

BART Transit-Oriented Development Ridership Research Findings

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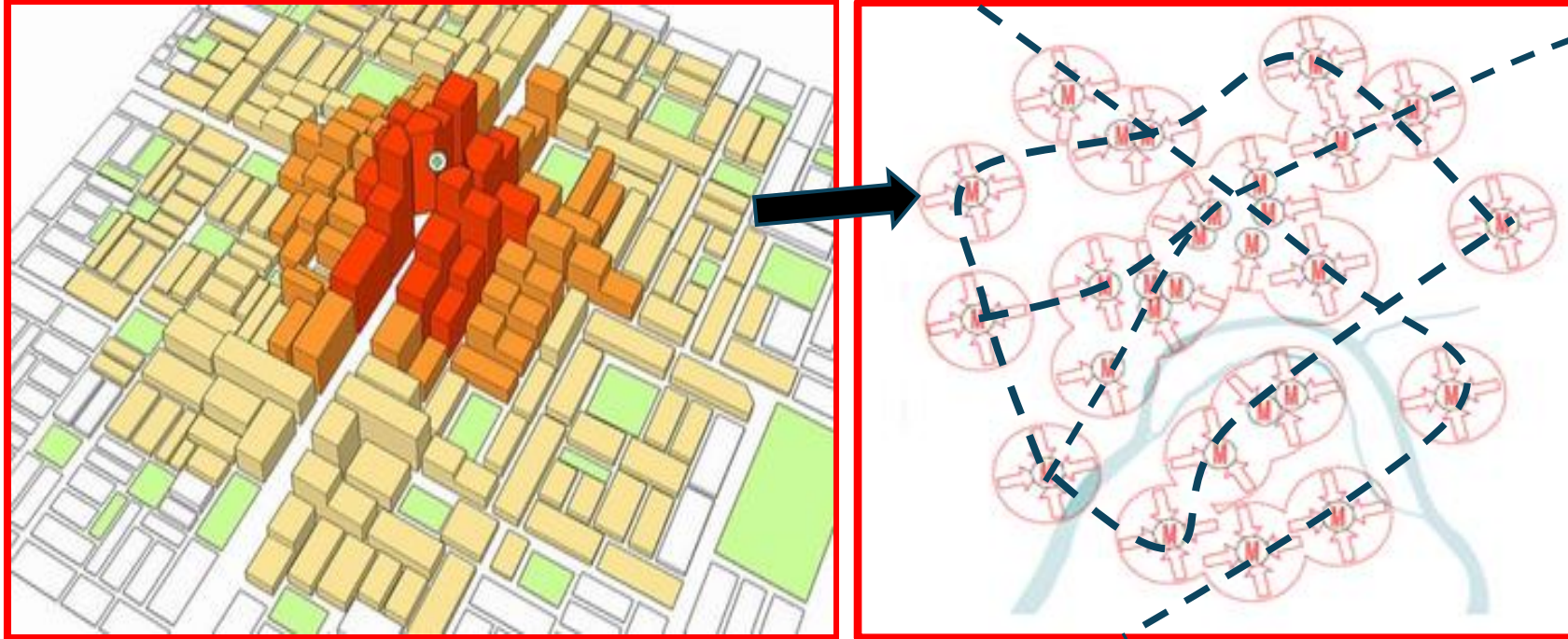
BART Board of Director
July 10, 2025

Agenda

- Background
- Past BART-Related Studies
 - 1993
 - 2003
 - 2019
- Next Steps

Transit Oriented Development (TOD)

- Compact
- Mixed-Use
- Pedestrian-Friendly



TOD = POD*: Great Walkable Communities
inter-laced by Great Public Transport

- Pedestrian-Oriented Development



TOD Benefits

↑ Ridership; ↓ Vehicle Miles Traveled (VMT) &
Greenhouse Gas (GHG) Emissions

Other Benefits:

Animates Cities, Builds Social Capital, Promotes Active Living, Natural Surveillance





U.S. Department
of Transportation

Transit-Supportive Development in the United States:

Experiences and Prospects

December 1993



R. Cervero, *Transit-Supportive Development in the United States: Experiences and Prospects*. Washington, D.C.: Federal Transit Administration, National Technical Information Service, 1993.

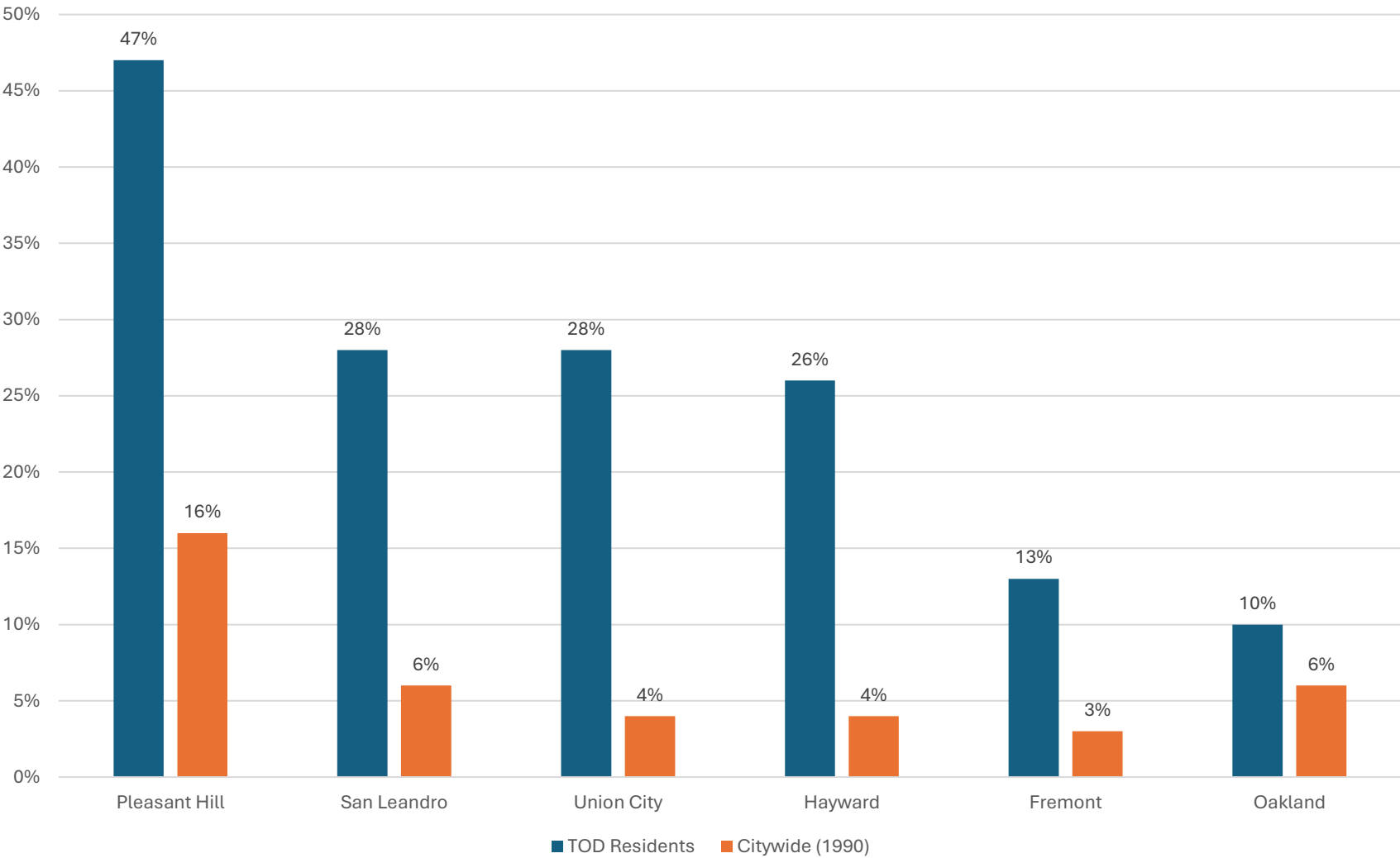
FEDERAL TRANSIT ADMINISTRATION

3 Past Studies of Ridership Impacts of BART TOD

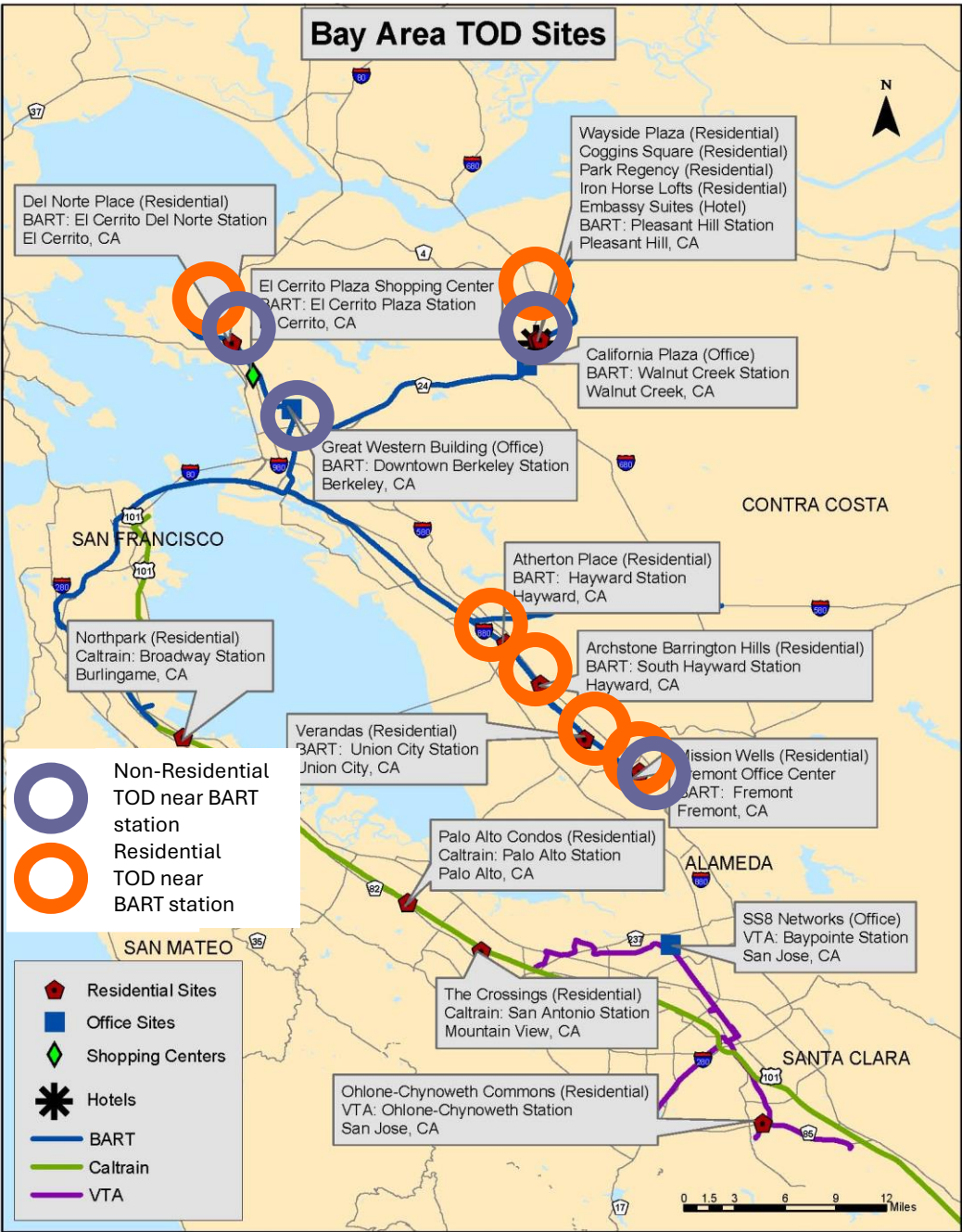
Surveying Residents, Workers, Shoppers near BART

Year	Systems Surveyed	Land Uses (N)	Study Sponsors	Authors/Report
1992-1993	BART Caltrain LRT: Santa Clara, Sacramento, San Diego	Residences Offices Retail (N>2100)	Caltrans FTA	Cervero, R., <i>Ridership Impacts of Transit-Focused Development in California</i> , 1993.
2003	BART Caltrain LAMTA LRT: Sacramento, San Diego	Residences Offices Retail Hotels (N>2000)	Caltrans BART	Lund, H., Cervero, R., Willson, R., <i>Travel Characteristics of Transit-Oriented Development in California</i> , 2004.
2019	BART	Residences	BART Great Communities Collaborative	Barajas, J., Frick, K., Cervero, R., <i>Travel Characteristics of TOD Residents in the San Francisco Bay Area: Examining the Impacts of Affordable Housing</i> , 2020.

1992-93 TOD Study: 3-6x Ridership Bonus for TOD Residents



2003 TOD Study



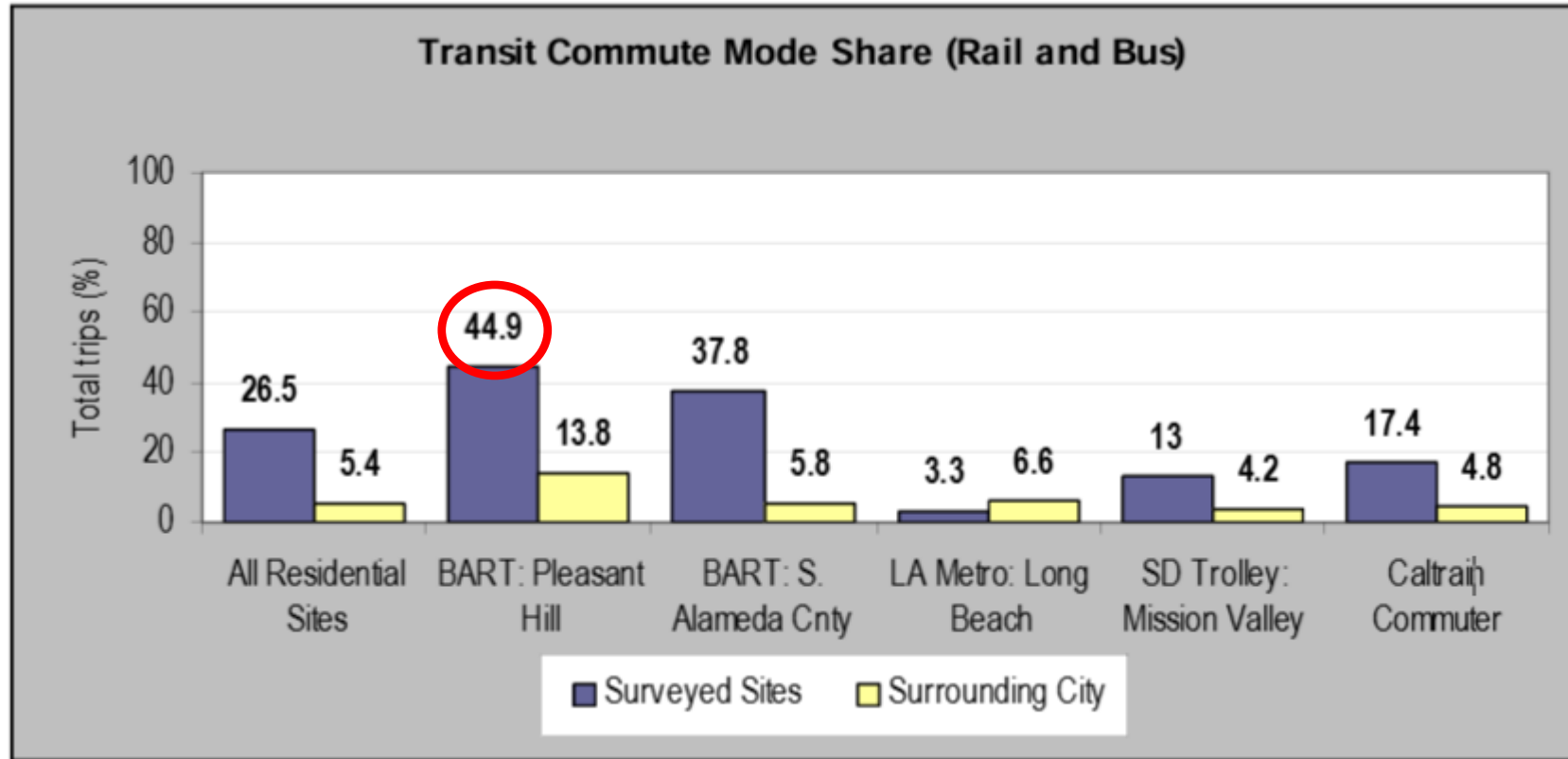
Downtown Berkeley Station



Walking Routes,
South Alameda County Station Areas

TOD Residents: Evidence from California (2003)

- **Ridership Bonus:** Transit commute shares exceed surrounding city by a factor of 5

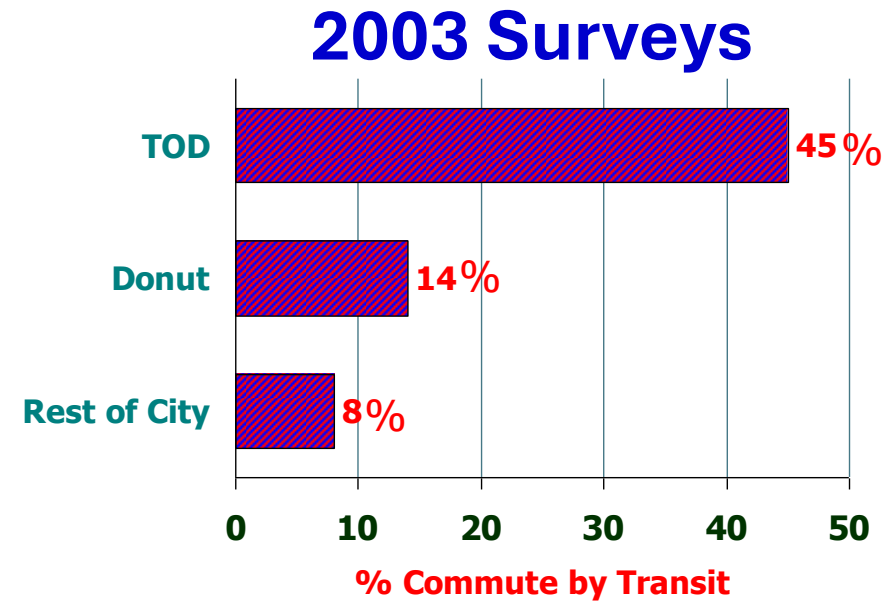
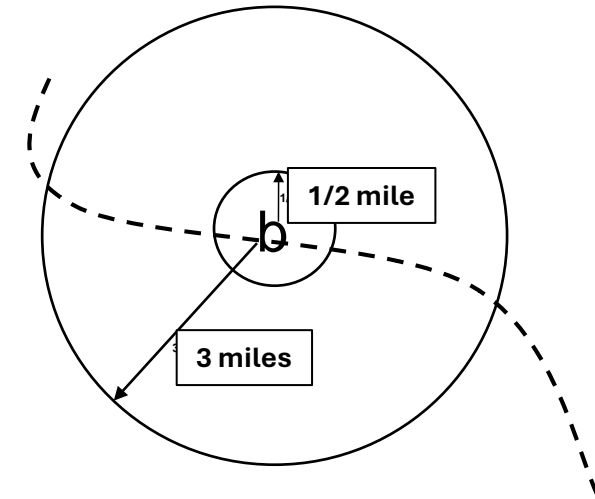


Lund, Cervero, Willson (2004)

Commute by Transit: TOD versus surrounding area, city (2003)



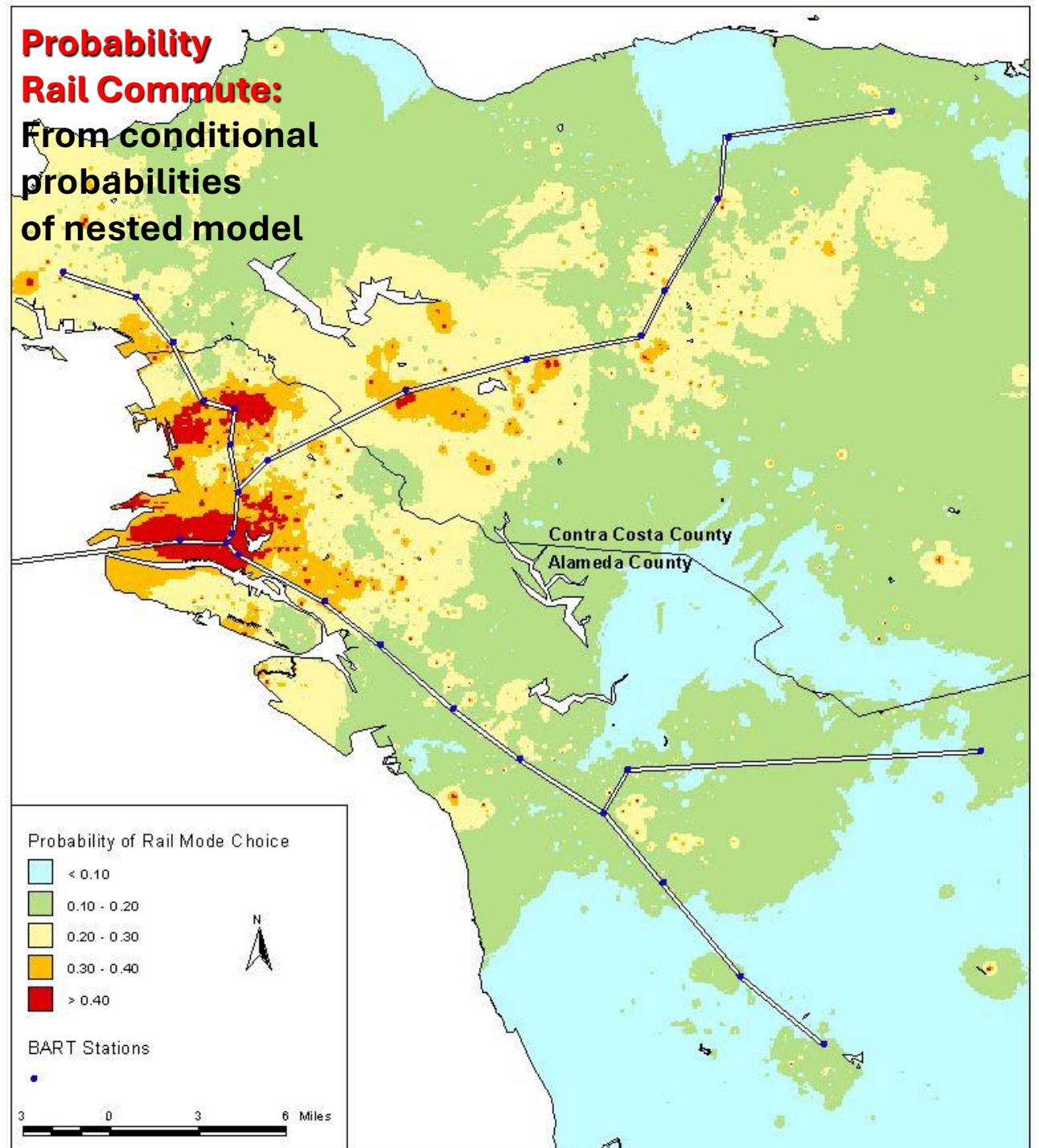
Pleasant Hill BART



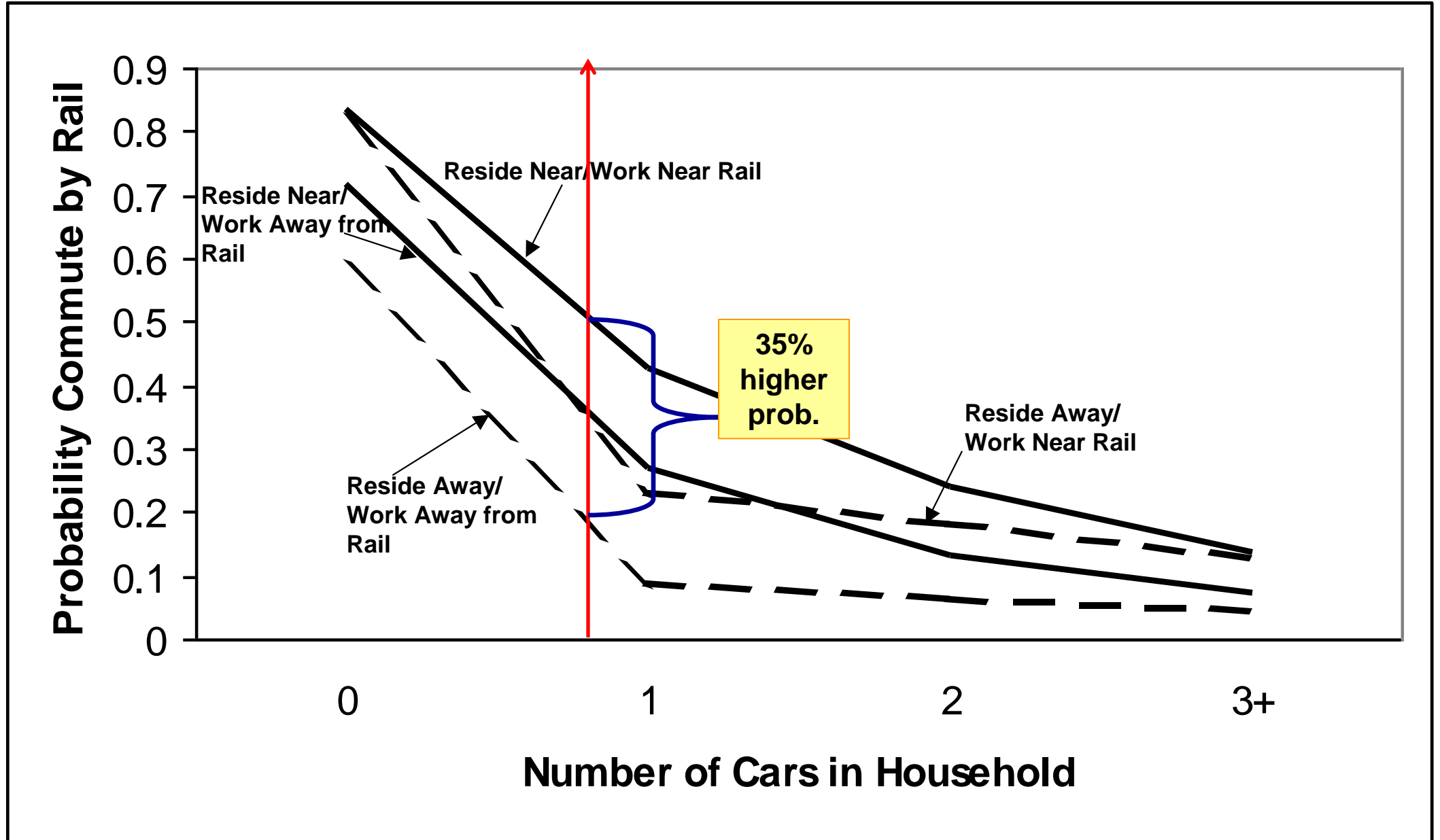
Self Selection for TOD residents

Self-selection explained
~40% of TOD ridership
bonus, particularly
for those working near BART

R. Cervero “TOD’s Ridership Bonus:
A Product of Self-Selection and Public
Policy”, *Environment & Planning A*,
2007.

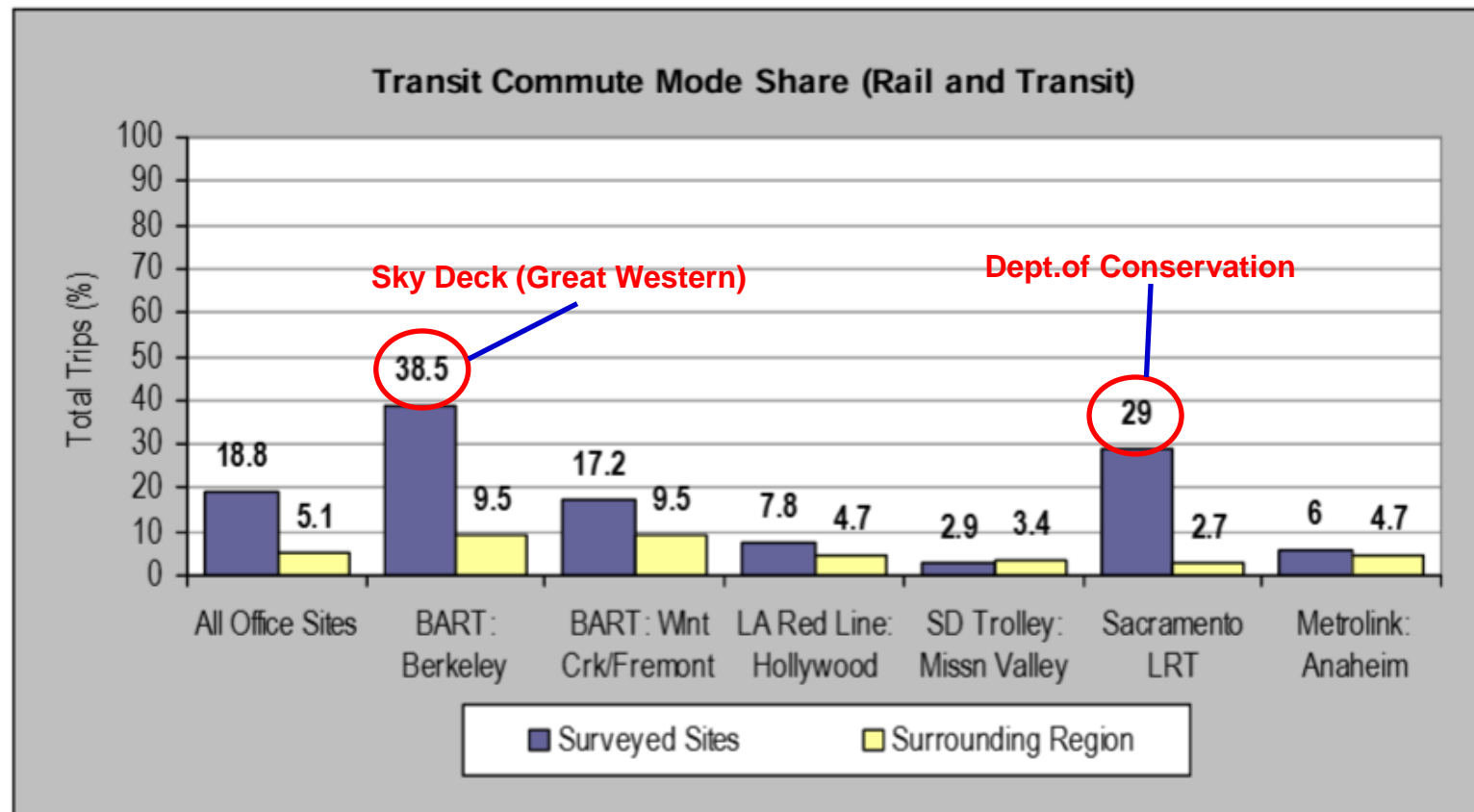


Sensitivity Test: Location & Car Ownership



TOD Employees (2003 survey)

- Transit shares by office workers is less than residents
- Transit shares exceed surrounding city by a **factor of 3.7**

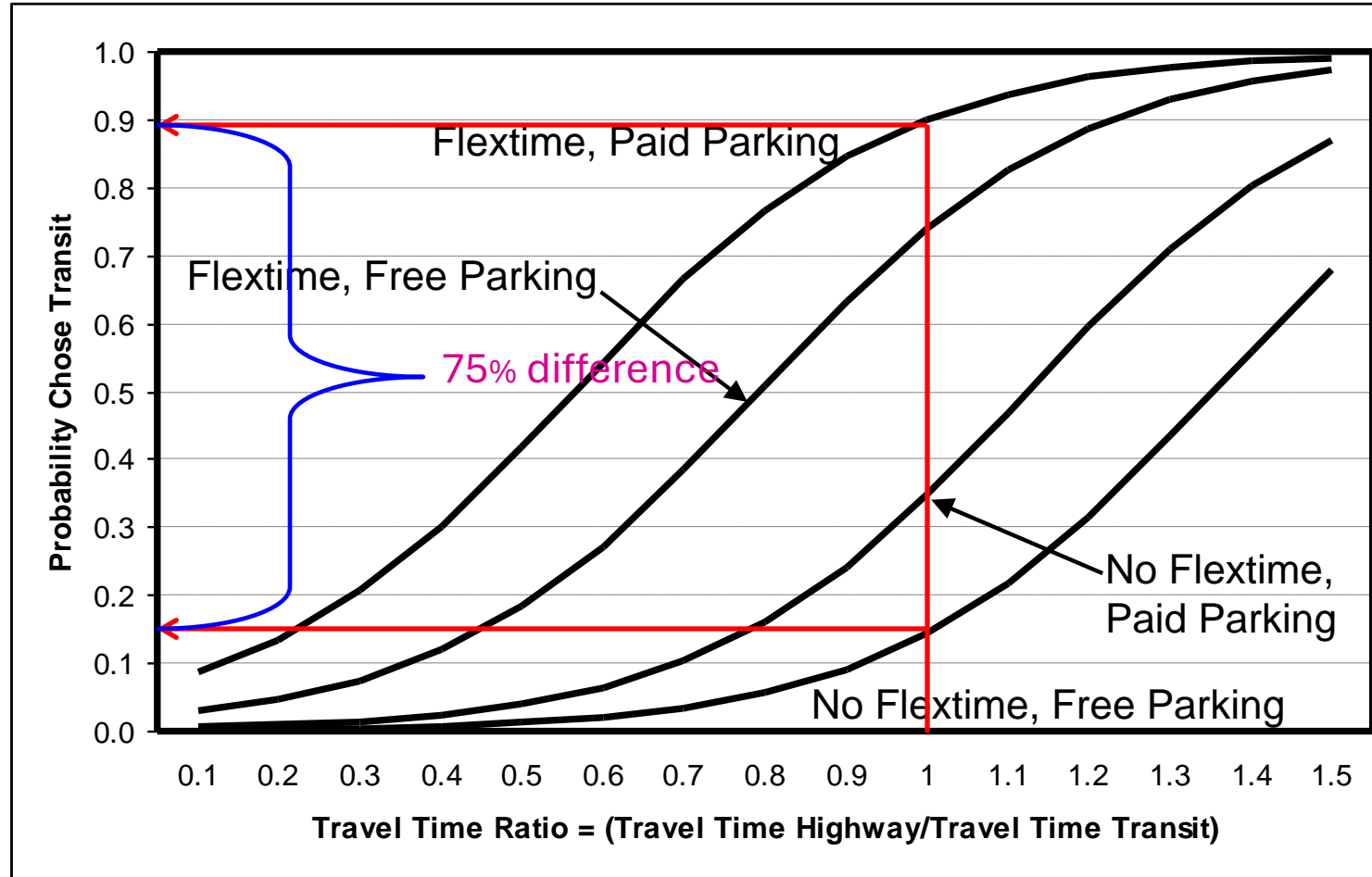


TOD Employees (2003 survey)- cont.: Key Findings

- For office workers, rates of transit use *increased* over 1992 to 2003 period. *(Data only for sites surveyed in BOTH time periods.)*

Percent of trips by:		All Systems (Avg.)	
		1992	2003
Car/vehicle		82.5	72.3
Rail		8.9	14.0
Bus		5.4	9.9
Walk/Bike		2.6	3.7
Other		0.6	0.0
Total		100.0	100.0
N (No. of respondents)		1079	637

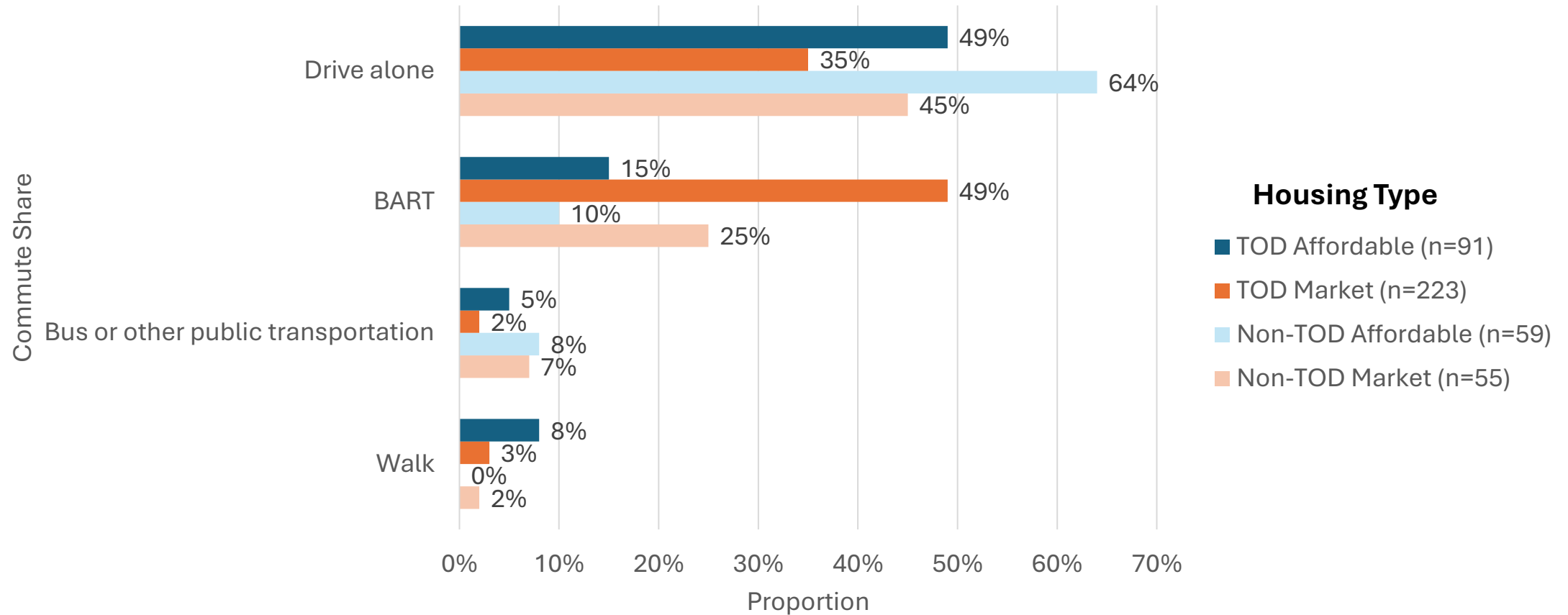
Effects of Employer Policies on Transit Commuting



May 2003 Survey of California TODs
Sensitivity Test

2019 TOD Study

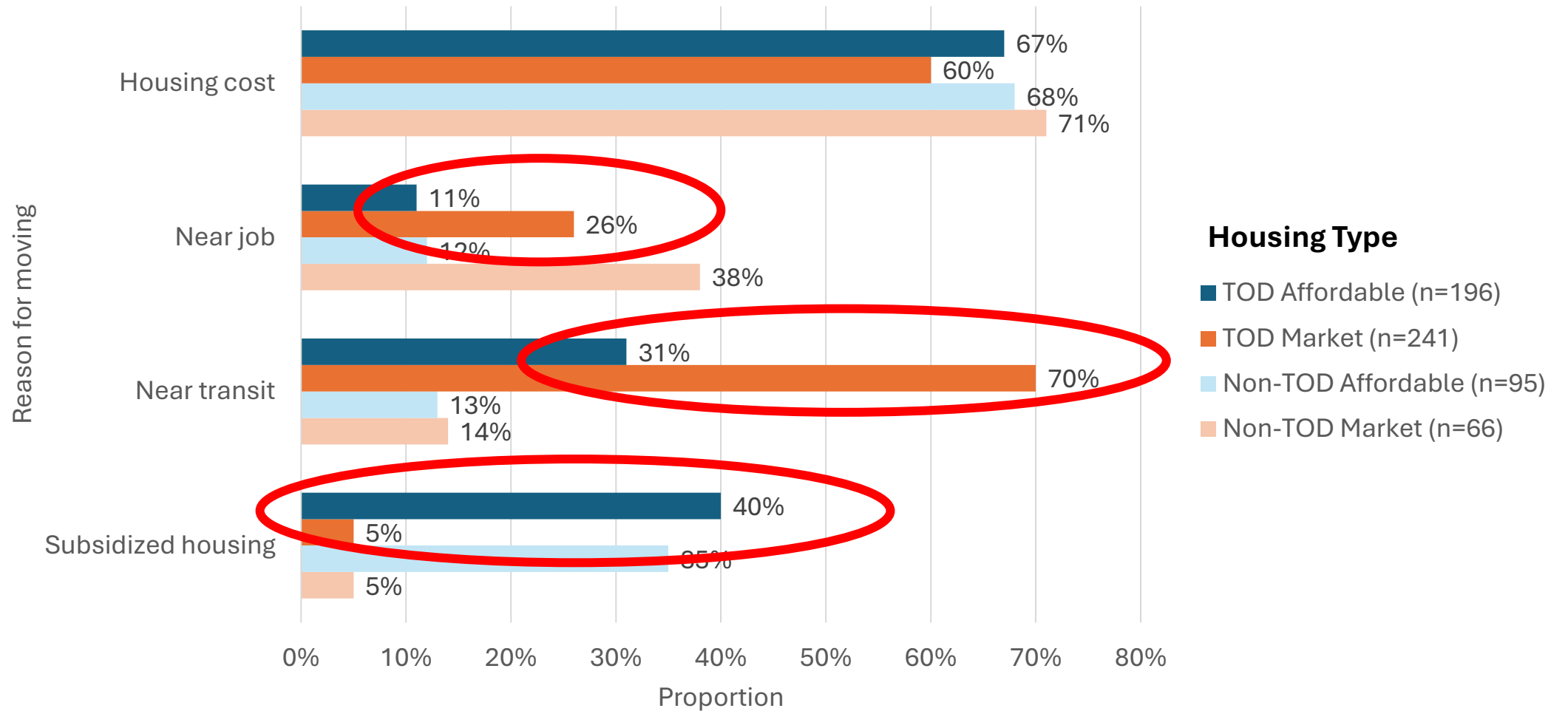
Mode share: Usual commute mode



Note: Only most significant modes from survey are shown here. Survey data includes Carpool, Uber/Lyft, Drop-off, Bicycle, Taxi and Other

2019 TOD Study

Top reasons for moving to a TOD



Note: Only most significant reasons from survey are shown here.

Summary: Comparing travel at two TOD sites over 3 decades

	Pleasant Hill			South Hayward		
% of trips by	1992	2003	2019	1992	2003	2019
Car/Vehicle	55.6	65.3	39.2	73.3	69.1	50.3
Rail	39.8	31.1	30.0	21.8	25.5	15.1
Bus	2.0	1.6	2.5	1.6	2.9	5.6
Walk/Bike	2.6	2.1	13.8	2.1	2.4	15.3
Uber/Lyft			4.1			10.5
Other	0.0	0.0	10.4	1.3	0.0	3.2
N (Respondents)	103	91	56	115	93	96

“Other” includes multiple modes in 2019

*Compared groups in 2019 includes additional buildings at same station groupings as 1992/2003

- As sustainability strategy, substantial reduction in car trips
- Beyond just the transit trip, TOD fosters the creation of walkable communities

Insights About BART TOD

- **TOD at BART Performs Better than Others.** Regional mobility, strong political support, popular acceptance, self selection - morphed into new lifestyle, SF as destination generates transit use.
- **TOD Increases Travel Choices.** TOD won't reduce congestion at local level, but increases choice, mobility, clearly has role in regional traffic volumes and emissions. Transit use is stronger when highway capacity is constrained.
- **Quality of Walking Environment is Important.** Walk-to-BART is strong factor in use of transit, especially at job-end. Convenient connections, safety-through-activation, visual appeal of development make TOD more acceptable, market-favored lifestyle choice. Success is NOT just about housing density and jobs.
- **Affordable Housing at TOD: Successful Prototypes.** Even in affluent station areas, affordable housing is part of TOD. Combination of affordability with lifestyle that reduces reliance on a car a real housing choice for many in Bay Area.
- **Showcase Local Examples.** Fruitvale's and Hayward's are unique, difficult to replicate, but convey the "smart" in smart growth planning.

