

TOD Version 2.0: Dreams and Realities

Research Presentation
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Presentation themes

- TOD in context
- TOD 1.0 > TOD 2.0
- TOD 2.0 opportunities
- TOD as a climate strategy

Transit-oriented development

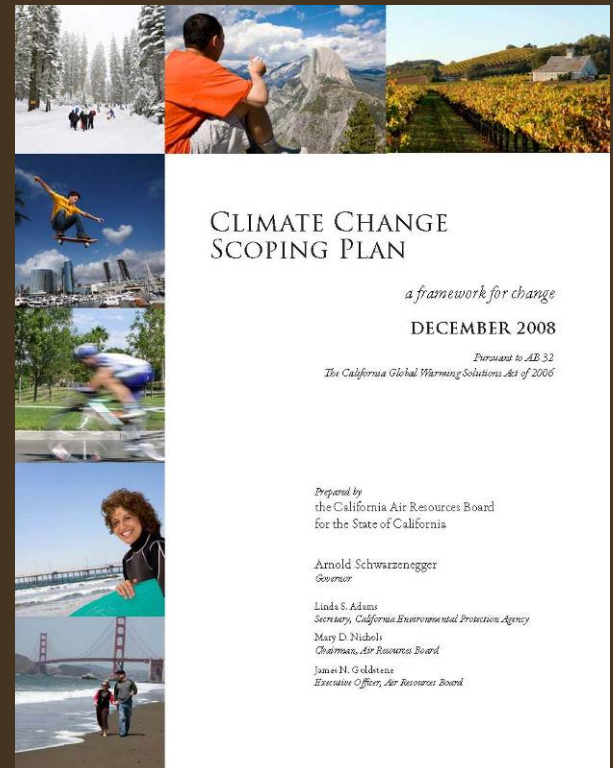
- Transit-focused development
- Higher densities + mixed land uses
- Human scale design + interconnected streets and sidewalks



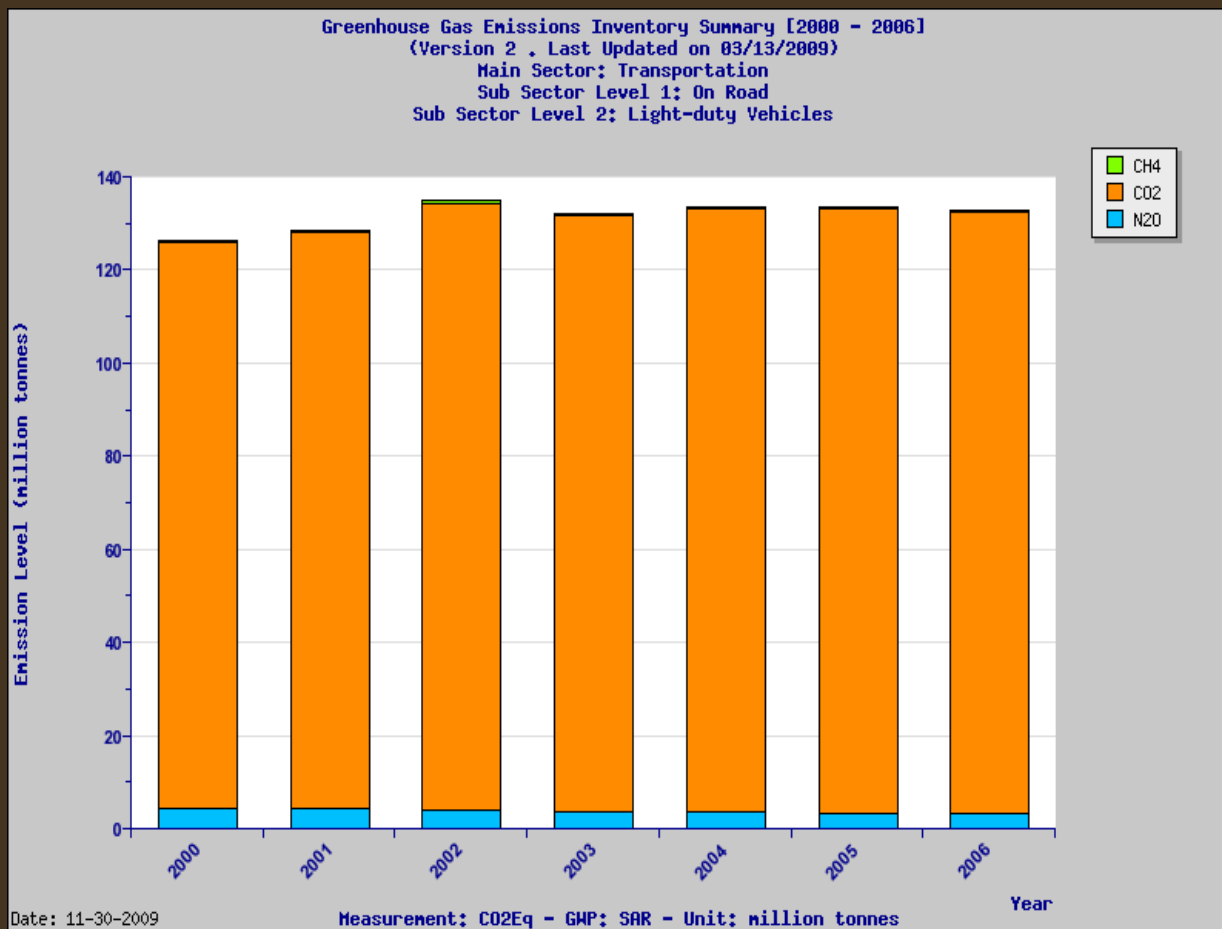
... the intersection of good transit planning and good community development planning...

A new frame for considering TOD

- AB 32: 1990 emissions by 2020
- SB 375: GHG emissions from vehicle miles traveled
 - MPO assigned targets
 - Coordinate transportation, land use, and housing
 - Sustainable Community Strategy
 - Link mandates
 - CEQA streamlining

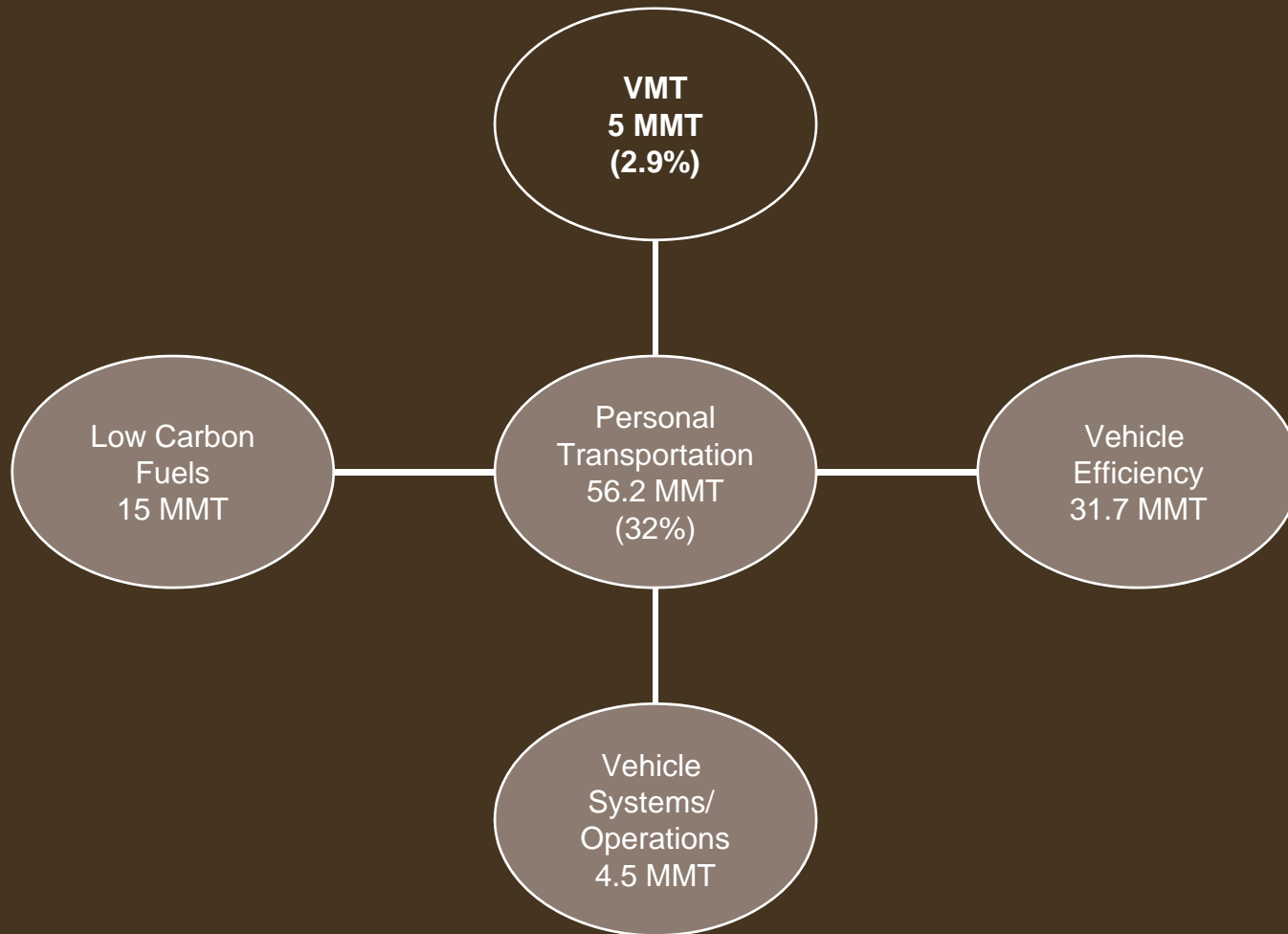


California transportation emissions



CA total (2006)	552 mmt eCO ₂
All transport	42%
On-road	31%
Light duty	24%

AB 32 reduction targets



Transportation planning process

Traditions	Contemporary Practice
Technocratic, simple goals, plans as blueprints	Values <i>and</i> facts in dispute; decision support
Dominance of Federal, state and local processes	Greater regional perspective, local funding
Cost effective mobility enhancement	Multi-modal access and mobility; co-benefits considered

Transportation planning methods and strategies

Traditions

Methods for network scale capital improvements

Facility performance and project level environmental mitigation

JTW as the foundation for transportation planning

Private sector driven land use

Contemporary Practice

Methods to assess operations, non-auto modes, pricing, land use

Multimodal performance measurement, impact assessment,

Collapse of land use separations

Growth management, smart growth, regional blueprint planning

California TOD, version 1.0

- On fixed rail
- On station property and within ¼ mile
- Vertical mixed use



Weaknesses of 1.0

- Using cheap ROW
- Dispersed O/D patterns
- Counter incentives
- Market support



The station area “donut hole”

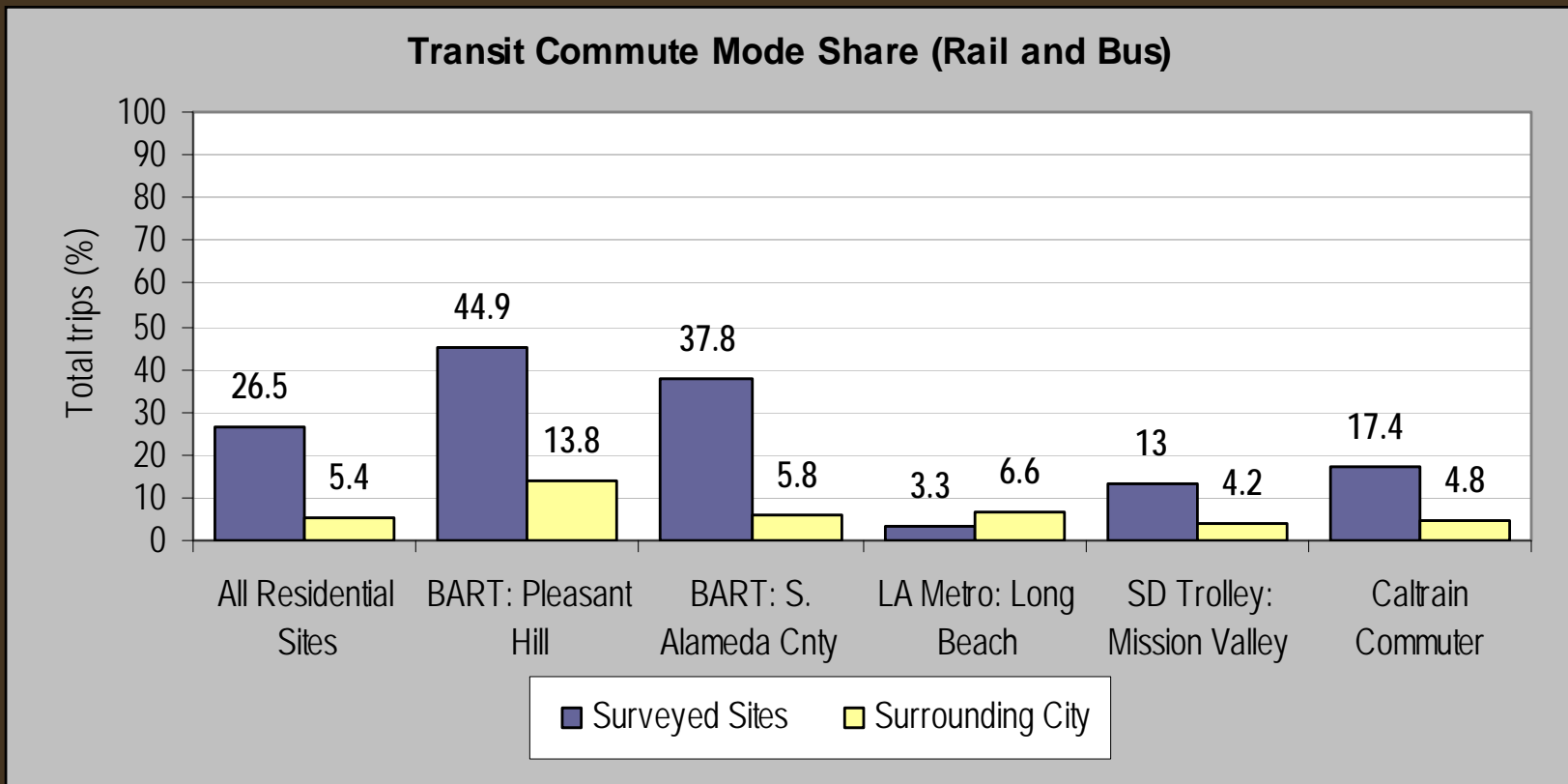


California TOD studies

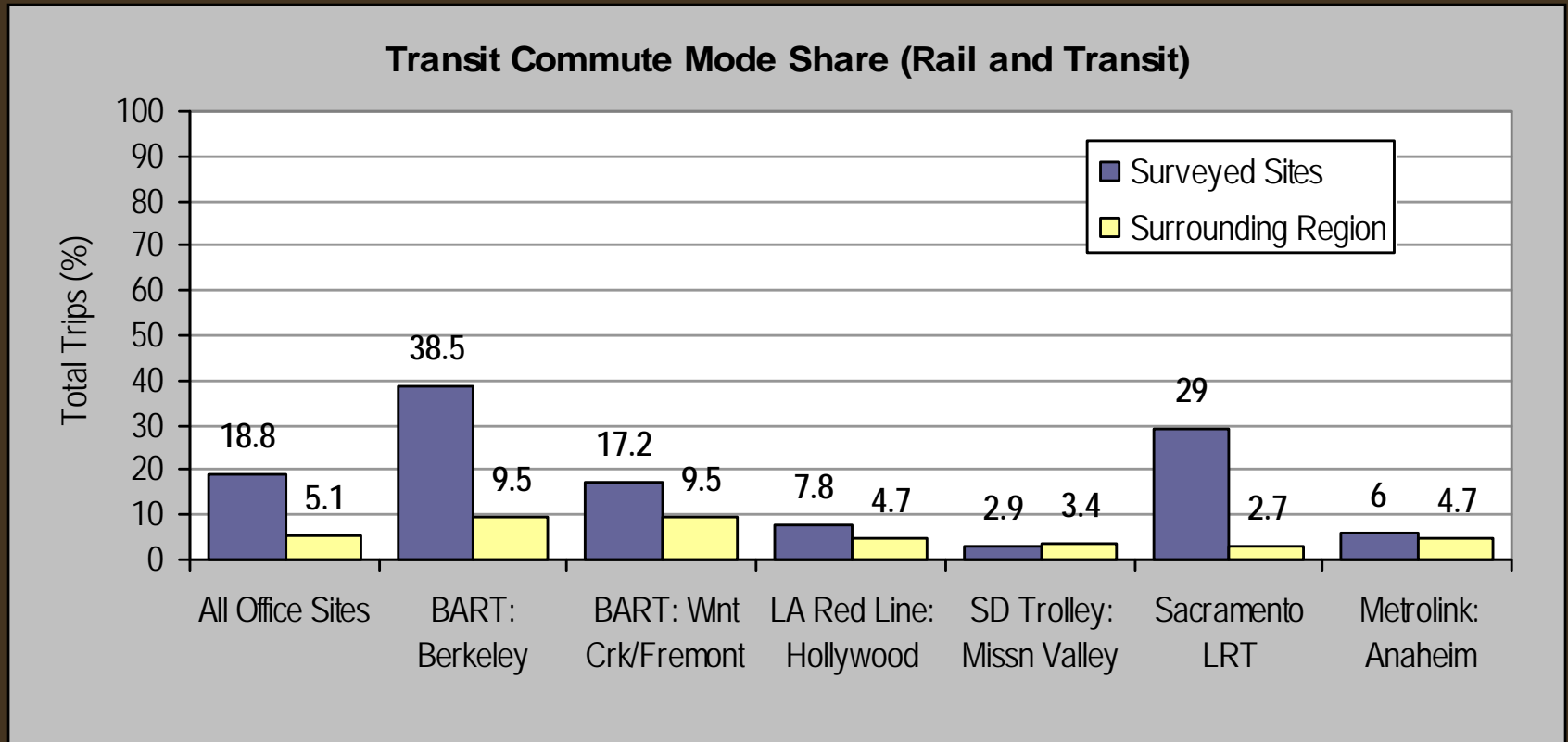
- Travel Characteristics of Transit-Oriented Development in California (2004)
 - Lund, Cervero and Willson
 - <http://www.csupomona.edu/~rwillson/>
 - Light rail: San Diego Trolley, Los Angeles Blue Line, San Jose VTA, Sacramento
 - Heavy rail: Los Angeles Red Line, BART
 - Commuter rail: San Diego Coaster, LA Metrolink, Caltrain
- Pasadena Gold Line
- Current study: Riverside and San Bernardino (Inland Empire) bus and commuter rail TOD



Results from TOD residents...



Results from TOD workers...



Tensions and contradictions

Self selection

Lack of
attractive multi-
family housing
options



Lack of
transit/walk/bike
friendly living
environments

Success levels

High rail
ridership/low
TOD



High TOD/low
rail ridership

TOD 1.0 successes

- Mature systems;
TOD networks
- Policy support
- Design integration
- Pent up housing demand



TOD Version 2.0

- Matching TOD to context
- TOD as VMT/climate strategy



Best practice - transit service

Brown and Thompson
(2009):

- Multidestination vision
- Rail transit backbone with high quality bus
- Serve non-CBD travel, activity centers, non-work trips; ease transfers



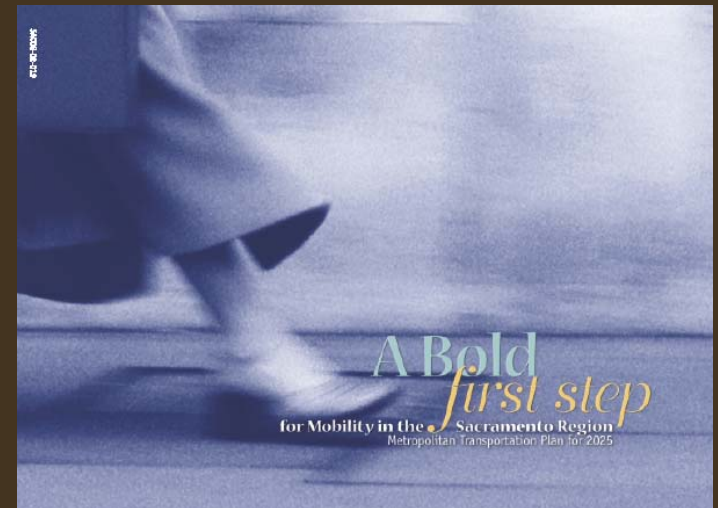
Best practice - land use and community development

- Coordinated station area planning + vision
- Parking + multimodal access
- Brownfield redevelopment
- Service economy job dispersion



Supporting factors

- Coherent, multi-agency planning frameworks
- Demography
- Cultural changes
- Traffic congestion + energy price volatility



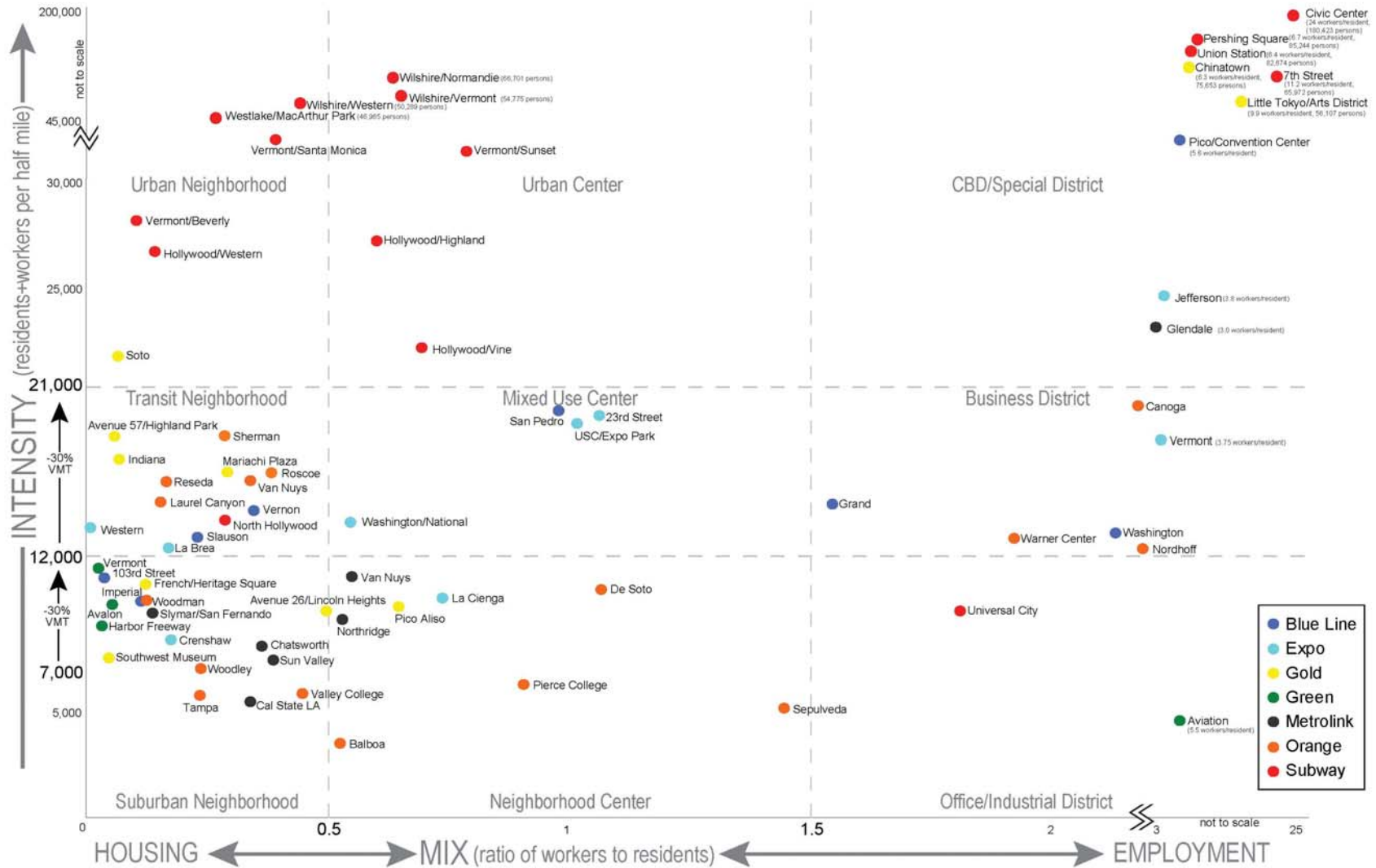
Hazards/impediments

- Economic pause
 - Amount of TOD
 - Land use mix
- Community backlash
 - Overpromising
 - Lesser impacts of suburban TOD
- Failure to reform plans and ordinances

“Planning process reveals Pasadena residents' distaste for high-density building”

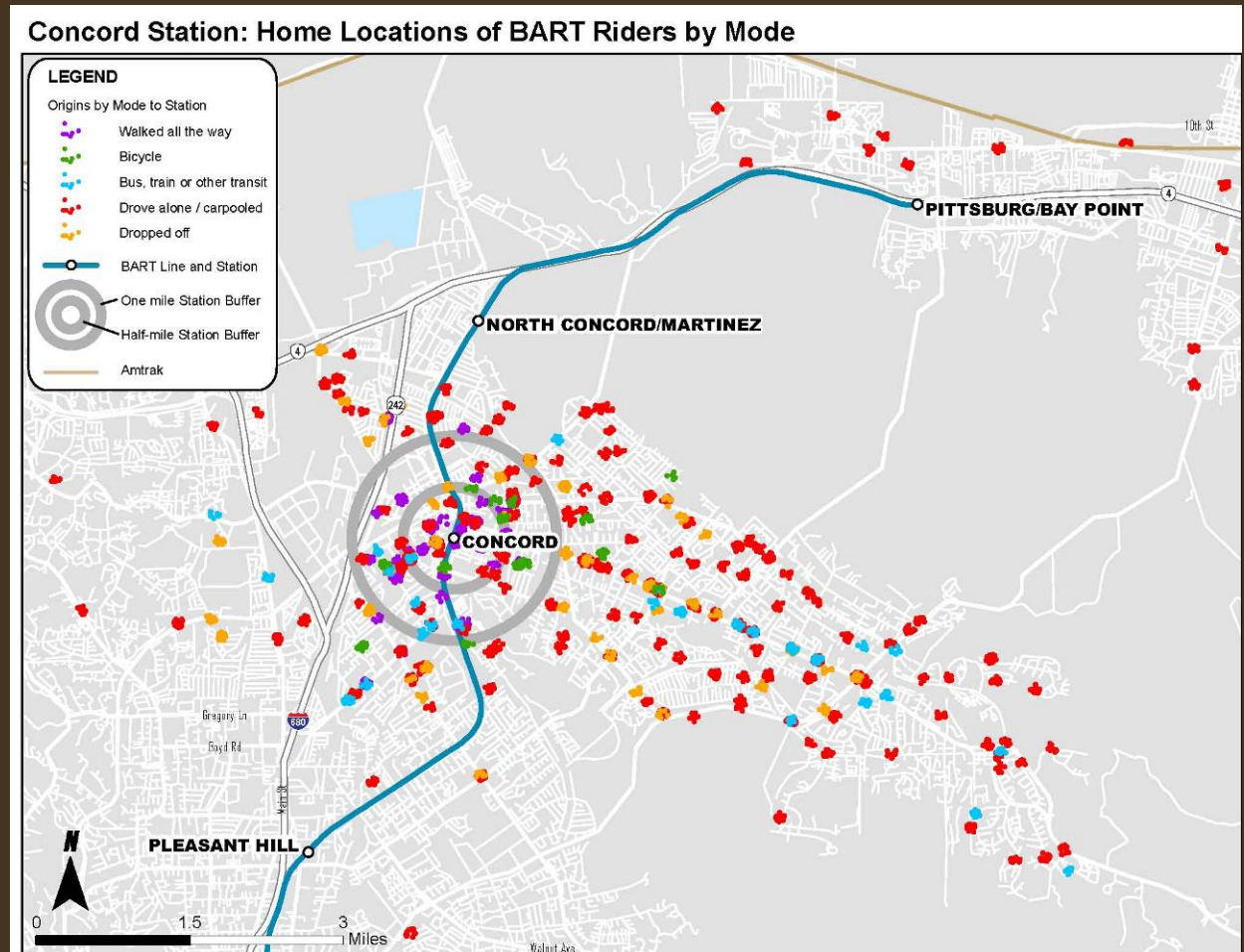
Pasadena Star News
article on General plan
update, 11/27/09

Opportunity #1: Design for TOD type



Opportunity 2: Widen TOD market area with access

- Walk/bike trips
- Subscription shuttles
- Neighborhood electric vehicles
- Reallocate roadway space
- Carshare
- Activity center initiatives



Opportunity 3A: Commuter rail TOD

Anaheim ARTIC terminal

- Transition from commuter rail to HSR
- Platinum Triangle TOD
- District-based shared parking



Opportunity #3B: Bus TOD

El Monte Transit Village BTOD

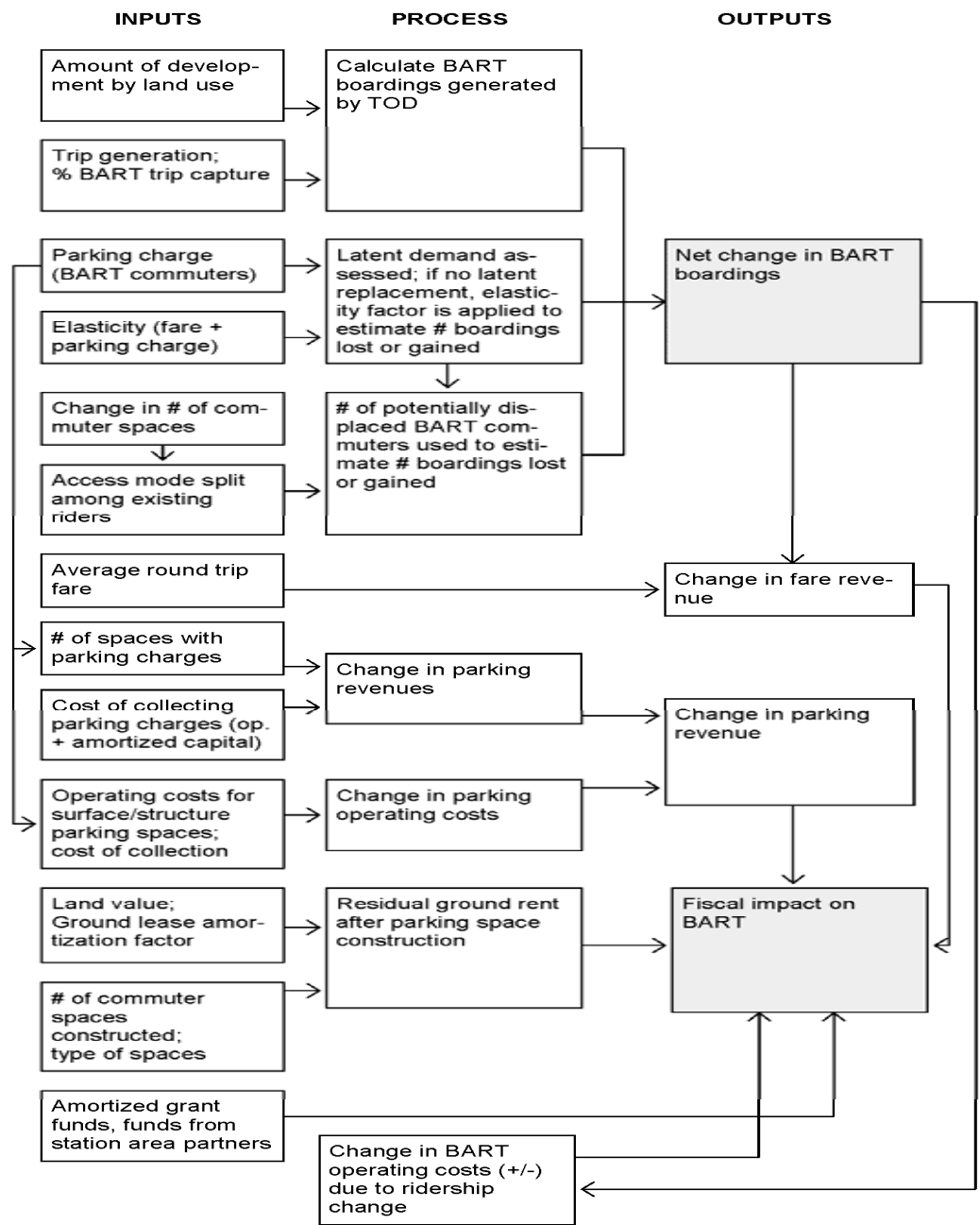
- Design integration
- Federal HOT lane demonstration
- Shared parking/pricing
- Multi-agency agreements



Opportunity #4: Development on station property

- Replace commuter parking
- BART fiscal methodology
- MacArthur case – 600 to 300 commuter spaces





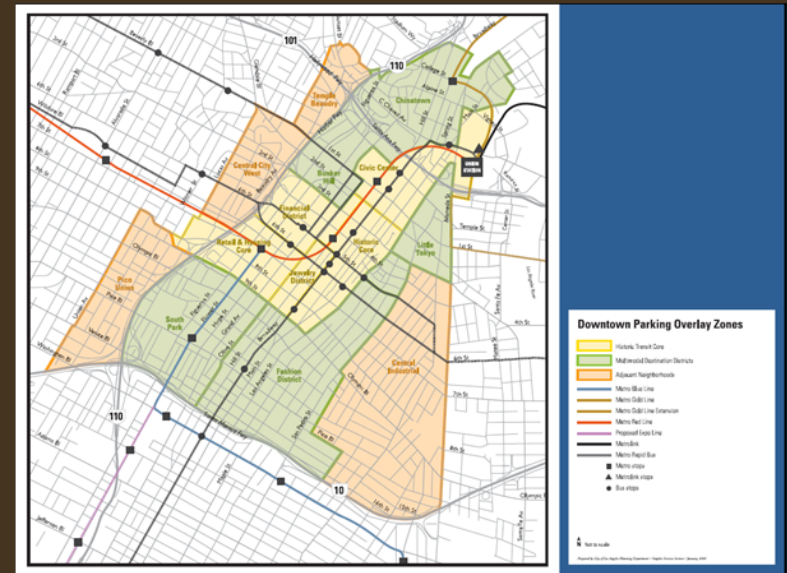
Opportunity #5: Supportive parking regulation, pricing, and management

- On-street parking management
- Workplaces (cash out/charges)
- Residences (unbundling/charges)
- Demand-based or zero requirements



Examples of flexibility...

- Eliminating minimums
- Minimums < demand
- District-based minimums
- Adjustments
- Parking demand model
- Performance-based requirements



The new frame: is TOD an effective climate strategy?

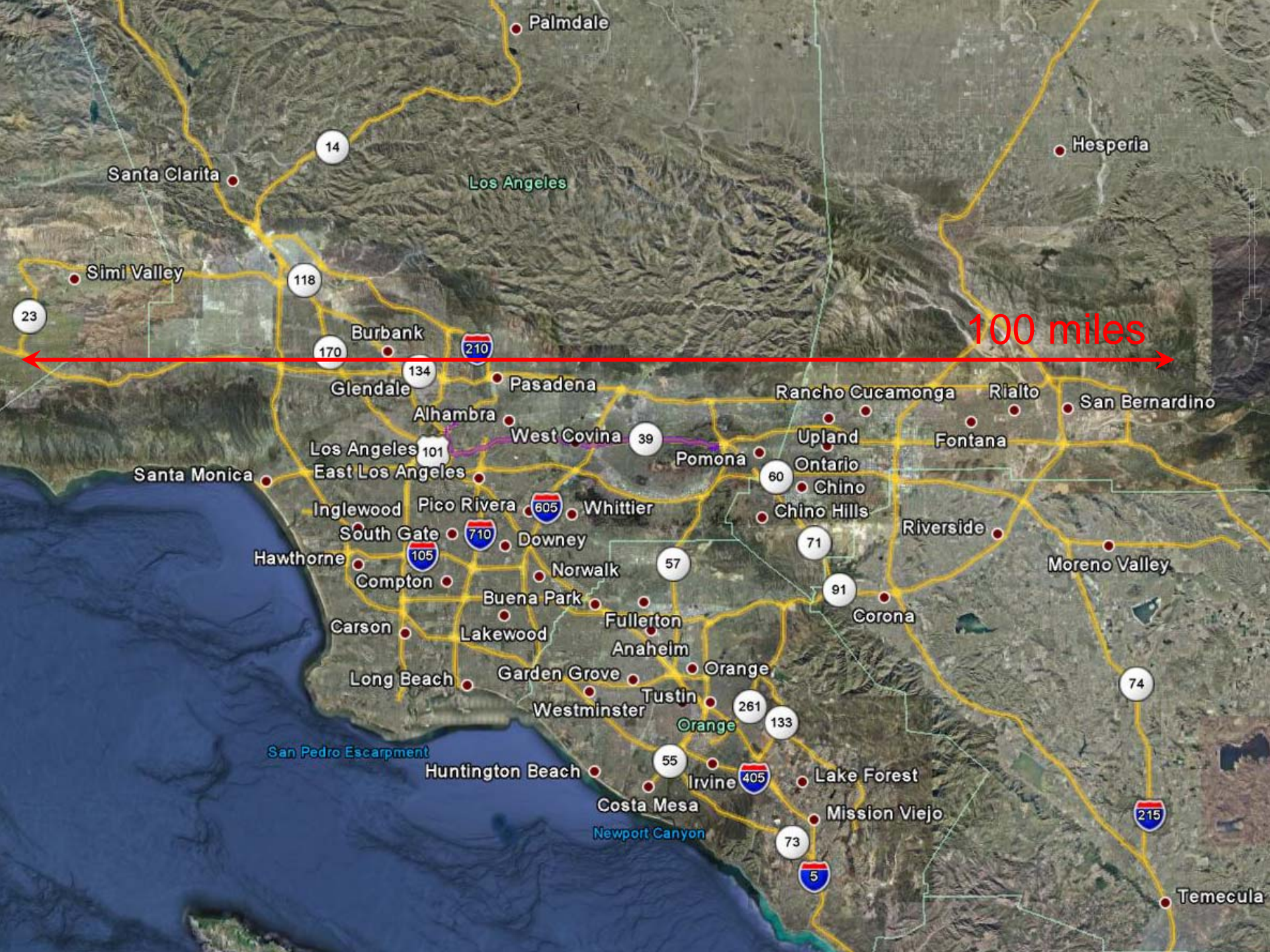
- Potential for VMT reduction strategies
- Role of TOD in VMT reduction
- TOD in the suburbs
- Potential for TOD + pricing

Brookings metropolitan areas GHG

Area	Metric tons per capita 2005	Change 2000-2005	2005 Rank
New York-Northern New Jersey-Long Island	0.66	+12.5%	#1 (best)
Portland-Vancouver-Beaverton, OR-WA	0.86	-6.6%	#13
Los Angeles-Long Beach-Santa Ana	0.88	-1.0%	#17
Oxnard-Thousand Oaks	1.12	-5.3%	#54
Riverside-San Bernardino-Ontario	1.29	-10.7%	#92

Special Report 298: Driving and the Built Environment

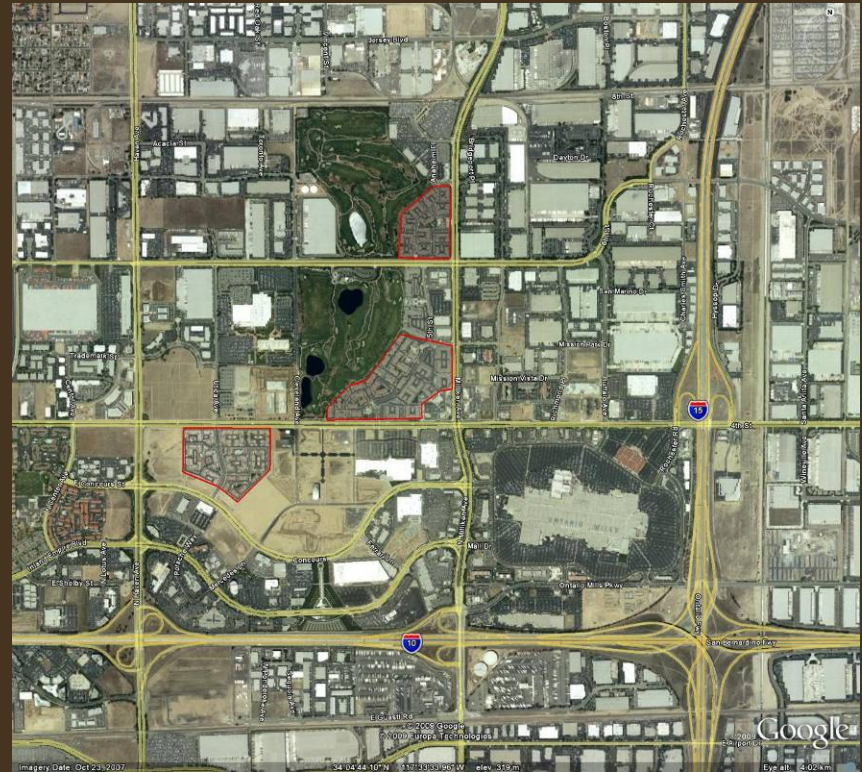
Factor	2030 Scenario A	2030 Scenario B
Share of growth in compact development	25%	75%
Density of compact development	Double	Double
VMT reduction in compact development	12%	25%
VMT and CO ₂ reduction (versus <i>baseline</i>)	1%	8%



100 miles

TOD in the Inland Empire?

- Houses and logistics
- Epitome of auto orientation
- Transit - modest bus, JTW-oriented commuter rail
- Residential density, no vertical mixed use
- Local interest in TOD
- Brownfield sites around commuter rail



Conclusions on TOD as a VMT reduction strategy...

Area	2030	2050
Urban	Yes – when economy recovers	Yes - land availability issues
Suburban	No, but fulfills other planning goals	Yes – brownfield redevelopment, densification
All areas	Adaptability to energy price volatility, changing preferences	Adaptability for carbon taxes or rationing

Conclusions on TOD as a climate adaptation strategy...

Impact of warming in CA

TOD can provide...

Low moisture, stressed forests, associated wildfires

Reduced forest/urban edge interface

Reduced snowpack, less water

Less irrigated landscape area

Extreme heat events

Smaller building envelope, ease of cooling

Treatment/valuation of co-benefits

- Litman: large and convincing
- Pisarski: not convincing; technology change dominates response
- Wachs: role of mobility in poverty reduction





Realistic strategies for transit and TOD development phasing in suburban areas

- “Transit-ready” development
 - Design to allow phasing, reuse of parking
- Rapid bus/commuter rail/neighborhood electric vehicles
 - Last mile transportation
- Emergent walkable clusters
- Pricing