



Access BART: TOD and Improved Connections

October 29, 2008



Access BART Study Goals

- Evaluate at the system-level land use and access scenarios to optimize ridership
- Identify station “clusters” that provide opportunities for shifting and maximizing utilization of BART assets
- Develop access mode share targets to help shape investment strategies

Anticipated Outcomes



- Corridor-based strategy for TOD and access
 - Flexible approach – corridor rather than station level
- Station classification system
 - Station investment approach
- An understanding of ridership impacts of TOD / access scenarios
- Performance measures – guiding investment strategies

BART Strategic Plan: Transit Travel Demand

Vision

The BART system will be used to its fullest potential, maximizing transit ridership in order to enhance the Bay Area's quality of life.

Goals (summarized)

- proactively influence travel demand trends in the region
- optimize use of existing capacity
- facilitate improved access by all modes
- close gaps in regional rail services
- develop capacity to serve 500,000 weekday riders

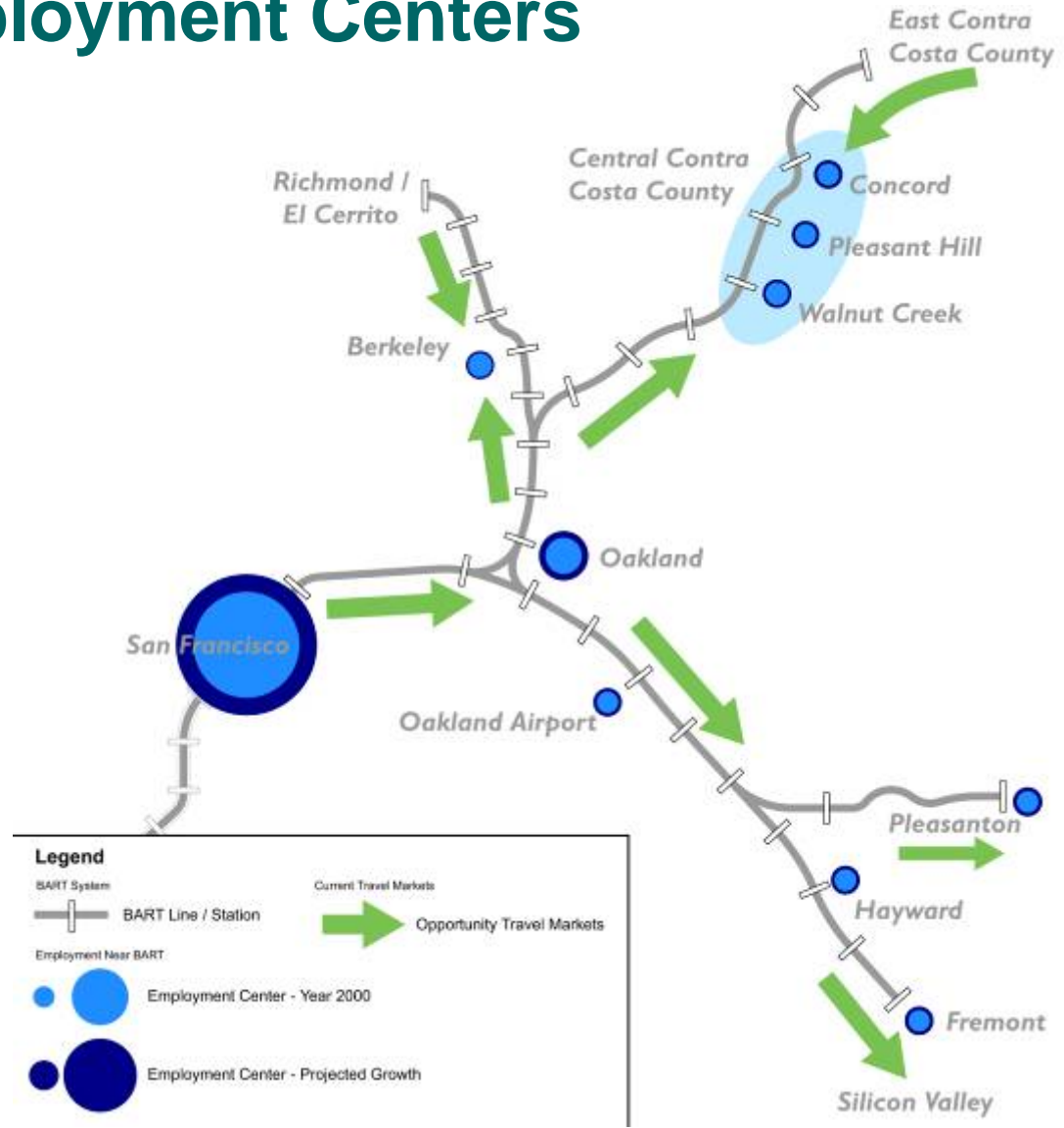
BART Board Policy Guidance

BART Transit Oriented Development Policy

- Major Policy Recommendations:
 - Pursue Transit-Oriented Development, not Joint Development
 - Shift access approach
- Included strategies to:
 - Develop performance-based station access strategies on a corridor or line segment basis ...
 - Adjust the 1:1 replacement parking objective in development projects by employing the refined access methodology ...

Study Context: Employment Centers

- Reinforce and expand travel markets where BART has ample capacity
 - reverse commute
 - growing regional employment sub-centers
 - off-peak



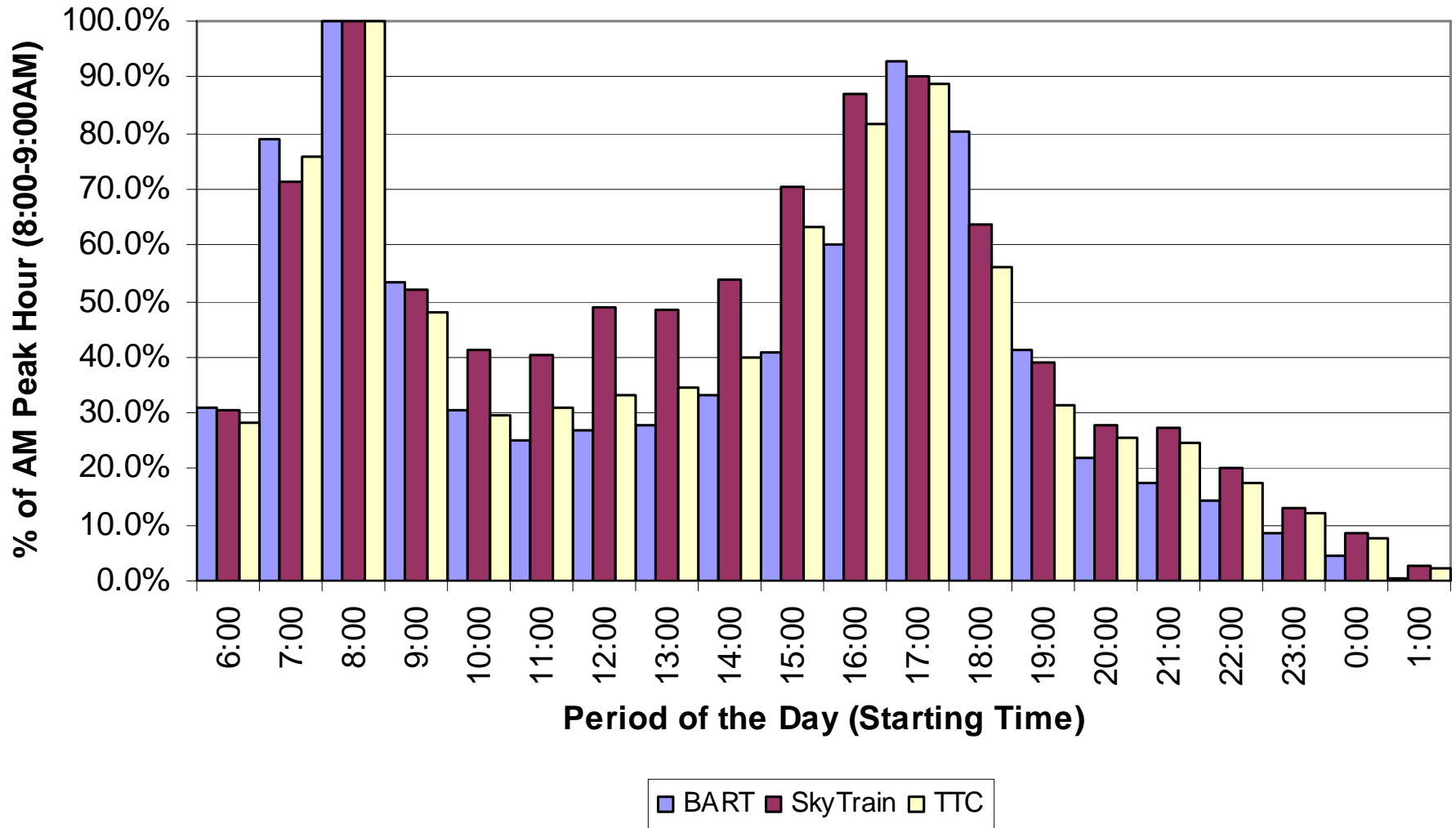
Study Context – Peer Region Review

- Compared BART daily ridership profile with other regional rapid transit systems:
 - Vancouver SkyTrain
 - Toronto Transit Commission Subway (TTC)



Study Context – Peer Region Review

- Ridership comparison, normalized by AM peak hour



Ridership Considerations:

1. Consider station access “market” opportunities:
 - Walkable (roughly ½-mile)
 - Broader Catchment Area beyond ½-mile
2. Consider how stations function as corridor (or “cluster”), understanding unique access characteristics, and opportunities for shifting access assets
3. Consider impacts on transit capacity constraints
 - Time of travel
 - Travel direction

Direct Ridership Model

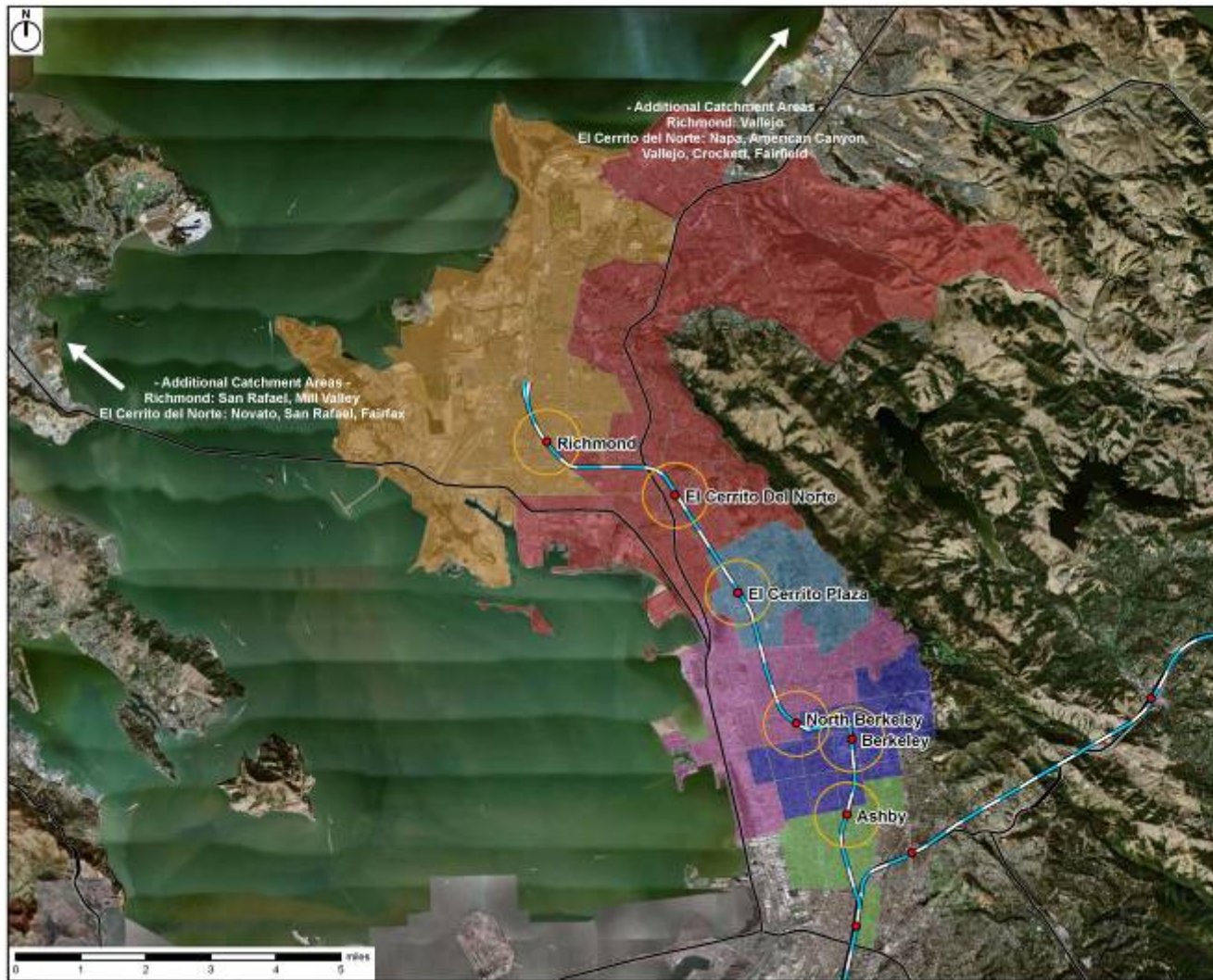
Model is sensitive to:

- Population and Employment
- Transportation Cost
- Station Characteristics
- Feeder Transit Service Characteristics
- Train Frequency

Direct Ridership Model Inputs

- ABAG Projections 2005, pop + emp for 2030
- BART info
 - Service, and station characteristics
 - 2000 ridership figures
 - Plans and studies
 - TOD projects, planned or undertaken
- CTOD pop + emp demand estimates
- Outreach meetings with city staff – major land use changes
- Outreach meetings with transit operators
- Private and on street parking supply survey

Station Catchment Areas – R-Line Example



**BART R-Line
Catchment Areas by TAZ**

Legend

- Station
- Half-mile Radius
- BART Alignment
- Major Roads

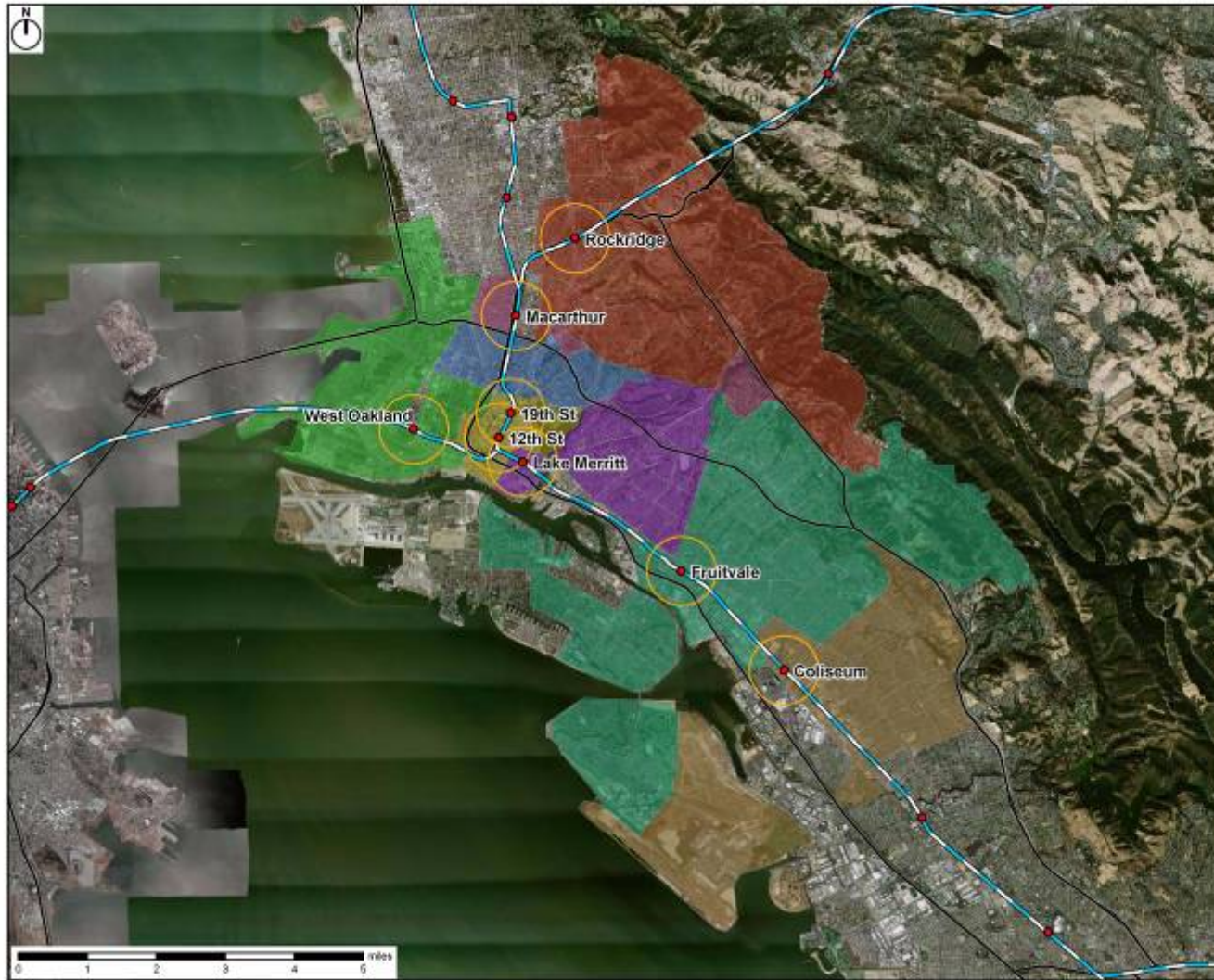
Catchment Area by Station

- Ashby
- Downtown Berkeley
- El Cerrito del Norte
- El Cerrito Plaza
- North Berkeley
- Richmond

Revised Date: June 29, 2006



Station Catchment Areas – Oakland Stations



**BART Oakland Stations
Catchment Areas by TAZ**

Legend

- Station
- Half-mile Radius
- BART Alignment
- Major Roads

Catchment Area by Station

- Coliseum
- Fruitvale
- Lake Merritt
- Rockridge
- 12th Street
- 19th Street
- MacArthur
- West Oakland

Source: Data, June 20, 2008

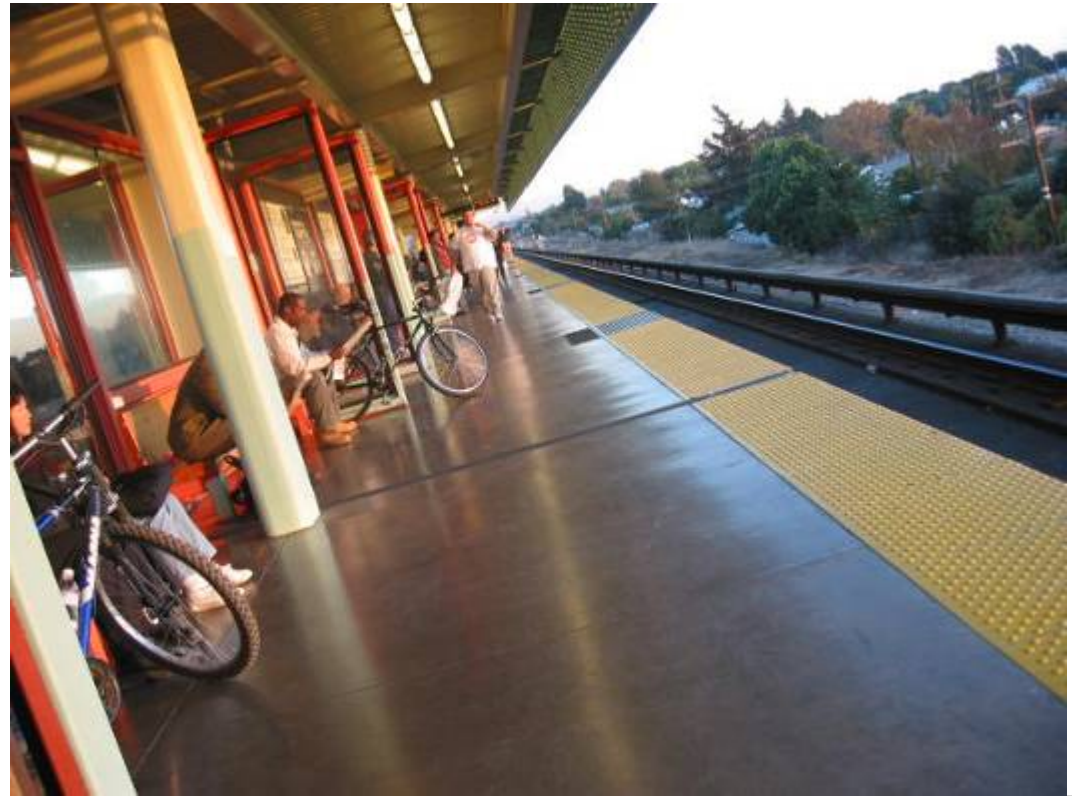
Land Use / Placetypes

- Initially considered placetypes
- Deferred placetypes to be defined through future regional collaborative blueprint process



Access Typology Overview

- Scale
- Transportation Setting
- Mode Share



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Access Typology Characteristics

<u>Characteristic</u>	<u>Range</u>
Ridership	<p>Low: <5,000 riders</p> <p>Moderate: 5,000-10,000 riders</p> <p>High: >10,000 riders</p>
Station footprint	<p>Underground: 0 acres</p> <p>Small: <10 acres</p> <p>Medium: 10-20 acres</p> <p>Large: >20 acres</p>
Street network	<p>Urban grid / historic grid</p> <p>Suburban grid</p> <p>Suburban residential</p> <p>Suburban hillside</p>
Proximity to highway	<p>Adjacent: <0.5 miles</p> <p>Nearby: 0.5-1.5 miles</p> <p>Far: >1.5 miles</p>
Parking capacity	<p>No Parking</p> <p>Small: <700 spaces</p> <p>Medium: 700-1,800 spaces</p> <p>Large: >1,800 spaces</p>

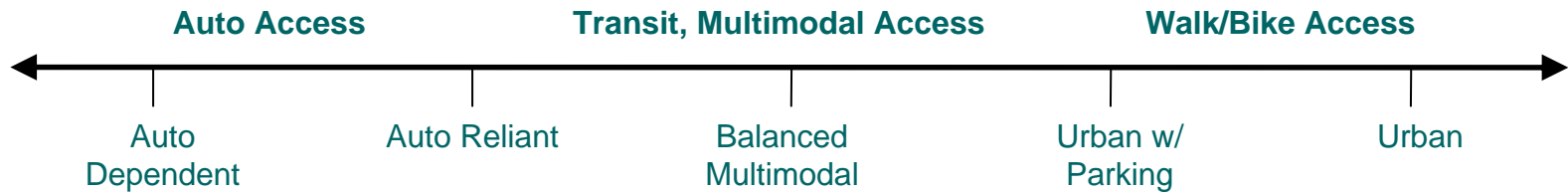


Access Typology Characteristics

<u>Characteristic</u>	<u>Range</u>
Parking fill time	No parking Before 8 a.m. After 8 a.m. Does Not Fill
Transit service types	Local Corridor Regional All
Buses per hour	Low: <20 Moderate: 20-45 High: >45
Number of bus bays	Small /on-street: 0-6 Medium: 6-12 Large: >12
Walk access share	Low: <20% Average: 20-33% High: >33%
MTC regional hub	Yes / No

Access Types

- Urban
- Urban with Parking
- Balanced Multimodal
- Auto Reliant
- Auto Dependent






Stations With Potential for Shifts in Type

Stations That Could Change

<u>Station</u>	<u>Current Type</u>		<u>Future Type</u>
Richmond	Balanced Multimodal	→	Urban w/ Parking
Fremont	Auto Reliant		Balanced Multimodal
Union City	Auto Reliant		Balanced Multimodal
West Oakland	Auto Reliant	→	Balanced Multimodal
South Hayward	Auto Reliant		Balanced Multimodal
Pleasant Hill	Auto Dependent	→	Auto Reliant



Daily Mode Share by Station Access Typology

Access Type	Current Mode Share Ranges (%)		
	<u>Auto</u> 	<u>Transit</u> 	<u>Walk & Bike</u> (a) 
Urban	6-12	17-23	69-75
Urban with Parking	33-39	19-25	39-45
Balanced Multimodal	47-53	25-31	20-26
Auto Reliant	61-67	17-23	13-19
Auto Dependent	70-76	9-15	12-18

(a) – Bike share not available separately



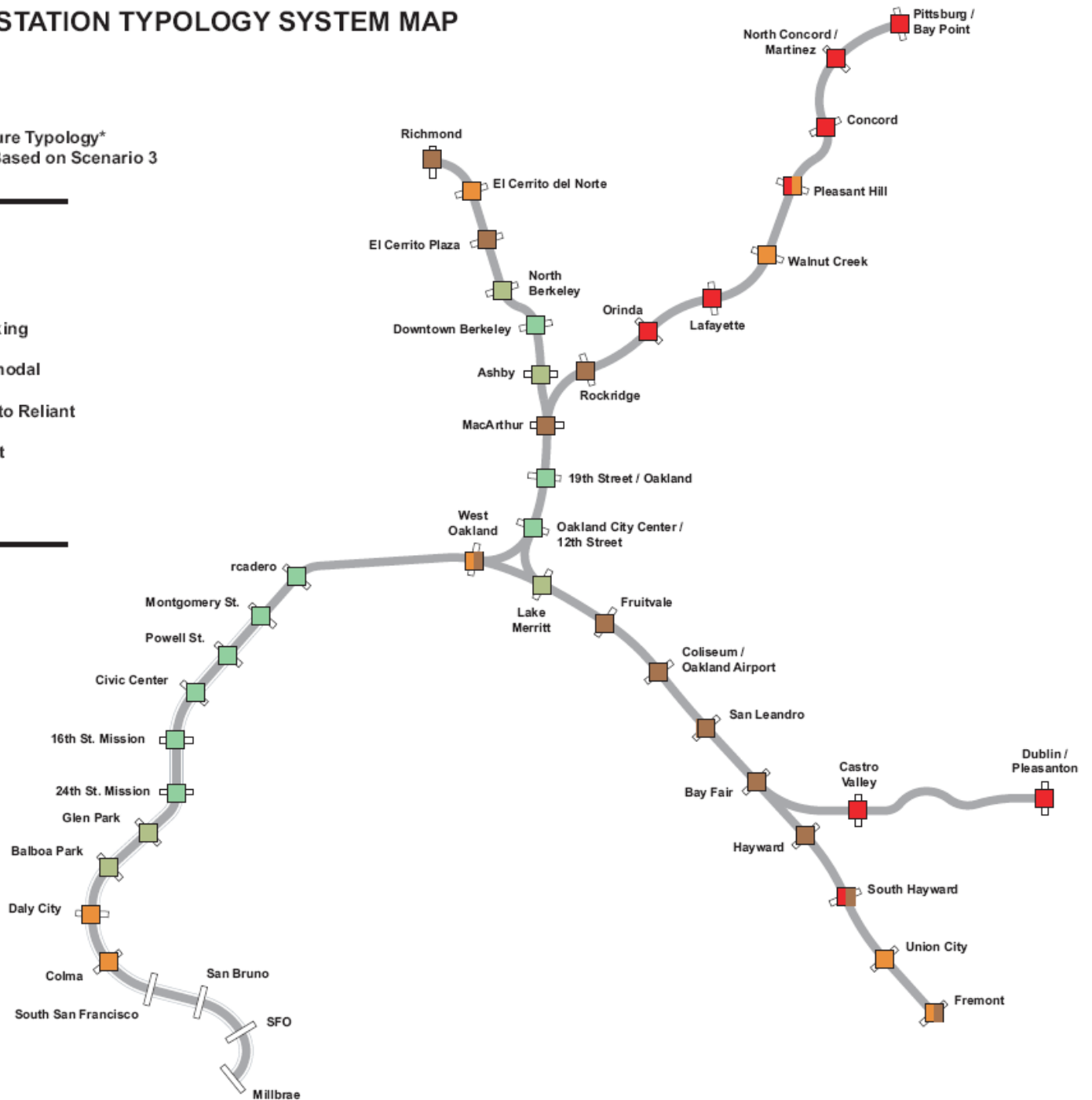
STATION TYPOLOGY SYSTEM MAP

Existing Typology  Future Typology*
* - Based on Scenario 3

LESS AUTO SHARE

-  Urban
-  Urban with Parking
-  Balanced Intermodal
-  Intermodal - Auto Reliant
-  Auto Dependent

MORE AUTO SHARE



Access Improvement Strategy Overview

- Improvements by Access Type
 - Urban – Emphasis on walk, bike, transit
 - Urban with Parking – Emphasis on walk, bike, transit, drop-off
 - Balanced Multimodal – Emphasis on walk, bike, transit, drop-off
 - Auto Reliant – Emphasis on motorized access and transit. Enhancement of bicycle and pedestrian realm.
 - Auto Dependent – Emphasis on motorized transport and walk access. Enhancement of bicycle and pedestrian realm.

Next Steps

- Advance land use “centers” through SB375 Blueprint process
- Require station access plan in conjunction with development plans or projects
- Implement the BART TOD Policy
- Evaluate demand management strategies for BART
- Update station access typologies / targets as needed
- Seek funding and implement high priority access projects

