

CLEAN CORRIDORS

Tying ZEB Implementation to Equity Goals

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AGENDA

- * AC at a Glance
- * Zero-Emissions at AC
- * Regulatory Framework
- * Funding
- * Genesis
- * Plan Development
- * Outcomes



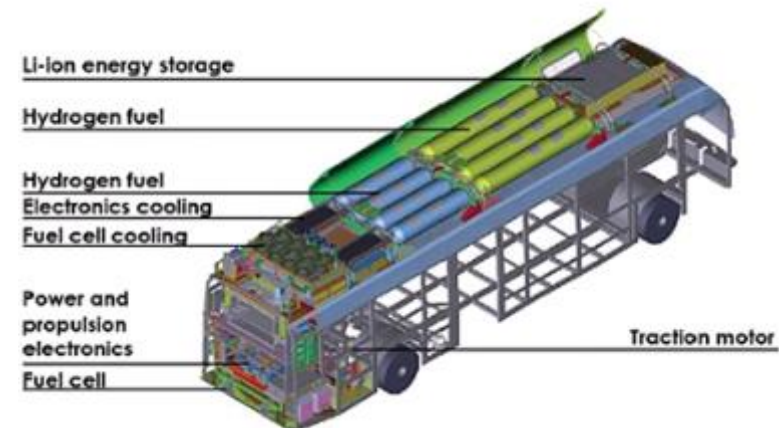
AC AT A GLANCE

- * 155 bus routes
 - * 29 Transbay routes
 - * 2 Flex routes
 - * Bus Rapid Transit under construction
 - * Salesforce Transit Center opens August 12
- * 630 buses, four garages
- * 1,350 bus operators – in theory
- * Service from Richmond in the north to Fremont in the south.
- * Transbay service to:
 - * San Francisco (27 Lines)
 - * San Mateo/Foster City (Line M)
 - * Palo Alto/Stanford (Line U and DB Express)



ZERO-EMISSIONS AT AC

- * 13 40-foot Hydrogen fuel-cell buses
 - * World's largest
 - * 11 more this year (including one artic)
- * Stations in Emeryville and East Oakland
- * No clear guidelines for assignments
- * New Flyer providing us with five BEBs
- * Currently conducting multiple studies:
 - * Facilities Utilization
 - * Zero-emissions plan
 - * Clean Corridors (update)



REGULATORY FRAMEWORK

- * CA Legislature Passed AB-32 (Cap & Trade) in 2006.
 - * Provides funding for programs or capital investments that reduce GhG emissions.
 - * AB-398 was passed in 2017, extending Cap & Trade to 2030.
- * SB-535 (2012) and AB-1550 (2016) mandated that 25-percent of Cap & Trade funds must go to Disadvantaged Communities and solidified the framework for identifying those communities.
 - * Maps are created each year by the CalEPA, updating the communities as demographics change.
- * CARB is considering a rule mandating 100% zero-emissions for buses by 2040, with incentives for early adopters.

FUNDING

Metropolitan Transportation Commission

- * Transit Capital Priorities Program
- * \$500 million/year
- * 30% local match
- * Combines Federal and local funds
 - * FTA 5307, 5337, 5339
 - * FHWA STP and CMAQ
 - * Local Bridge and other revenues for transit





FUNDING



State Cap & Trade

- * LCTOP – Low Carbon Transit Operations Program | \$100 million/year
- * TIRCP – Competitive grants historically aimed at large-scale projects tied to intercity rail | \$2.6 billion over four years
- * AHSC – Competitive grants to support greenhouse gas emissions and affordable housing when they're mixed together.
- * AQIP – A variety of programs, including the Truck and Bus Voucher Incentive Program.

FUNDING

Federal

- * FTA 5339 Low/No Competitive Program
 - * \$55 million/year
 - * Funds bus replacement and infrastructure

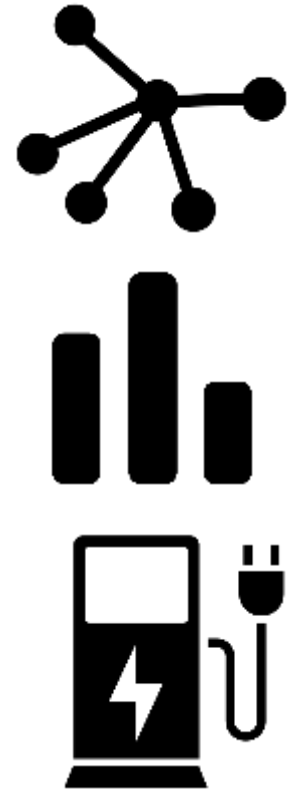


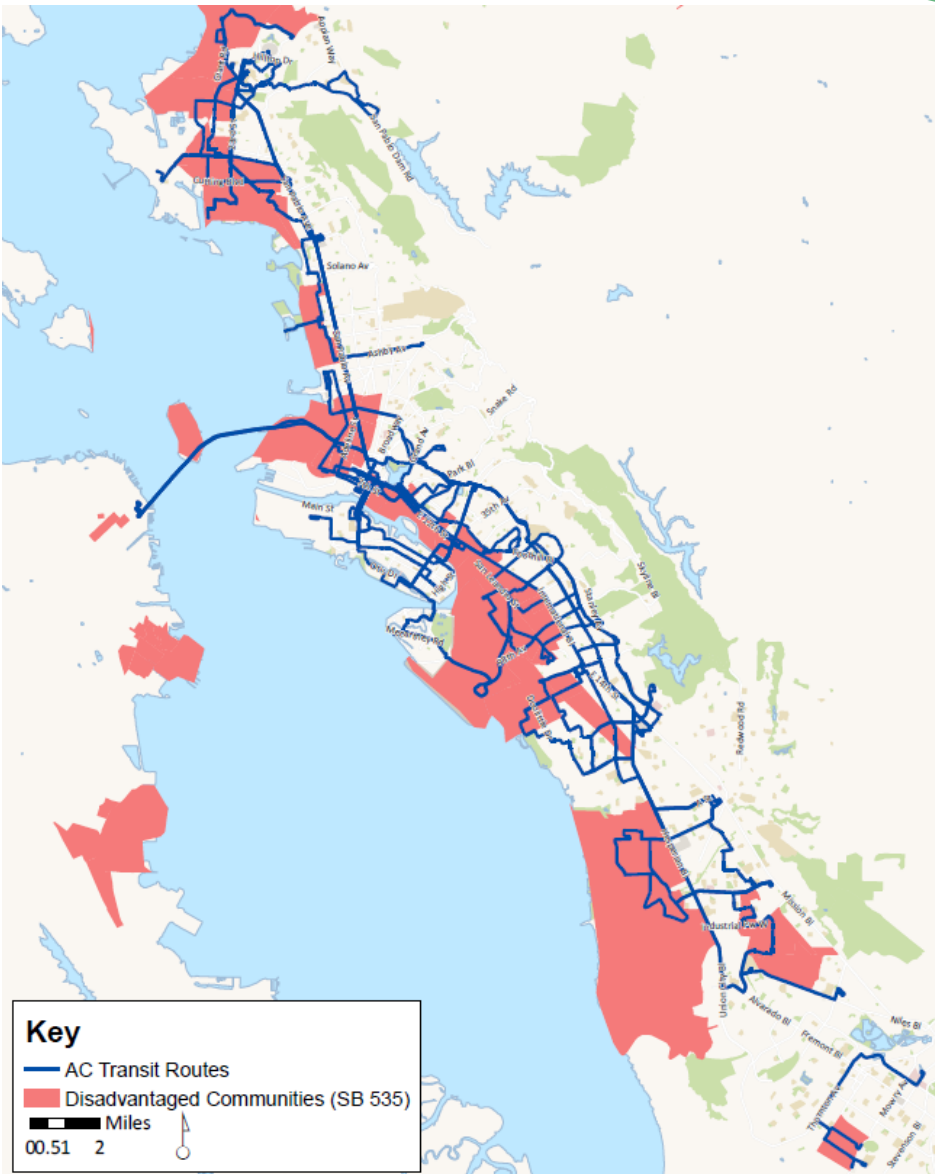
GENESIS

- * New call for applications for TIRCP.
- * Planning and Grants staff discussed possible projects for long-shot grant.
- * Explicitly tie green goals and equity concerns together.
 - * Focus initial zero-emissions investments in disadvantaged communities.
- * Started with snappy name: *Clean Corridors*.
- * Three months until grant is due, requires board approval.

PLAN DEVELOPMENT

- * Began with methodology:
 - * Organize lines into corridors or communities
 - * Filter out lines not in Disadvantaged Communities
 - * Rank corridors by ridership
 - * Prioritize corridors served from garages with existing infrastructure





- * Richmond
- * San Pablo Ave.
- * West Berkeley
- * West Oakland
- * North Oakland
- * East Oakland
- * International Boulevard/East 14th St.
- * Oakland International Airport
- * Ashland (San Leandro)
- * Russell City (Hayward)

PLAN DEVELOPMENT

Four Corridors/Communities



Macarthur/Grand

10,000+ Riders/day

- * 57
- * NL
- * NX Series

San Pablo Ave.

14,000+ Riders/day

- * 72
- * 72M
- * 72R



West Oakland

12,500 Riders/day

- * 14
- * 29
- * 36
- * 62
- * 88
- * NL

Richmond

6,500 Riders/day

- * 70
- * 71
- * 74
- * 76
- * L/LA



PLAN DEVELOPMENT

Infrastructure at two garages:



Emeryville (Division 2)

Capacity: 183

Hydrogen Fueling: 13 buses

Clean Corridors: 29, 36, 72/M/R, 88



East Oakland (Division 4)

Capacity: 200

Hydrogen Fueling: 13 buses

Electric (future): 50 buses

Clean Corridors: 14, 57, 62, NL, NX



PLAN DEVELOPMENT

Bus Totals and Costing - DRAFT

Clean Corridor Comparison									
Fleet					Costs				
Clean Corridor	Division	Peak Buses	Spares	Total	Vehicle		Charging	Total	
					Electric	Fuel Cell		Electric	Fuel Cell
Richmond	3	18	4	22	\$ 21,600,000	\$ 28,080,000	\$ 1,620,000	\$ 23,220,000	\$ 29,700,000
San Pablo	2	33	7	40	\$ 39,600,000	\$ 51,480,000	\$ 2,970,000	\$ 42,570,000	\$ 54,450,000
Macarthur-Grand	4	27	5	32	\$ 42,120,000	\$ 51,840,000	\$ 2,430,000	\$ 44,550,000	\$ 54,270,000
West Oakland	2/4	36	7	43	\$ 43,200,000	\$ 56,160,000	\$ 3,240,000	\$ 46,440,000	\$ 59,400,000
Total		114	23	137	\$ 136,920,000	\$ 175,080,000	\$ 9,540,000	\$ 146,460,000	\$ 184,620,000

PLAN DEVELOPMENT

- * Ran the numbers by some folks
 - * How dare you say hydrogen is more expensive than electric?!!
 - * Don't you know prices are coming down?!!
 - * Stop comparing the two technologies, price everything at the median of the difference between the two.
 - * Add NX series to Macarthur/Grand for bridge/Salesforce nexus.



PLAN DEVELOPMENT

Bus Totals and Costing - FINAL

Clean Corridor Comparison							
Fleet					Costs		
Clean Corridor	Division	Peak Buses	Spares	Total	Vehicle	Infrastructure	Total
Richmond	3	18	4	22	\$ 21,276,000	\$ 10,713,600	\$ 31,989,600
San Pablo	2	33	7	40	\$ 39,006,000	\$ 19,641,600	\$ 58,647,600
Macarthur-Grand	4	33	7	40	\$ 39,006,000	\$ 19,641,600	\$ 58,647,600
West Oakland	2/4	36	7	43	\$ 42,552,000	\$ 21,427,200	\$ 63,979,200
Total		120	24	144	\$ 141,840,000	\$ 71,424,000	\$ 213,264,000

OUTCOMES

- * Board approval 12/13/17
 - * Two months from idea to approval
- * Submitted TIRCP grant application soon thereafter
- * Received word in April that CalSTA awarded AC Transit \$14 million to be combined with \$15 million from CTC
 - * Covers half of Macarthur/Grand Corridor (40 buses)
 - * Other half is matching funds
 - * Take over Emeryville Amtrak system (5 buses)

OUTCOMES

- * Don't do it the way we did it – real stressful
- * Start by creating criteria for Disadvantaged Community
- * Prioritize lines by how many people will benefit
- * Be realistic about infrastructure
- * Be conservative with costs – aim high
- * Shout it from the rooftops – knowing buses will be zero-emissions reduces opposition to new/changed service

QUESTIONS?

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