

# Transportation for America

How Innovation, Consumer Preferences and  
Technology are Transforming Public Transit

James Corless, Director, T4America

[www.T4america.org](http://www.T4america.org)

@t4america



# T4America

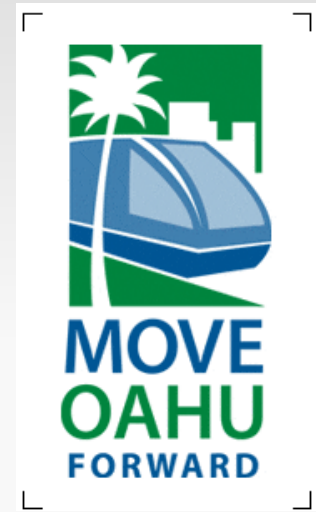
**Transportation for America** is an alliance of local elected, business and civic leaders from communities across the country, united to ensure that states and the federal government step up to invest in *smart, homegrown transportation solutions* — because these are the investments that hold the key to our future economic prosperity

# T4A Advisory Board

- Atlanta Chamber of Commerce
- Seattle Chamber of Commerce
- Nashville Chamber of Commerce
- Los Angeles Business Council
- Kaiser Permanente
- Indianapolis IN Mayor Greg Ballard
- Normal IL Mayor Chris Koos
- Salt Lake County Mayor Mayor Ben McAdams
- Boise ID City Councilwoman Elaine Clegg
- Durham NC Mayor William Bell
- National Assoc of Latino Elected Officials
- National Urban League
- Atlanta Regional Commission
- Sacramento Area Council of Govts

# Our Members Include:

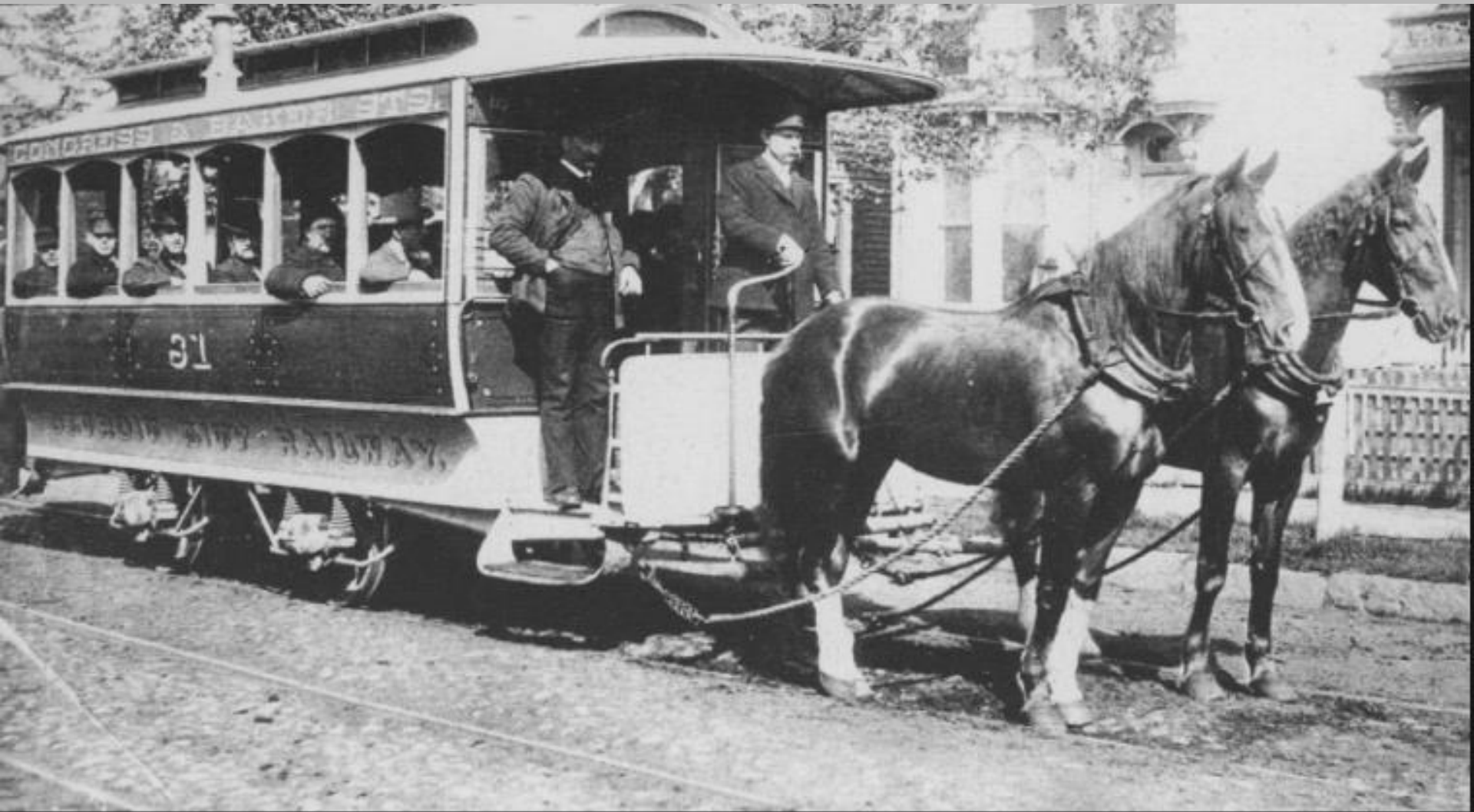
*T4A's members are cities, counties, non-profit organizations and businesses of various shapes and sizes.*



# OVERVIEW

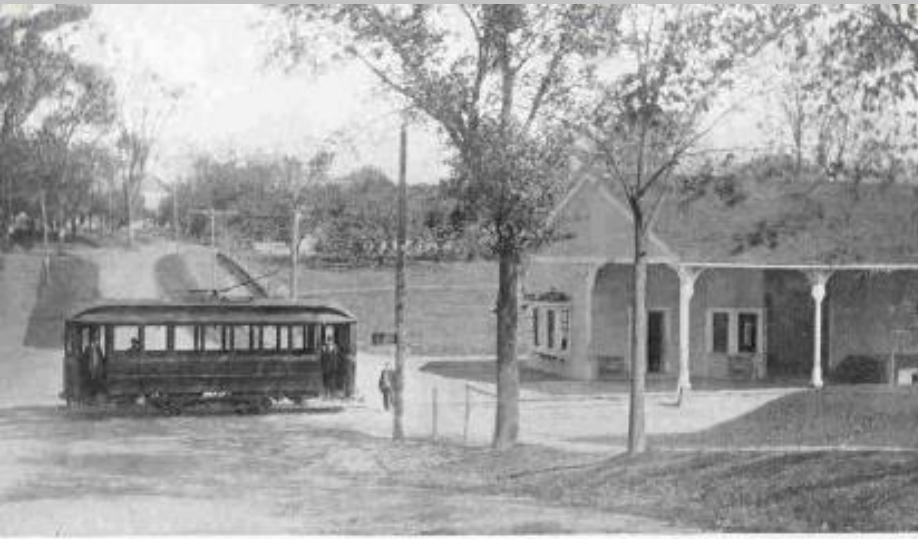
1. A brief history of public transportation
2. Understanding the new demand for transit
3. Case studies: innovation from the ground up
4. Transportation takeaways for Idaho

# PART ONE: A BRIEF HISTORY





# 1900s-1950s: private transit companies



*Troy and New England Railroad Station, Averill Park, N. Y.*



# The Birth of the Federal Interstates



# The Death of Private Streetcars





# Transit Timeline

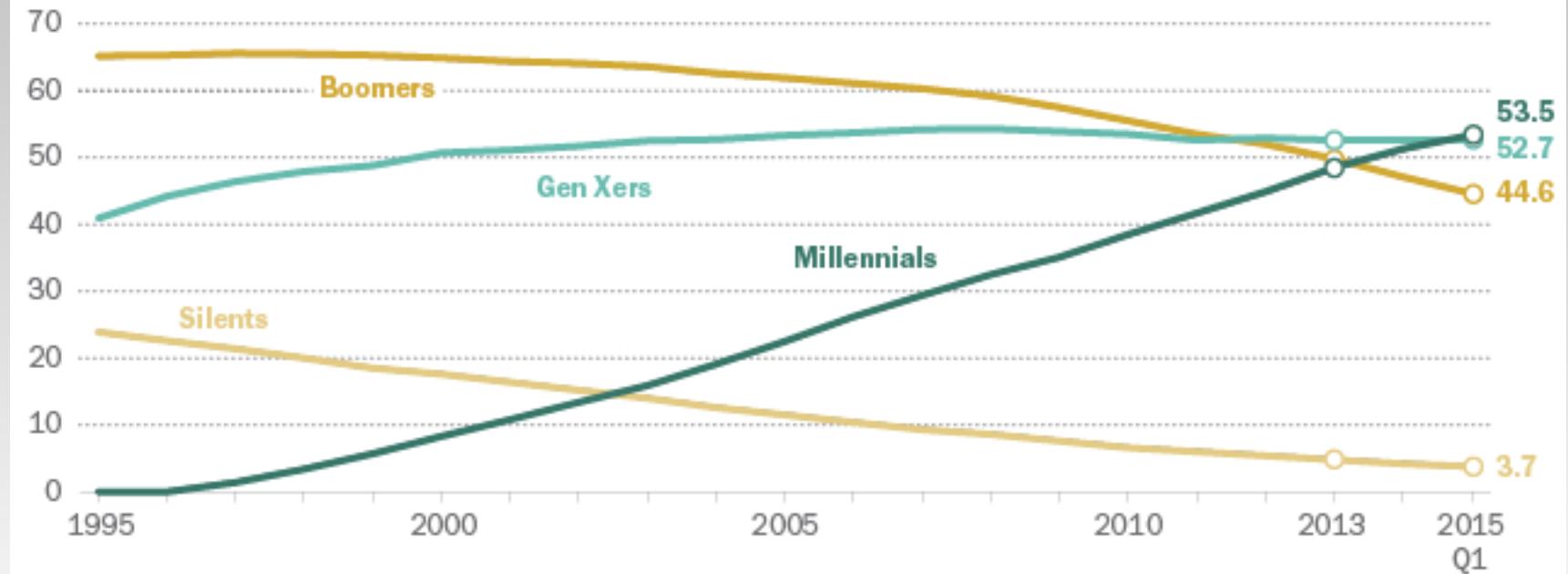
- Omnibus/horse drawn carriages: late 1800s
- Golden era of streetcars: 1890s-1930s
- End of streetcars/start of city-owned buses: 1950s
- First dedicated federal funding for transit: 1982
- Heavy rail 2.0 regional subways: 1970s-1990s
- Light rail 2.0: 1980s-1990s
- Streetcar rebirth: 2000s-2010s
- New microtransit and on-demand services: 2010s+

# PART TWO: THE NEW DEMAND

# Changing demographics: Millennials on the rise

## U.S. Labor Force by Generation, 1995-2015

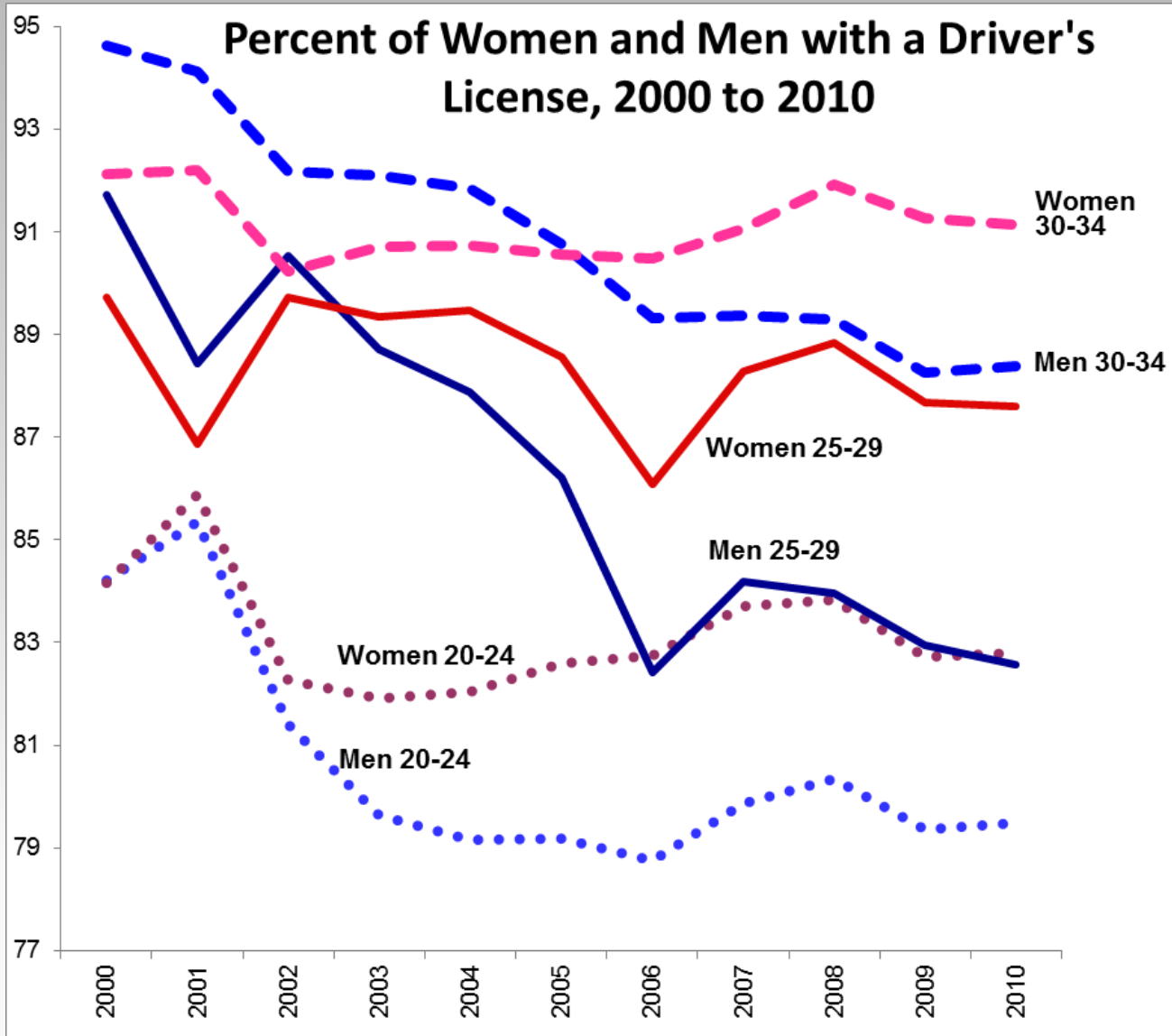
*In millions*



Note: Annual averages plotted 1995-2014. For 2015 the first quarter average of 2015 is shown. Due to data limitations, Silent generation is overestimated from 2008-2015.

Source: Pew Research Center tabulations of monthly 1995-2015 Current Population Surveys, Integrated Public Use Microdata Series (IPUMS)

PEW RESEARCH CENTER





# Millennials changing the equation

**66%** say that access to high quality public transportation is one of the top three criteria for deciding where to live next.



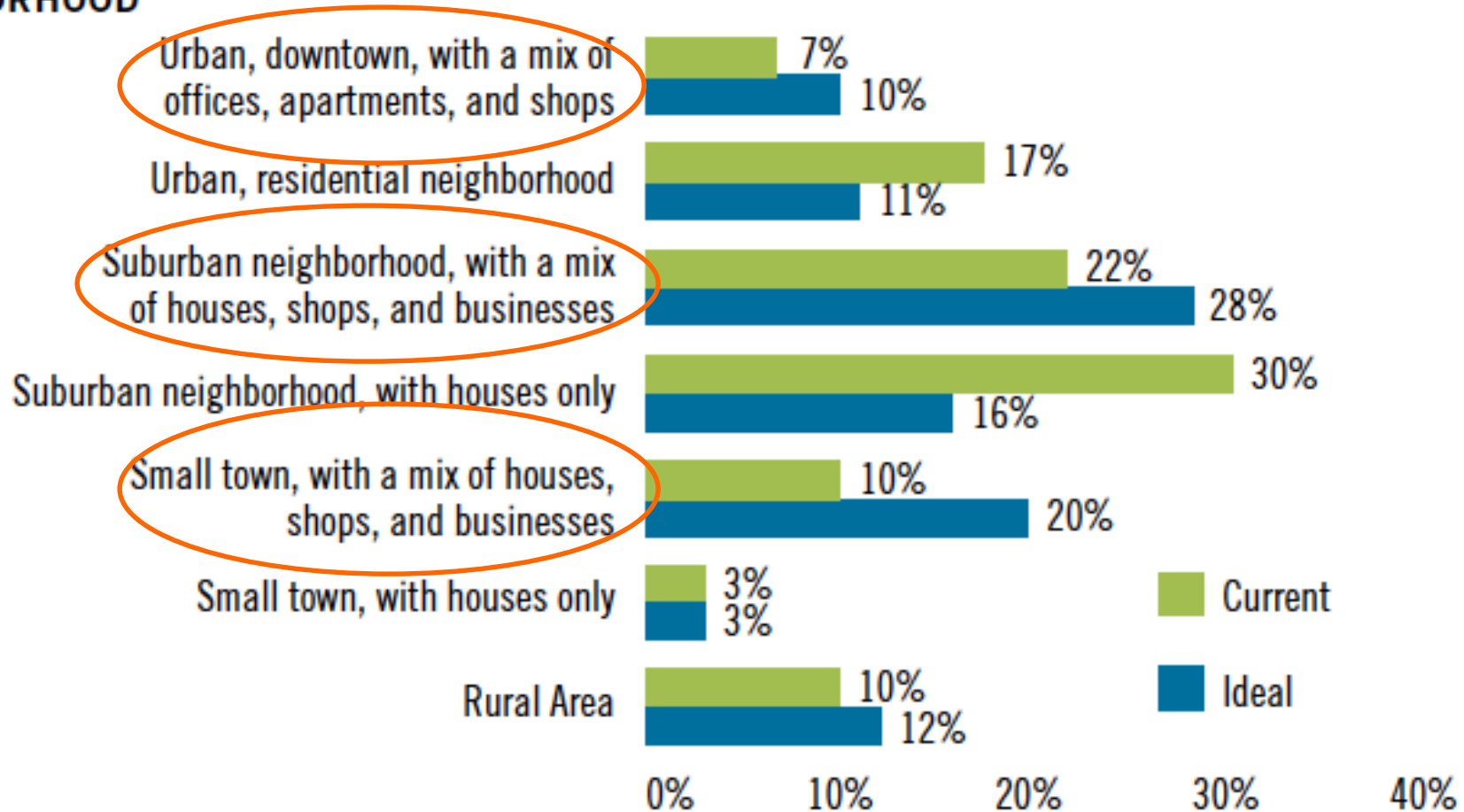
## **Apr 2014 survey Rockefeller Foundation and Transportation for America**

- 18-34 year olds
- 10 U.S. cities (Chicago, NY, San Francisco, Charlotte, Denver, LA, Minneapolis, Nashville, Indianapolis, Tampa-St. Petersburg)
- 95% confidence with a  $\pm 3.7\%$  margin of error

# Americans of all ages want mixed-use neighborhoods

FIGURE 12:  
**CURRENT AND  
IDEAL  
NEIGHBORHOOD  
TYPE**

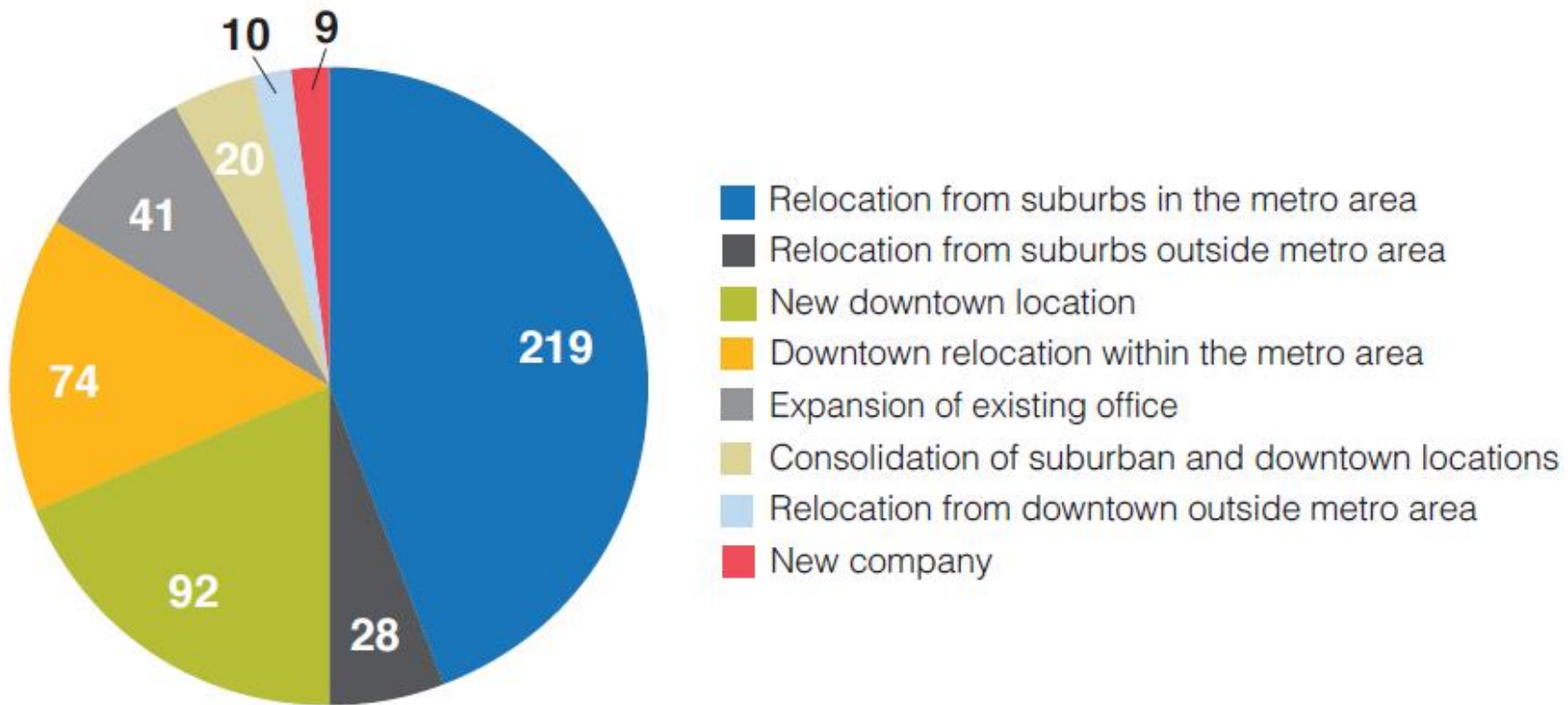
58% of respondents say ideal neighborhood is mixed-use; just 39% live in one now



# US Companies Moving Closer In

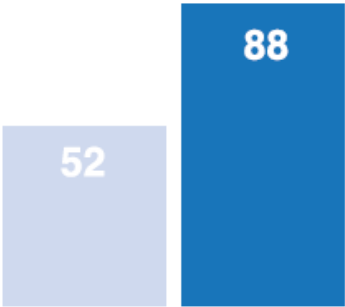
FIGURE 2

## Relocations, expansions, and new office creation



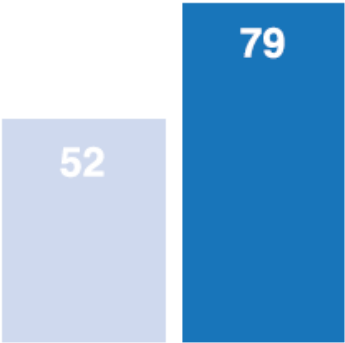
# Where US Companies Are Moving

## WALK SCORE



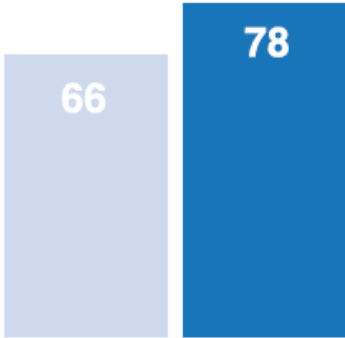
Before After

## TRANSIT SCORE



Before After

## BIKE SCORE



Before After

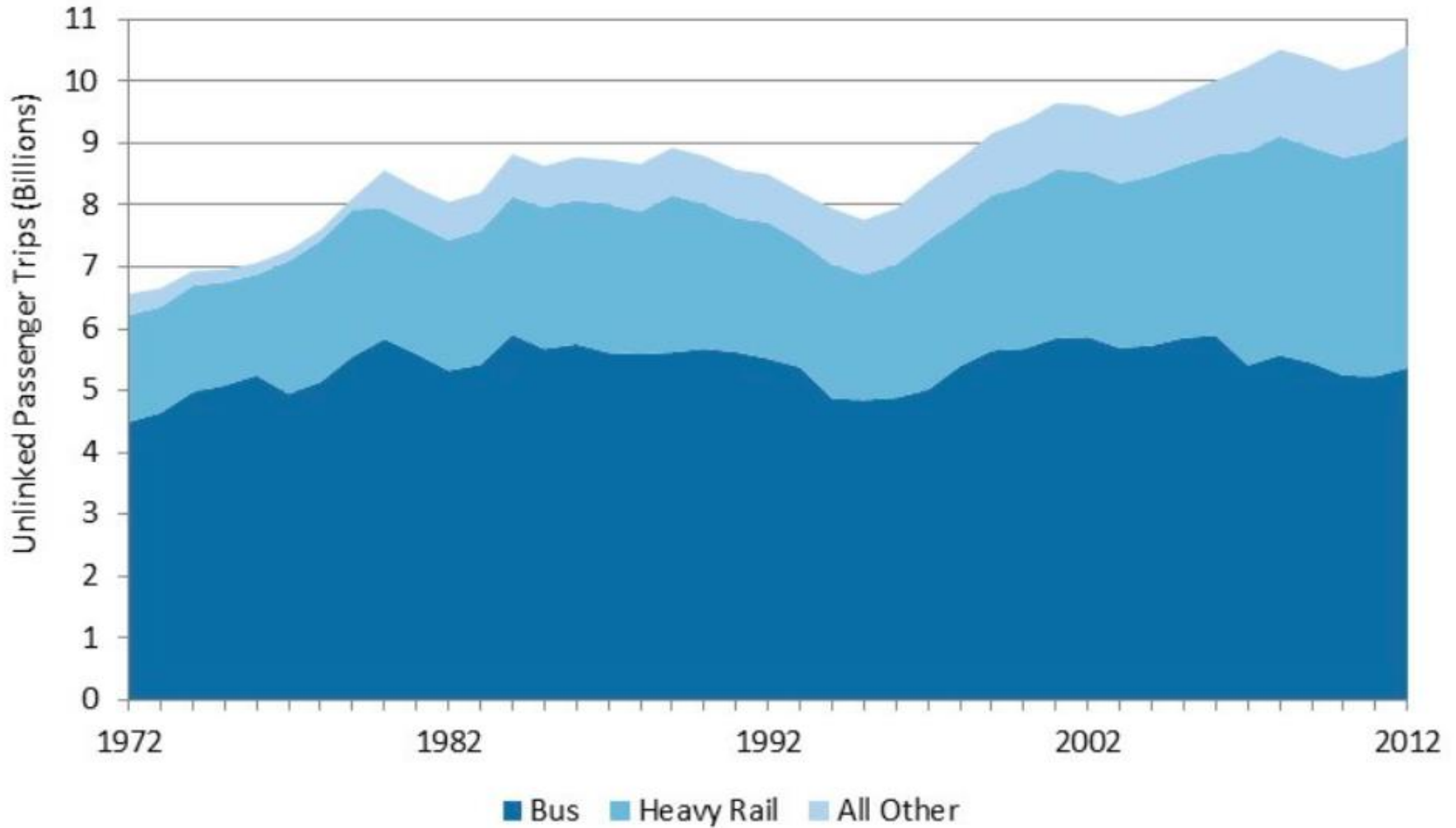
# The Battle For Business in the DC Region



“I think it’s essential we be accessible to Metrorail (transit system), 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.”

-- CEO Arne Sorenson, Marriott International

**Figure 1: Transit Ridership Is At Highest Level in Five Decades**

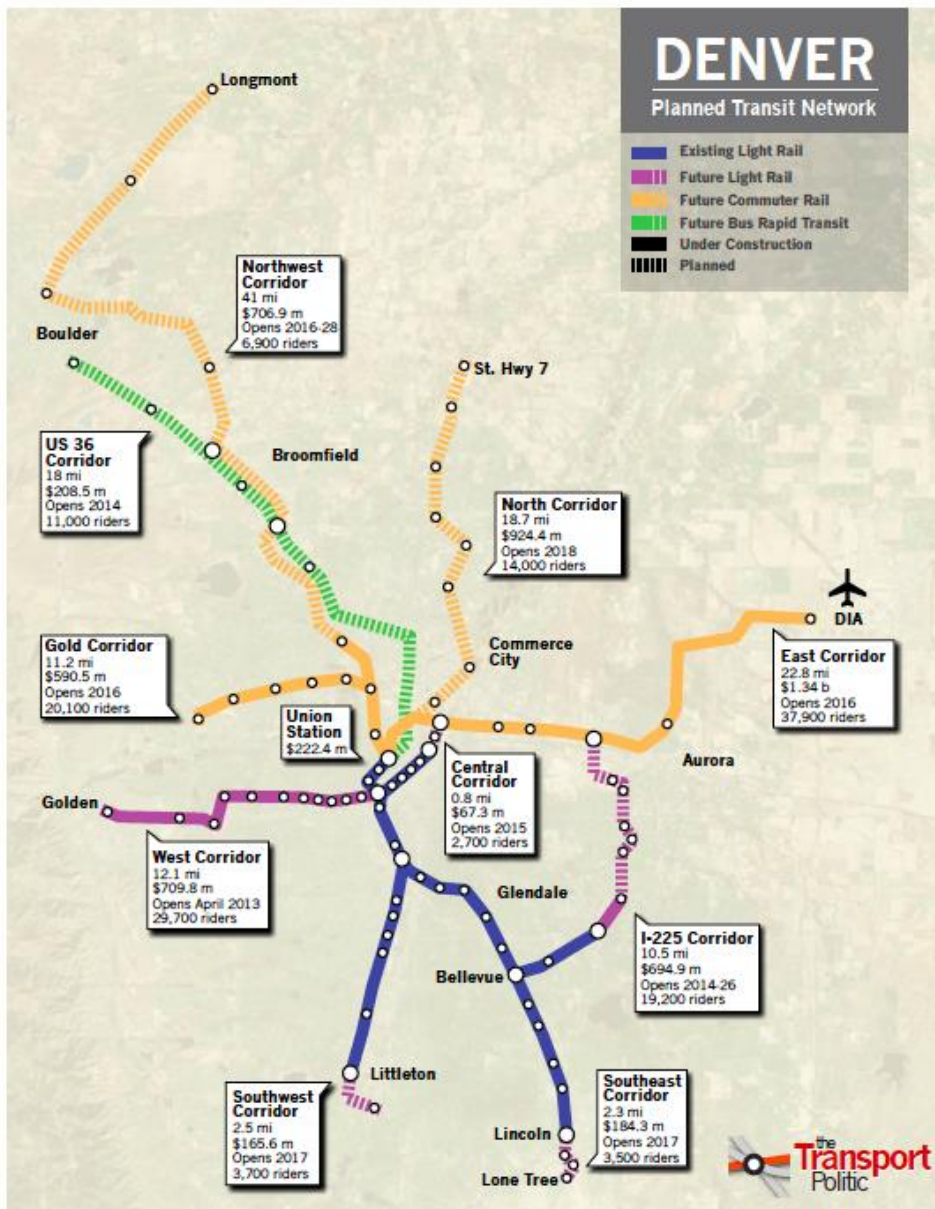


# PART THREE: CASE STUDIES

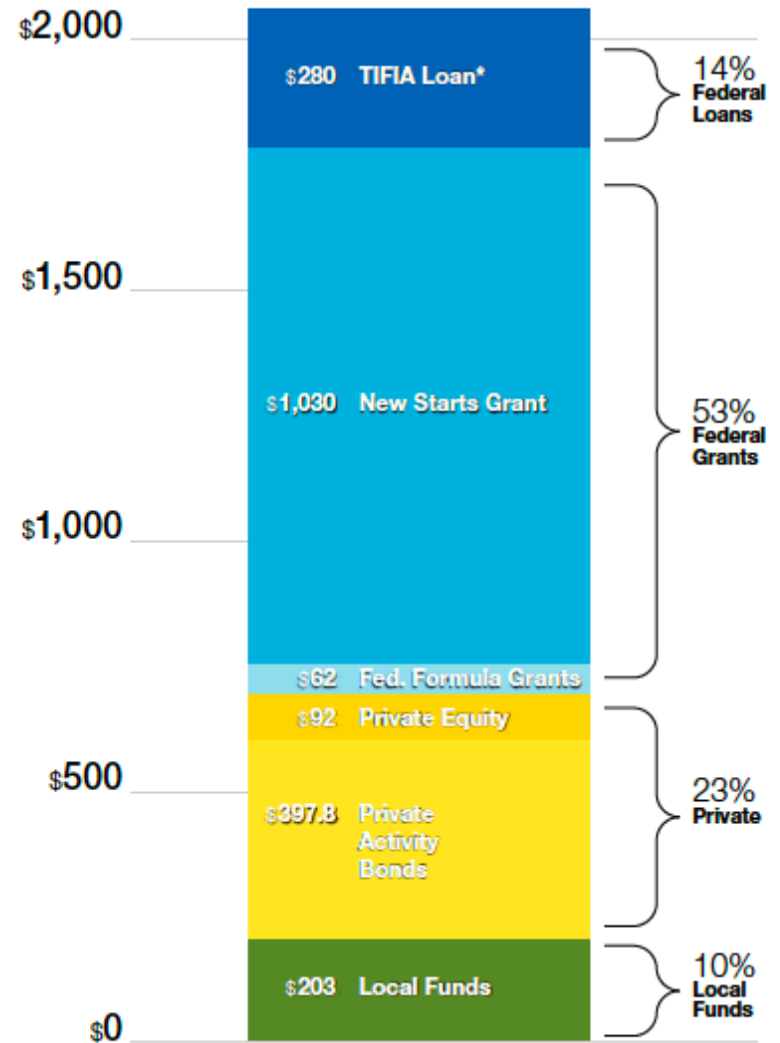
# Case Studies: Part I

- Denver, CO
- Salt Lake City, UT
- Cleveland, OH
- Houston, TX
- Havre, MT
- Pierre, SD





## Denver Eagle P3 Funding\*\* in Millions of Dollars



\*All federal loans and private bonds will have to be repaid with local funding.  
 \*\*Denver Regional Transportation District "2011 Annual Report to DRCOG on FasTracks," available through the following link: [http://www.rtd-fastracks.com/main\\_54](http://www.rtd-fastracks.com/main_54)

THE TRAIN TO THE PLANE

# GRAND OPENING

 University of Colorado  Line

4.22.16



RTD



# Salt Lake City Rail Transit: FROM ZERO TO 136 MILES

• North South LRT	<b>1999</b>	<b>15.8 miles</b>
• University LRT	<b>2001</b>	<b>2.8 miles</b>
• Medical Center Extension	<b>2003</b>	<b>1.0 miles</b>
• Hub Extension	<b>2008</b>	<b>1.0 miles</b>
• Commuter Rail North	<b>2008</b>	<b>45.0 miles</b>
• West Valley LRT	<b>2011</b>	<b>5.1 miles</b>
• Mid-Jordan LRT	<b>2011</b>	<b>10.6 miles</b>
• Commuter Rail South	<b>2012</b>	<b>45.0 miles</b>
• Airport LRT	<b>2013</b>	<b>6.0 miles</b>
• Draper LRT	<b>2013</b>	<b>3.5 miles</b>
• Sugar House Streetcar	<b>2013</b>	<b>1.5 miles</b>



Quito, Ecuador

# Eugene OR



# Cleveland OH

Built bus rapid transit system – “Health Line”

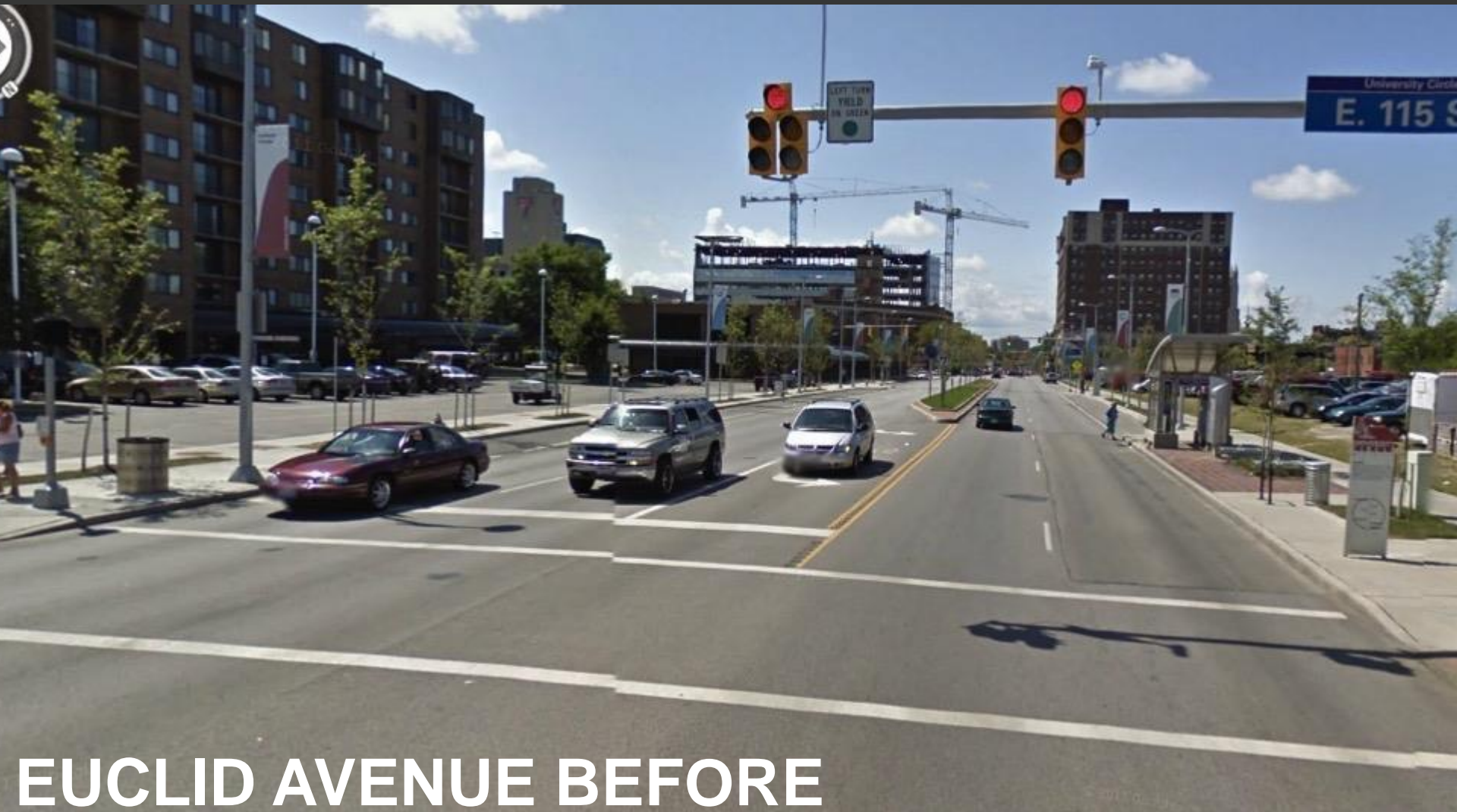
Opened in 2008 replacing local bus service

Ridership increased 54% - 14,300 people/day

Reduced transit travel time 29% along corridor



# Cleveland OH



**EUCLID AVENUE BEFORE**

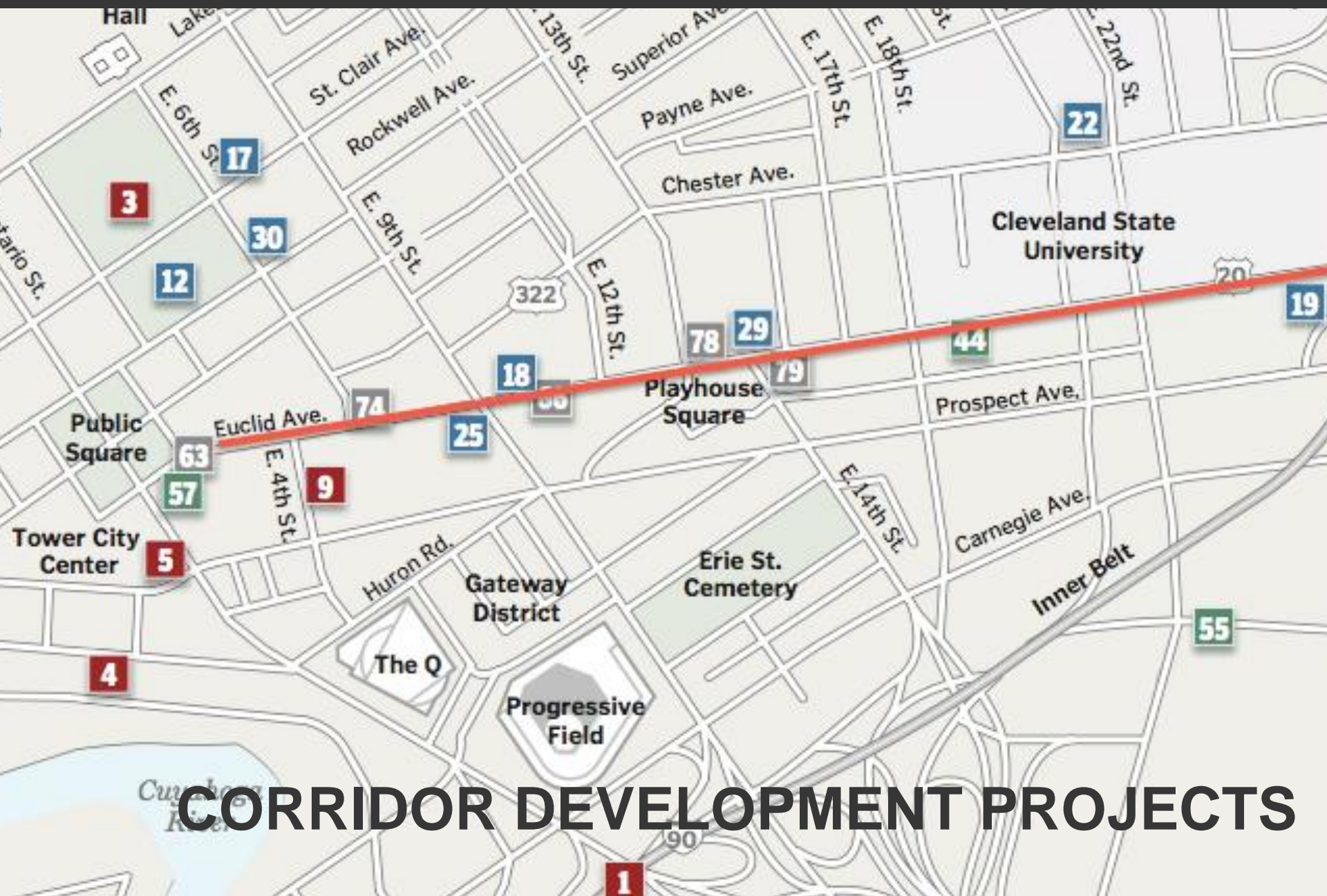


# Cleveland OH



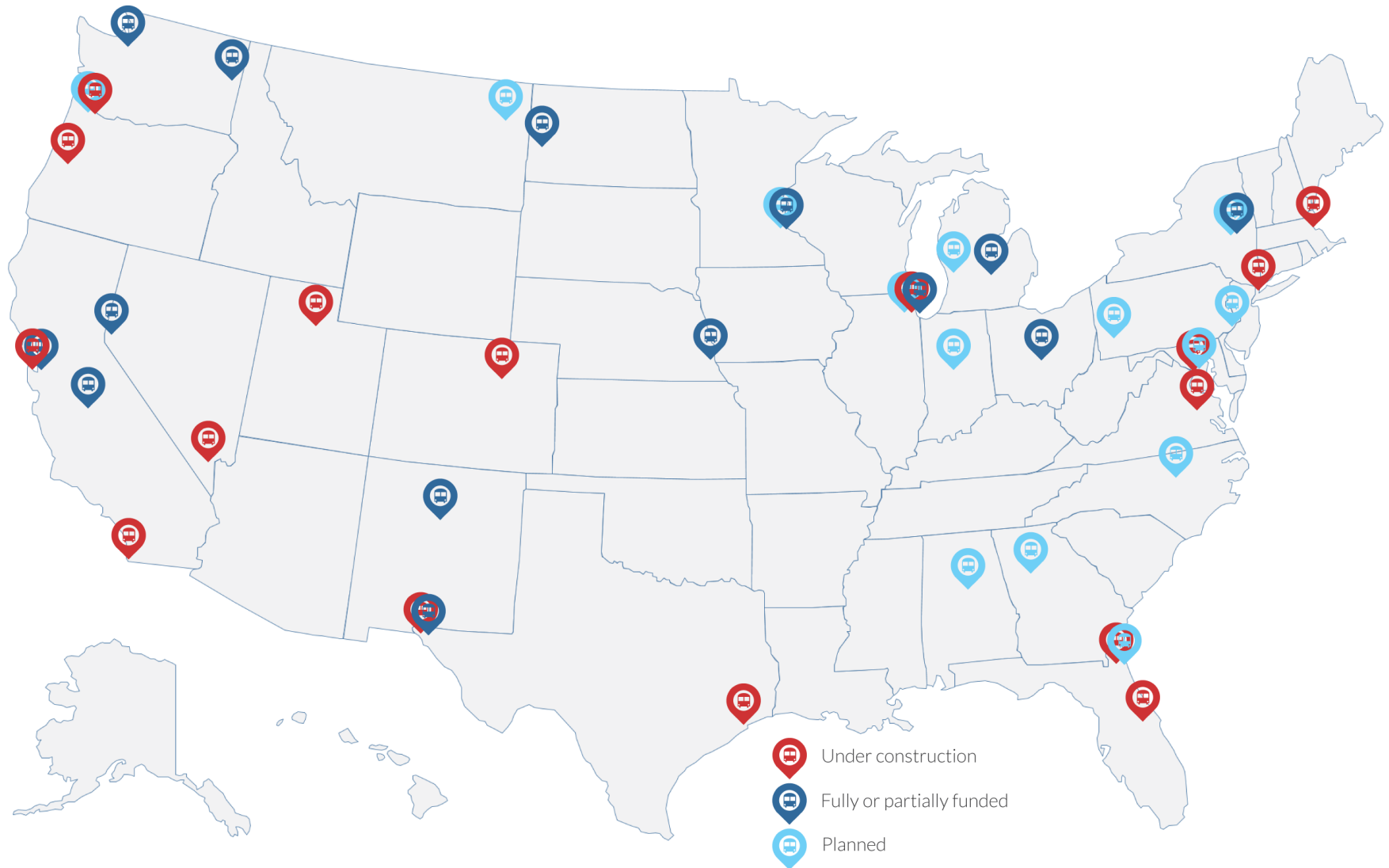
**EUCLID AVENUE AFTER**

# Cleveland OH



## CORRIDOR DEVELOPMENT PROJECTS

# U.S. regions building or considering new bus rapid transit service - 2016



Data on BRT systems that are planned, funded or under construction comes from Yonah Freemark and Steven Vance's Transit Explorer project. January 2016.  
<http://www.thetransportpolitic.com/transitexplorer/>

# BRT Gaining Office Share

OFFICE Development Metric	BRT Metros
<b>2000-2007</b>	
New Office Square Feet	39.0 million square feet
Within less than 1/2 mile of BRT	4.5 million square feet
Share	11%
<b>2007-2015</b>	
New Office Square Feet	13.7 million square feet
Within less than 1/2 mile of BRT	2.1 million square feet
Share	15%
Change in Share of New Office Development	33%

# From Pre-Recession Job Hemorrhaging to Post-Recession Turn-Around

BRT Summary	BRT Corridor 2002-2007	BRT Corridor 2007-2011
<i>Average Job Change in BRT Corridors</i>	<b>-455</b>	<b>22</b>

# Houston Transit Redesign

From The Atlantic

## CITYLAB

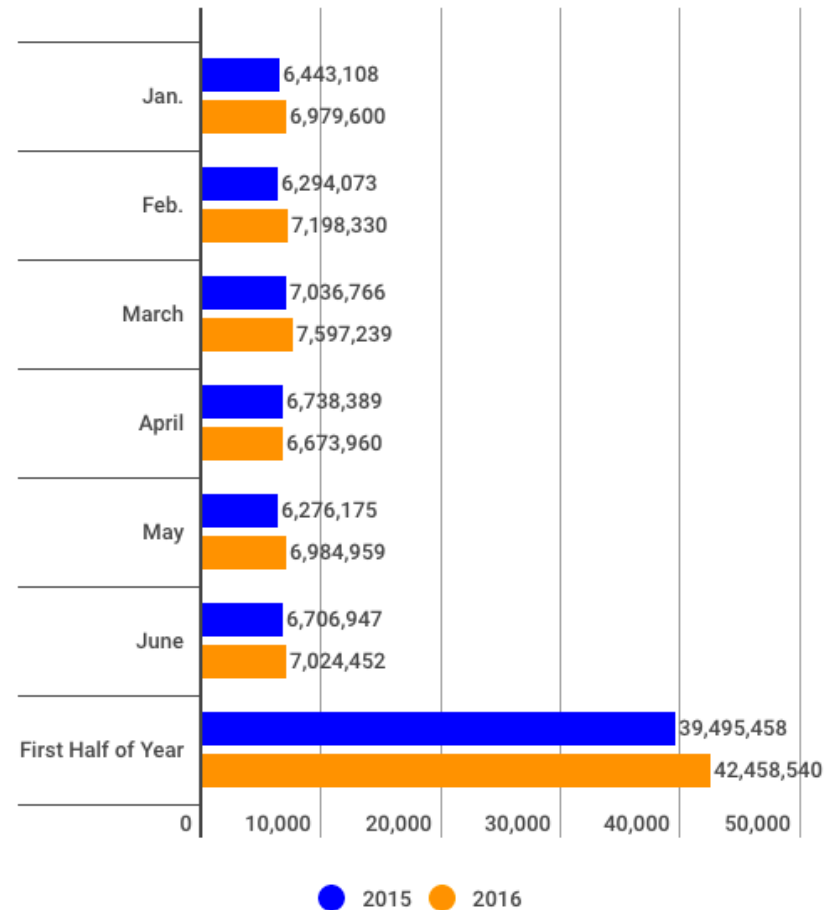
### A Year After a Radical Route Rethink, Houston's Transit Ridership Is Up

The city's bus network transformation seems to be working.

LAURA BLISS | [@mslaurabliss](#) | Aug 18, 2016 | 5 Comments



## Total METRO Ridership



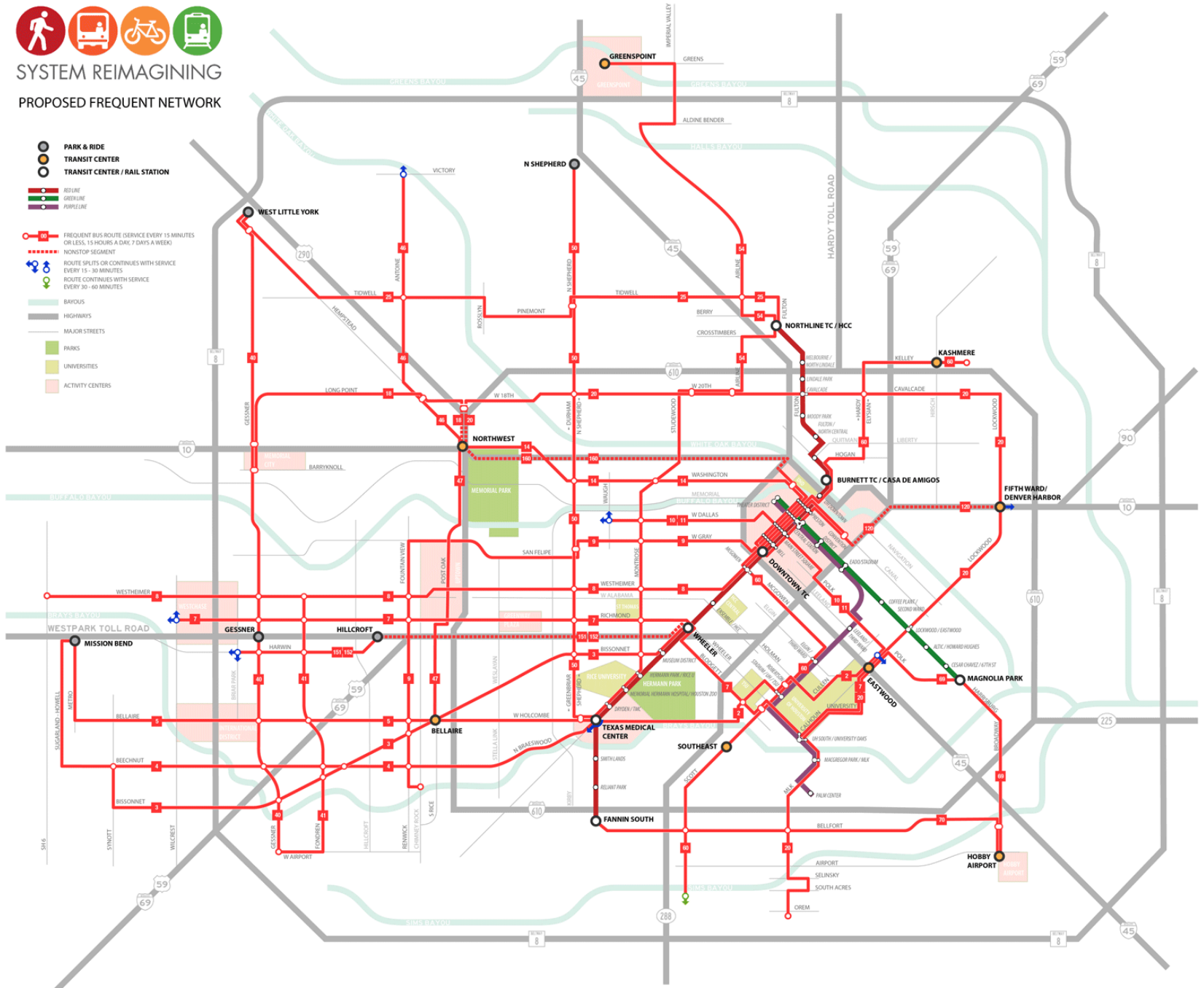
Source: METRO Ridership Reports



# SYSTEM REIMAGINING

## PROPOSED FREQUENT NETWORK

- PARK & RIDE
- TRANSIT CENTER
- TRANSIT CENTER / RAIL STATION
- RED LINE
- GREEN LINE
- PURPLE LINE
- FREQUENT BUS ROUTE (SERVICE EVERY 15 MINUTES OR LESS, 15 HOURS A DAY, 7 DAYS A WEEK)
- NONSTOP SEGMENT
- ROUTE SPLITS OR CONTINUES WITH SERVICE EVERY 15 - 30 MINUTES
- ROUTE CONTINUES WITH SERVICE EVERY 30 - 60 MINUTES
- BAYOUS
- HIGHWAYS
- MAJOR STREETS
- PARKS
- UNIVERSITIES
- ACTIVITY CENTERS



# North Central Montana Transit

North Central Montana Transit is a public transportation system designed to serve the Hi-Line communities of Hill and Blaine counties and surrounding communities as well as to provide coordinated services with Fort Belknap and Rocky Boy's Transit systems.

NCM Transit is operated by Opportunity Link, Inc. and was established in partnership with North Central Montana area organizations including local and tribal government agencies, social service organizations and educational institutions.

## Contact North Central Montana Transit directly at:

3152 US-2, Havre, MT 59501

(406) 265-4762

[Like NCMT on Facebook](#)





# River Cities Public Transit SD



ation  
ation

# River Cities Public Transit (SD)

- 11 county demand response service started in 1998
- Consolidation of hospitals and human service agencies
- Includes youth service to get kids around
- 12,000 rides in 2001, to 300,000 rides in 2011
- Started 24 hour service in 2006
- Significant revenue thru FTA 5311 transit funds

# Case Studies: Part II

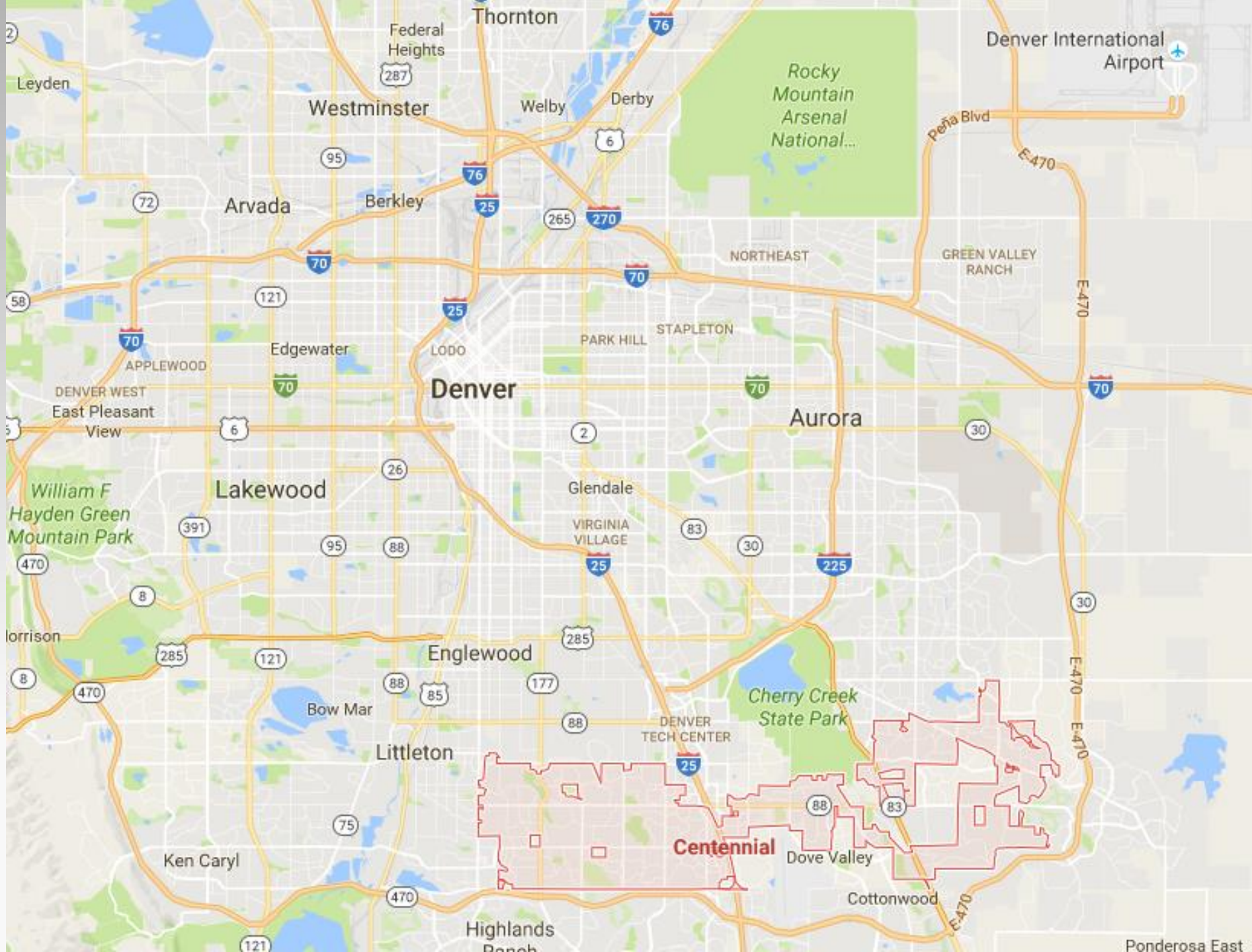
- Centennial, CO
- Pinellas County, FL
- Gainesville, FL
- DC & Kansas City, MO

# Some Important Definitions

Mode	Working Definition
Car-sharing	One car – multiple drivers
Ride-sharing	Existing trip being taken – add at least 1 passenger (no new vehicle trips added)
Ride-hailing	One driver – 1+ passengers (taxi/Uber/Lyft)
Vanpools	Existing trip – volunteer driver (ridesharing with 1+ passengers – typically work)
Microtransit	One vehicle – demand driven – fixed OR deviated route – many passengers – professional driver
Transit	One vehicle – fixed route – many passengers – professional driver
BRT (Bus Rapid Transit)	Same as transit – but with dedicated lanes, fare prepayment, signal priority etc.

# Major Technological Innovations

- Geolocation
- Ridematching
- Dynamic Routing & Scheduling
- In-App Fare Payments (across multiple modes)
- Driverless vehicles



# go Centennial Service Area

City of Centennial Boundary

Service Area

RTD Light Rail

Dry Creek Light Rail Station

Google earth

Imagery Date: 10/9/2015 39°43'18.44" N 104°48'12.65" W elev 5450 ft eye alt 17.89 mi

HOW TO: GROWTH STRATEGIES  
4 things that master liars do (and how to spot them)



ENERGY INC.  
Anti-oil-and-gas proposals fail to make Colorado ballot

**Deloitte** SPONSORED  
Who drives tech adoption at your company? New survey shows more CIOs shaping mid-market technology agendas. [Learn More](#)



TECHNOLOGY  
Level 3 warns of internet 'attack of things,' cameras, DVRs at risk

MOST POPULAR

ENERGY INC.

# Metro Denver city experiments with free Lyft rides to light rail

Aug 11, 2016, 6:00am MDT Updated Aug 16, 2016, 8:32am MDT

INDUSTRIES & TAGS Transportation, Energy, Technology, Innovation, TechFlash, Energy Inc., Rail Transport

SHARE

Order Reprints Save Article Print

Get Denver Newsletters and Alerts

Morning Edition >> Afternoon Edition >> Breaking News

Enter your email address

Sign Up

**Cathy Proctor**  
Reporter  
Denver Business Journal



Denver's mass transit system is expanding – particularly its rail network – but sometimes just getting to the train station is the biggest hurdle.

centennialbank is now Centennial BANK AND TRUST  
New look. Expanded banking solutions. Same local team.







Centennial



Central Business District



Leave at 08:15 in GMT-6



Sooner Cheaper Greener

8:22 - **8:58** (36m)

Board tram line F and Cycle

View Times



\$4.50

0.1kg CO<sub>2</sub>

22 calories

8:15 - **9:00** (📶 46m)

Take Lyft, Board tram line E and Take Lyft

More Info



\$10.63

1.2kg CO<sub>2</sub>

5 calories



With Special Recognition to:



# Pinellas County, FL



**NO TAX  
FOR TRACKS**



**STOP  
PINELLAS  
LIGHT RAIL**

**Vote No Nov. 4<sup>th</sup>**

# TAKING YOU PLACES



## TRANSPORTATION ALTERNATIVE

PSTA is partnering with Uber and United Taxi to provide access to the public transit network in underserved areas. PSTA will pay half the fare, up to \$3 per ride to and from designated stops within the zone.

Wheelchair van service is available for those unable to ride in a sedan by calling 727-536-7433 x1 and asking for same-day PSTA service



NO WONDERING



NO WAITING



Taking You to the Bus Stop



For more information

[PSTA.net/DirectConnect](http://PSTA.net/DirectConnect)  
PSTA InfoLine 727-540-1900

Service brought to you by



## HOW IT WORKS

- Trips must begin or end at the designated stop. 🚌
- Must be in the zone.
- 7 a.m. to 7 p.m.  
Monday through Saturday

## SERVICE ZONE




### Legend

- Pilot Zone Service Area
- 🚌 Designated Stop

## HOW TO RIDE

1. Choose a provider
2. Request a ride

- ➔ Download the app  
- ➔ Apply promo code 'PSTA' in the Uber app, then slide over to the 'PSTA' option to request a ride
- ➔ United Taxi via phone or app

3. Pay your fare

- ➔ PSTA pays half the fare up to \$3
- ➔ United taxi accepts both cash and credit card
- ➔ Uber accepts credit card via the app

4. Travel to or from a designated stop in the same trip

## SERVICE PROVIDERS

1.

**UBER**

Submit a trip request using the Uber app and get a reliable ride in minutes. PSTA will pay half the fare up to \$3 per ride to or from designated stop.

2.

**UNITED  
TAXI  
197-777-7777**

Submit a trip request by calling 727-777-7777 or by using the app. PSTA will pay half the fare up to \$3 per ride to or from designated stop.

## STOPS

### Pinellas Park Transit Center

3801 70th Ave N

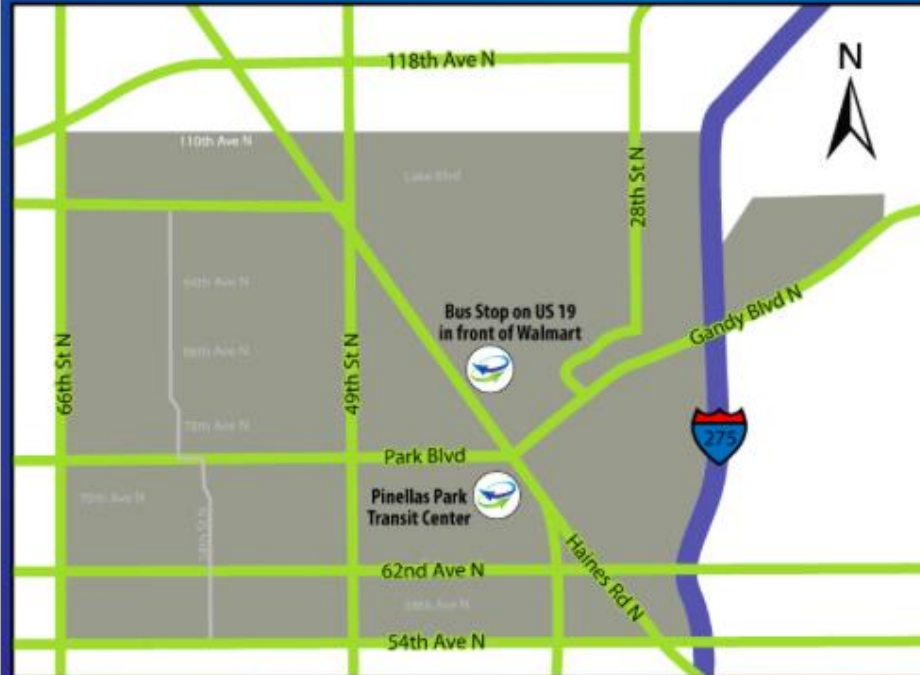
(South end of Shoppes at Park Place)

### US 19 in front of Walmart

8001 US Hwy 19 N





# PINELLAS PARK SERVICE ZONE



## Legend

Source: PSTA, 2015

-  Pilot Zone Service Area
-  Designated Stop

## Pinellas Park

### How to Ride

- 1. Choose a provider**
- 2. Request a ride**
  - Download the Uber app: [Google Play](#) | [App Store](#)  
Apply promo code 'PSTA' in the Uber app, then slide to the 'PSTA' option to request a ride
  - Download the United Taxi app: [Google Play](#) | [App Store](#)
  - United Taxi via phone 727-777-7777 or app
- 3. Pay your fare**
  - PSTA pays half the fare up to \$3
  - Uber accepts credit card via the app
  - United Taxi accepts both cash and credit card
- 4. Travel to or from a designated stop in the same trip**



# MARKETING

- Branding
- Outreach
- Ribbon Cutting
- Board Member Support
- Direct Marketing Efforts
- Press Release



Pinellas Suncoast Transit Authority rolls out plan to pay half its passengers' Uber tabs in East Lake and Pinellas Park



Bus

## PSTA partners with Uber, taxi service to boost bus access

Posted on February 22, 2016

Post a comment | Comments 1 |



SUBSCRIBE NOW *Limited Time Offer*





**TAKING ACTION FOR YOU**

**PARTNERSHIP WITH UBER AND PSTA EXPANDING**

**PILOT PROGRAM GIVES LOW OR NO COST UBER RIDES**



6:16

# Pinellas County, FL

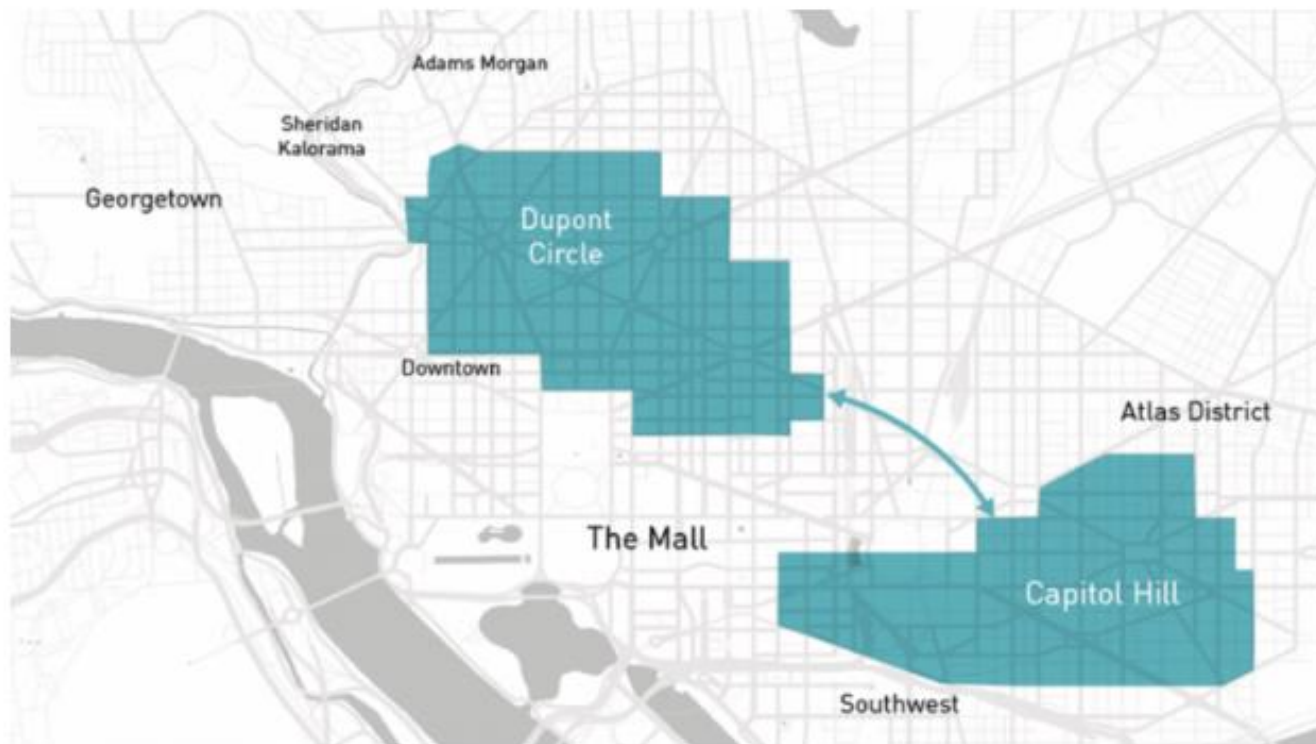
- Two services cut: one fixed route, one shuttle
- 6 month pilot \$40,000 – half of prior service cost
- Provided paratransit service plus dial-up service
- Expanded pilot to 20 more cities August 2016
- New service “TD late shift” for low income workers
  - 9pm-6am free rides on Uber

# Bridj pop-up bus service arrives in D.C.

A   4

Earn up to a  
**\$500**  
BONUS

By **Lori Aratani** April 28   Follow @loriara



Bridj is offering service between these D.C. neighborhoods. (Image courtesy of Bridj)

**ROSENTHALAU**

# NOVEMBER SALES EVENT



**GROW**  
TO END PROST

For every New and Pre-Order sold in November, we will match it to ZERO - The End of Pro

**End of the Mod**



# Kansas City, MO



One of the pilot program's new Bridj vans. (Kansas City Area Transit Authority)

# Gainesville, Fla.

## City hopes to use Uber to give rides to seniors

**Thursday**

Posted Jun 4, 2015 at 10:29 PM

Updated Jun 5, 2015 at 12:13 PM

The Gainesville City Commission Thursday decided to move forward with a six-month pilot program that will pair popular ride-sharing company Uber with an unlikely customer base: senior citizens.

# Gainesville, Fla.

## Freedom In Motion: More Options For Senior Mobility



# GAINESVILLE

FREEDOM IN MOTION

January 29, 2016 | Posted by Kerry



**Last year, we announced an exciting program for senior citizens called Freedom In Motion.** In collaboration with the City of Gainesville, ElderCare of Alachua County, and the Gainesville Area Chamber of Commerce, Uber was able to provide on-demand



# Gainesville, Fla.



*Mayor Ed Braddy opens Uber door for the first Freedom in Motion passenger, Shirley.*

# Stationless Bikesharing: Sobi



# Capital Community Bikeshare - Lansing

- Pilot in 2013, First phase launched 2014
- \$31,000 up front capital to launch pilot
- Partnered with “A2B Bicycles” startup in MI – grad student
- “Smart Bikes” with touch screens - \$2K per bike vs \$4K



# PART FOUR: TAKEAWAYS

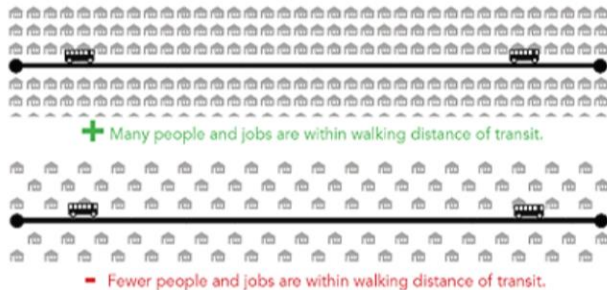
# Transportation Takeaways

- Growing new consumer demand for more transit options
- Mass transit not just for big cities anymore
- Innovation happening all across US in places big & small
- Technology alone won't solve it all
- We need to be clear about the best roles for each option
- Key ingredients for success:
  - Smart planning and supportive land use
  - Partnerships w/ private sector/startups
  - More real time data
  - Local political leadership
  - Flexible local funding sources

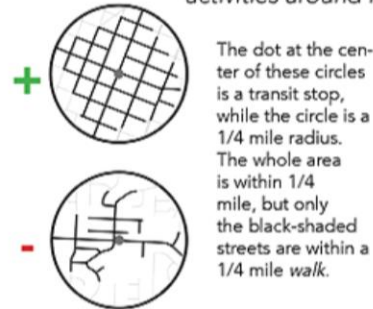
# What makes transit work?

## FOUR GEOGRAPHIC INDICATORS OF HIGH RIDERSHIP POTENTIAL

**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?



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

**LINEARITY** Can transit run in reasonably straight lines?



**CONTINUITY** Does transit have to traverse long gaps?

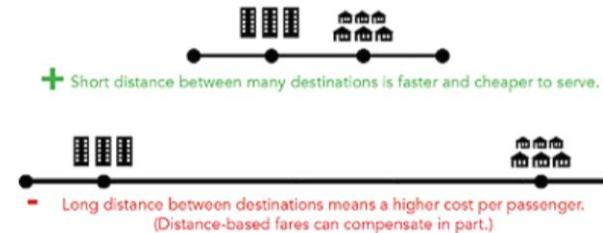


Figure 39: Geographic Indicators of High Ridership Potential

# What makes transit work?



+

The gridded street network of downtown Raleigh makes it easy to reach many different bus stops (dots).

## Street connectivity

The lack of street connectivity along Creedmoor Road in North Hills, Raleigh, limits available walk paths to reach bus stops (dots).



+

Sidewalks, represented by the blue-green lines, are available on many streets for riders to use to reach their bus stops (dots). Areas around Old Wake Forest Road in North Hills, Raleigh, provide plenty of sidewalks for riders.

## Sidewalks

Stretches of Capital Boulevard in Raleigh lack sidewalks (blue-green lines), forcing riders traveling to and from bus stops (dots) to walk along the shoulder of a busy arterial.



+

This intersection in Southwest Raleigh includes marked crossings, allowing riders to easily reach their bus stops and destinations.

## Crossings

A lack of marked crossings along US-70 in South Raleigh makes it difficult for riders to reach their bus stops and destinations.



Figure 21: Walkability – Comparisons from Wake County

JARRETT WALKER + ASSOCIATES

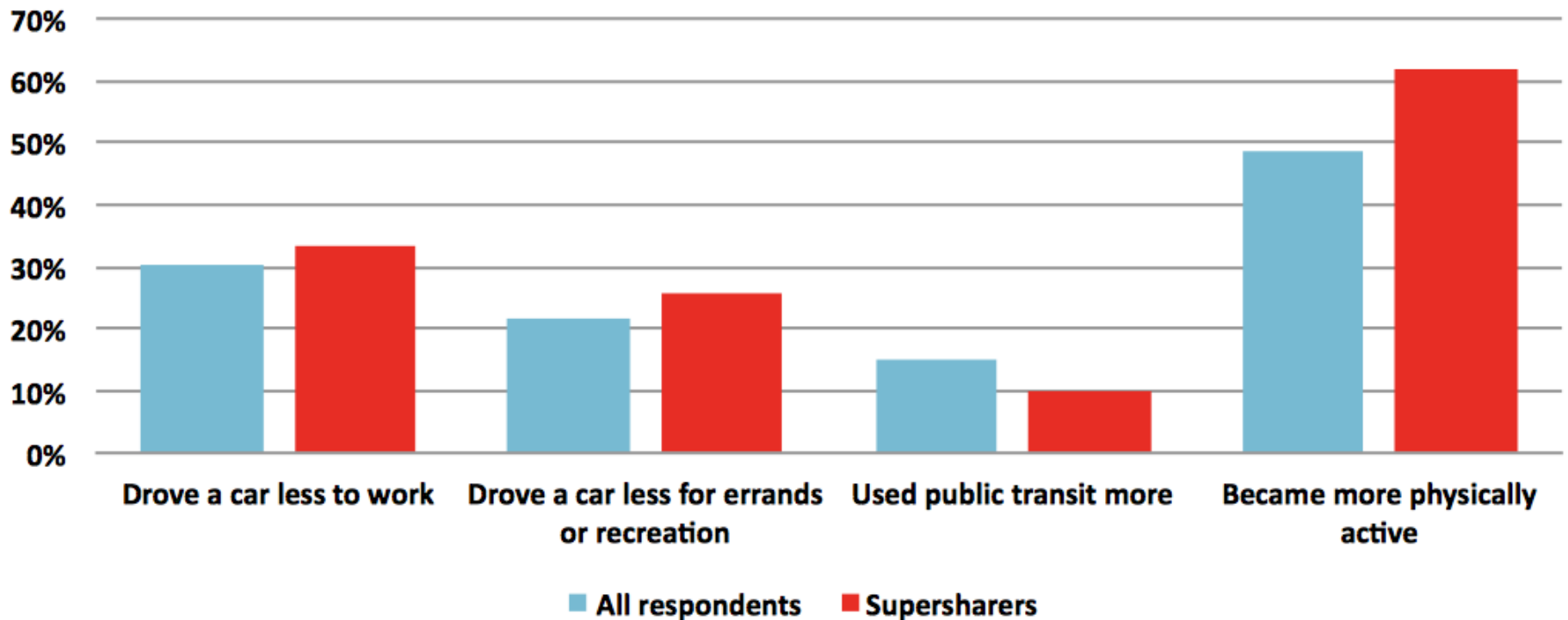
Kimley **Horn**



Wake County Transit Investment Strategy  
Wake County Transit Alternatives

# Will Ride-sourcing Replace Transit?

**Figure 4:**  
Lifestyle changes since starting to use shared modes (net change)  
—supersharers v. all respondents<sup>4</sup>



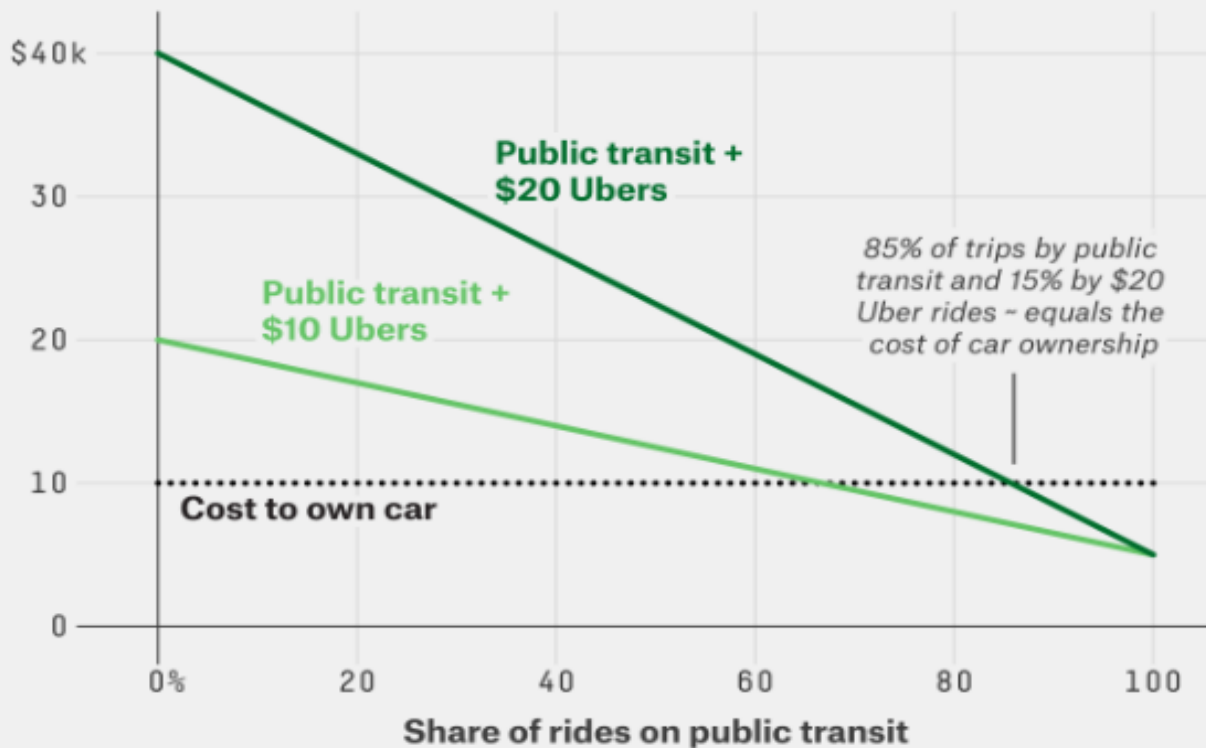
Source: Shared Use Mobility Center and APTA; March 2016



# Public Transportation/Uber vs. Car Ownership Cost

## Uber Can Be Cheaper Than Car Ownership — If You Mostly Use Public Transit

Estimated annual cost of transportation by household, given share of trips that are taken on public transit



FIVETHIRTYEIGHT

Source: 538/ Nate Silver



Bus



Private Car

Credit: Cycling Promotion Fund; [cyclingpromotion.com.au](http://cyclingpromotion.com.au)



Bus



Private Car



Uber/Lyft Car

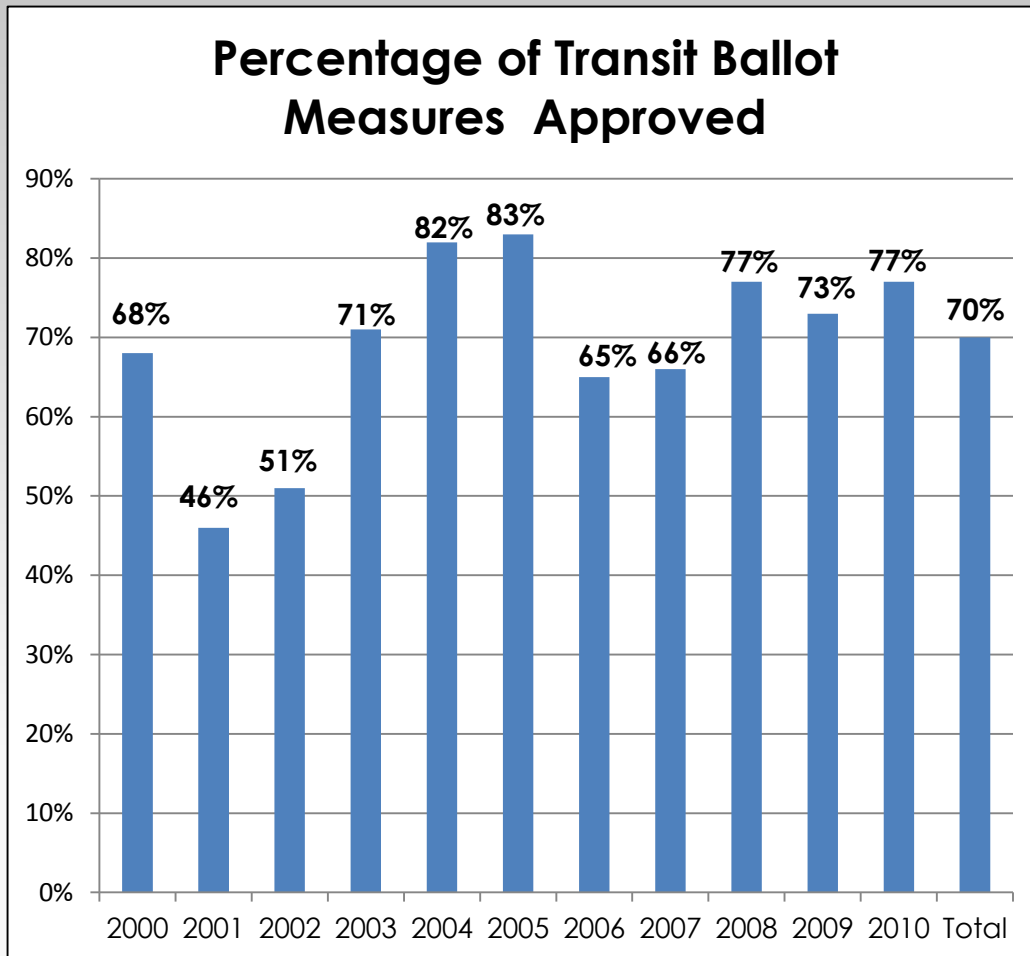
# Public-Private Partnerships: 1.0

THE PROPOSED NEW UNION RAILWAY DEPOT.  
Shown from the Engineer's Point, as Submitted to Congress.



**CHICAGO UNION STATION COMPANY**

# Transportation Measures Win at the Polls



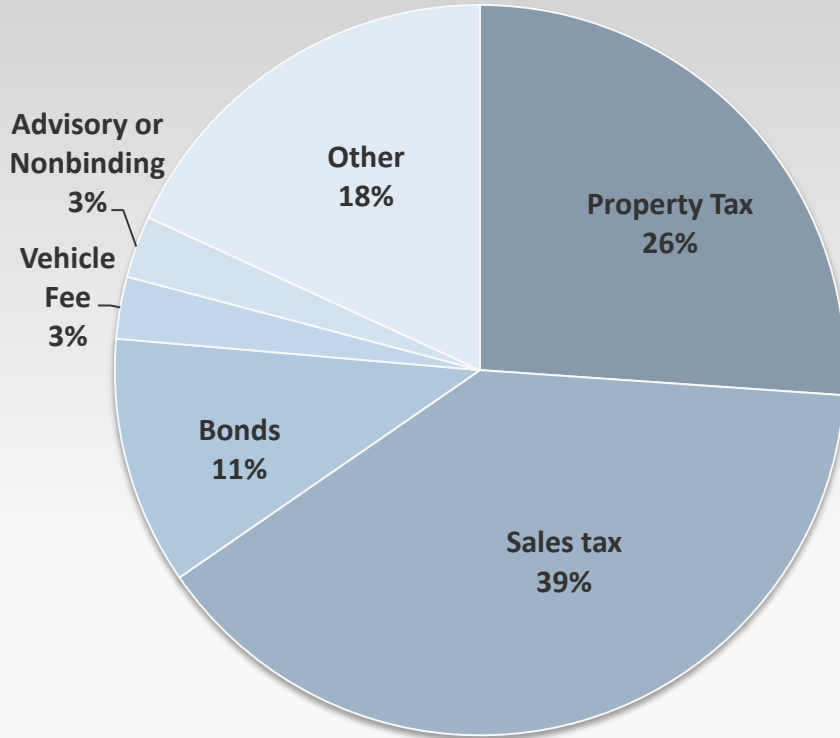
70% Approval Rate  
for Transportation  
Measures

Twice the Approval  
Rate of All Ballot  
Measures

Success Across  
Region, Population,  
Party Affiliation

# Public Transportation Ballot Measures

## Types of Ballot Measures 2000-2010



309 finance measures on ballots between 2000-2010

84% of all transportation measures are finance-related

Sales tax increases or renewals are most common type

Bonds are most successful with 84% approval—but are far more common on statewide ballots than local and regional

Property tax measures are more successful than sales tax measures, with 81% approved vs. 59%

TRANSPORTATION BALLOT MEASURES PASS AT **TWICE** THE RATE OF ALL OTHER BALLOT MEASURES.



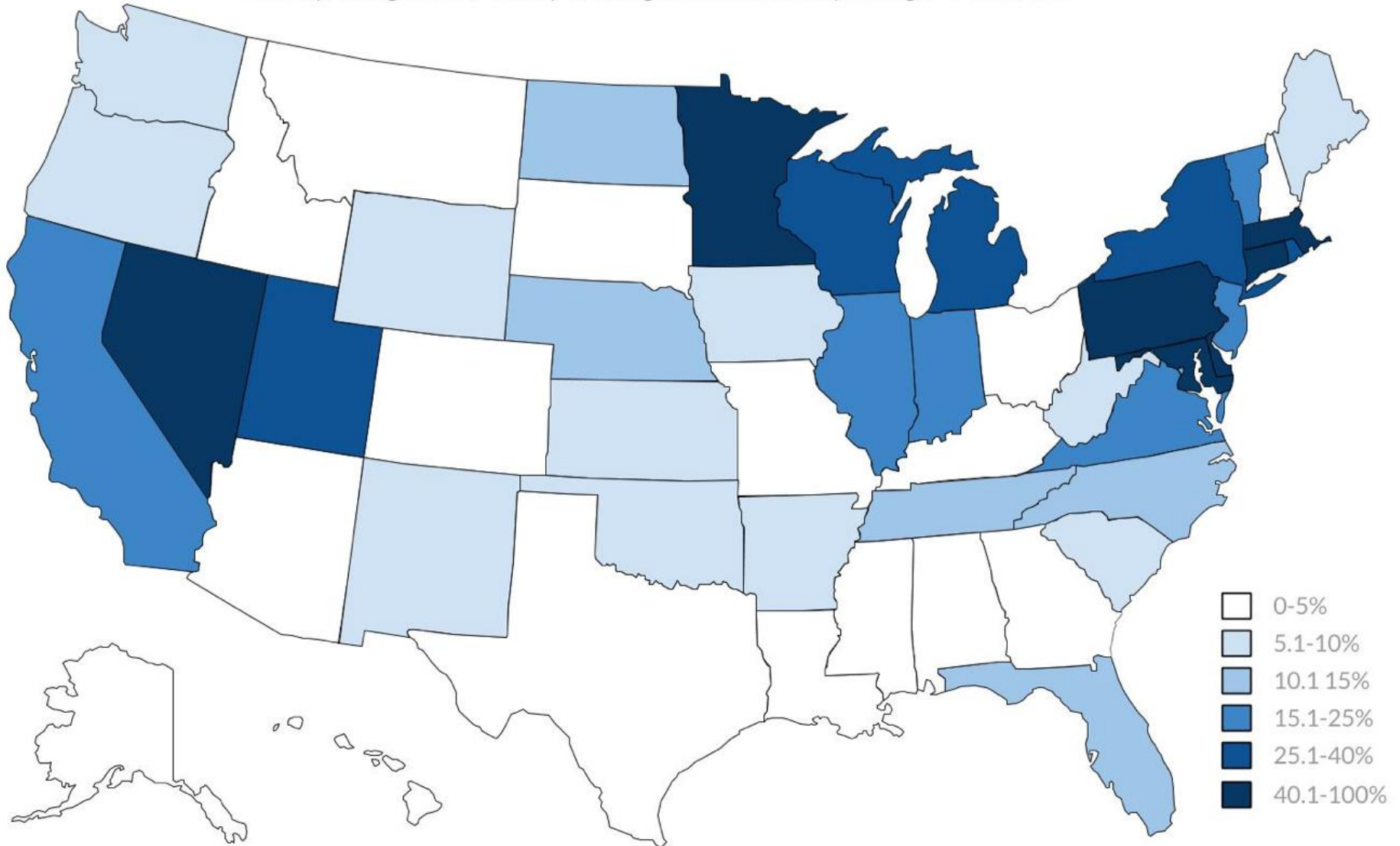
THIS SUCCESS HOLDS ACROSS DIFFERENT REGIONS, POPULATIONS AND PARTY AFFILIATIONS.

**70%** THE AVERAGE APPROVAL RATE FOR PUBLIC TRANSPORTATION BALLOT MEASURES OVER THE LAST 10 YEARS



# How Much Do States Spend of Their Own Dollars on Transit?

State spending on transit as a percentage of total transit spending, FY 2010-2012



Source: National Transit Database

Available on the START network: <http://start.t4america.org/wp-content/uploads/2014/11/State-transit-funding-memo.pdf>



# IndyGo deciding which routes should get focus and resources

Kathleen McLaughlin October 17, 2014



## Highs and lows

IndyGo's 6.8 million rides through August this year were concentrated in a few busy routes and declined on others.

### Forty percent of ridership focused on three routes:

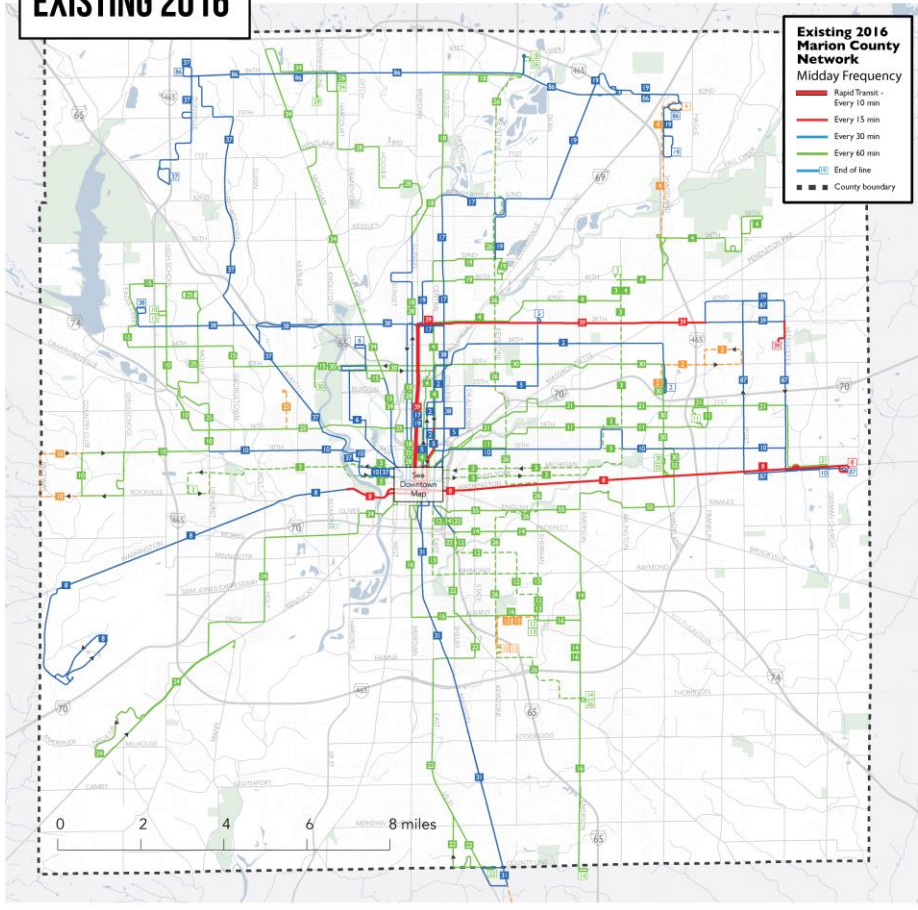
Route	Ridership through August
<b>8</b> Washington Street	1,002,500
<b>39</b> 38th Street	931,185
<b>10</b> Tenth Street	806,154

### Ridership fell by double digits on four routes:

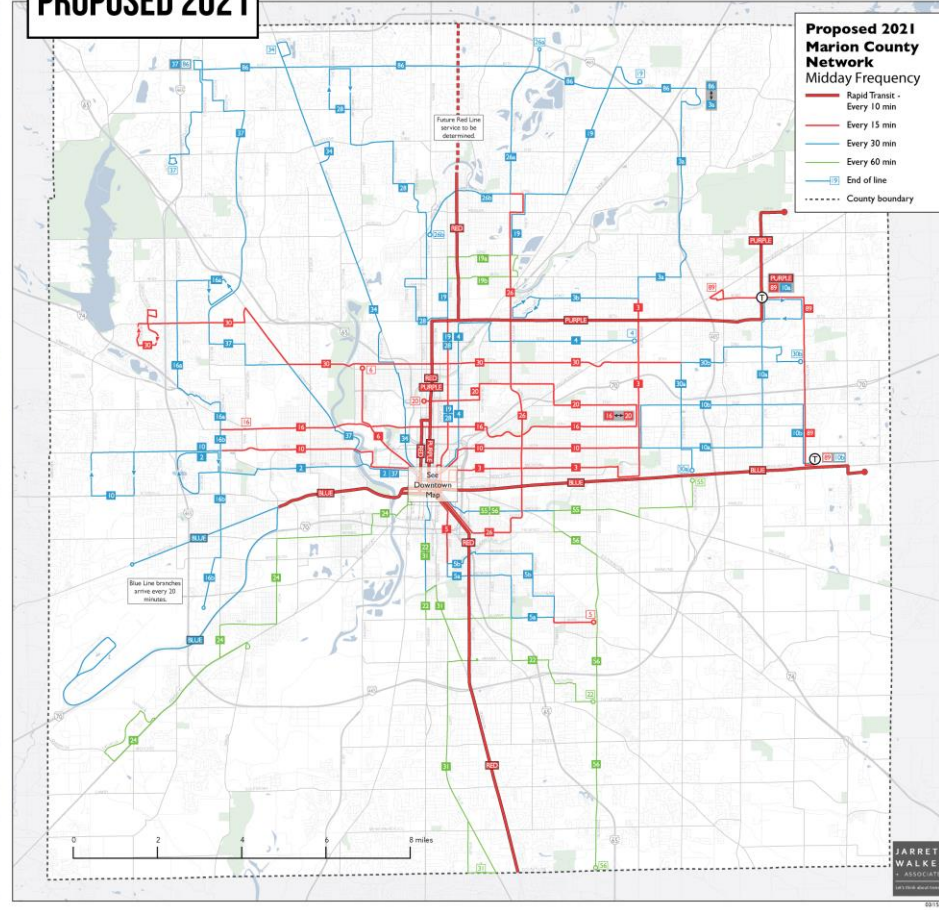
Route	Ridership through August	Decline from a year ago
<b>11</b> East 16th Street	35,721	21.6%
<b>28</b> St. Vincent	130,040	11.8%
<b>16</b> Beech Grove	93,762	11.4%
<b>2</b> East 34th Street	153,622	10.8%

Source: IndyGo

## EXISTING 2016

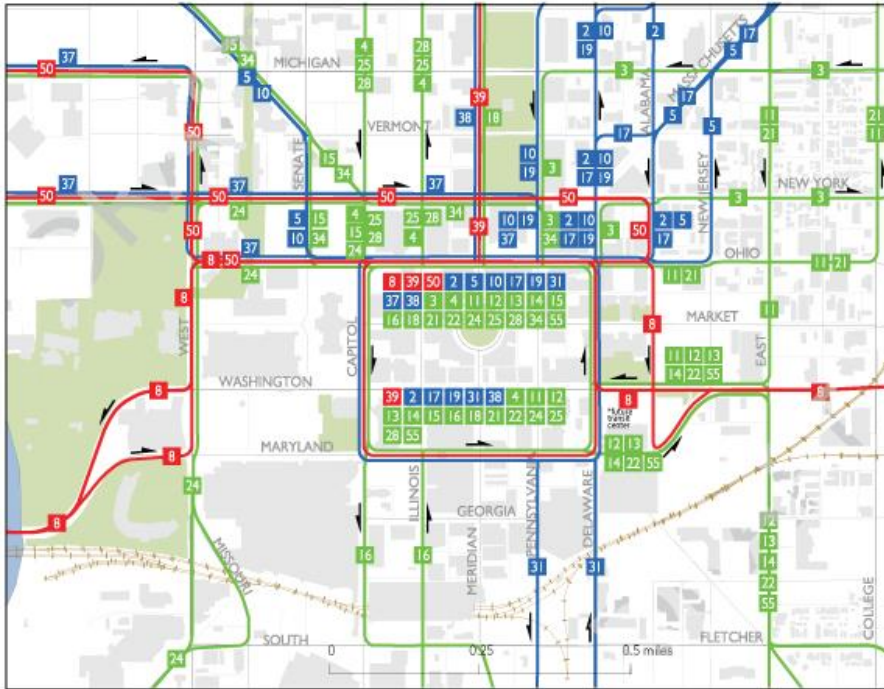


## PROPOSED 2021

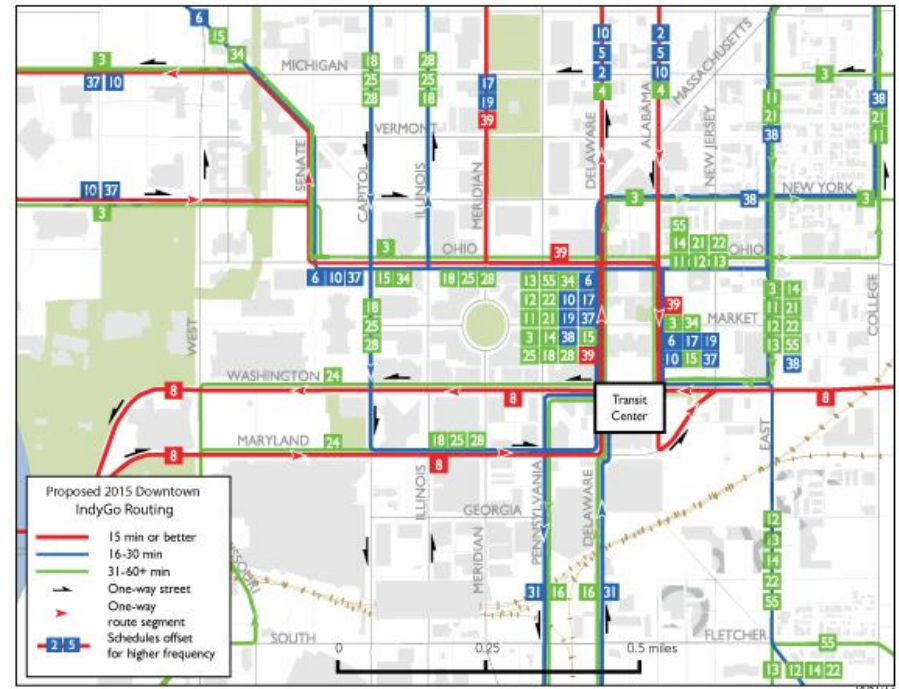


Source: IndyGo; credit: Jarrett Walker & Associates

Existing Network



2015 Network



**Frequency**= Wait Time Between Buses  
**Corridors**= Street or Combination of Streets Providing Service to a Specific Destination

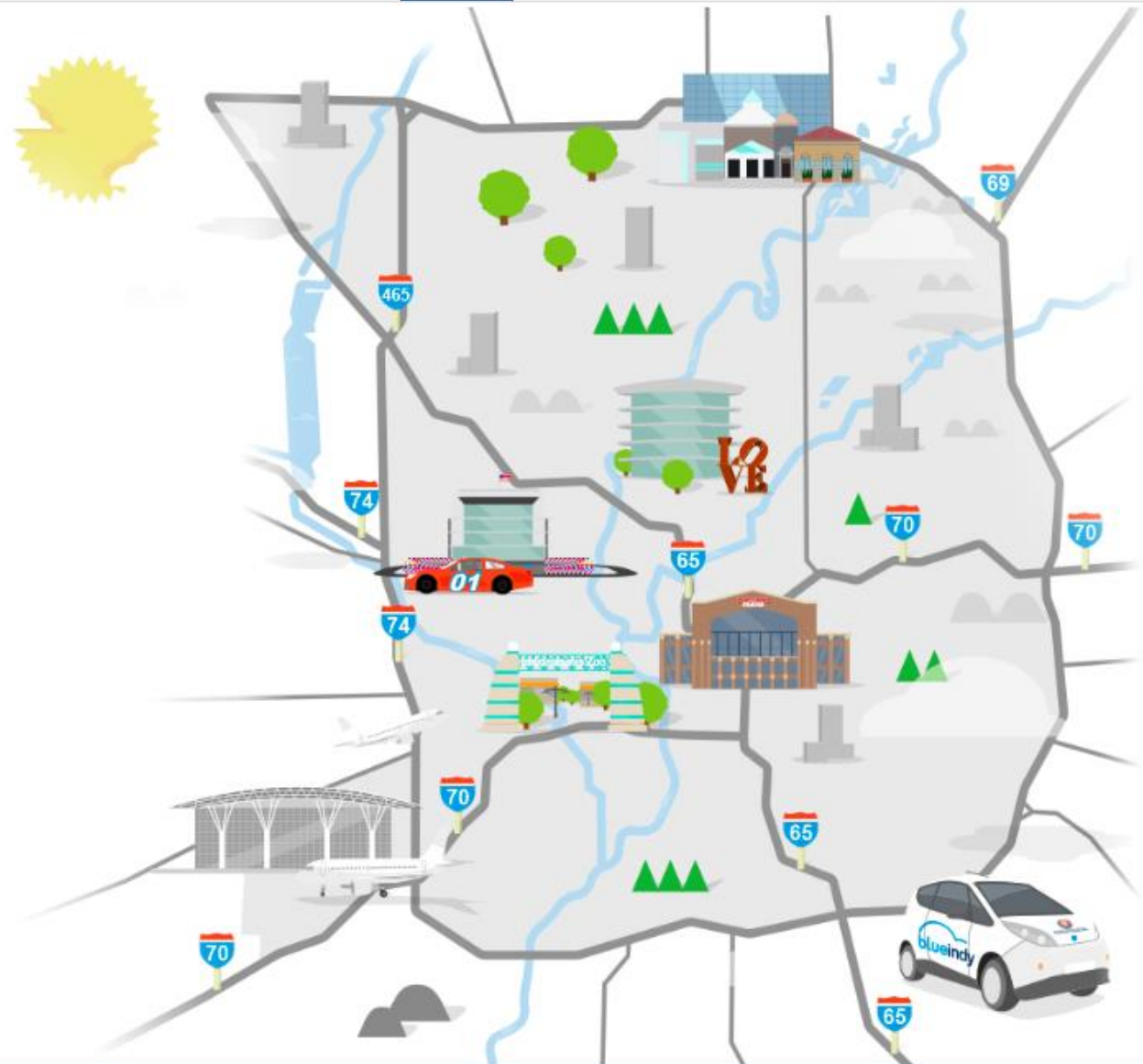
- 15 Minutes or Better**
- Wherever you see a red line with red numbered boxes, a route provides service every 15 minutes or better.
  - Wherever you see a red line with blue numbered boxes a combination of routes provides service on that corridor every 15 minutes or better.

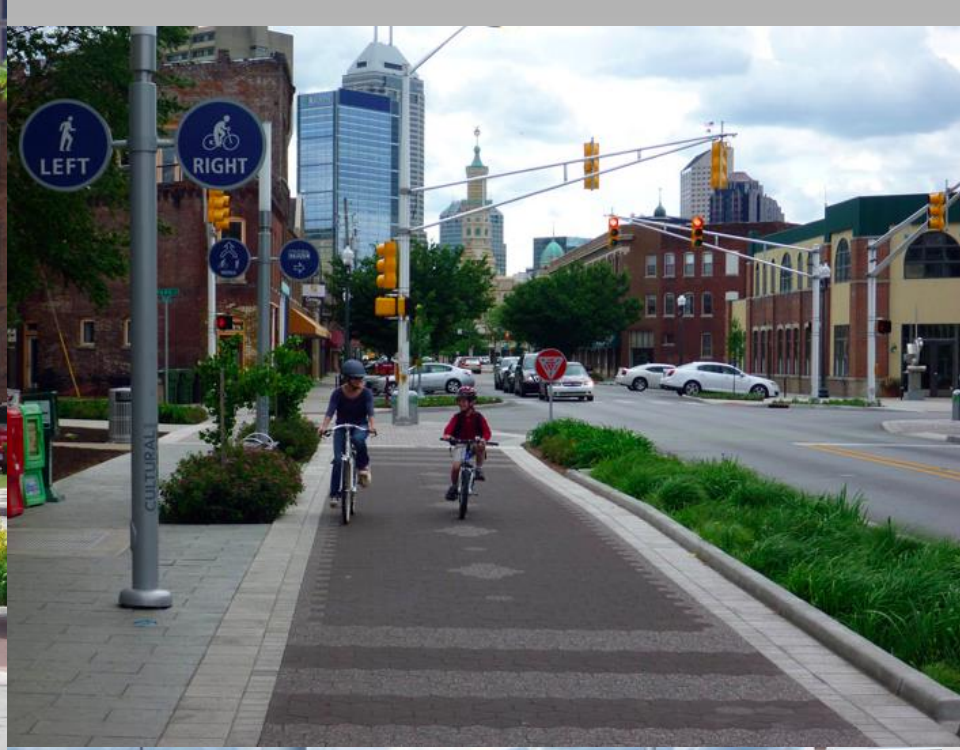
- 16-30 Minutes**
- Wherever you see a blue line with blue numbered boxes, a route provides service every 30 minutes or better.
  - Wherever you see a blue line with green numbered boxes a combination of routes provides service on that corridor every 30 minutes or better.

- 31-60 Minutes**
- Wherever you see a green line with green numbered boxes, a route provides a bus every 60 minutes or better.

## UP TO 200 locations

The city is all yours. With **up to 200 locations** planned in Indy, you can find an electric car wherever you need one. From downtown to the city limits, north to south and east to west, Blueindy lets you follow your whims, whatever road they may take. The adventure starts now; only you can decide where it will take you.

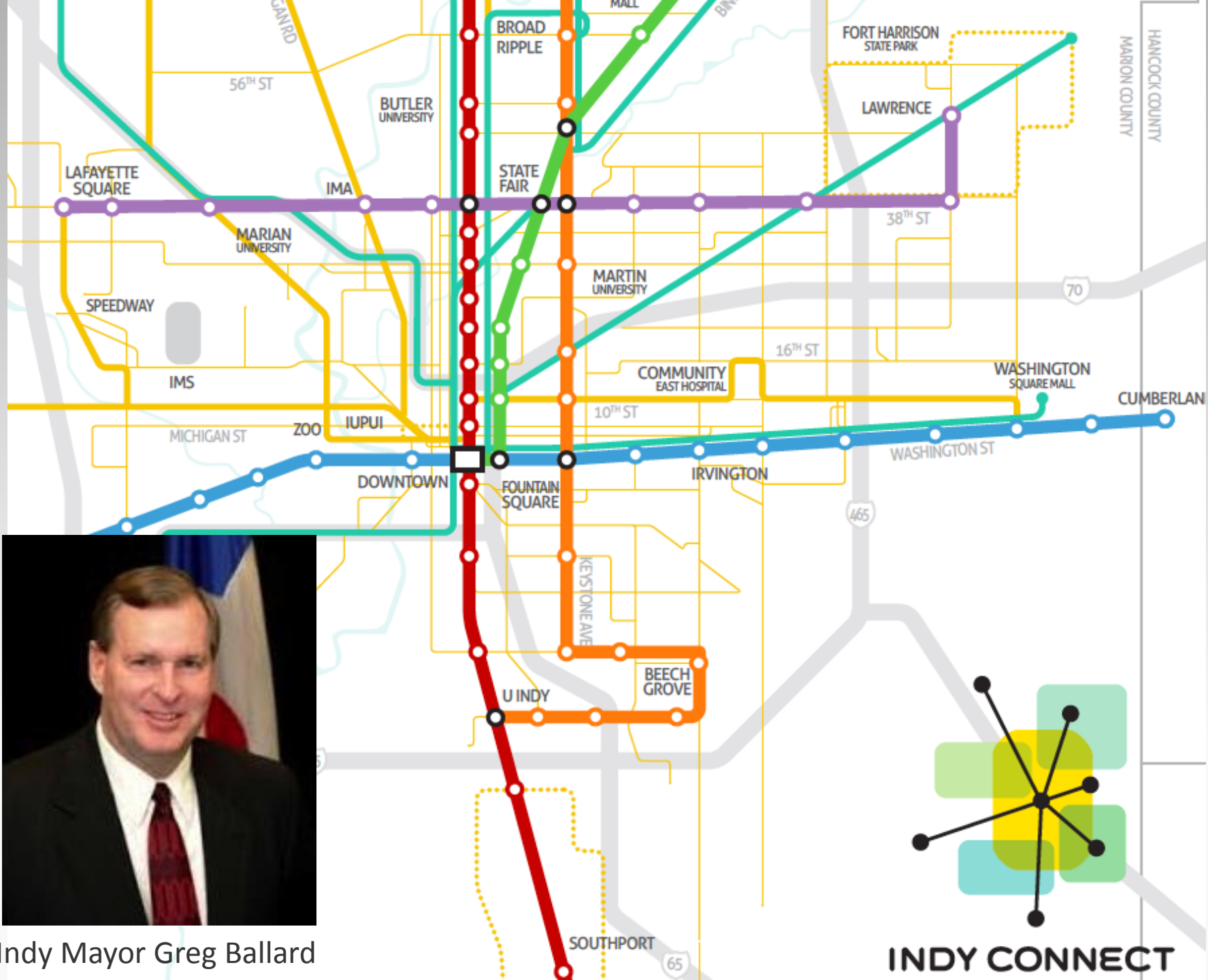






# New Study: property values within one block of Indy cultural trail have increased 148%





Indy Mayor Greg Ballard

**INDY CONNECT**



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