

# Lesson 10

## Transit-Oriented Development



# Learning Outcomes

- ▶ Describe the essential design features of successful TOD in the U.S.
- ▶ Gauge the potential benefits of TOD on land development, travel choices, and public sector revenues
- ▶ Identify TOD implementation tools and entities best-suited to introduce them
- ▶ Assess financial factors that weigh in on TOD outcomes

# Learning Outcomes (continued)

- ▶ Identify actions that transit agencies, MPOs, state DOTs, and municipalities can take to facilitate TOD
- ▶ Cite best case examples across a range of transit technologies and geographic contexts

# Lesson 10:

## Transit-Oriented Development

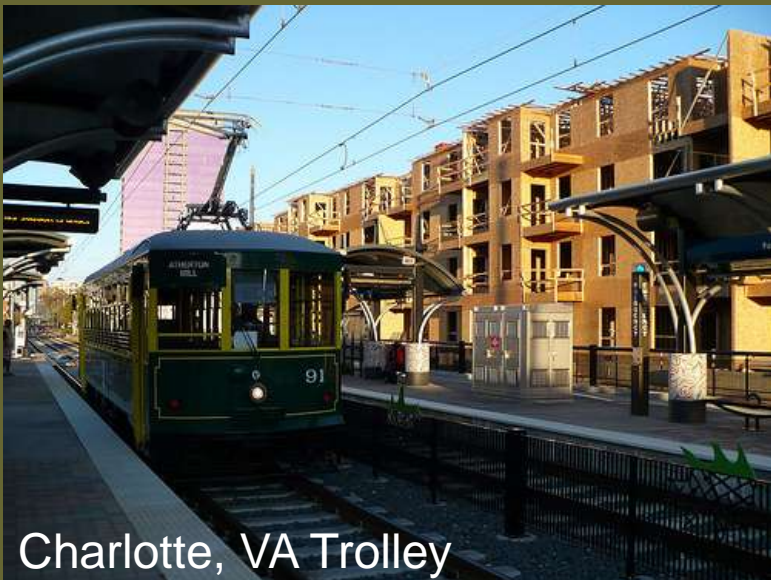
- ▶ **10.1 Concepts and Principles**
- ▶ 10.2 Impacts
- ▶ 10.3 Policy and Implementation
- ▶ 10.4 Best Practices

# What is Transit-Oriented Development?

# What is Transit-Oriented Development?



Emeryville, CA Commuter Rail



Charlotte, VA Trolley

- ▶ Mixed use
- ▶ Compact
- ▶ Pedestrian-friendly design
- ▶ Physically and functionally oriented to transit facility



Hercules, CA Train/Ferry TOD

# TOD in the U.S.

## ► Scope:

In U.S., there are about 100 TODs (out of 2,800 passenger rail stations) or about 3.5% of stations

## ► Modal make-up:

Heavy Rail: 37%; LRT: 31%;  
Commuter Rail: 22%; Bus: 8%;  
Ferry: 2%



Tampa Streetcar



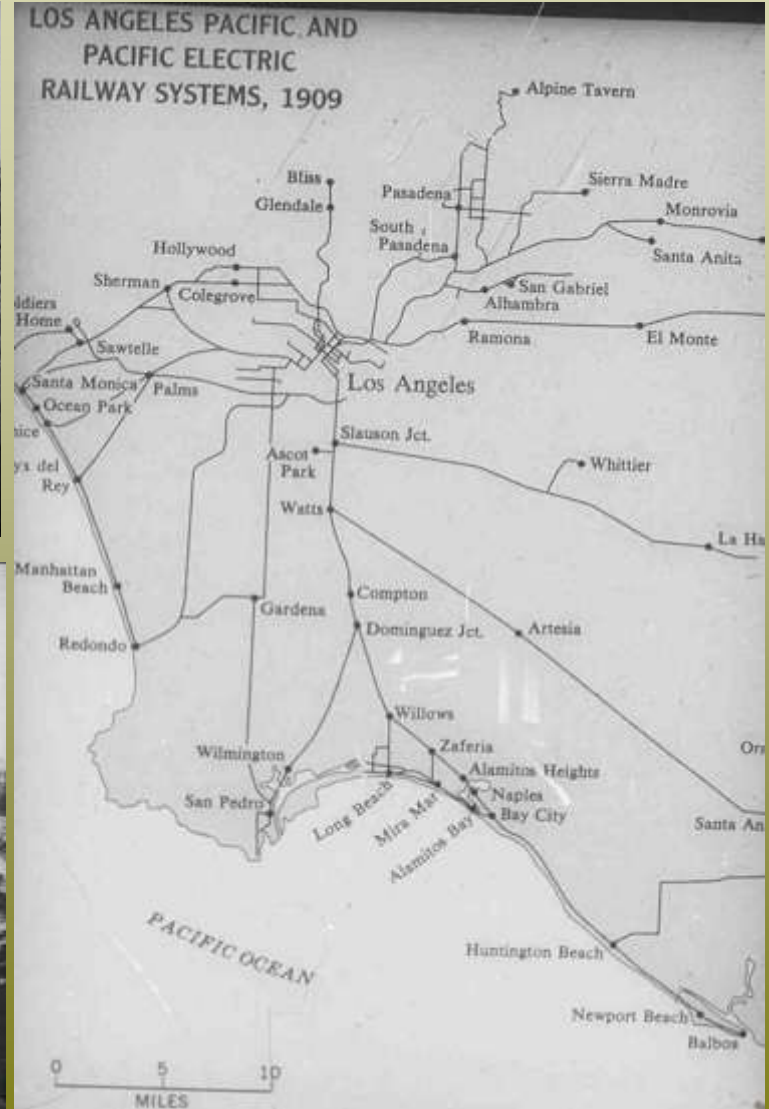
Denver LRT

# TOD is Not New

1906



1912



# Stimulants to TOD in the U.S. Today

- ▶ ***Market/demography:***

Growth in nontraditional households, immigrants, empty-nesters

- ▶ ***Supply:***

New rail starts and extensions; BRT systems

- ▶ ***Receptive public policy environment:***

Local and state “smart growth” legislation; FTA’s New Starts criteria

- ▶ ***Responds to multiple urban problems:***

traffic congestion; community redevelopment



# Joint Development

- ▶ Real estate development closely linked to public transit services and station facilities
- ▶ A formal arrangement between a public transit agency and the private-sector involving payments sharing of capital costs in mutual recognition of the enhanced real estate development potential of a transit station

# Case Study



## Washington, D.C.

# WMATA's Joint Development Program

- ▶ Real estate development department
- ▶ Pro-active in management of land holdings
  - Screen holdings according to development potential
  - Issue RFPs for Level 1 sites (private-sector interest; little need for public interventions/subsidies)
- ▶ White Flint – North Bethesda
  - 34 acre mixed-use development
  - WMATA to receive \$66 million for 55-year lease
  - Expected to generate 6,500 daily riders

# Bethesda Metro Center

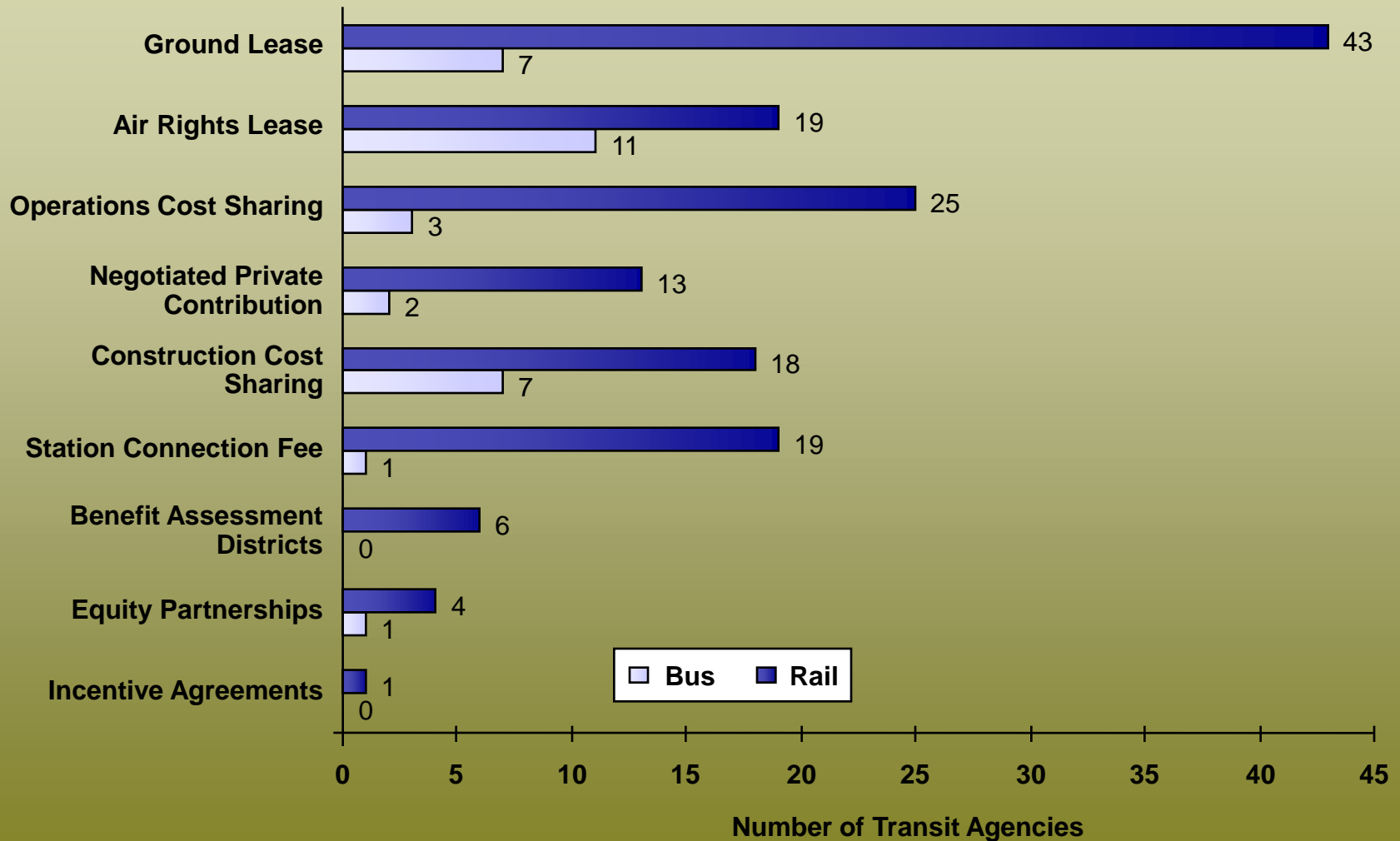
- ▶ America's biggest joint development money-maker
- ▶ Features 378,000 square feet of office space, a 380-room Hyatt Hotel, and 60,000 square feet of retail space
- ▶ Spurred nearby office, retail, and residential development within walking distance, including entertainment district



# FTA's Joint Development Policies

- ▶ Joint development activities are eligible for reimbursement under FTA formula and discretionary transit grant programs and under FHWA funds flexed to transit
- ▶ Joint development is incorporated into the definition of a transit capital project
- ▶ Intercity bus and rail terminals are included in joint development authority

# Joint Development



# Station Typologies

TOD 202

## STATION AREA PLANNING

How To Make Great  
Transit-Oriented  
Places



Reconnecting America and  
the Center for Transit-Oriented Development

[www.reconnectingamerica.org](http://www.reconnectingamerica.org)

# One Size Does Not Fit All

## How To Identify A TOD Place Type

CENTERS				
	Regional Center	Urban Center	Suburban Center	Transit Town Center
<i>What are the characteristics of the station area?</i>	Primary center of economic and cultural activity	Significant center of economic and cultural activity with regional-scale destinations	Significant center of economic and cultural activity with regional-scale destinations	Local center of economic and community activity
<i>What is the transit mode?</i>	All modes	All modes	All modes	Commuter rail, local/regional bus hub, light rail
<i>What is the peak frequency of transit?</i>	< 5 minutes	5-15 minutes	5-15 minutes	15-30 minutes
<i>What is the land use mix and density?</i>	High-density mix of residential, commercial, employment, and civic/cultural uses	Moderate- to high-density mix of residential, commercial, employment, and civic/cultural uses	Moderate- to high-density mix of residential, commercial, employment and civic/cultural uses	Moderate-density mix of residential, commercial, employment and civic/cultural uses
<i>What are the retail characteristics?</i>	Regional-serving destination-retail opportunity; need for local-serving retail	Regional-serving destination-retail opportunity; need for local-serving and community-serving retail	Regional-serving destination-retail opportunity; need for local-serving and community-serving retail	Community-serving and destination-retail opportunity; need for local-serving retail
<i>What are the major planning and development challenges?</i>	Integrating dense mix of housing and employment into built-out context	Integrating high-density housing into existing mix of housing and employment to support local-serving retail	Introducing housing into predominantly employment uses and improving connections/access to transit	Increasing densities while retaining scale and improving transit access
<i>Examples</i>	Downtown San Francisco and Boston, Chicago's Loop, Midtown Manhattan, downtown Denver	Rosslyn-Ballston Corridor outside Washington D.C.; downtown Baltimore; Hoboken, New Jersey; Houston's Medical Center	Lindbergh City Center in Atlanta; Evanston, Illinois; Addison Circle outside Dallas; Stamford, Connecticut;	Prairie Crossing in Grayslake outside Chicago; Suisun City in the San Francisco Bay Area; Roslindale Village and Winchester outside Boston

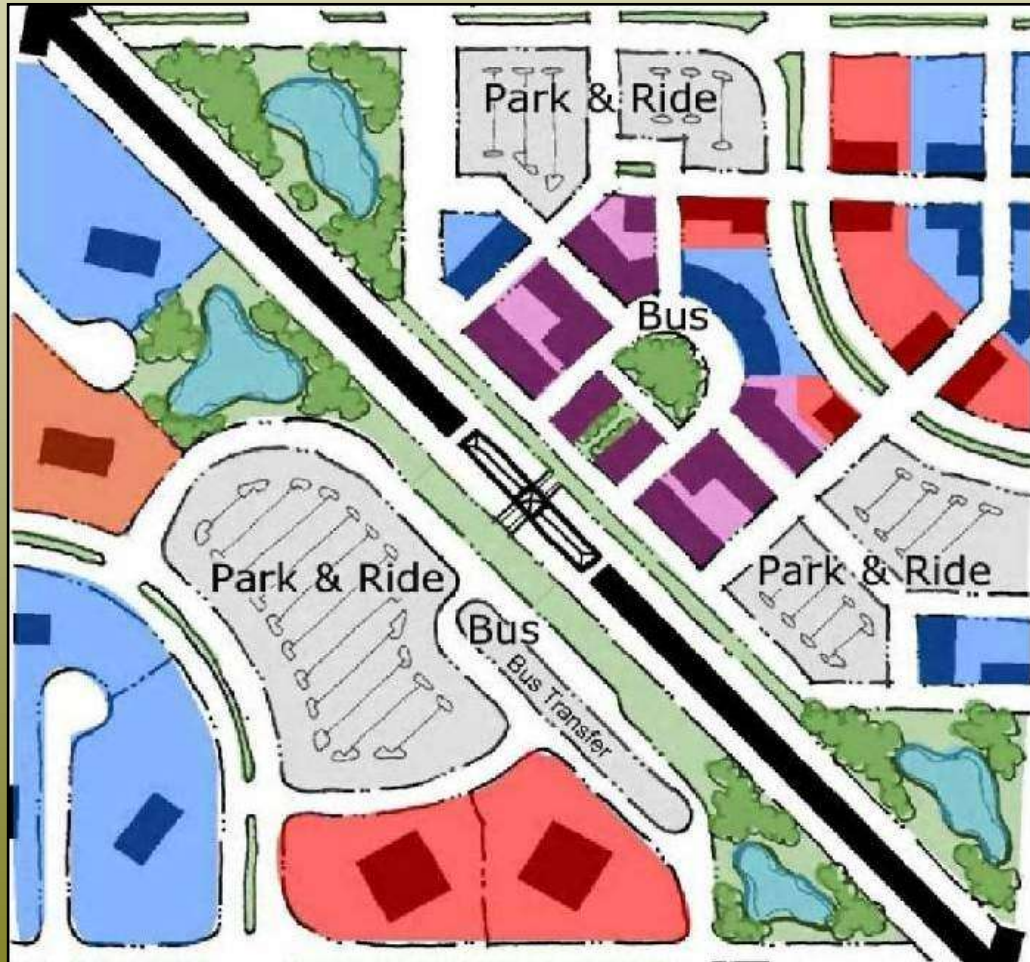
# Integration of Transportation & Land Use

## in Thailand



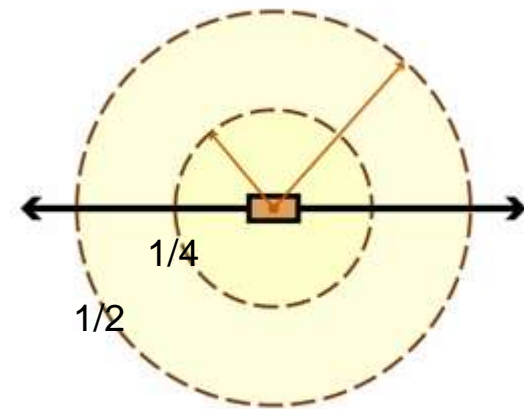
# TOD Site Design

TOD



AOD

*Geographic Scale:*  
1/4 to 1/2 mile of station



# Edison Transit Village Proposal

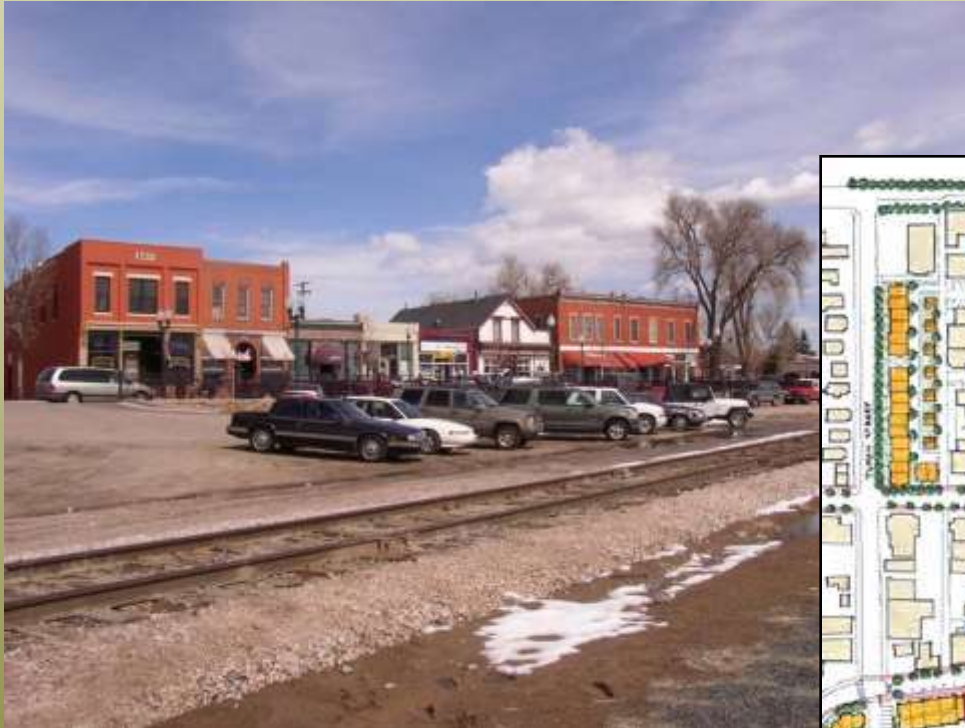


44 acre mixed-use development



# Transit Ready Development

## Arvada, CO



Present

Future?



# 3 Ds: Density

## Recommended Residential Density Thresholds for TODs

City/Source	TOD Type	Minimum Residential Densities (DU/acre)
San Diego TOD Guidelines	<i>Urban TOD</i> (LRT served)	18-25
	<i>Neighborhood TOD</i> (Bus served)	12-18
Washington County, Oregon (LUTRAQ Study)	<i>Urban TOD</i> (LRT served)	7-15
	<i>Neighborhood TOD</i> (Bus served)	7
Portland TriMet, TOD Guidelines	<i>LRT Served TOD</i>	30: 0-1/8 mi; 24: 1/8-1/4 mi; 12: 1/4-1/2 mi
	<i>Bus Served TOD</i>	24: 0-1/8 mi; 12: 1/8-1/4 mi

# 3 Ds: Density

## FTA Guidelines for New Starts Projects

Rating	Population Density	Commercial Floor Area Ratio (FAR)		Parking Spaces per 1,000 sq. ft.	
	(persons/sq. mi.)	CBD	Other	CBD	Other
High (5)	> 15,000	> 10.0	> 2.5	< 1	< 1.5
Medium-High (4)	10,000 – 15,000	8.0 – 10.0	1.75 – 2.5	1 – 1.75	1.5 – 2.25
Medium (3)	6,667 – 10,000	6.0 – 8.0	1.0 – 1.75	1.75 – 2.5	2.25 – 3.0
Medium-Low (2)	3,333 – 6,667	4.0 – 6.0	0.5 – 1.0	2.5 – 3.25	3.0 – 3.75
Low (1)	< 3,333	< 4.0	< 0.5	> 3.25	> 3.75

# Think Corridors!

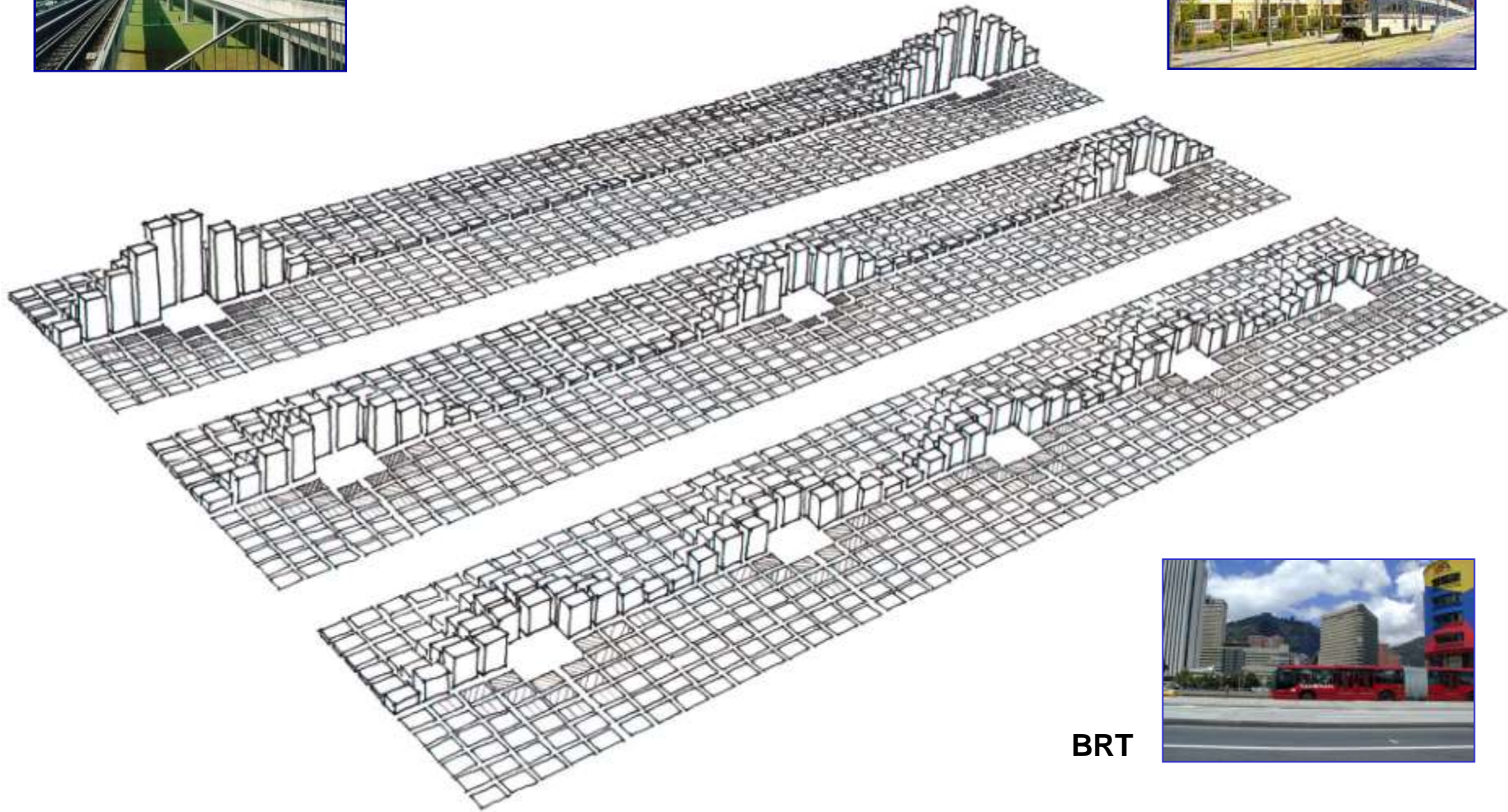
## Density Gradients Vary by Type of Transit



Heavy Rail



LRT



BRT

# 3 Ds: Diversity



- ▶ Varied land use mix is essential
- ▶ Allows consolidating trips at transit node – “trip chaining” within the TOD
- ▶ Spreads trips throughout day/week - activates/ invigorates the project; natural surveillance
- ▶ Allows shared parking



# 3 Ds: Design

- ▶ Place-making: creates comfortable, memorable places
- ▶ Softens perceptions of density
- ▶ Enhances walking environment



# 3 Ds: Design

## Site Design Constraints Can Limit TOD

Wedged in a freeway  
right-of-way: Orinda BART



Path of least resistance:  
VTA light rail

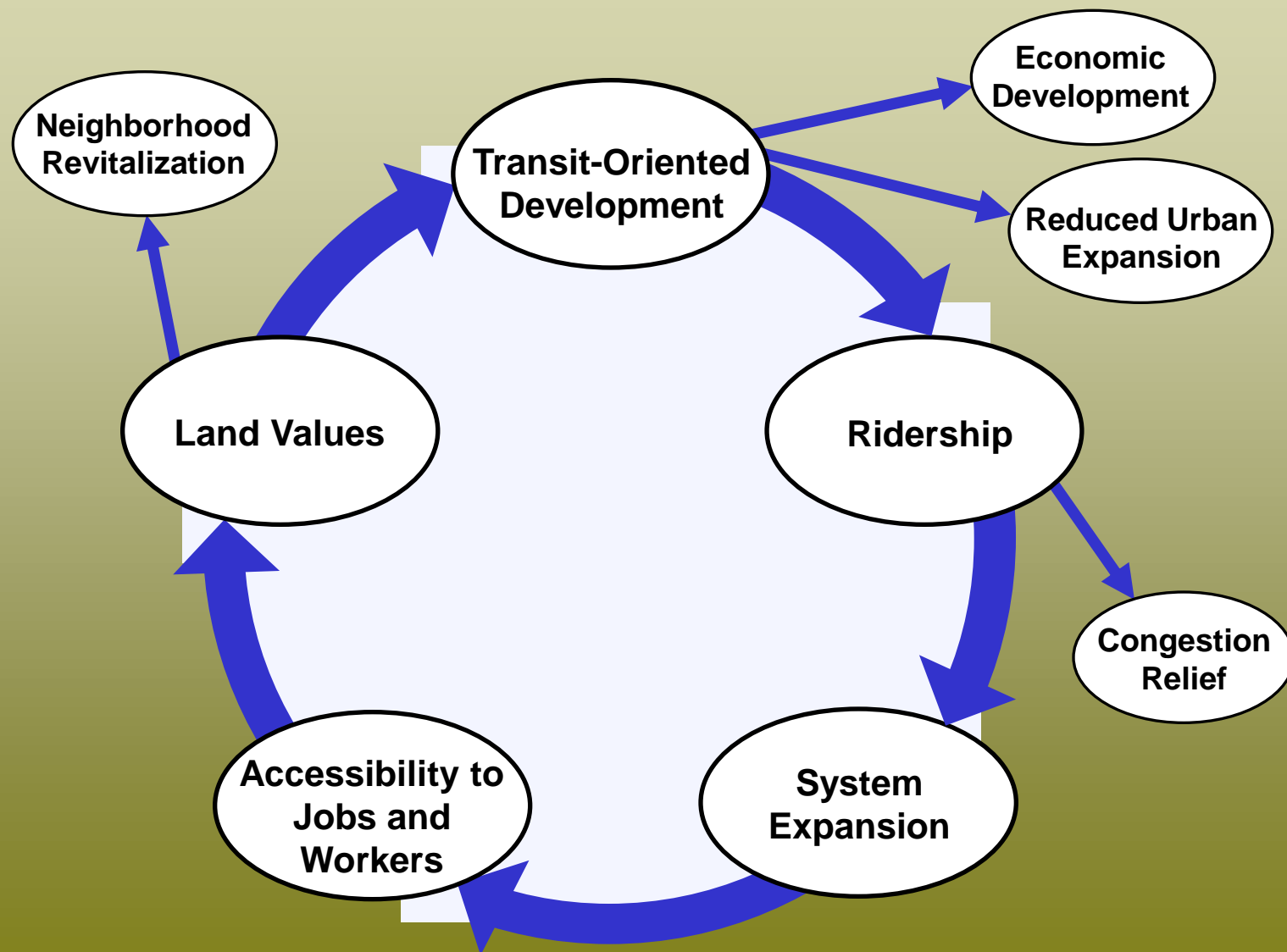


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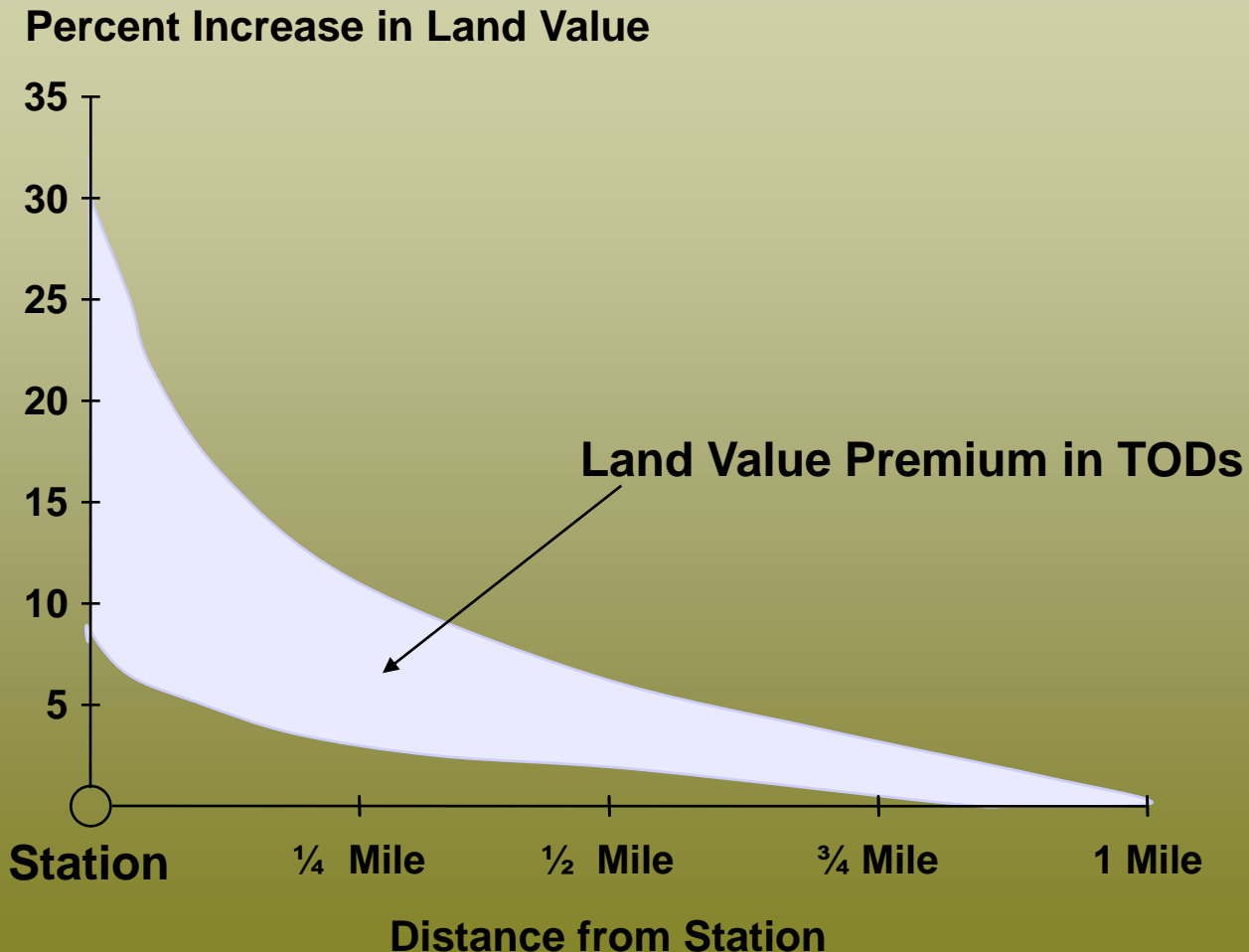
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# Potential Benefits of TOD



# Accessibility Benefits of TOD:

## Residential Land Value Premiums



# Office and Retail Premiums

## Denver's Transit Mall

### On the Mall



2 Blocks Away



5 Blocks Away



Office: \$30.20/RSF Full  
Service Gross

Office: \$25.85 Full  
Service Gross

Office: \$27.86 Full Service  
Gross

Retail: \$31.24/RSF NNN

Retail: \$21.00 NNN

Retail: \$17.31 NNN

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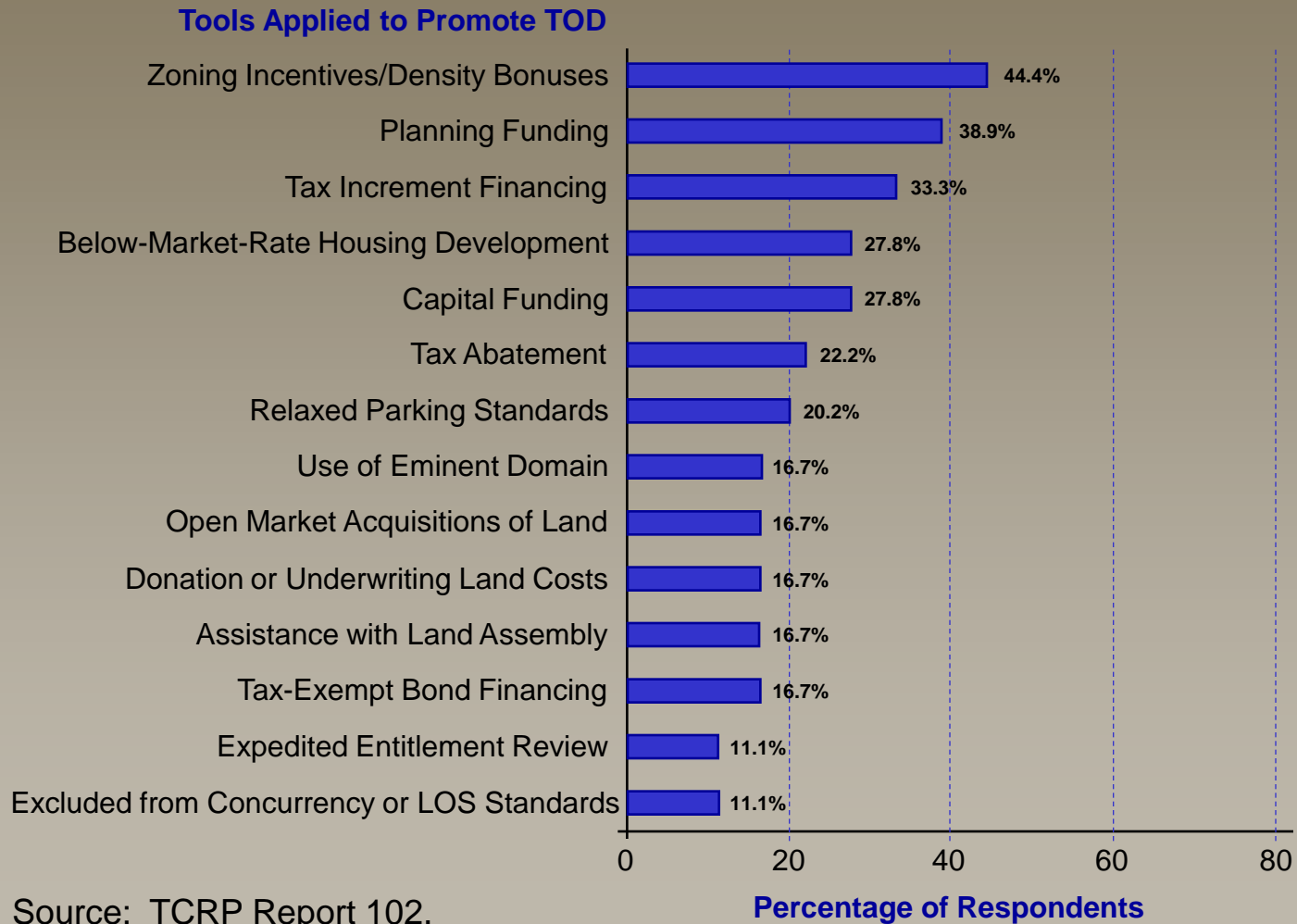
# TOD Implementation Tools

- ▶ Zoning changes
- ▶ Parking reforms
- ▶ Financial incentives
- ▶ Transit investment policies
- ▶ Joint development



Source: *Moving Communities Forward*

# Tools Used by Local Governments to Promote TOD, 2002



Source: TCRP Report 102.

# Zoning Changes:

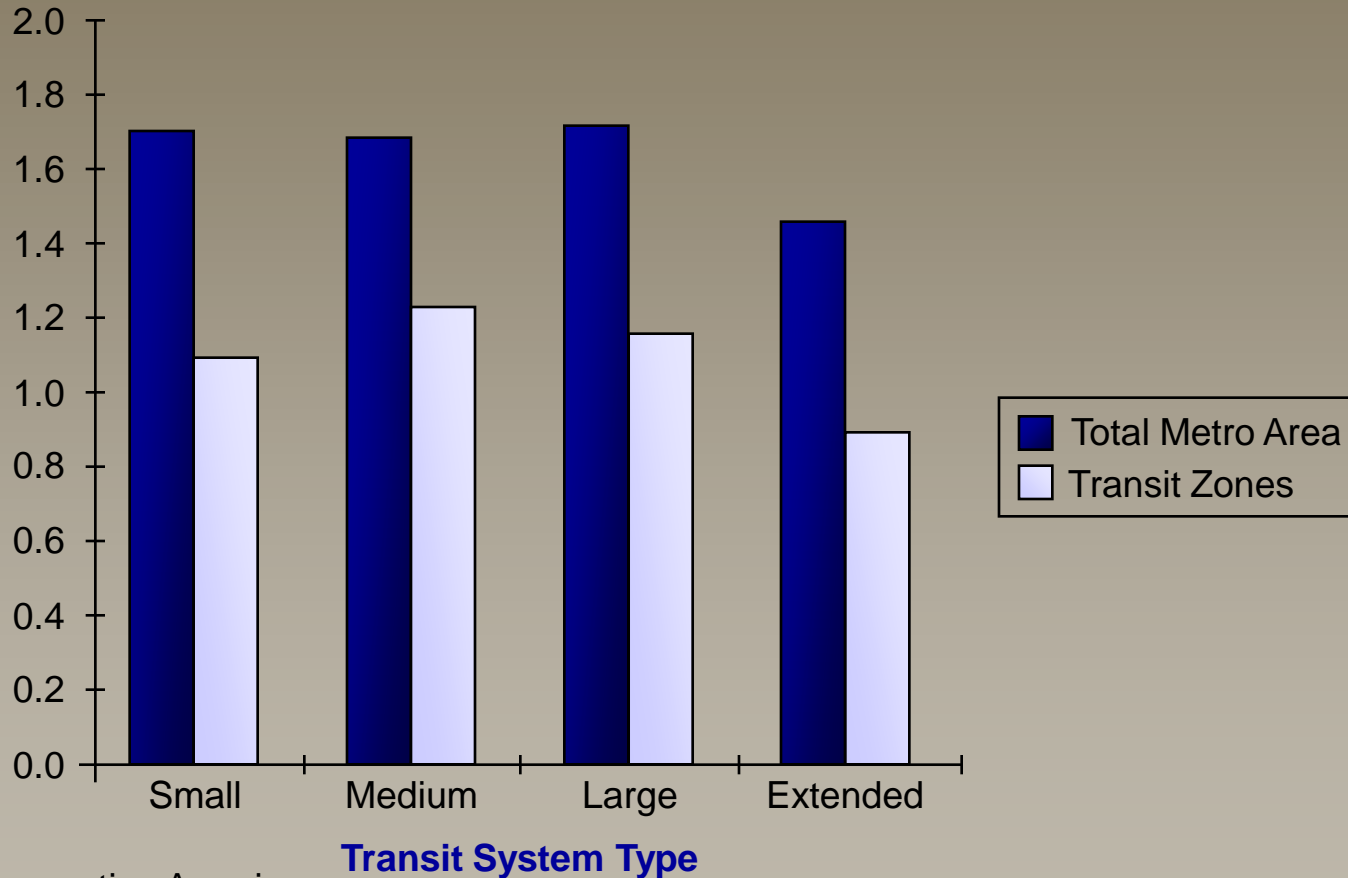
## Seattle's Station Area Interim Overlay Zoning District

- ▶ A radius that extends up to  $\frac{1}{4}$  mile of a station
- ▶ Medium- to high-density residential development
- ▶ Presence of commercial or mixed-use area where goods and services are available to the public
- ▶ Opportunity sites for new developments with good access to transit, bicycle, and pedestrian modes
- ▶ Single-family development is allowed only if minimum density standards are met

# Parking Reforms:

## Lower Demand in Transit Zones

Car Ownership (Vehicles/Household)

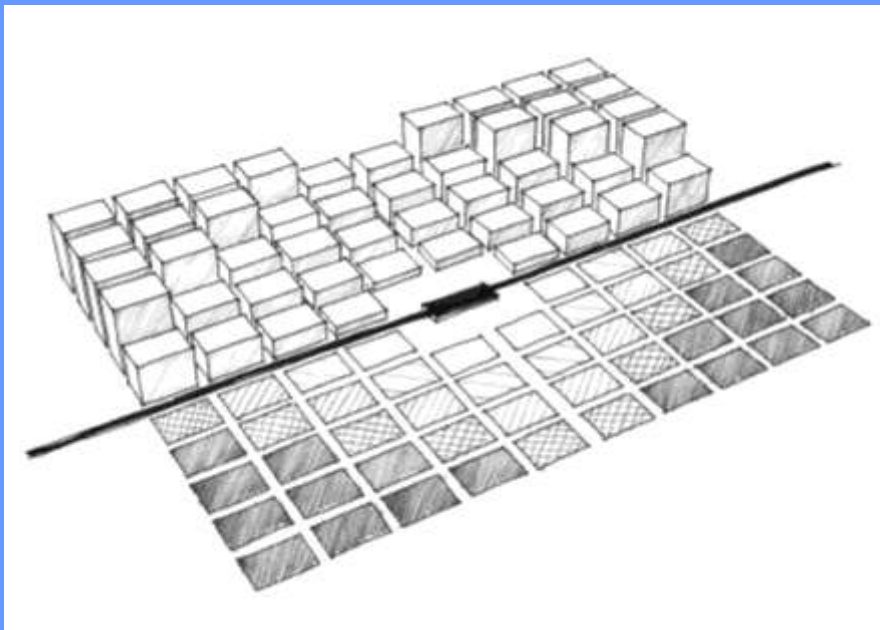


Source: Reconnecting America

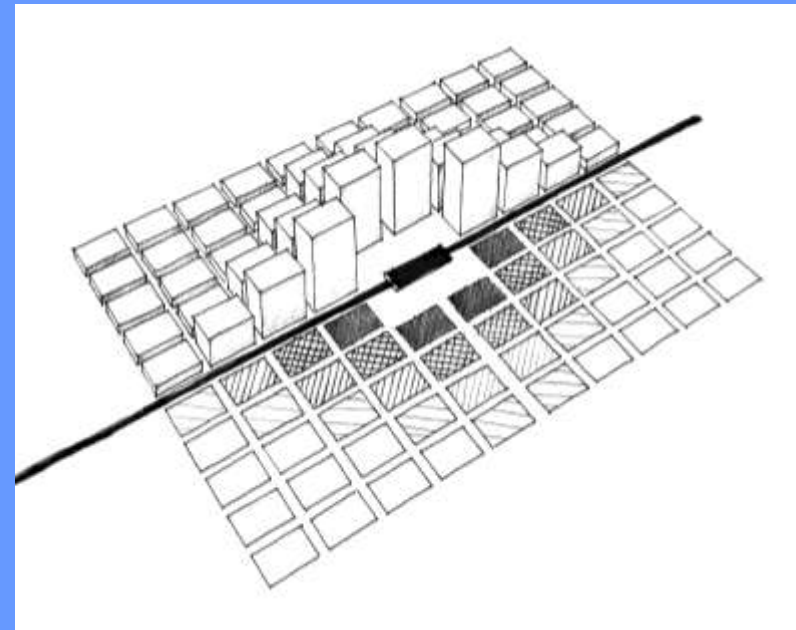
# Parking Density

## versus Development Density

- ▶ Parking density should be inversely proportional to the density of other uses



**Parking Density**



**Development Density**

# Parking Reforms:

## Flexible Standards Near Transit

- ▶ **Bethesda, MD:** Developers receive a “transit credit” reduction up to 35% in required parking for projects near Metrorail
- ▶ **Alma Place, San Mateo CA:** Within two blocks from rail - 1 space per 2 DUs
- ▶ **Market Common, Arlington VA:** On-street parking
- ▶ **San Diego, CA:** Recommends reductions between 2 and 15% in urban TODs



# Parking Reforms:

## Unbundling Parking

- ▶ Breaking apart the sizing, design, siting and construction of parking from the building
- ▶ Methods
  - Shared/common parking areas
  - On-street parking
  - Off-site lot to lease extra spaces
  - Car-sharing



# Financial Incentives:

## Impact Fees

Santa Clara County, CA – Trip Reduction Credits

Trip Reduction Strategy	Maximum Trip Reduction (in Percent)
<b>Mixed-Use Development Project</b>	
With Housing and Retail Components	13% off the smaller trip generator
With Hotel and Retail Components	10% off the smaller trip generator
With Housing and Employment	3% off the smaller trip generator
With Employment and Employee-Serving Retail	3% off employment component
<b>Location within 2,000-Foot Walk of Transit Facility</b>	
Housing near LRT or Caltrain Station	9%
Housing near a Major Bus Stop	2%
Employment near LRT or Caltrain Station	3%
Employment near a Major Bus Stop	2%

# Financial Incentives:

## Urban Transit Hub Tax Credit Program

- ▶ To attract new development to nine transit-oriented urban centers in New Jersey
- ▶ Developer must make \$75 million in new capital investment in single facility within ½ mile of rail station
- ▶ At least 250 full-time employees must work there
- ▶ Tenants may also qualify for tax credits



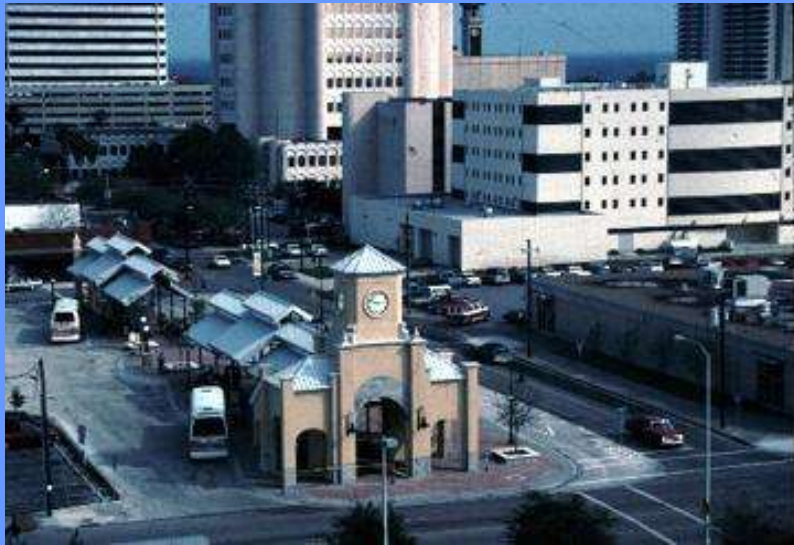
# Transit Investment Policies

- ▶ San Francisco Bay Area – MTC conditions transit investment on station-area development targets

## Development Thresholds: Averages per Station Area (1/2 mile radius)

	BART	Light Rail	Bus Rapid Transit	Commuter Rail	Ferry
Housing Unit Minimum	3,850	3,300	2,750	2,300	750
Combined Housing Units & Jobs Threshold	11,700	7,200	5,400	4,500	2,000

# Joint Development in Smaller Communities



Project for Public Spaces



Corpus Christi's Staple Street  
Bus Transfer Facility

John Deere Commons,  
Moline, Illinois

# John Deere's Newest 'Hybrid' 'The Chopper'



# State Agency Support for TOD

- ▶ Promote inter-agency and public-private partnerships
- ▶ Coordinate policies and incentives among state agencies
- ▶ Provide financial incentives
- ▶ Remove regulatory and statutory barriers to land use
- ▶ Provide technical assistance to local governments
- ▶ Sponsor demonstration TOD planning and implementation programs
- ▶ Disposition of state land; siting of state buildings

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# Best Practices



**Arlington County, Virginia:**  
Heavy rail – corridor planning

**Dallas, Texas:**  
Light rail transit TOD

**New Jersey:**  
Older commuter rail stations

**Boston, Massachusetts:**  
Bus rapid transit

**Boulder, Colorado:**  
Small-city, bus-based TOD

# Exercise:

## Transit Overlay District

- ▶ Use Regulations
- ▶ Residential and Commercial Densities
- ▶ Parking Requirements
- ▶ Other Key Design Standards and Guidelines

# Additional NTI Training

## Transit Oriented and Joint Development



# Review

- ▶ List **three** parking strategies that you might apply in a TOD
- ▶ What is a **typical range** of minimum residential densities to support bus TOD?
- ▶ List **three** factors that can affect the financial feasibility of a TOD
- ▶ Name **three** of the most important actions that governments can take to support TOD, as seen from the developers' perspective