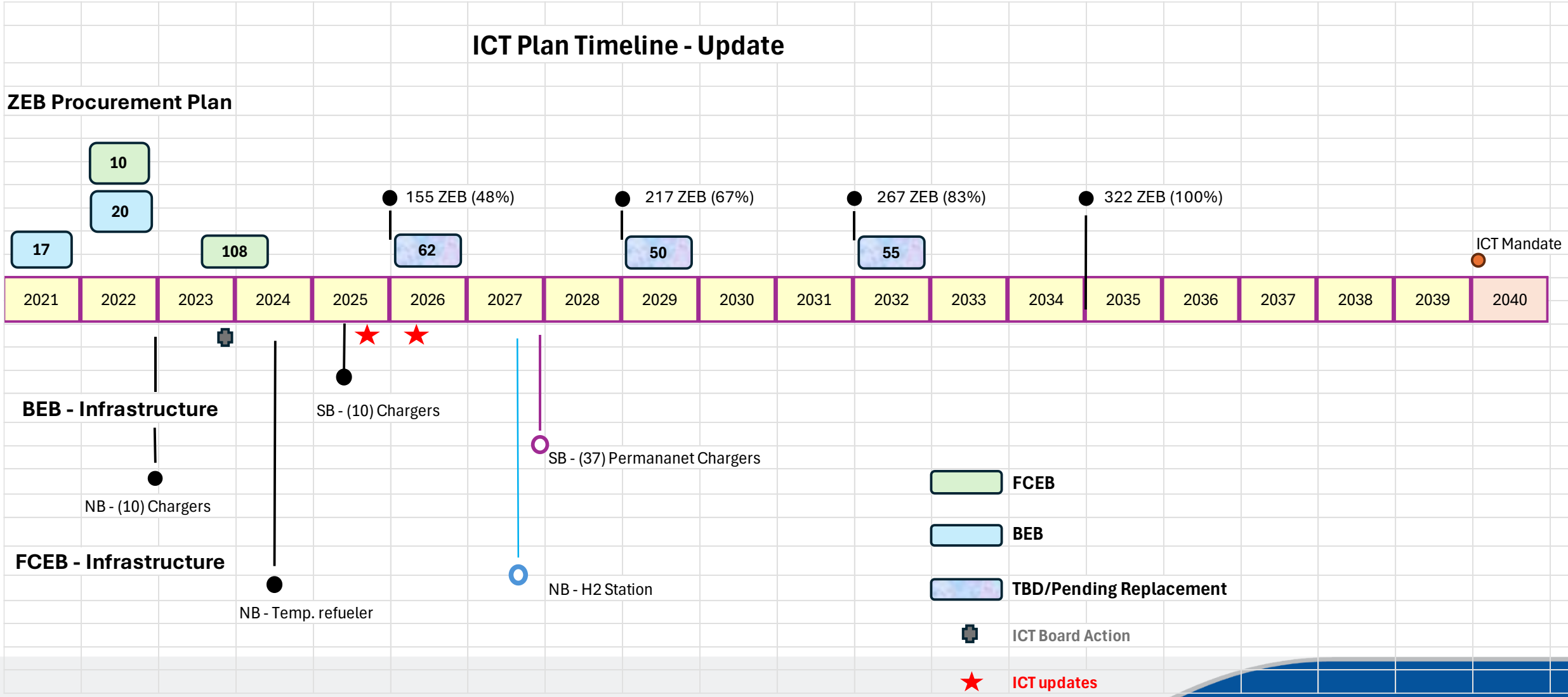
- Original ICT Plan approved by the Board in December 2020
  - Fleet replacement considered clean diesel and battery electric buses (BEB); full ZEB adoption by 2038
- Board approved the amended ICT Plan in December 2023
  - Fleet of 322 vehicles, with a mix of 29-, 35-, 40-, and 60-foot buses
  - Introduced fuel cell electric buses (FCEB) for a blended fleet and added paratransit vehicles to the District plan
  - New plan anticipated full ZEB adoption by 2034; currently at 48% completion

Innovative Clean Transit (ICT) Review

- Highlight of subsequent actions:
  - Authorized procurement of 108 FCEB ($167M) funded 92% State & Federal, 8% Local*
  - Authorized infrastructure contracts for NB maintenance bay modifications, mobile H2 re-fueler, permanent H2 station, and sea level rise mitigation
  - Authorized infrastructure construction for SB for 10 BEB plug-in chargers, and 37 BEB pantograph charging stations
- Next procurements enables total fleet conversion in accordance with the Dec 2023 ICT Plan:
  - (62) ZEB buses in 2026; 67%
  - (50) ZEB buses in 2029; 83%
  - (55) ZEB buses in 2032; 100%

*$8.3M new unfunded tariffs and taxes will increase local match

ICT Rollout Procurement Schedule



Status of the 108 FCEB Procurement

- Contract awarded by board in December 2023
- Delivery schedule remains on target (two buses/week starting in January 2026), with delivery expected to be complete by early to mid 2027
- Completing plans to stow and exercise FCEBs while permanent fueling station is built
- Original project cost: $167M (fully funded)
- *Project Cost Increases: $8.3M (unfunded)*:
  - *Estimated tariff's increase, $3.5M or ($33K/bus)*
  - *Loss of CA ZEB tax credit, calculated to be $4.8M or ($45K/bus)*

Infrastructure

Zero Emission Infrastructure	Funding	Performance/Status
NB/SB BEB Plug-in Chargers (20 chargers)	Fully Funded	• Good reliability and availability • Limited down-time primarily associated with software issues • Challenges in recruiting qualified staff to maintain charging system
SB BEB Pantograph Chargers (37 stations) - fully funded	Fully Funded	• Under construction • Scheduled completion: Fall 2027
Permanent H2 Fueling Station (NB)	Partially funded due to loss of ARCHES funds	• Design Build Contract Awarded to Trillium • Currently in design phase, construction expected to start in Fall 2026 • Scheduled completion: Summer 2027

Permanent H2 Station Funding Update

- Over $30M in ARCHES funding lost and no expectation that the State will replace promised funds
  - $12M funding gap for permanent H2 station project
    - Project cost is $19.5M, $7.5M funded by local/state funds, but no ARCHES.
  - Plan to replace the $12M of lost ARCHES funds for the H2 station project:
    - Evaluating other possible grant sources
    - Using District funds
  - Balance of lost ARCHES funding was originally slated for facility modifications (maintenance bays). Will need to seek other funding as well.

FCEBs Performance Update

10 New Flyer FCEBs entered service in February 2025

Model	Daily Availability	Total Fleet Miles Driven (FEB-NOV 2025)
New Flyer FCEB	50%*	145,111 miles
Clean Diesel	85%	309,462 miles

- 47% fewer fleet miles driven vs. equivalent number of clean diesel buses
- Major issues:
  - Hydrogen bypassing system pressure regulator (resolved)
  - Battery recall; battery replacement delays

* Impacted by infrastructure availability and vehicle technical support

BEBs Performance Update

17 New Flyer BEBs entered service in August 2023

Model	Daily Availability	Total Fleet Miles Driven (DEC 24-NOV 25)
New Flyer BEB	48%*	292,465 miles
Clean Diesel	85%	638,893 miles

- 46% fewer fleet miles driven vs. equivalent number of clean diesel buses
- Major issues: Bus 1014 thermal event
  - Solution required new monitoring software and a reduction in charging capacity to 75% vs. 100%
  - Long lead time for parts
  - Reliability and availability below expectations

* Impacted by vehicle design and maintenance support issues

BEBs Performance Update

20 Gillig BEBs entered service in June 2025

Model	Daily Availability	Total Fleet Miles Driven (JUN-NOV 25)
Gillig BEB	84%*	111,370 miles
Clean Diesel	85%	379,400 miles

- 29% fewer fleet miles driven vs. equivalent number of clean diesel buses

- Major issues:
  - Major component failure (air pump)

* Availability in the last month

ICT Plans of Other CA Transit Properties

	Previous ICT Plan	Current ICT Plan	Comments
AC Transit	Existing 30 FCEB and 28 BEB	Ordered another 56 FCEB and 10 BEB; afterwards, pausing new procurements	Early adopters, re-powering clean diesel.
VTA	Meet purchase requirements with Proterra BEB	30 BEB's ordered for delivery in 2026. Seeking CARB exemption to buy more clean-diesel hybrids.	Adjustment in ICT plan due to concerns with service reliability. Internal meeting, 01/15/26 to discuss future steps in their ICT Plan.
OCTA	Existing 40 FCEB, 10 BEB	Ordering additional 10 FCEB for a total of 50 FCEB and 10 BEB	98% FCEB, 2% BEB (range) No adjustment in their ICT plan (aligned replacement cycle)
Foot Hill	30 FCEB (planned)	Order changed from 30 FCEB to 30 CNG buses. Adding 30 BEB double decker buses	Using credit with CARB to swap out FCEB with CNG buses; Cancelled Infrastructure project
Santa Cruz Metro	Existing 44 FCEB, and 4 BEB	Ordered an additional 8 FCEB. Procuring 17 BEB's in 2026.	Using a temporary refueler, permanent refueler to be commissioned In July 2027

Discussion and Feedback: Options for next 62 bus procurement

Replacement of 25 (2013) Diesel Hybrid Buses and 37 (2014) Clean Diesel Buses:

- **Stay the Course**
- **Option A**: ICT Progress and Compliance
- **Option B**: ICT Extend Full Implementation to 2039
- **Option C**: ICT Neutral with a Delay in Procurement

Next 62 Bus Procurement Options

Scenario	Procurement Options	Pros	Cons
Stay the Course	Purchase 62 FCEBs	• Have H2 fueling capacity	• Remaining $27M funding gap • One vendor option • Could impact fleet availability • Developing technology • H2 cost (unstable) • Private sector pulling back from hydrogen

Considerations and cost implications:

- District will have 118 FCEB in revenue service with little operational history (reliability risk).
- FCEB is dependent on one vendor (bus manufacturer) for technical support.
- Once procured, the replacement buses will arrive on site in 20-24 month.
- Additional maintenance costs for major bus components (as needed) for keeping the hybrid and clean diesel buses available while we wait for the new buses, estimated $2.0-$3.1 M.

Next 62 Bus Procurement Options

Scenario	Procurement Options	Pros	Cons
OPTION A – ICT Progress and compliance	Purchase only 25 BEBs; extend 37 diesel buses lifecycle	• Does NOT require a CARB exemption • Min. replacement of hybrid engines (at each 185,000 miles interval). • Replaces 25 most vulnerable buses • Utilizes existing BEB infrastructure • Exceeds ICT requirements • Full funding available for 25 buses	• Higher major bus components costs for the older diesel buses • Potential risk of hybrid bus availability

Considerations and cost implications:

- Once procured, the replacement buses will arrive on site in 18-20 months.
- While waiting for the new buses, existing hybrid buses' major components cannot be purchased new, and need to be refurbished. Lead time is 30-90 days.
- Adds marginal maintenance costs for the 37 clean diesel buses. Major bus components would be replaced/refurbished on a needed bases (anticipating bus replacement).
- Estimated financial impact: $1.8-$2.7 M.

Next 62 Bus Procurement Options

Scenario	Procurement Options	Pros	Cons
OPTION B – ICT Extend Full Implementation to 2039	Purchase 62 clean diesel	• Familiar diesel technology • Diesel fuel cost is lower compared to hydrogen or electricity • Allows time to manage existing ZEB sub-fleets	• Requires CARB exemption • Possible loss of funds & no discretionary grants available • New diesel engine (X10) – unknown performance • Delays ICT full implementation to 2039

Considerations and cost implications:

- Cummins X10 diesel engine is new to bus transportation, steep learning curve for mechanics who are learning FCEB and BEB technologies.
- Once procured, the replacement buses will arrive on site in 20-24 months
- Additional maintenance costs for major bus components (as needed) for existing buses to keep their availability: Estimated at $4.1-$5.0 M.
- Lead time for hybrid major components 30-90 days.

Next 62 Bus Procurement Options

Scenario	Procurement Options	Pros	Cons
OPTION C – ICT Neutral with a Delay in Procurement	Delay procurement of 62 buses for 1-year (2027)	• Re-assess progress with District's ZEB • Assess industry progress/opportunities • Remain compliant with ICT (no purchases) • Allows time to manage existing ZEB sub-fleets	• Increased risk of major bus component failures • Potential delay in ICT full implementation depending on replacement technology (clean diesel, FCEB, or BEB)

Considerations and cost implications:

- Extending the lifecycle of hybrid buses can decrease availability since major bus components must be rebuilt and cannot be purchased new. Lead times, 30-90 days.
- Additional maintenance costs for major bus components (clean diesel engine, hybrid drive, and inverter module) would be replaced as needed.
- Replacement buses for the 2013 hybrid and 2014 clean diesel buses will take 30-36 months
- Estimated financial impact: $4.1-$5.0 M.

Fuel and Energy Cost Comparison

	Diesel	NF FCEB	NF BEB	Gillig BEB
Performance (fleet avg.)	4.23 miles/gal	9.15 miles/kg	2.01 kWh/mile	2.46 kWh/mile
Cost comparison: Average annual mileage for 100 buses	$2,515,414	$4,749,842*	$3,422,133	$4,241,105

* Accounts for a 30% loss in H2 fuel ($11.43/kg)

Next Steps

- Establish a procurement strategy for the next procurement
- Continue to advocate for the $30M in lost ARCHES grant funds needed for the hydrogen fueling station and other facility upgrades; can no longer rely on Go Biz for advocacy
- Address increase project costs; New Flyer's tariff and loss of sales tax incentive
- Obtain a long-term contract for hydrogen fuel (tentative with First Public Hydrogen, FPH2)

Glossary of Terms

- ARCHES – Alliance for Renewable Clean Hydrogen Energy Systems
- BEB – Battery Electric Bus
- CARB – California Air Resource Board
- CNG – Compressed Natural Gas
- FCEB – Fuel Cell Electric Bus
- GoBiz – Governor's Office of Business and Economic Development
- H2 – Hydrogen
- ICT – Innovative Clean Transit
- NB – North Base
- SB – South Base
- ZEB – Zero Emission Bus