# TRANSIT AND TRANSIT ORIENTED DEVELOPMENT: GETTING THERE FROM HERE

STRATEGICECONOMICS

Smart Growth America
Making Neighborhoods Great Together

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July 15, 2015

# Presentation Overview

1. Why Transit, Why Now
2. What Value Can Transit Bring to the Knoxville Region
3. Linking Transit and Development
4. Emerging Lessons Learned from Transit and TOD
5. Concluding Thoughts

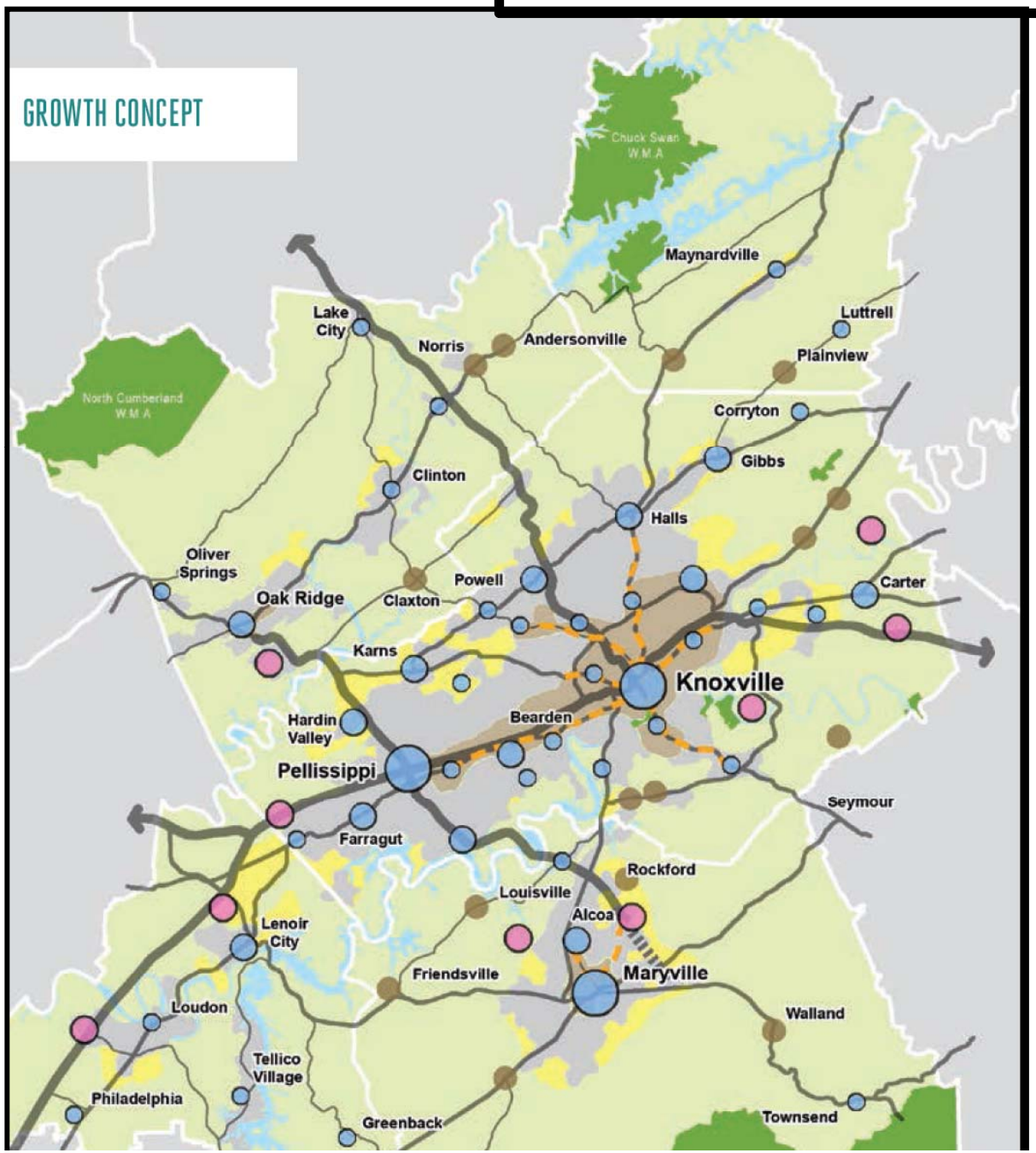
# Why Transit, Why Now

# Why is Transit Important for Knoxville - The City and Region Want to Grow “Smarter”

## Plan ET Community Goals

1. Clean Air and Water
2. Healthy People
3. Regional Prosperity
4. Local Food Production
5. Transportation Choices
6. Efficient Infrastructure
7. Great Places
8. Housing Choices

# Plan ET Growth Concept




LARGE CENTERS

MEDIUM CENTERS

SMALL CENTERS

RURAL CROSSROADS

EMPLOYMENT NODES

URBAN INFILL

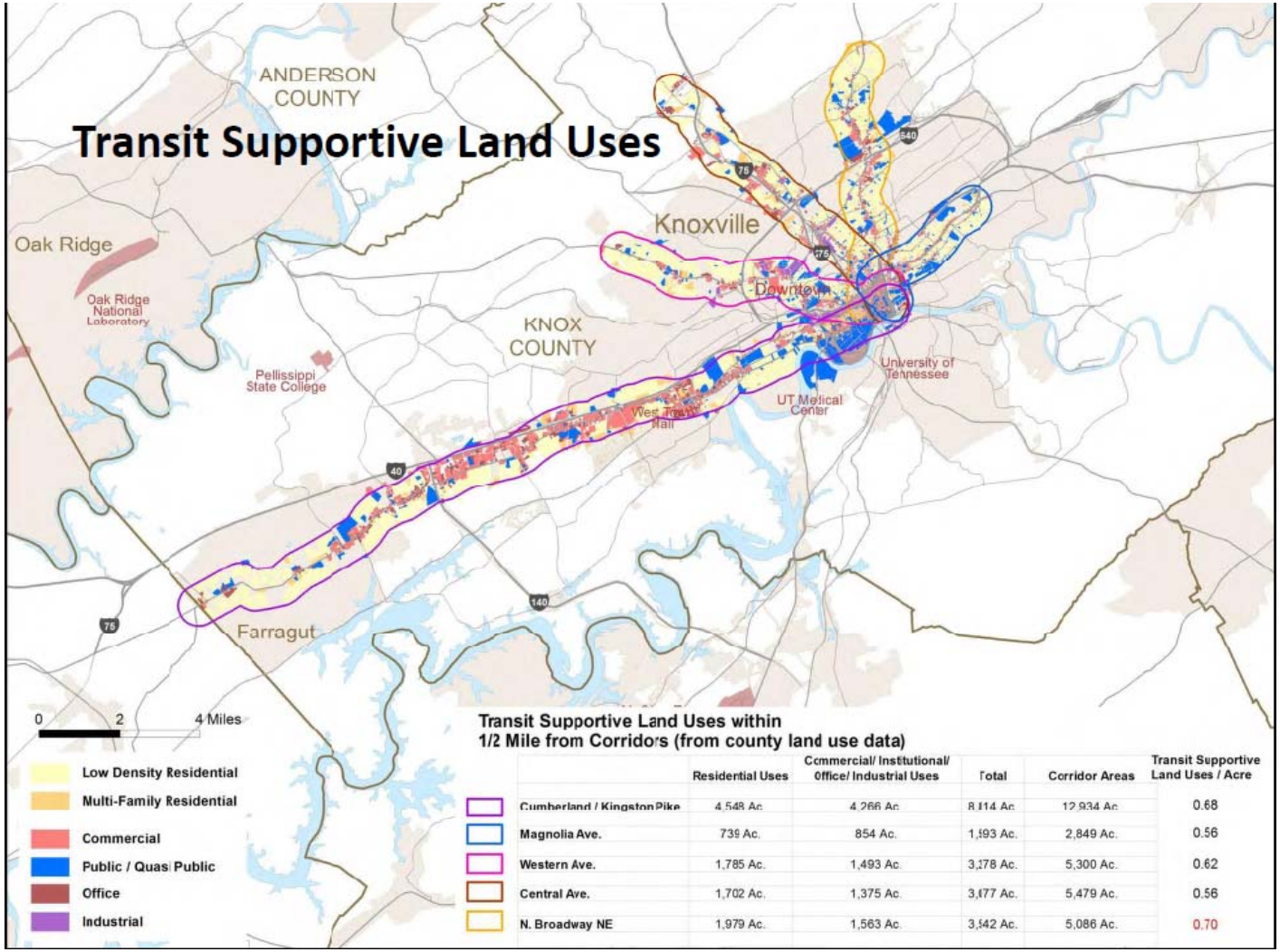
SUBURBAN &

RURAL DEVELOPMENT

BUILT-UP AREA

TRANSIT CORRIDORS

# Transportation Choice Will Help Knoxville Grow Smarter




Transit Supportive Land Uses within 1/2 Mile from Corridors (from county land use data)

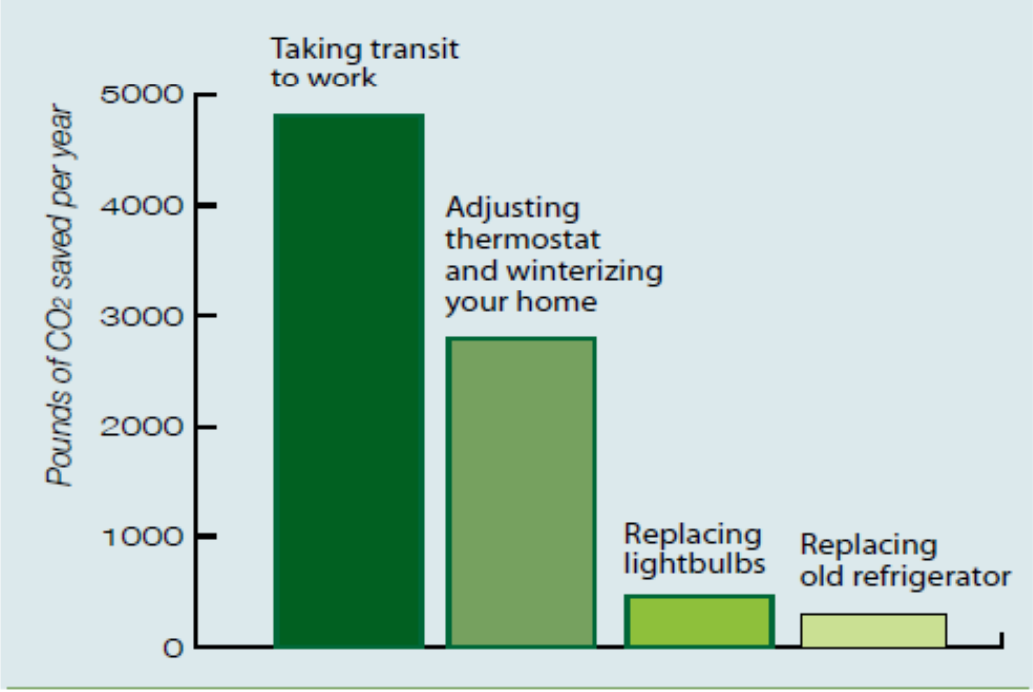
| | Residential Uses | Commercial/ Institutional/ Office/ Industrial Uses | Total | Corridor Areas | Transit Supportive Land Uses / Acre |
|---|---|---|---|---|---|
| Cumberland / Kingston Pike | 4,548 Ac. | 4,266 Ac. | 8,114 Ac. | 12,934 Ac. | 0.68 |
| Magnolia Ave. | 739 Ac. | 854 Ac. | 1,593 Ac. | 2,849 Ac. | 0.56 |
| Western Ave. | 1,785 Ac. | 1,493 Ac. | 3,278 Ac. | 5,300 Ac. | 0.62 |
| Central Ave. | 1,702 Ac. | 1,375 Ac. | 3,077 Ac. | 5,479 Ac. | 0.56 |
| N. Broadway NE | 1,979 Ac. | 1,563 Ac. | 3,542 Ac. | 5,086 Ac. | 0.70 |

Source: KATS Corridor Study Appendix D, TOD Toolkit. 2013

# What Value Can Transit Bring to the Knoxville Region

# Transit Supports Clean Air and Water

***Commuting by Public Transportation—One of the Most Significant Actions to Reduce Household Carbon Emissions***

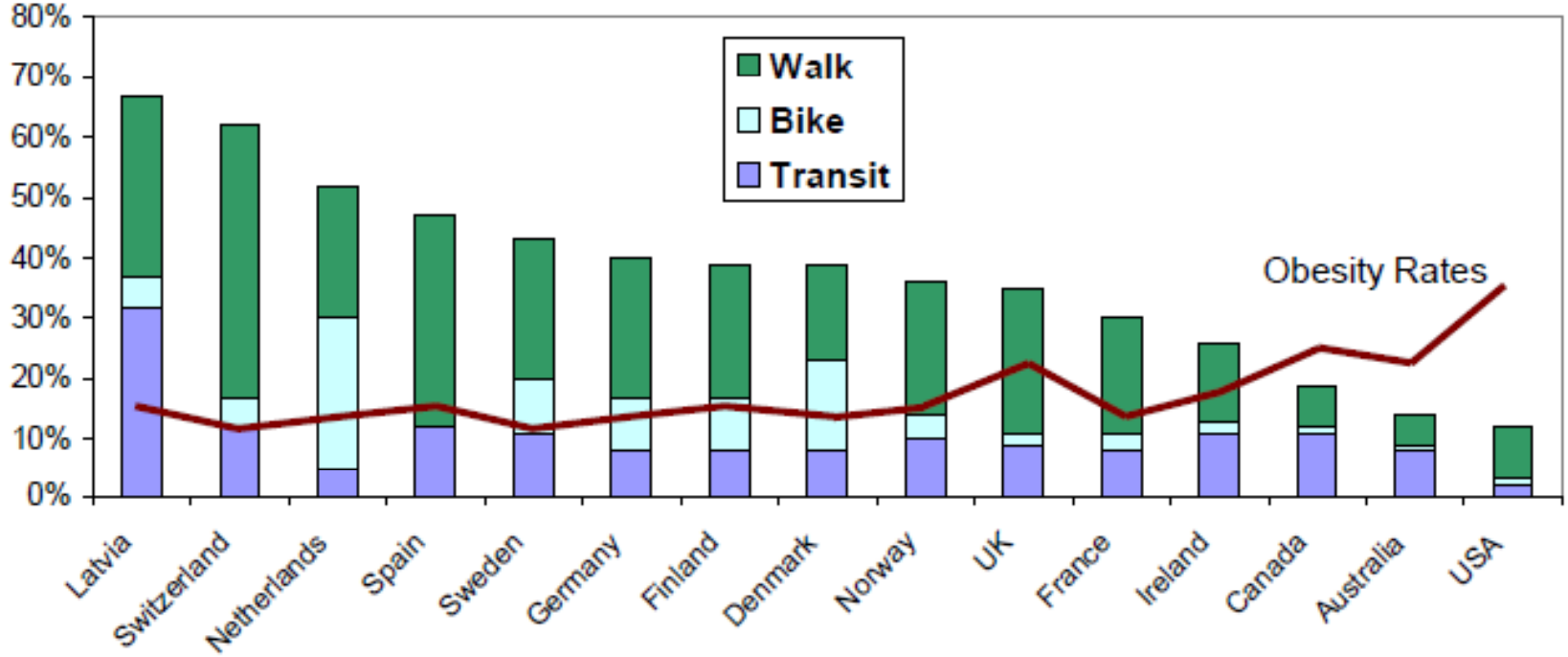



*By taking existing public transportation instead of driving a car, a single person saves 4,800 pounds of $CO_2$ per year. Source:* Public Transportation's Contribution to U.S. Greenhouse Gas Reduction [4]

Source: http://www.apta.com/resources/reportsandpublications/Documents/greenhouse_brochure.pdf 2008

# Transit Supports Healthy People

***Figure 12*** **Mode Split Versus National Obesity Rates** (Bassett, et al 2008)



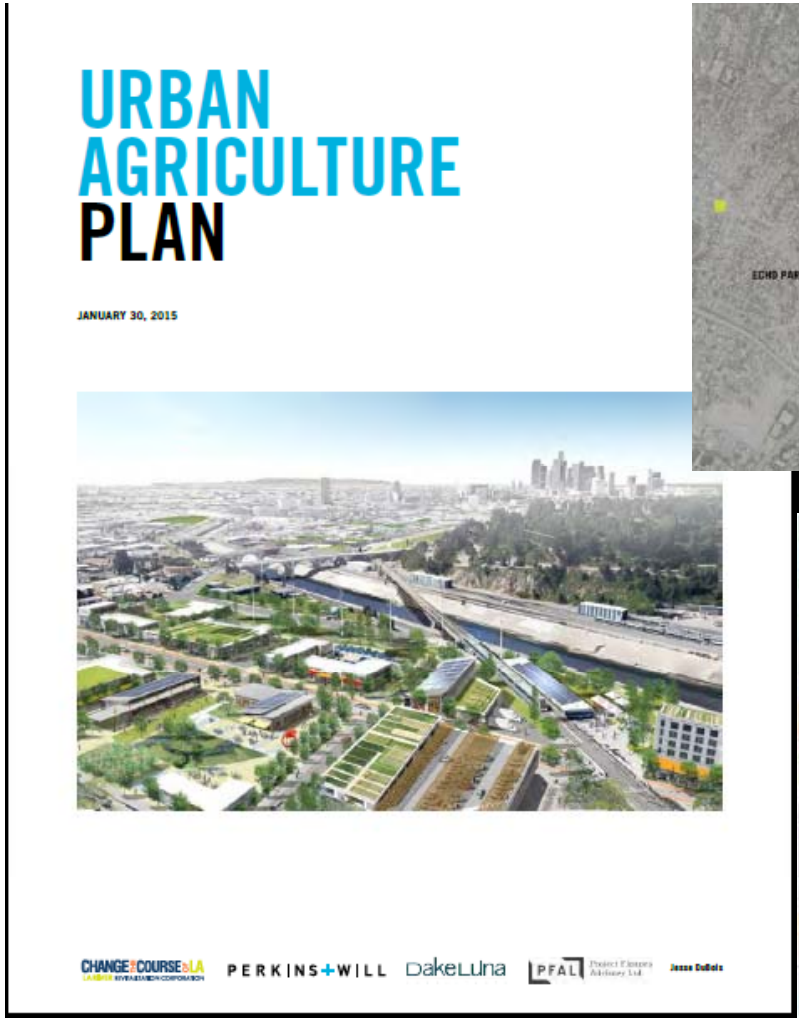

Source: Victoria Transport Policy Institute. Evaluating Public Transport Health Benefits. 2010

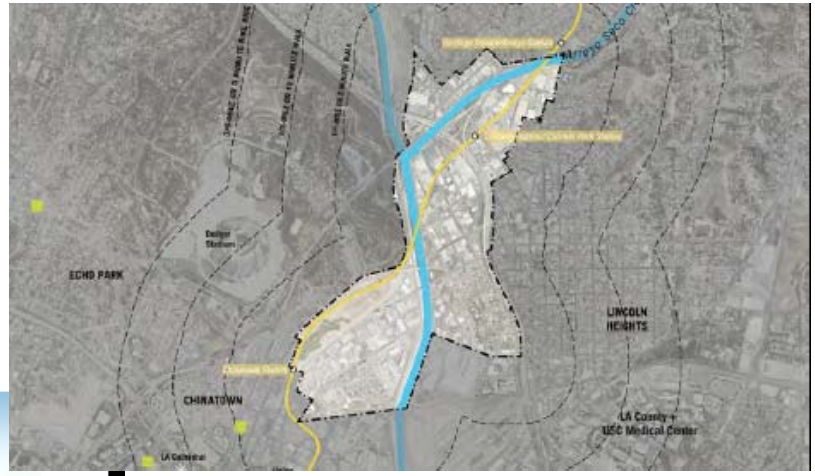
# Transit Supports Regional Prosperity

"Every time a metro area added about 4 seats to rails and buses per 1,000 residents, the central city ended up with 320 more employees per square mile — an increase of 19 percent."

Source: Atlantic Cities and "Transit Service, Physical Agglomeration and Productivity in US Metropolitan Areas," Daniel G. Chapman and Robert B. Noland. Sage Publications, 2013

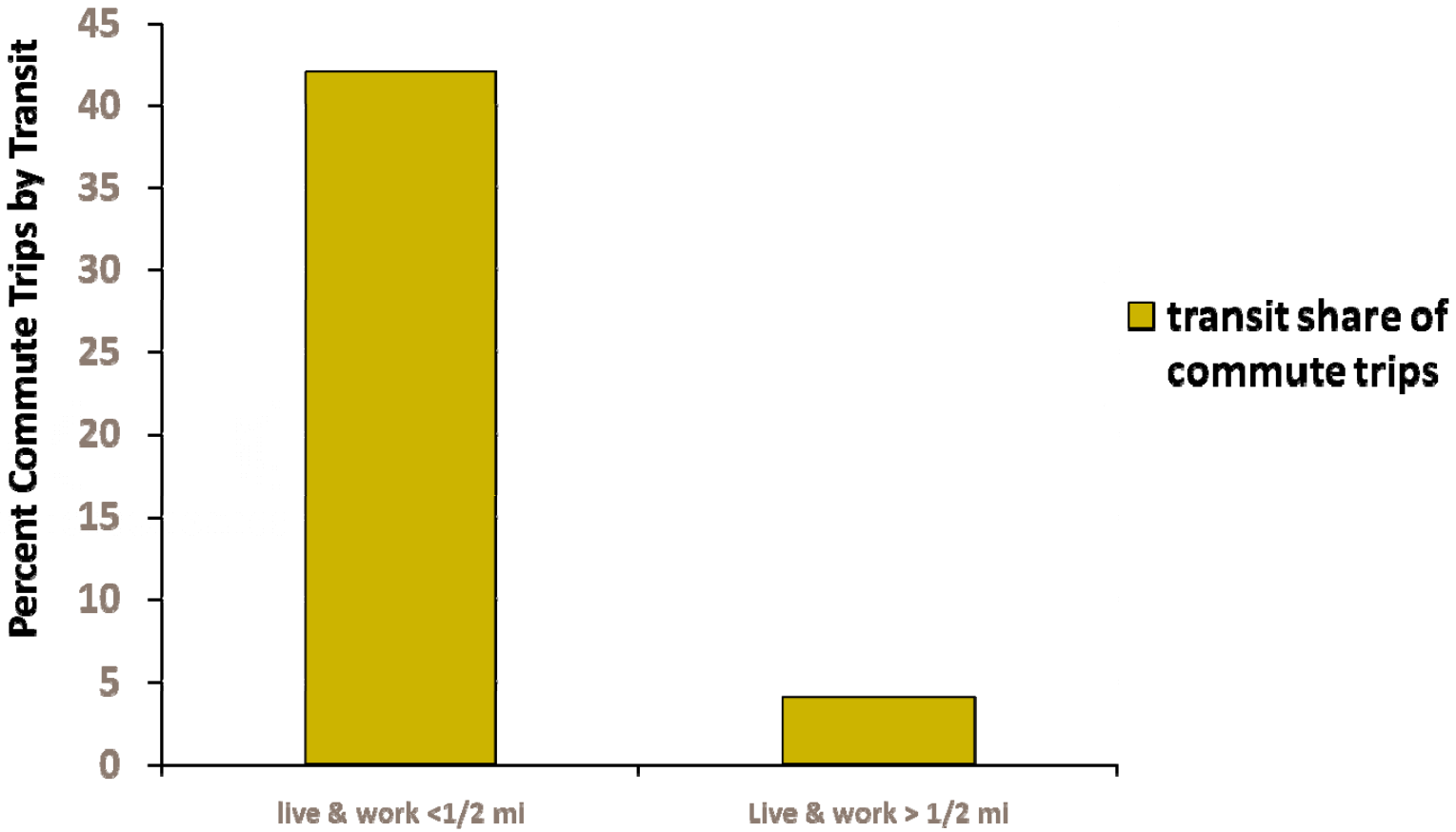
# Cities Are Starting to Plan for Transit and Urban Agriculture in Proximity to Each Other



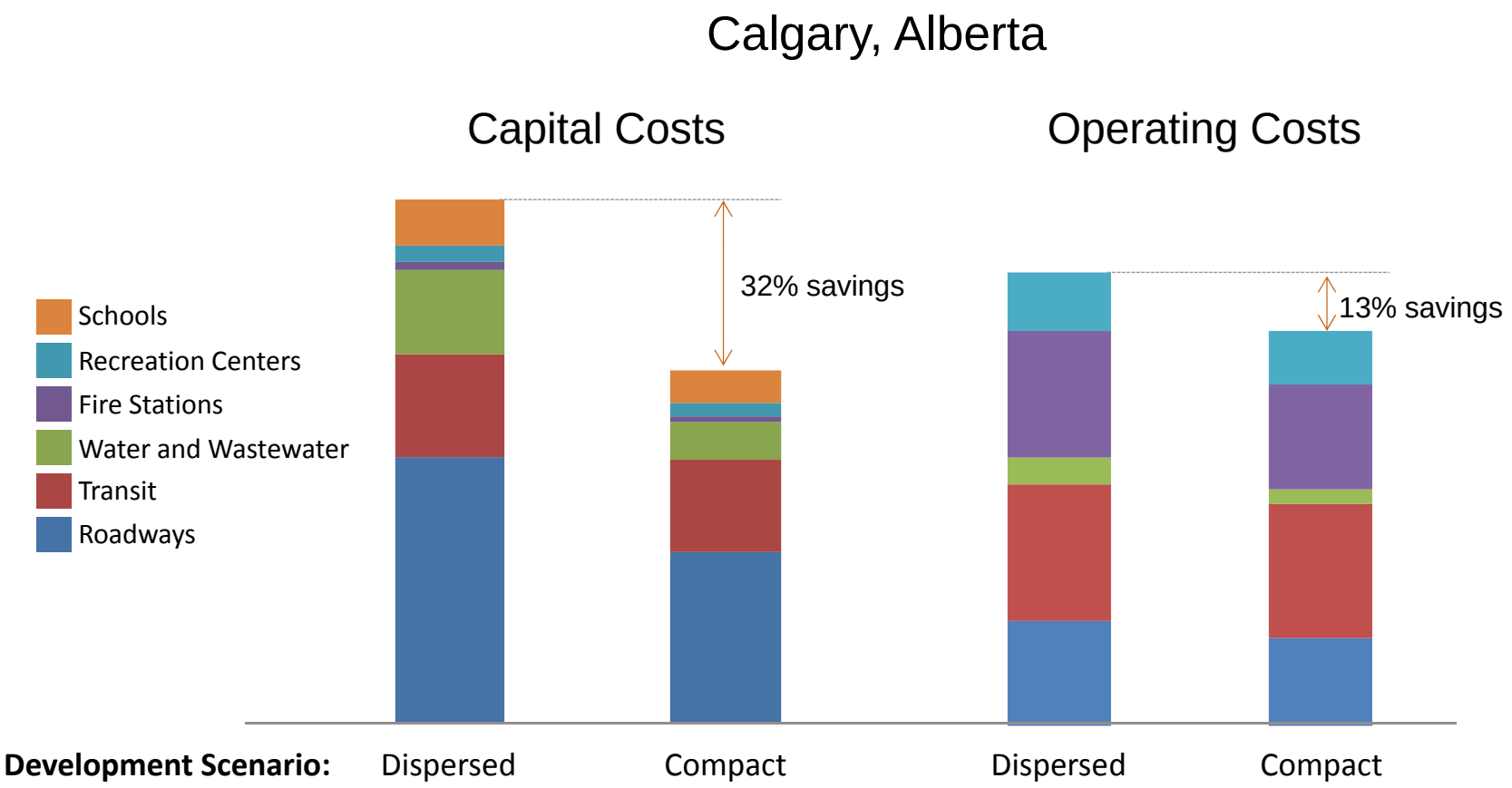
# Transportation Choice

People who live within a half-mile radius are 5 times as likely to walk to a major transit stop than others.




Source: San Francisco Bay Area Metropolitan Transportation Commission

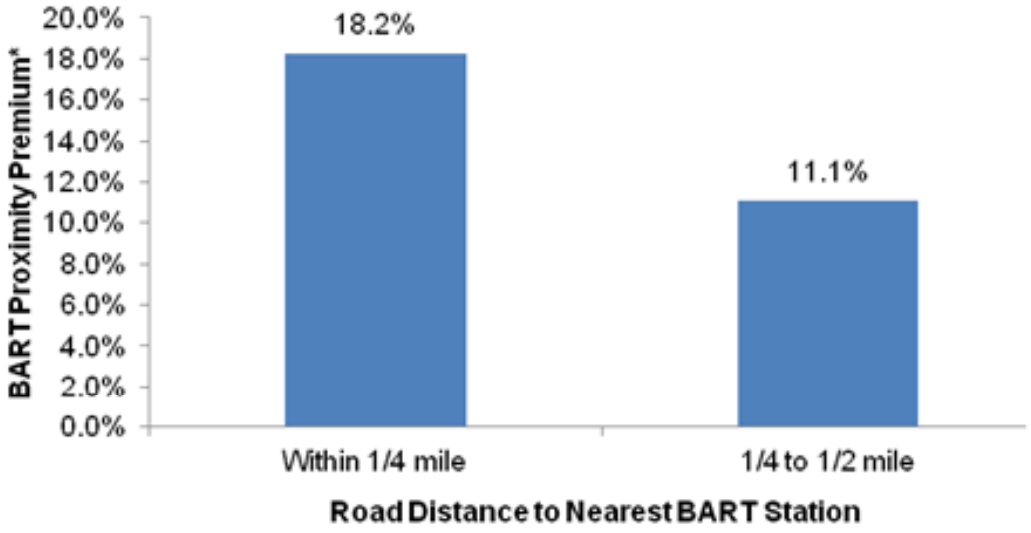
# Compact Development, Like TOD, Supports Efficient Infrastructure




Source: IBI – Implications Of Alternative Growth Patterns On Infrastructure Costs, Plan-It Calgary, City of Calgary, 2008

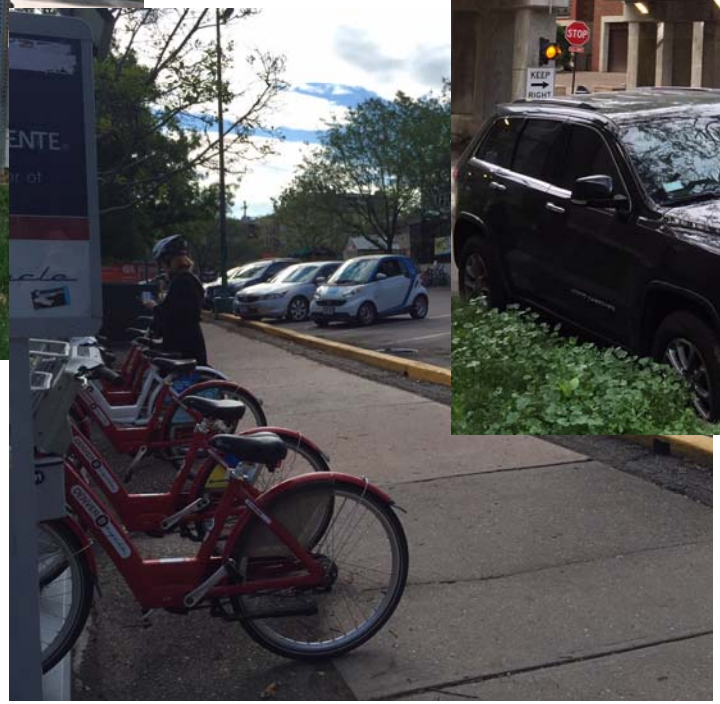
# Great Places Create Great Value, and Transit Adds More Value

**Figure 1. Office Rent Premiums Associated with Proximity to BART Compared to Areas More than a Half Mile from a Station: East Bay**




*Percentage difference in annual average rental rate compared to being located more than 1/2 mile from a BART station, after controlling for other factors with regression analysis.
Source: Strategic Economics, 2015.

# Different Development Types Compliment Multi-Modal Transportation

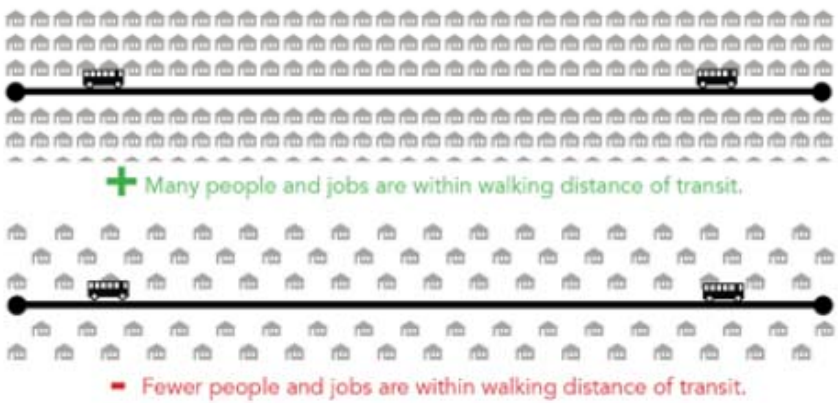


# “Infilling” Neighborhoods Can Also Take Different Forms

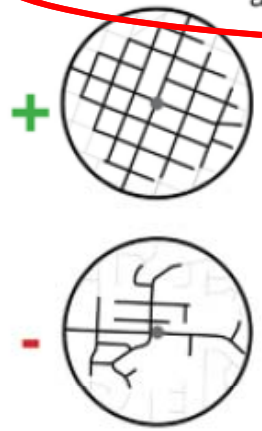
# Linking Transit and Development

# Transit Ridership is Highly Dependent on Land Use Patterns

**DENSITY** *How many people, jobs, and activities are near each potential transit stop?*

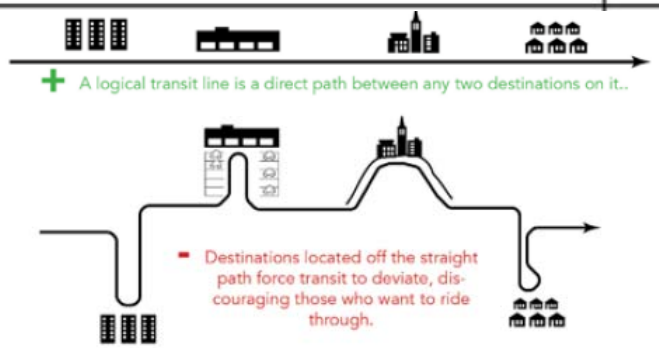



**WALKABILITY** *Is it possible to walk between the stop and the activities around it?*




The dot at the center of these circles is a transit stop, while the circle is a 1/4 mile radius. The whole area is within 1/4 mile, but only the black-shaded streets are within a 1/4 mile *walk*.

+ It must also be safe to cross the street at a stop. You usually need the stops on both sides for two-way travel!



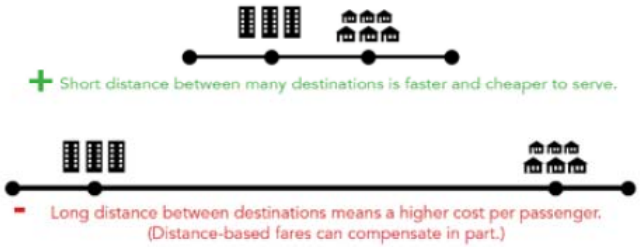



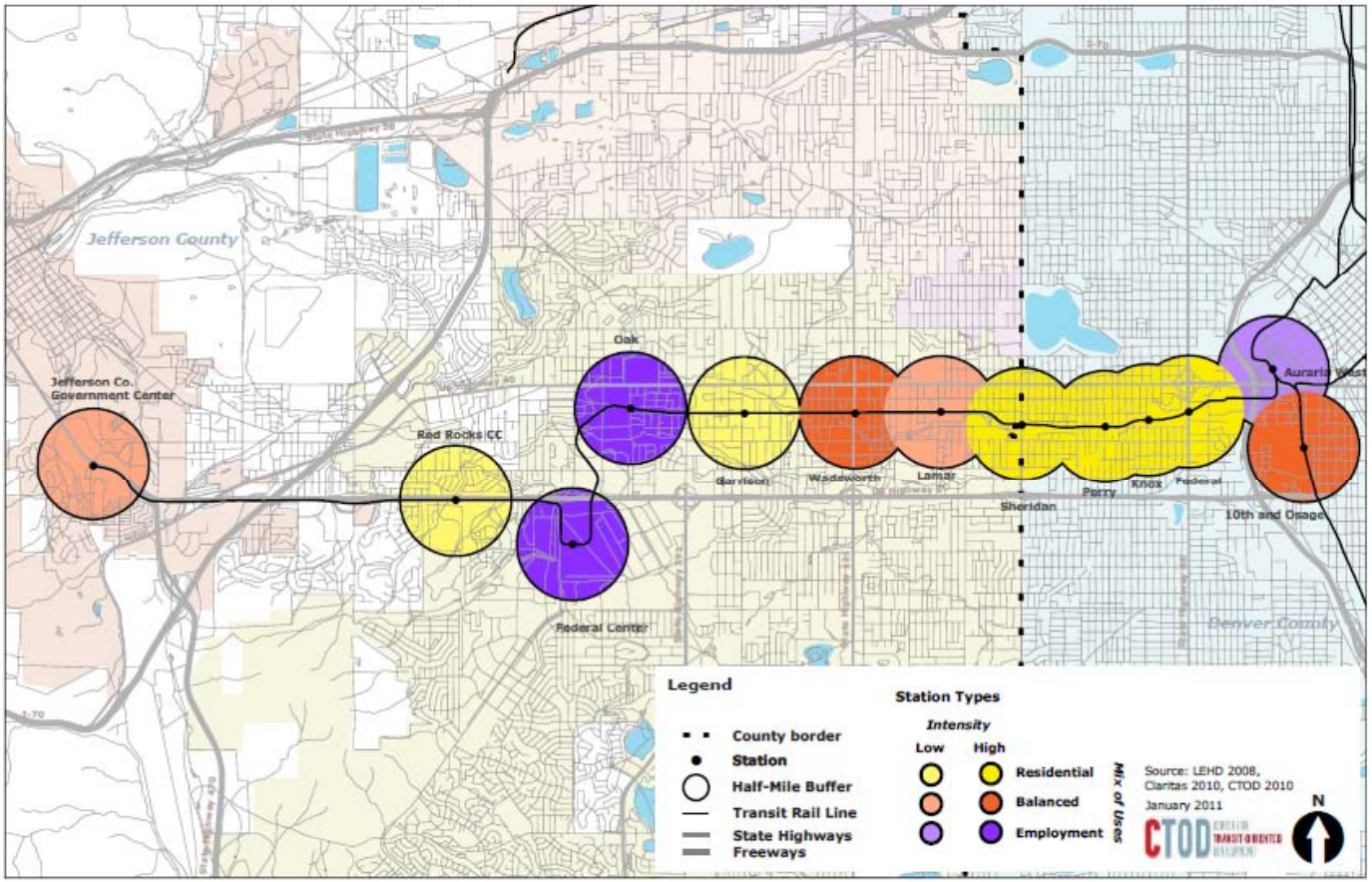

Figure 39: Geographic Indicators of High Ridership Potential

# Development Near Transit – Transit Oriented Development (TOD)

- Development located within ¼ to ½ mile of a frequent transit station/stop (really a district)
- Located in an area where it is also easy to bike/walk
- Serves as an “origin”, a “destination,” or both for the transit system

# There Is No Single Transit or Building Type in TOD

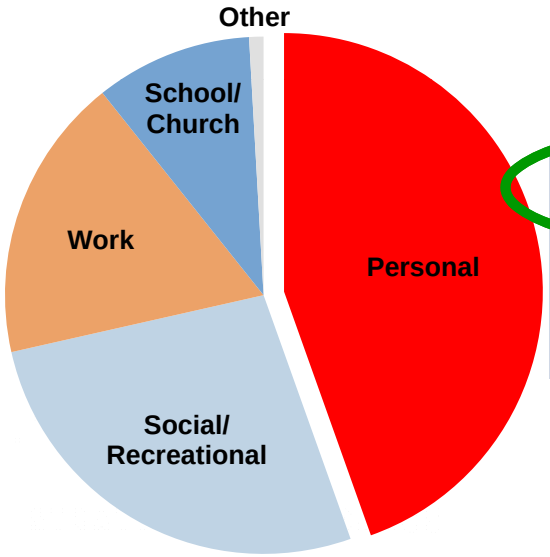
# Transit Corridors Reflect the Range of Land uses and Densities – It's the Connections that Count!




*SOURCE: Center for Transit-Oriented Development, 2010*

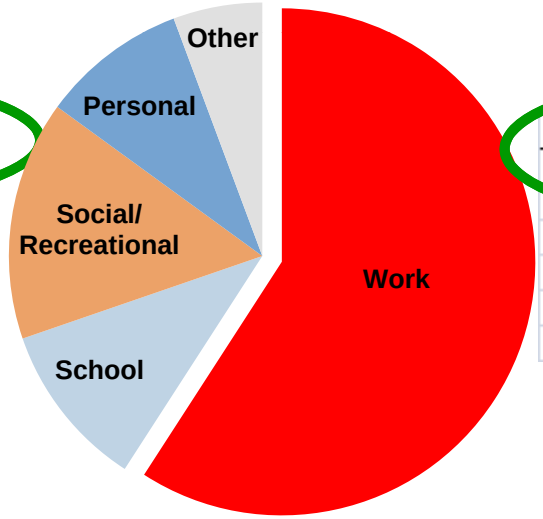
# Employment Destinations Are Essential to Transit Because Commuters Ride Transit

## Total Trips




| Purpose | % of Trips |
|---|---|
| Personal | 44.5 |
| Social/Recreational | 26.9 |
| Work | 17.8 |
| School/Church | 9.8 |
| Other | 0.9 |
| **Total** | **99.9** |

## Transit Trips




| Purpose | % of Trips |
|---|---|
| Work | 59.2 |
| School | 10.3 |
| Social/Recreational | 15.3 |
| Personal | 9.3 |
| Other | 5.7 |
| **Total** | **100.1** |

- By a wide margin, the largest group of transit trips are commute trips
- Commuters are key to transit's productivity

Source: Pisarski, *Commuting in America*

# Any Transit That Supports Successful TOD is:

1. High quality
   - Frequent
   - Clean and Comfortable
   - Fast
2. Stops/stations that are easily accessible by biking or walking
3. Connected to employment centers/activity centers and major institutions

# Emerging Lessons Learned from Transit and TOD

# Lesson 1: Changing Demographics is Driving Demand For Transit Oriented Locations

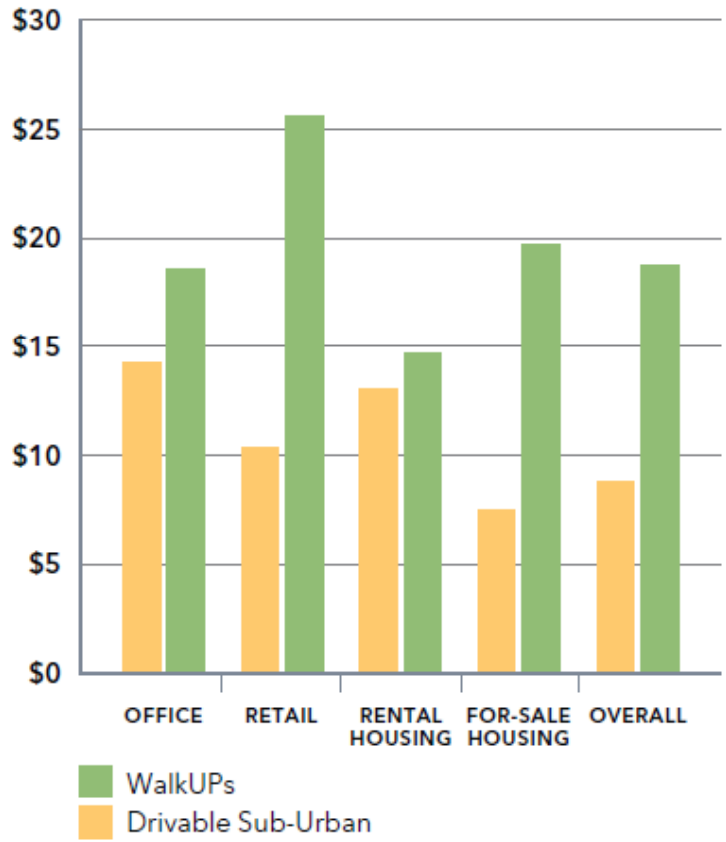
76 Million Baby Boomers  many of whom are downsizing

Almost ½ of All Households are Single People

75-80 Million Millennials – The newest members of the work force

# This Demand is Generating Price Premiums for Both Residential and Commercial Properties

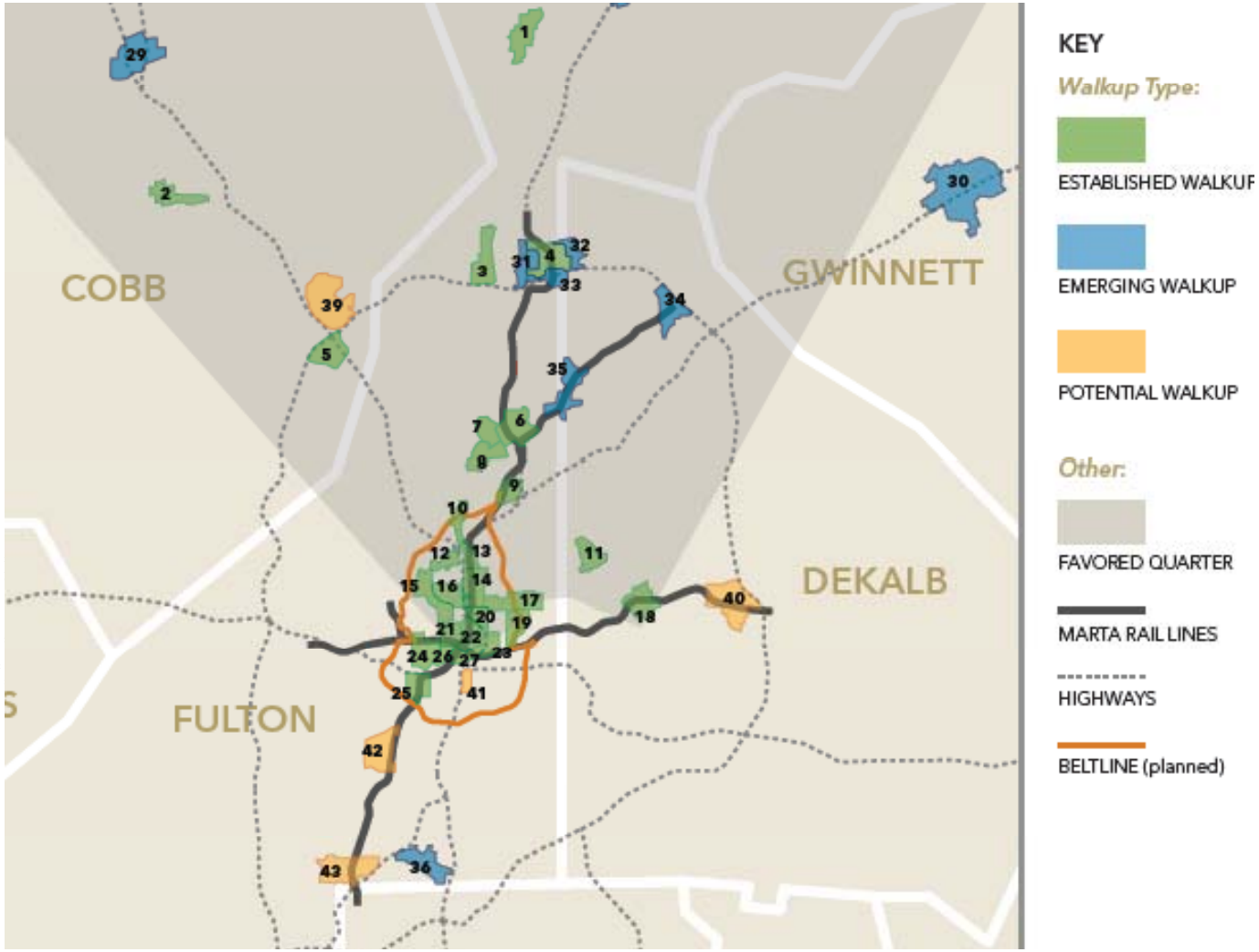
Average Rents per Square Foot
Walkable vs Suburban Neighborhoods in Atlanta




| | Suburban | "WalkUp" | % Difference |
|---|---|---|---|
| **Office** | $14.23 | $18.55 | **30%** |
| **Retail** | $10.42 | $25.71 | **144%** |
| **Rental Housing** | $13.07 | $14.67 | **12%** |
| **For-Sale Housing** | $60.06 | $156.46 | **161%** |

Source: Leinberger, GWU School of Business – The WalkUP Wake-Up Call: Atlanta 2013

# And, This is Not Just about "Downtown" Locations



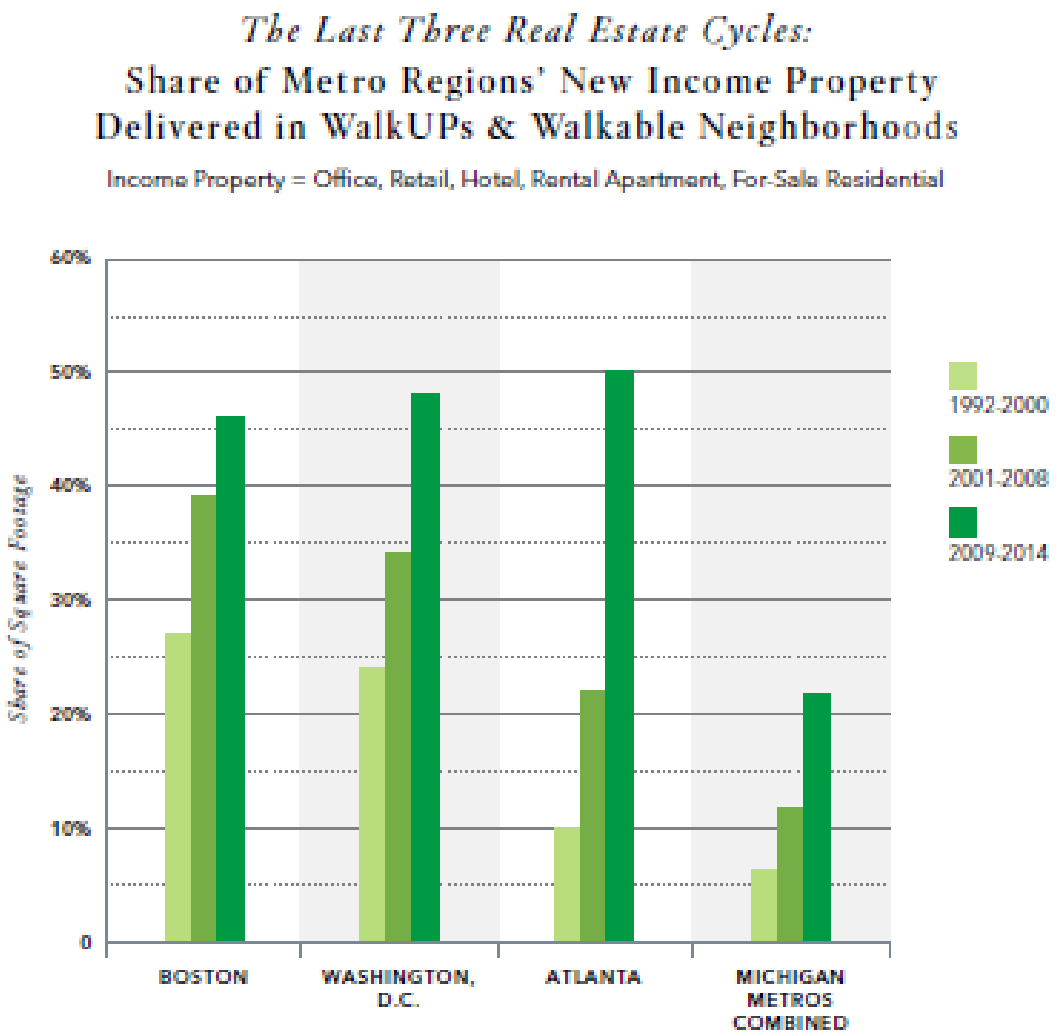

Source: Leinberger, GWU School of Business – The WalkUP Wake-Up Call: Atlanta 2013

# The Greenwood Park neighborhood in Atlanta is a transit-oriented redevelopment in anticipation of a streetcar

# This Investment Trend is Happening in Cities Big and Small

Metropolitan Land Use Options in the United States

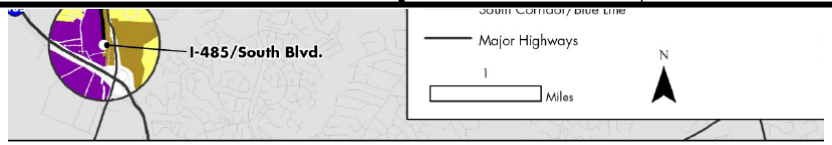
| | REGIONALLY SIGNIFICANT | LOCAL SERVING |
|---|---|---|
| WALKABLE URBAN | WALKUP (Walkable Urban Place) | WALKABLE NEIGHBORHOOD |
| DRIVABLE SUB-URBAN | EDGE CITY | DRIVABLE SUB-DIVISION |




Source: The WakeUp Walk-Up Call: Michigan Metros, Leinberger and Lynch 2015

# Lesson 2: Transit is Not a Silver Bullet, Market Conditions have to be Right

| Development Context | Share of Total Land Area (2005) | Share of Opportunity Sites* (2005) | Share of New Development (2005-2009) |
|---|---|---|---|
| Existing Downtowns/Urban Business Districts | 10% | 13% | 68% |
| Major Suburban Employment Areas | 0% | 0% | 0% |
| Legacy Industrial Areas | 3% | 4% | 3% |
| Mixed-Use Neighborhoods/Main Streets | 2% | 1% | 5% |
| Auto-Oriented Commercial Corridors | 23% | 35% | 9% |
| Industrial/Distribution Areas | 28% | 30% | 7% |
| Low Density Residential Neighborhoods | 34% | 18% | 8% |
| Major Greenfield/Infill Sites | 0% | 0% | 0% |
| Other | 0% | 0% | 0% |
| Total Corridor | 100% | 100% | 100% |



# Lesson 3: More Businesses are Relocating to Be Near Transit

**"I think it's essential we be accessible to Metro and that limits the options. I think as with many other things our younger folks are more inclined to be Metro-accessible and more urban."** - Arne M. Sorenson, Chief Executive, Marriott International. Washington Post, March 2015

**"While Microsoft and Nintendo have stayed in the suburbs, Amazon is building a futuristic new inner-city home. "** – The Guardian, May 22, 2014

**"State Farm exec: Transit helped Tempe get $600M hub"**– Parker Leavitt, The Republic, February 20, 2015

Citrix, Raleigh

Rolls Royce, Indianapolis

# Lesson 4: These Other Transportation Systems Also have Economic Benefits

Bike Share =
Additional $150,000 in rider expenditures (Minneapolis)

Urban Bike “Trails” =
As much as $846 million in economic impact
(Indianapolis Cultural Arts Trail)

# Lesson 5: Planning for TOD Includes Planning for All Household Income Levels

**Transportation Costs Have a Significant Impact on total Household Income**

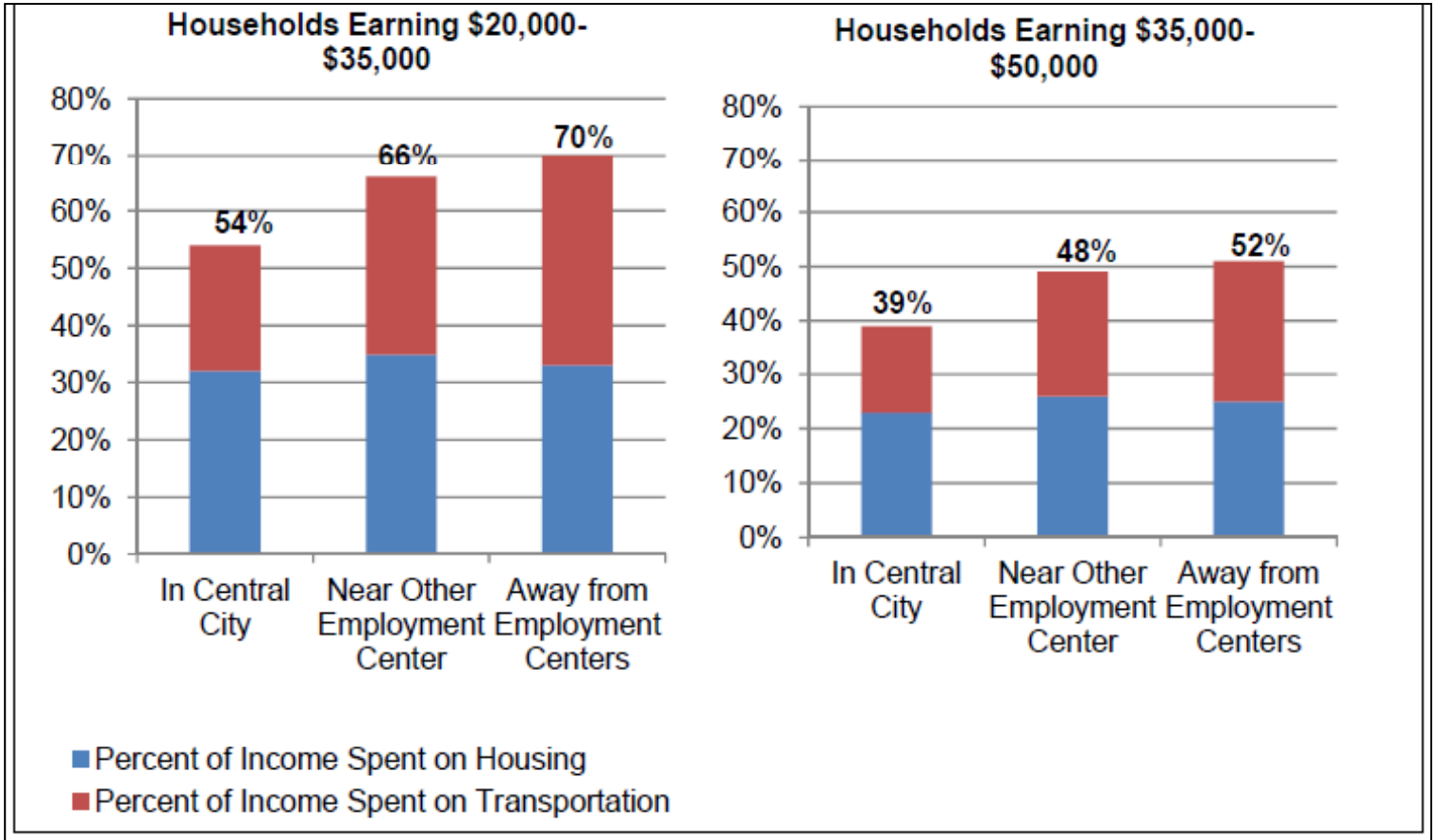
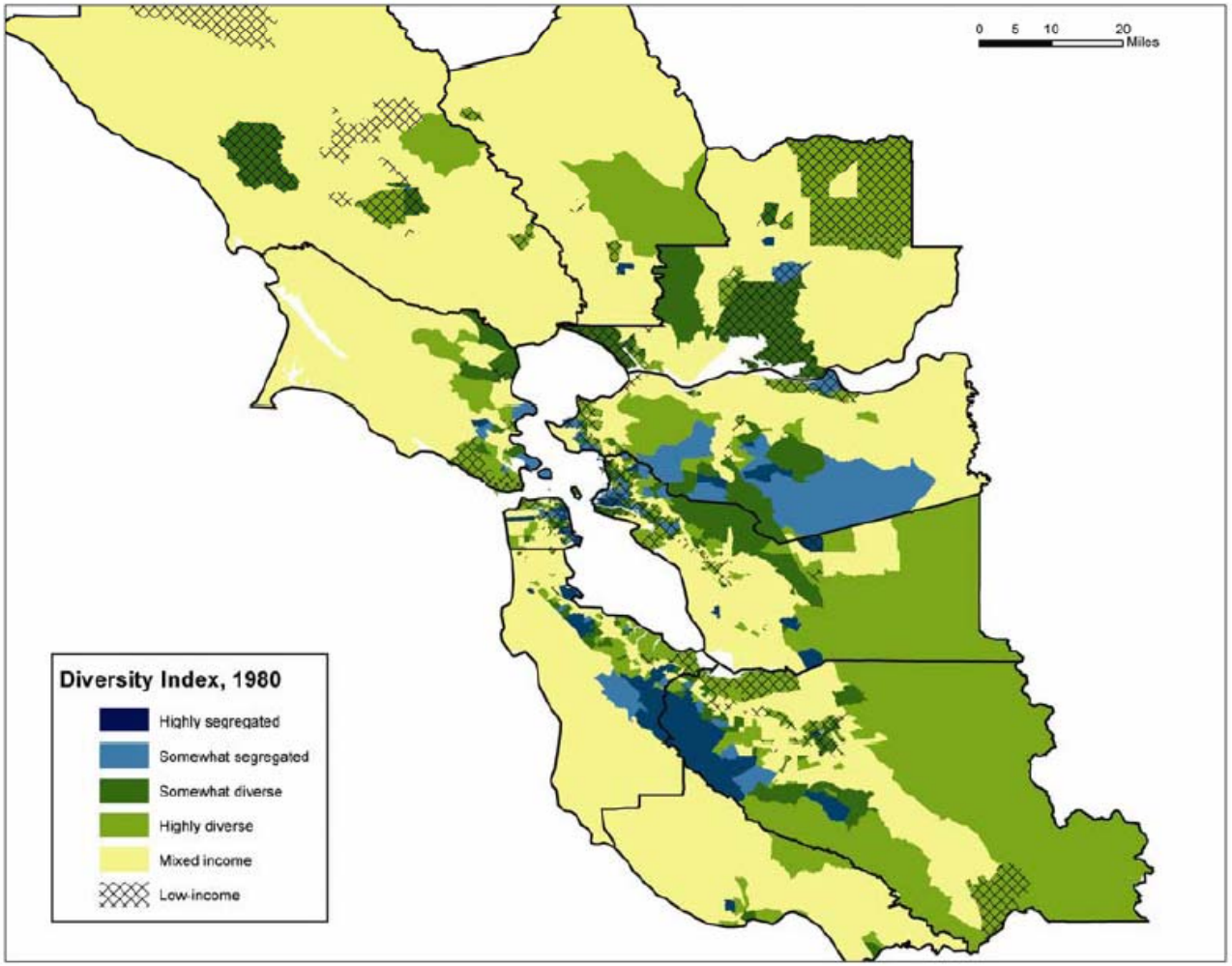



*Figure 1. Percent of Income Spent on Housing and Transportation by Neighborhood where Households Live*

Source: Center for Neighborhood Technology and Virginia Tech, 2006.

# In 1980, Low Income HH Were Concentrated in The Region's Core, Closer To Transit

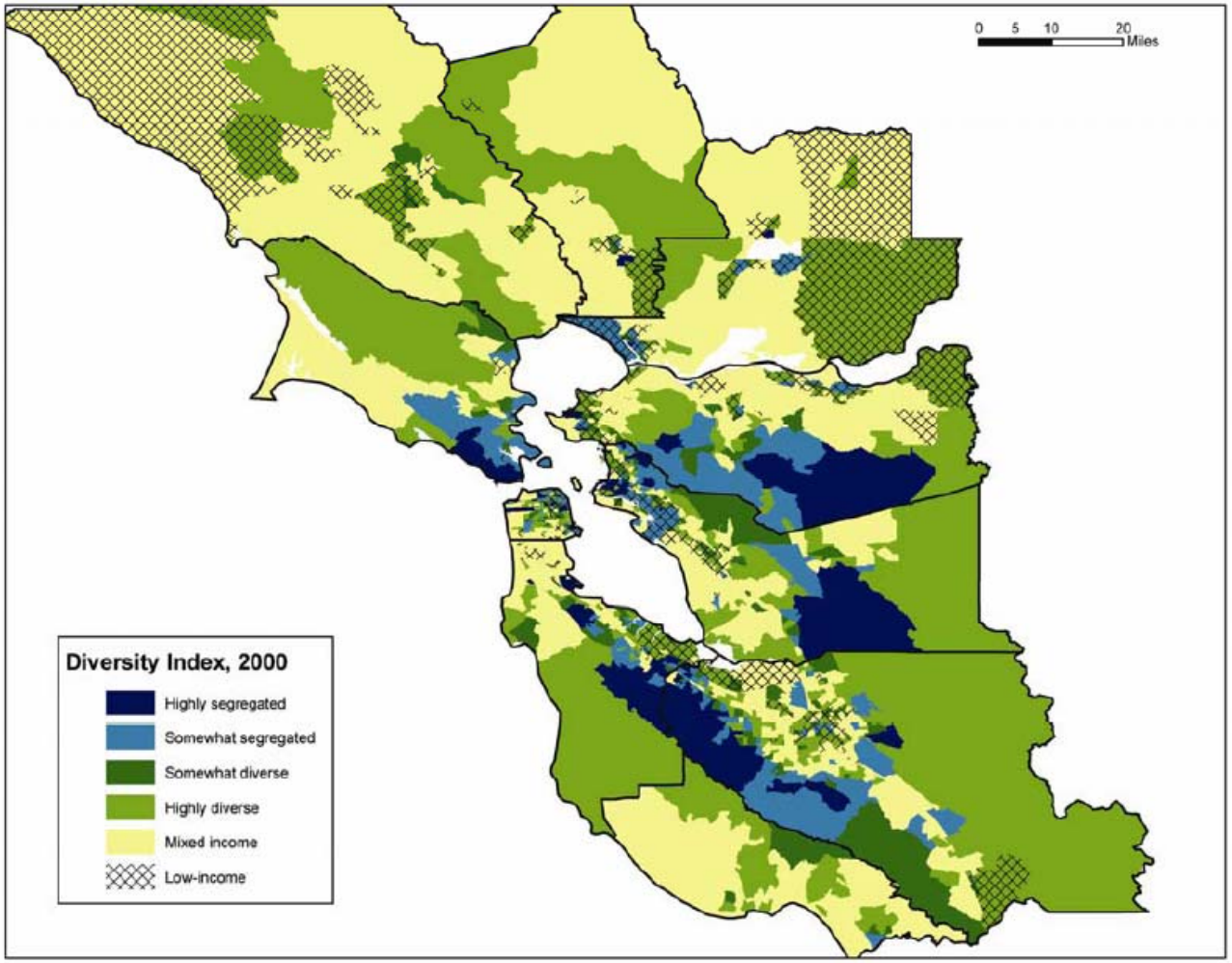
Figure 2: In 1980, income segregation in the Bay Area was limited to core and outer ring neighborhood




Source: Data from the Neighborhood Change Database (Geolytics); Simpson's D calculations by the Center for Community Innovation.

# Over 20 Yrs, Many More Low Income Households Were Pushed Away From Transit

Figure 3: By 2000, income segregation had spread through much more of the core and outer ring.




Source: Data from the Neighborhood Change Database (Geolytics); Simpson's D calculations by the Center for Community Innovation.

# Lesson 6: Invest In Good Pedestrian Design Upfront, or It Will Cost You More in the Long Run: A Lesson From Pittsburgh

# Concluding Thoughts

# Four Important Things To Remember About Transit and TOD as Knoxville Moves Forward

1. Transit Investment Leverages Many Other Benefits
2. These benefits will be greatest if future Development is linked to transit
3. Planning and investment, both public and private will be required
4. Being patient!