

East County Dynamic Personal Micro Transit Feasibility Study

Contra Costa Transportation Authority Board

Information provided by:
Habib Shamskhov
Advanced Mobility Group

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Dynamic Personal Micro Transit

A new mobility option being explored at GoMentum Station.



What is Dynamic Personal Micro Transit (DPMT)

- Closed system, autonomous, electric, public micro transit solution
- Virtual rail, tires on pathway
- Private seating, on demand, safe, and non-stop rides
- A financially sustainable model



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Advantages of DPMT

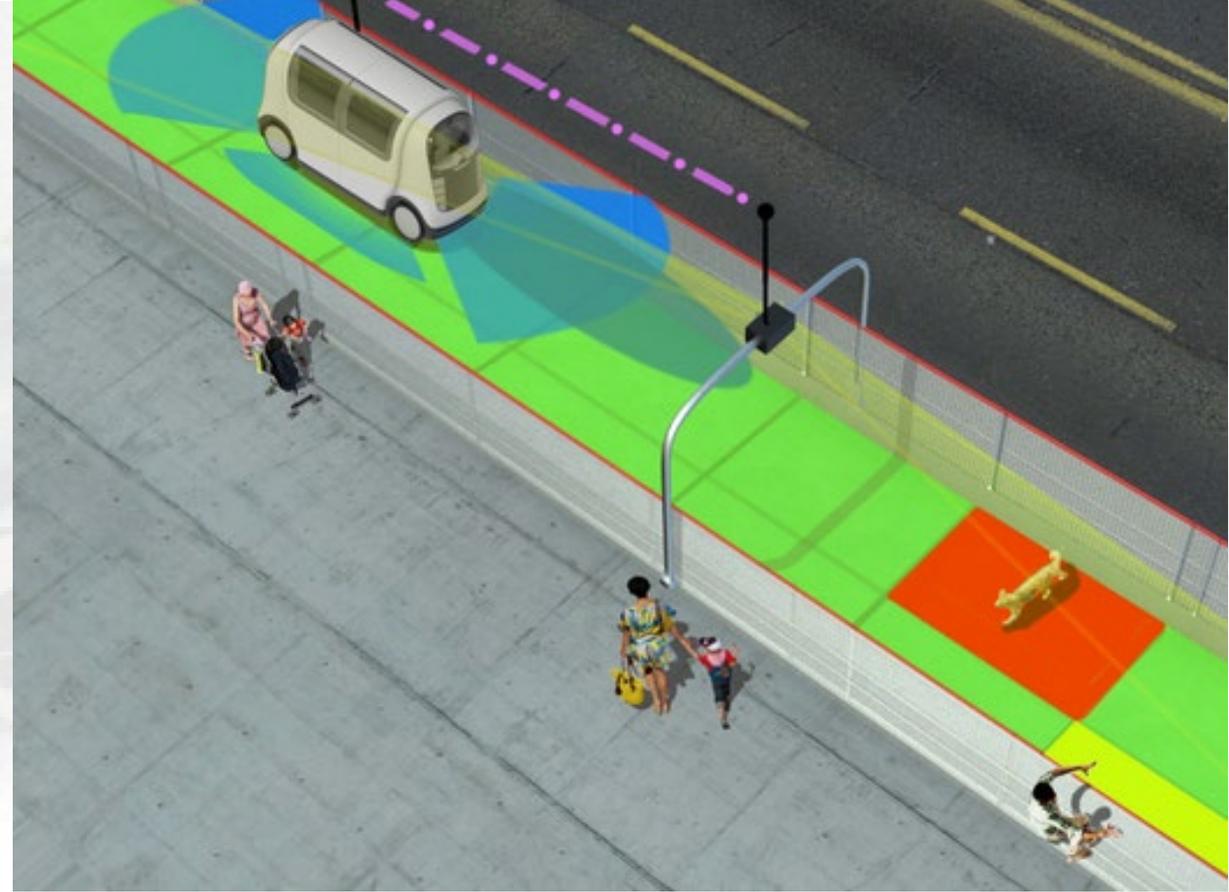
- Economic Development
- Sustainability – support emission reduction goals
- Transit Accessibility for Communities of Concern – First/Last mile Connections
- Complements Fixed Route Transit
- Cost Effectiveness
- Smaller footprint
- Safe, personalized, on-demand



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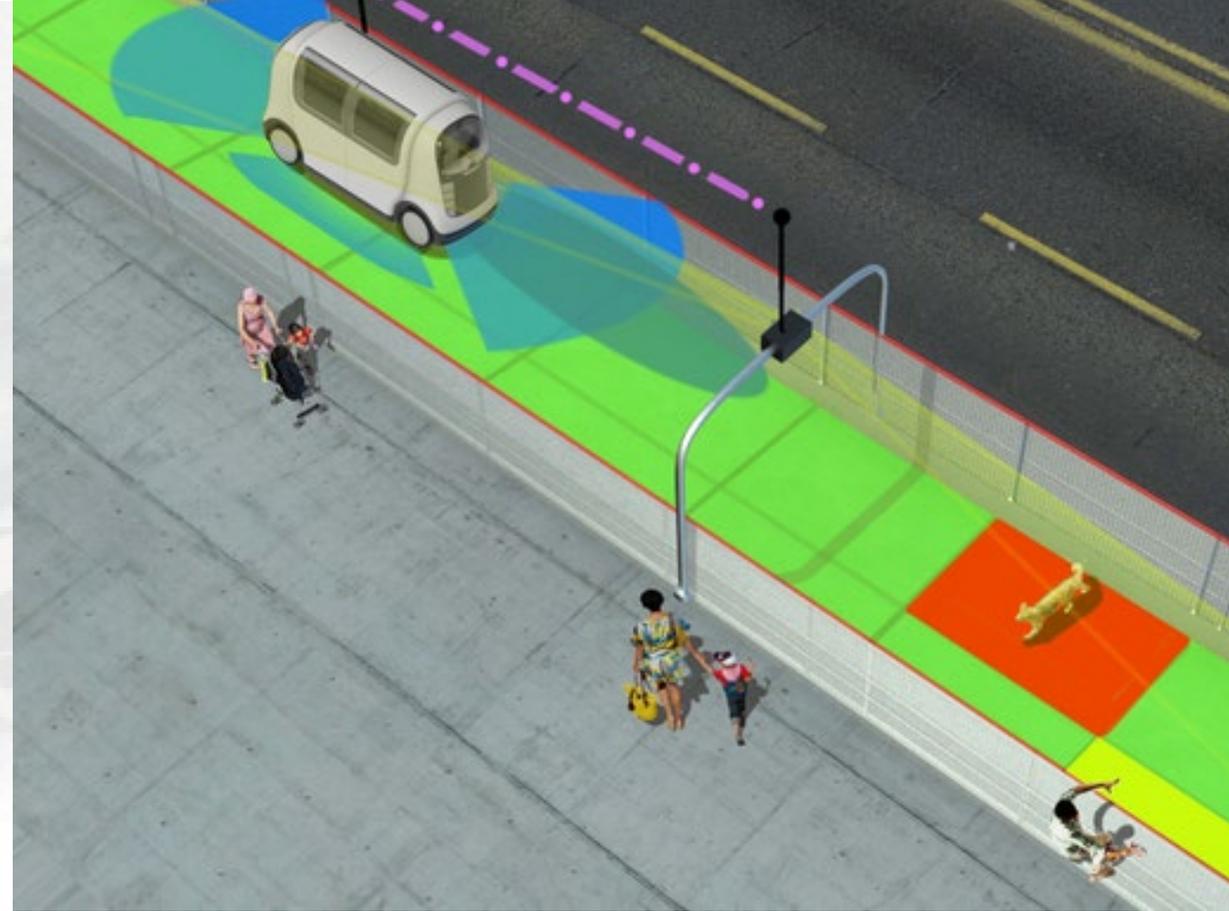
Personal Safety

- Personalized, safe, on-demand travel
- Built-in Multi-layered Protection and Security:
 - Security Barriers
 - Sensors
 - SOS buttons
 - Cameras
 - Instant emergency response
 - Vehicles that stop/react in concert



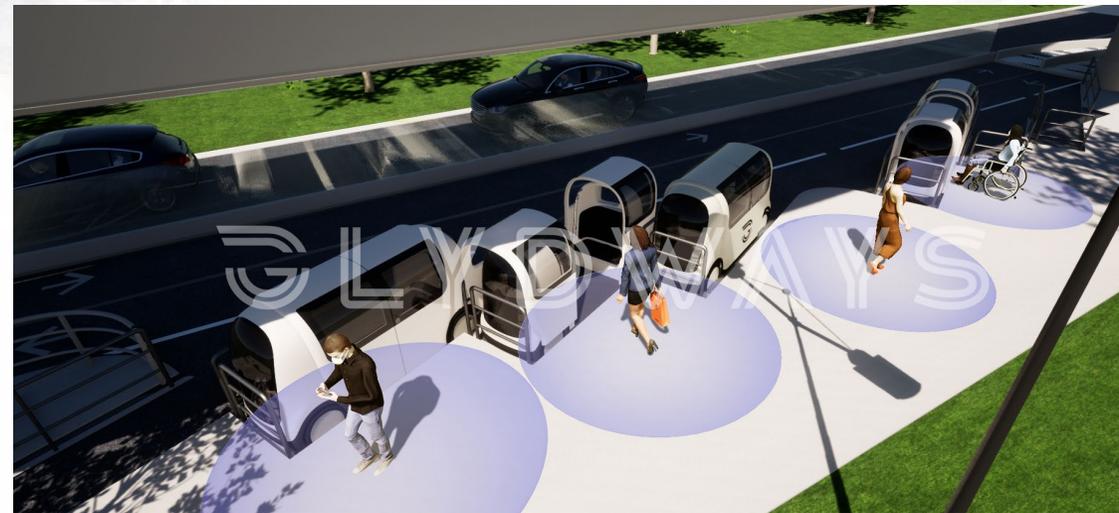
System Safety

- Real-time monitoring inside and outside of the network and intrusion alarm system.
- Safe Right of Way: Closed corridor means it never mixes people and vehicles.
- Built-in Multi-layered Protection and Security.



Other DPMT Systems

- DPMT networks currently in planning stages in the Bay Area:
 - Mountain View area near Google campus
 - South San Francisco
 - Diridon Station Connection – San Jose



East County DPMT Feasibility Study

- Undertaken by Cities of Antioch, Brentwood, Pittsburg, Oakley, and Contra Costa County



Goals and Objectives -

East County DPMT Feasibility Study Progress

- Provide Transit Accessibility by building a DPMT system to provide First/Last mile connections
- Provide Transit Accessibility to assure Economic Development and attract employers.
- Evaluate feasibility to attract potential Public Funding and Private Financing.

ECCC DPMT Conceptual Routing Plan

Pittsburg Route

Antioch Route

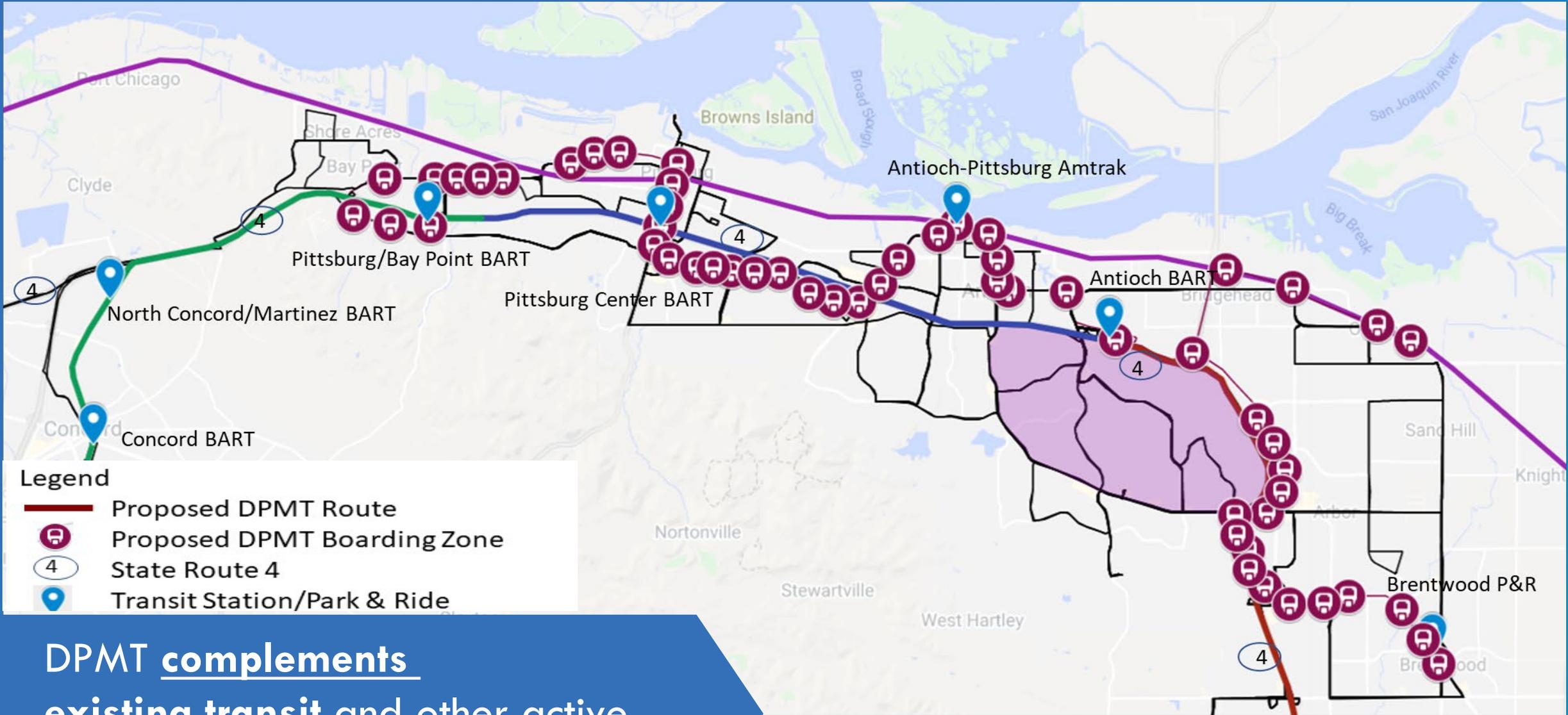
Oakley Route

Brentwood Route

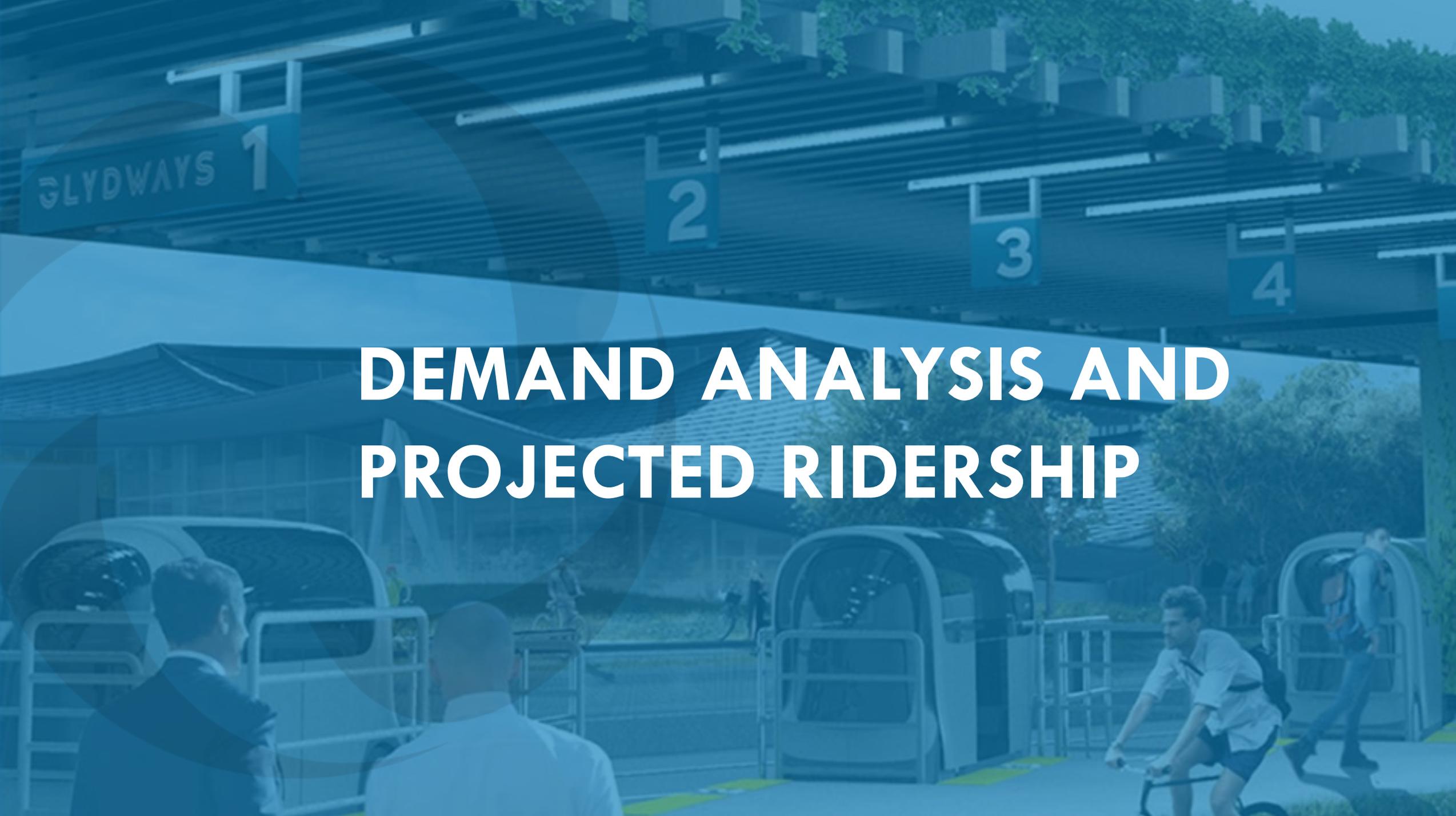
Legend

-  Pittsburg-Bay Point BART to Los Medanos College
-  Los Medanos College to Antioch BART
-  Antioch BART to Future Brentwood Innovation Center
-  Future Brentwood Innovation Center to The Streets of Brentwood
-  Future Brentwood Innovation Center Loop
-  The Streets of Brentwood to Brentwood Park and Ride
-  SR-4 to Future Oakley Park and Ride
-  Neroly Road to Future Oakley Park and Ride
-  Future Oakley Park and Ride to Future Regional Park

Transportation Services with DPMT

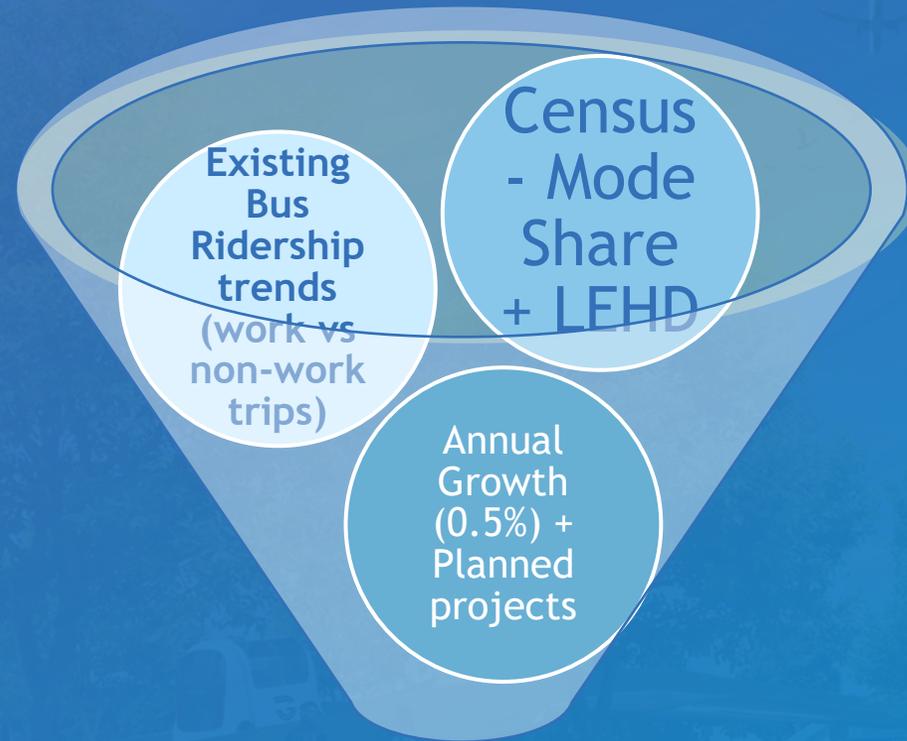


**DPMT complements
existing transit and other active
transportation modes**



**DEMAND ANALYSIS AND
PROJECTED RIDERSHIP**

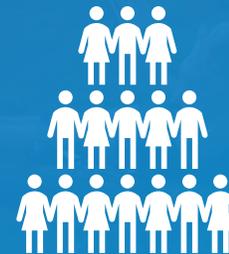
Ridership Demand Estimate



13 M (Potential Demand)

7 M

Annual Ridership Estimate



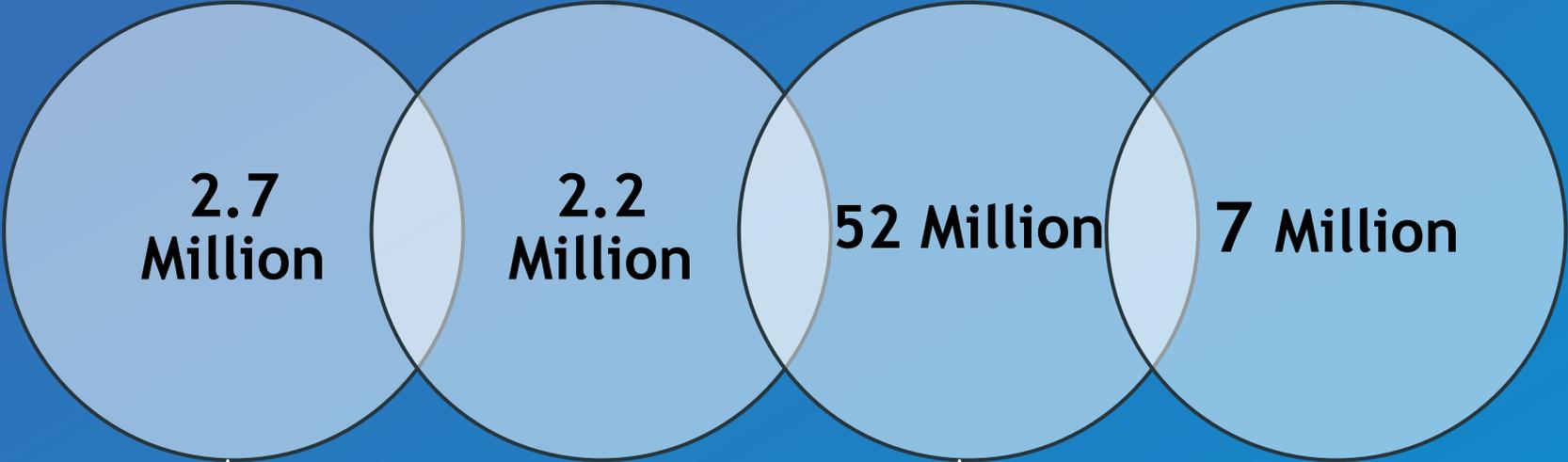
Ridership in Perspective



2019
eBART Annual
Ridership



DPMT Projected
2030 Ridership

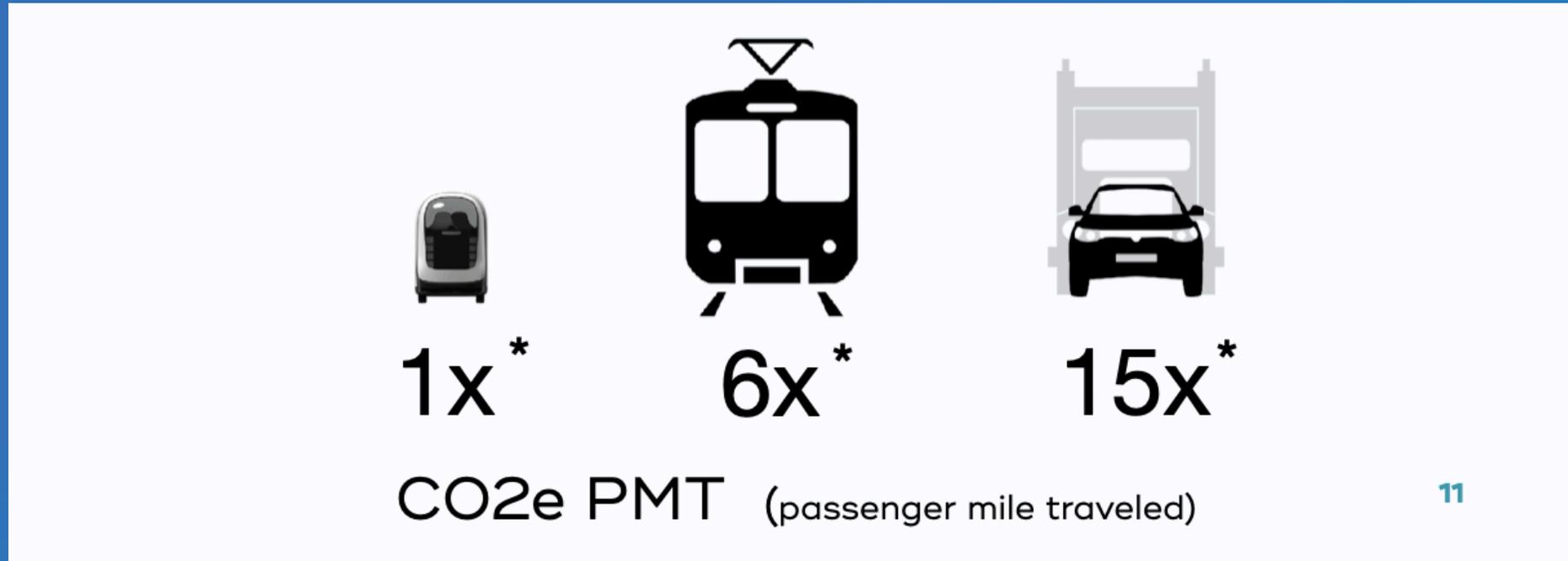


2019 Tri Delta
Transit Annual
Ridership



2019 SR 4
Annual Traffic (vehicle/year)

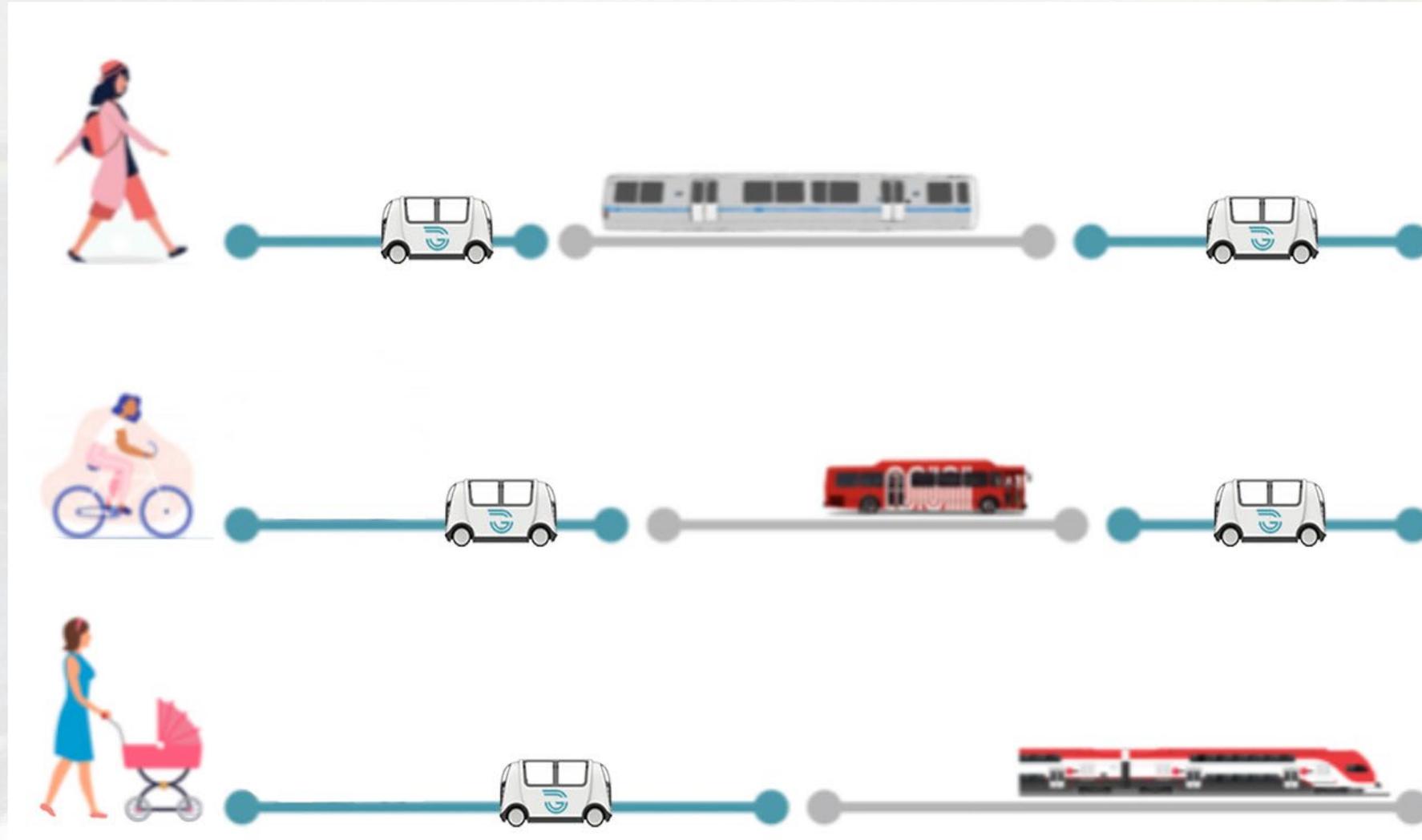
Emissions Reduction*



- ✓ 15x less emissions than cars/buses
- ✓ 6x less emissions than light rail

* Carbon Equivalent emissions over a 30-year lifetime analysis with solar infrastructure:
gCo2e PMT: Glydways: 37, Light Rail: 224, Cars: 573

A Complete Trip (no auto)



Benefits



Support Economic Development and Create Jobs

Increased Mobility and Connectivity



Congestion Relief with Deployment of First Micro-Transit Network

Reduction in VMT on SR4



Increased Access for Underserved Communities

Transit accessibility – first/last mile connectivity



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GLYDWAYS 1

2

3

4

FINANCIAL PLAN



Planning Level DPMT Costs

| DPMT Segment | At-Grade Segment Length | Elevated Segment Length | Guideway Cost (in millions) | Garage /Central Control Cost (in millions) | Vehicle/Batteries Cost (in millions) | Development Costs (in millions) | Total Capital Cost (in millions) |
|----------------------|-------------------------|-------------------------|-----------------------------|--|--------------------------------------|---------------------------------|----------------------------------|
| Pittsburg | 2.01 miles | 7.6 miles | \$163.4 | \$6.4 | \$8.3 | \$17.6 | \$195.7 |
| Antioch | 1.7 miles | 4.6 miles | \$101.6 | \$3.3 | \$4.3 | \$12.0 | \$121.2 |
| Oakley and Brentwood | 7.7 miles | 5.1 miles | \$109.3 | \$5.3 | \$7.4 | \$12.0 | \$134.0 |
| Total | 11.41 miles | 17.3 miles | \$374.3 | \$15.0 | \$20.0 | \$41.6 | \$450.9 |

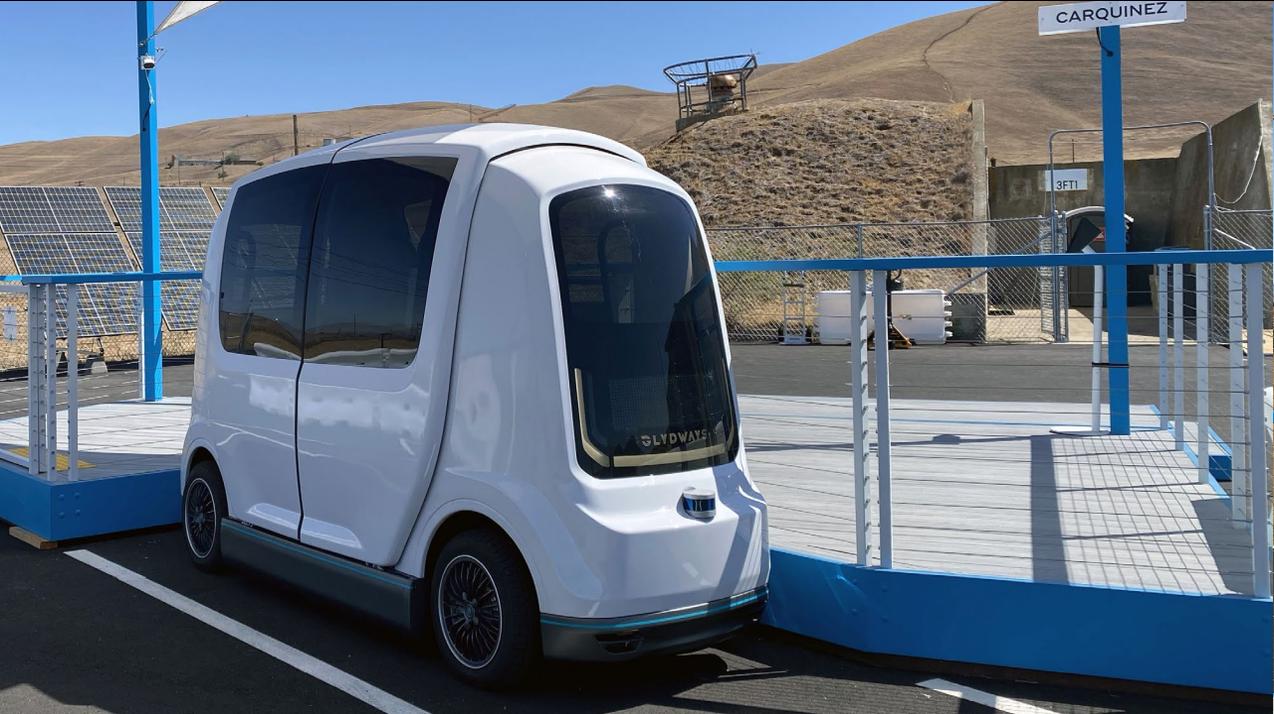
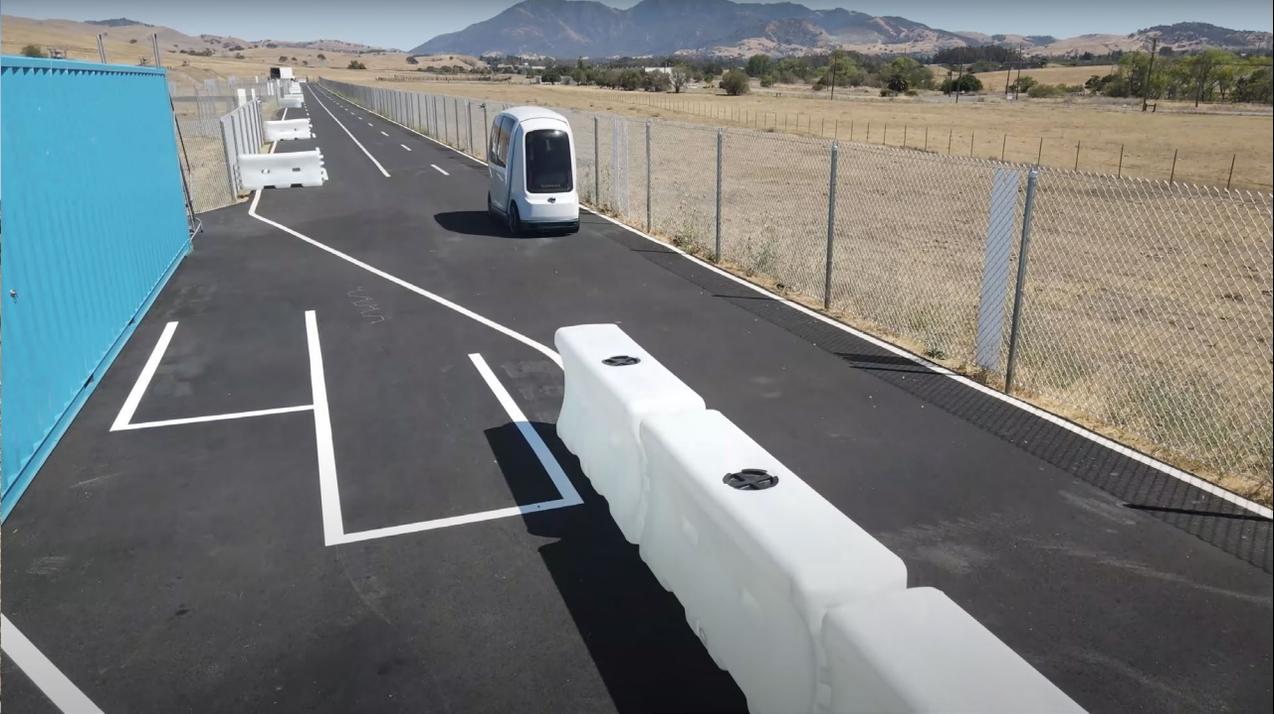
Financial and Implementation Plan

- Explore Private Sector Participation
 - Private Funding to Finance Project
 - Refinement of Cost Estimates
 - Development of Phasing Plan
- Evaluate Grant Funding Opportunities for Project
- Seek Input from Stakeholders
- Continue Testing at GoMentum

DPMT DEMONSTRATION AT GOMENTUM STATION

GLYDWAYS





Next Steps

- Additional Industry Outreach
- Refine Funding Plan and Segmentation
- Expanding Proof of Concept at GoMentum (construction of Phase 2 underway)
- Investigate Delivery Options and P3 Authority



Thank you



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