

Transportation for America

How Innovation, Consumer Preferences and
Technology are Transforming Public Transit

James Corless, Director, T4America

www.T4america.org

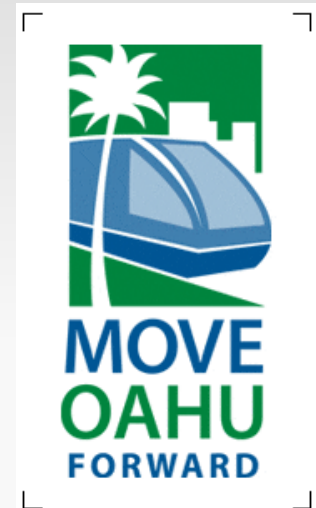
@t4america

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

Our Members Include:

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



OVERVIEW













































1. Trade offs in transit planning– coverage vs. ridership
2. New tools in transit planning
3. Transit innovations in other regions
4. Transportation takeaways for Idaho

TRADE OFFS IN TRANSIT PLANNING













































EXERCISE: \$200 TRANSIT BUDGET

PURPLE	10 MIN	\$15 each
BLUE	20 MIN	\$10 each
YELLOW	60 MIN	\$5 each

SIX COUNCIL DISTRICTS

				 OFFICE PARK					
				1	4				
									
 OFFICE PARK				2	5		 D O W N T O W N		
									
 Hospital				3	6				

A NEW COMPANY IS MOVING TO TOWN

				 OFFICE PARK					
				1	4				
									
 OFFICE PARK					2	5		 D O W N T O W N	
									
	 Hospital			3	6				

What makes transit work?

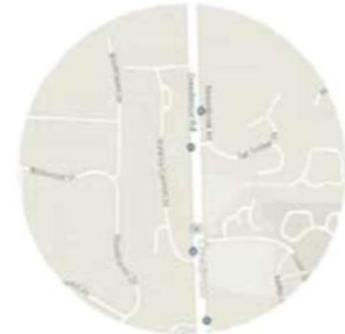


+

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

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:

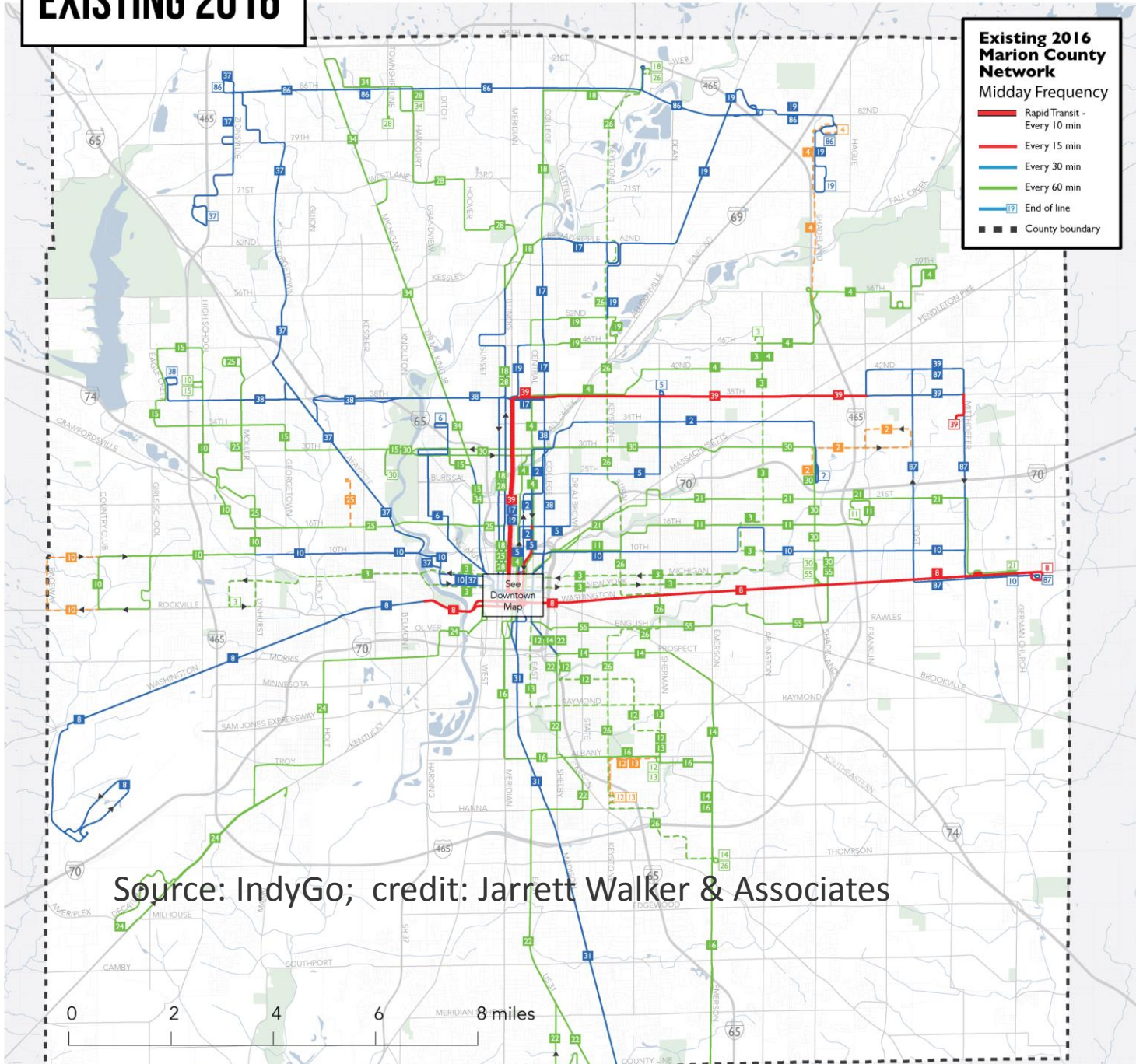
Route	Ridership through August
8 Washington Street	1,002,500
39 38th Street	931,185
10 Tenth Street	806,154

Ridership fell by double digits on four routes:

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

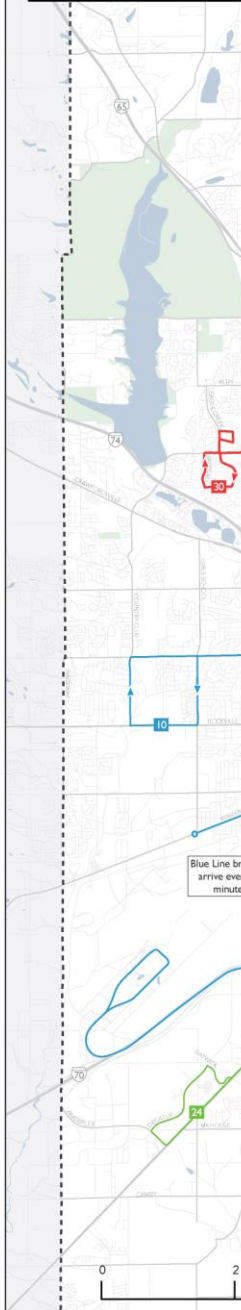
Source: IndyGo

EXISTING 2016



Source: IndyGo; credit: Jarrett Walker & Associates

PROPOSED



Blue Line bus arrive every minute

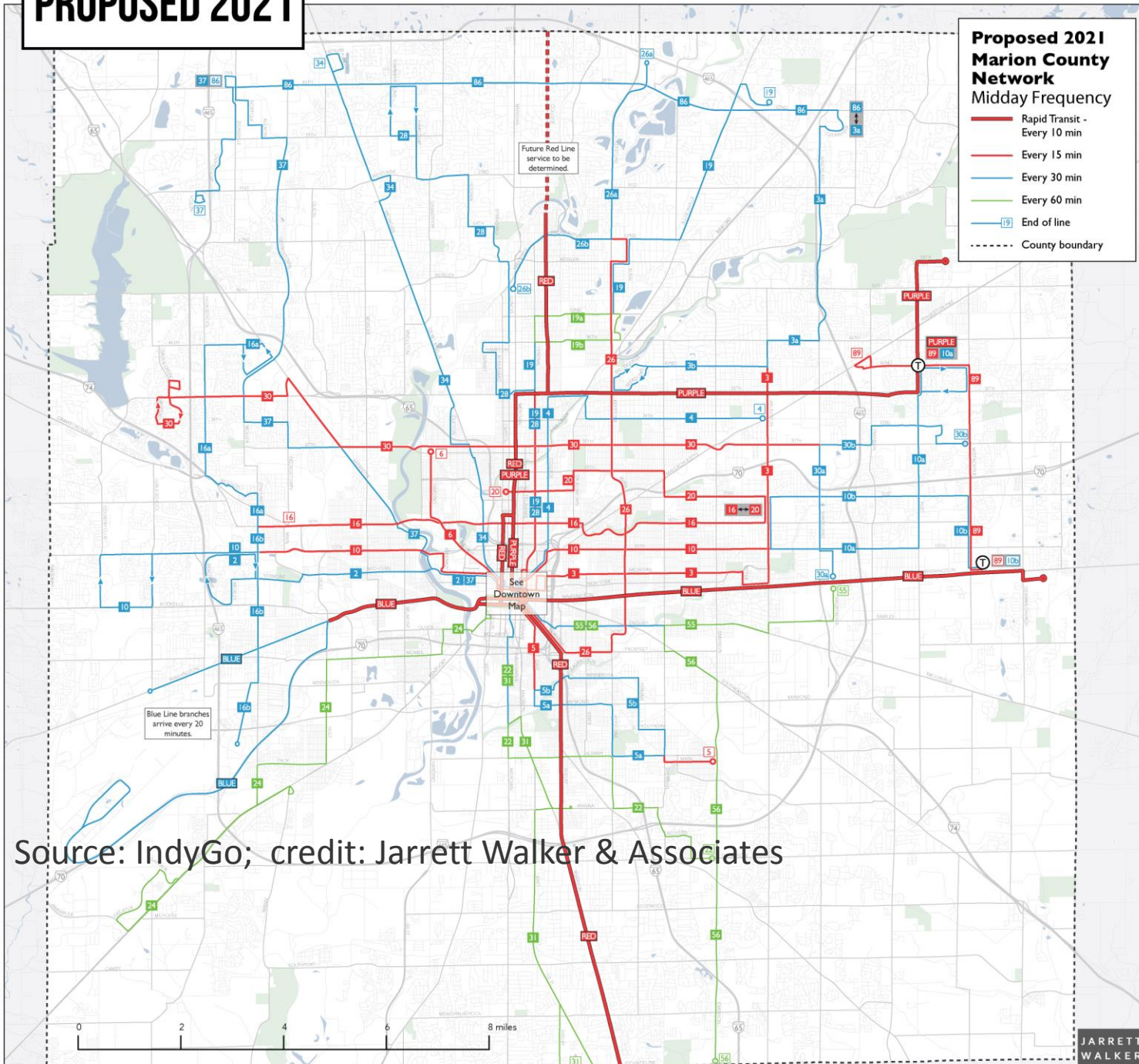
PROPOSED 2021

g 2016
n County
ork
Frequency

Rapid Transit -
Every 10 min
Every 15 min
Every 30 min
Every 60 min
End of line
County boundary

Proposed 2021 Marion County Network Middy Frequency

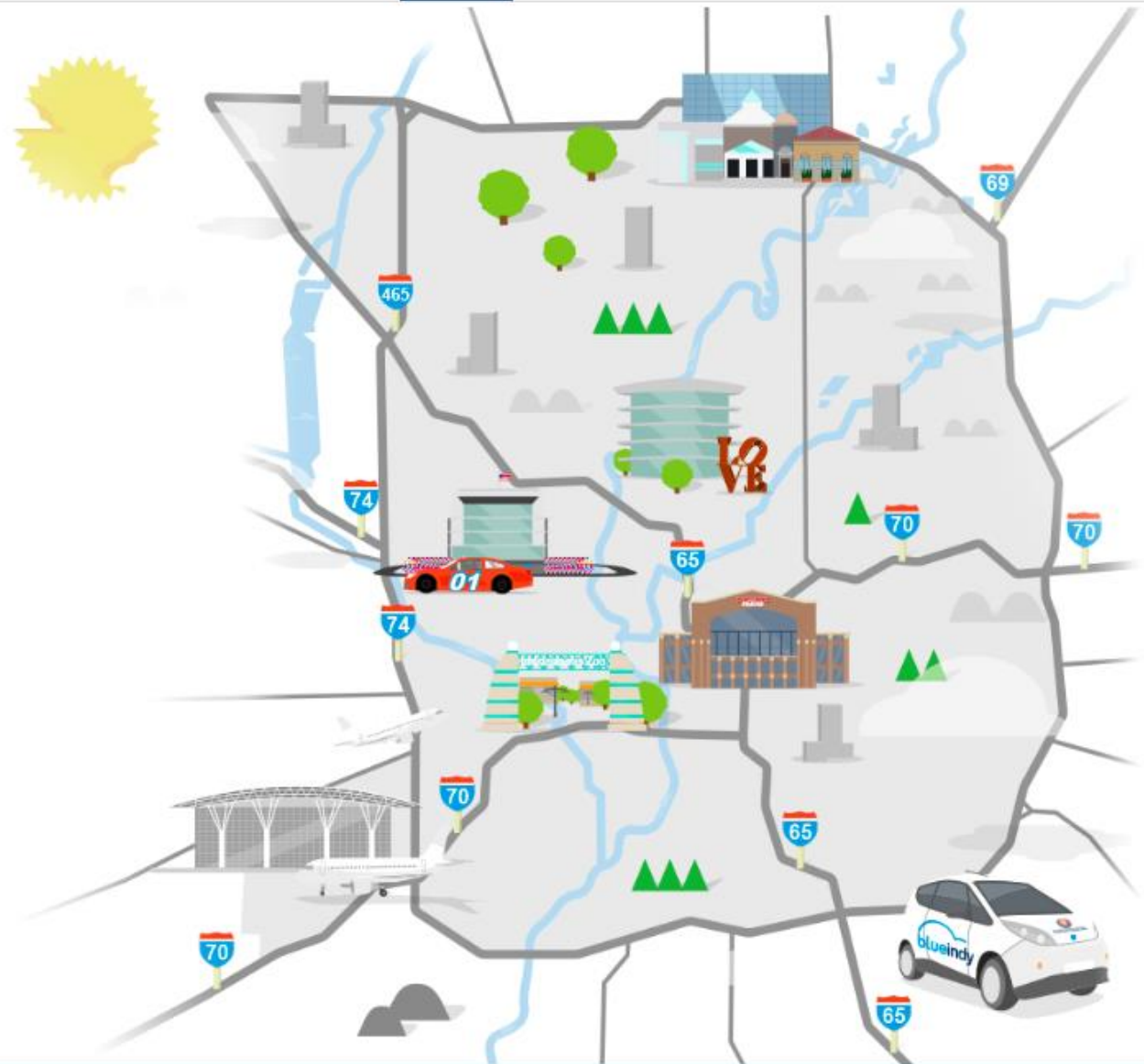
- Rapid Transit -
Every 10 min
- Every 15 min
- Every 30 min
- Every 60 min
- End of line
- - - County boundary



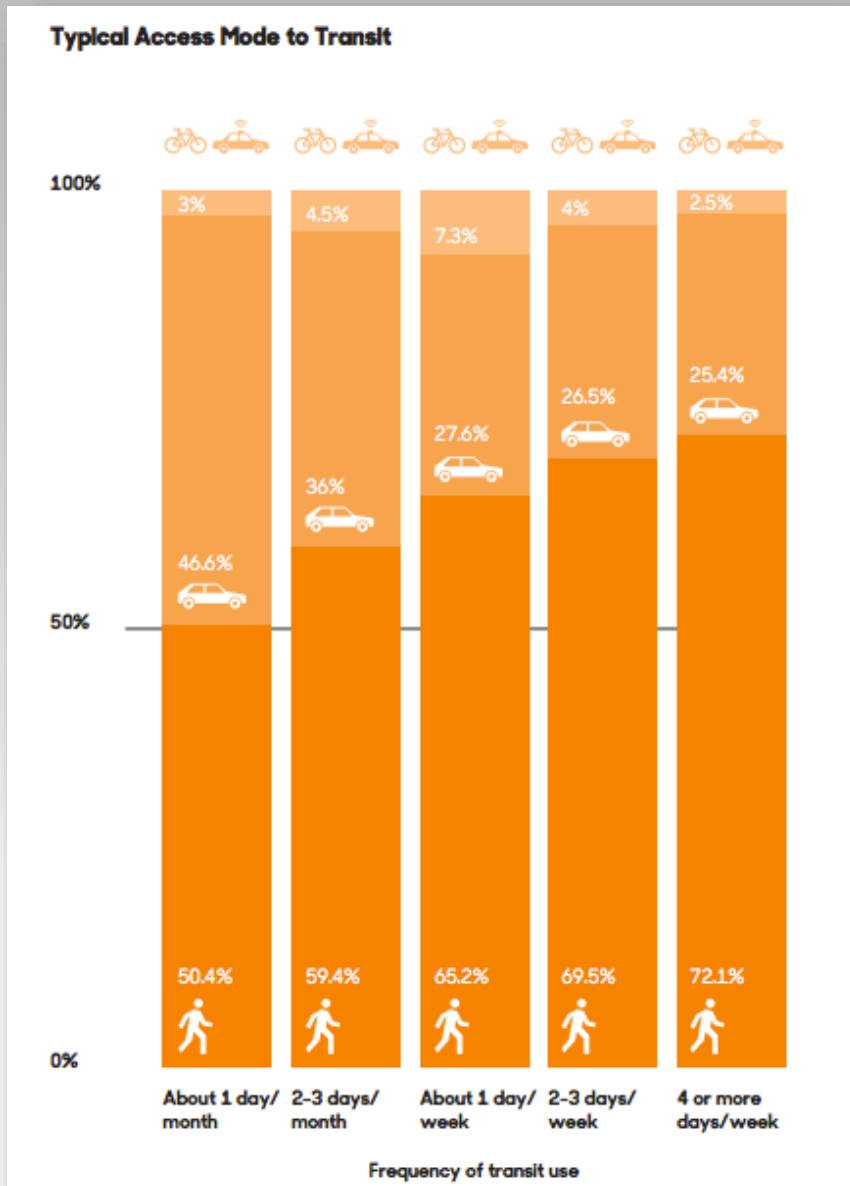
Source: IndyGo; credit: Jarrett Walker & Associates

UP TO 200 locations

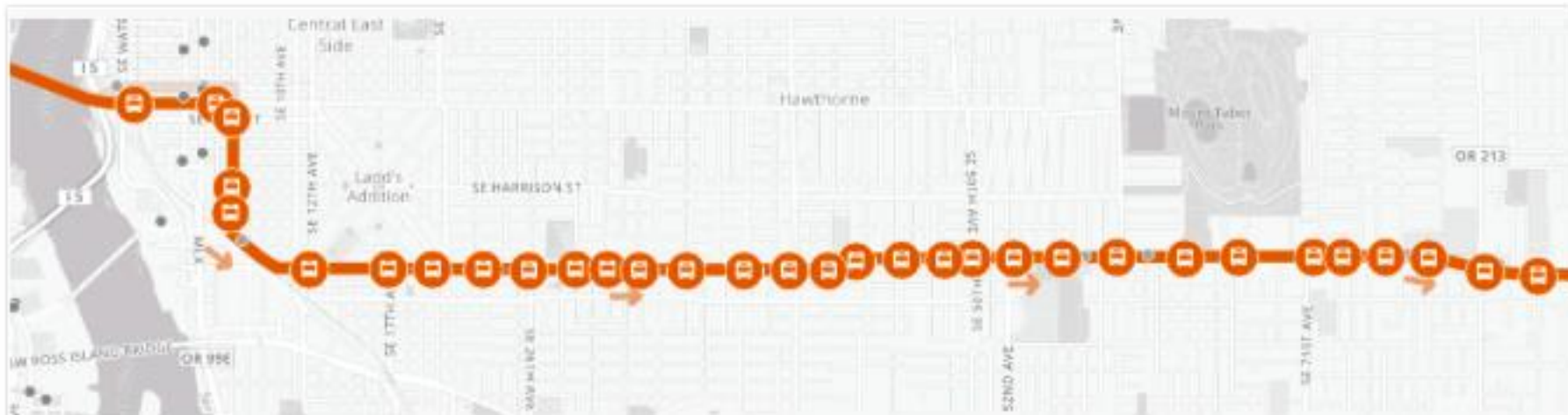
The city is all yours. With **up to 200 locations** planned in Indy, you can find an electric car wherever you need one. From downtown to the city limits, north to south and east to west, Blueindy lets you follow your whims, whatever road they may take. The adventure starts now; only you can decide where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



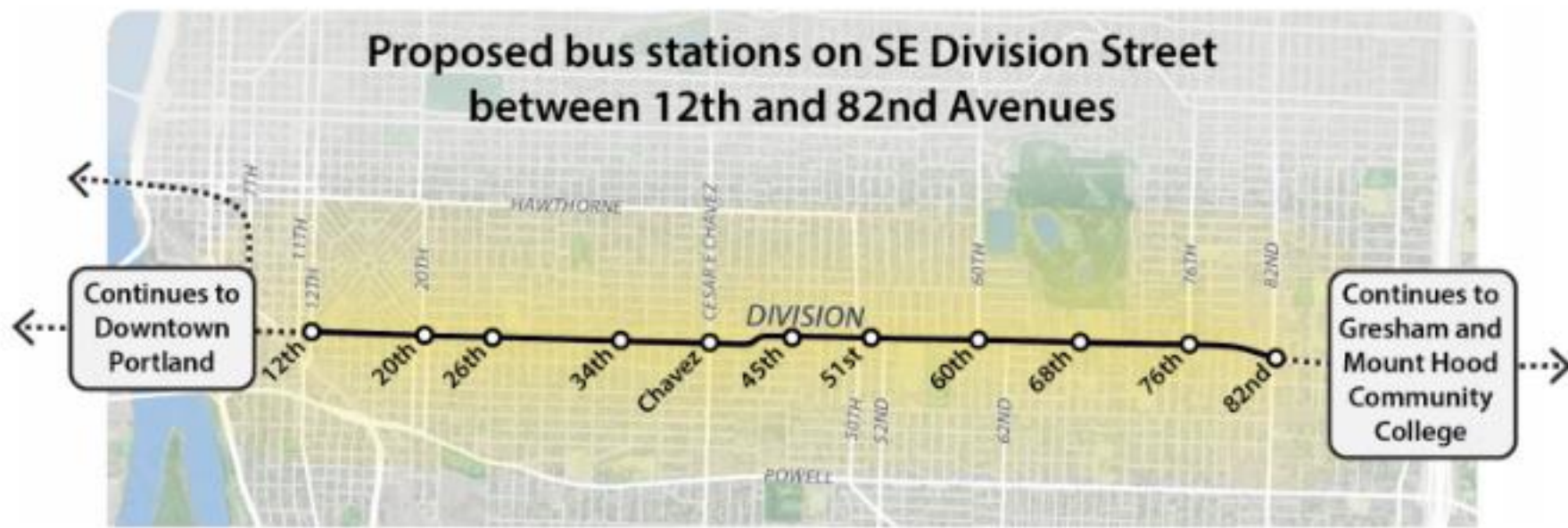
More walking = more transit ridership



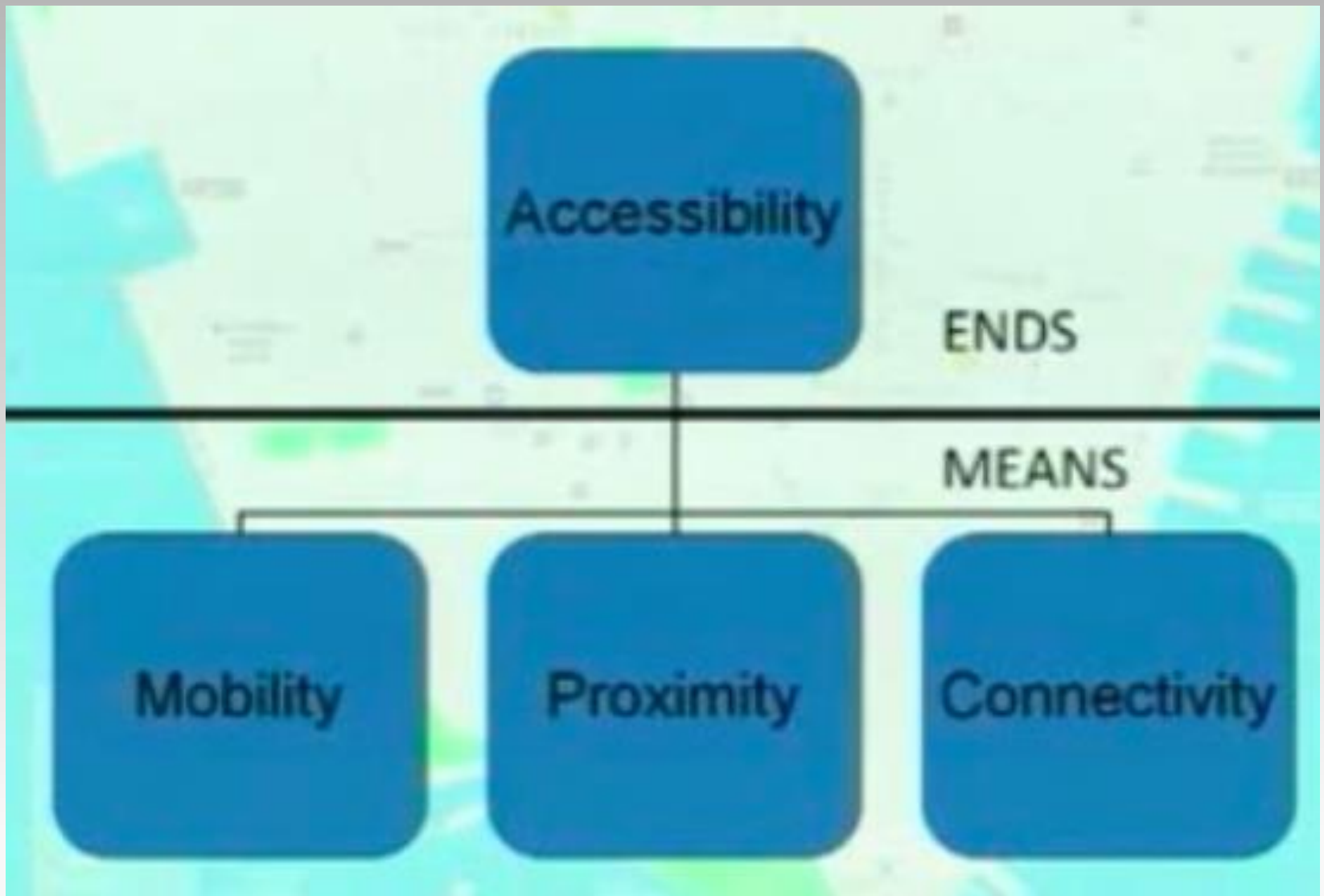
TransitCenter: “Who’s on Board 2016”



Current 4-Division eastbound stops



Proposed Division station locations





Access Across America

Other Observatory
Research

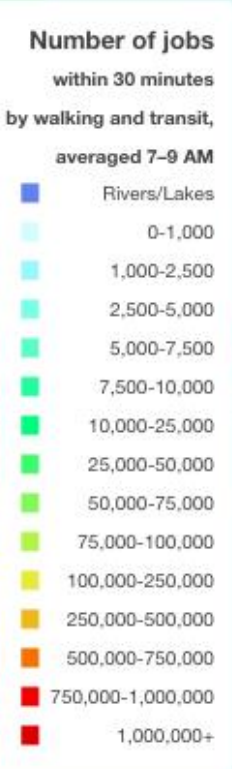
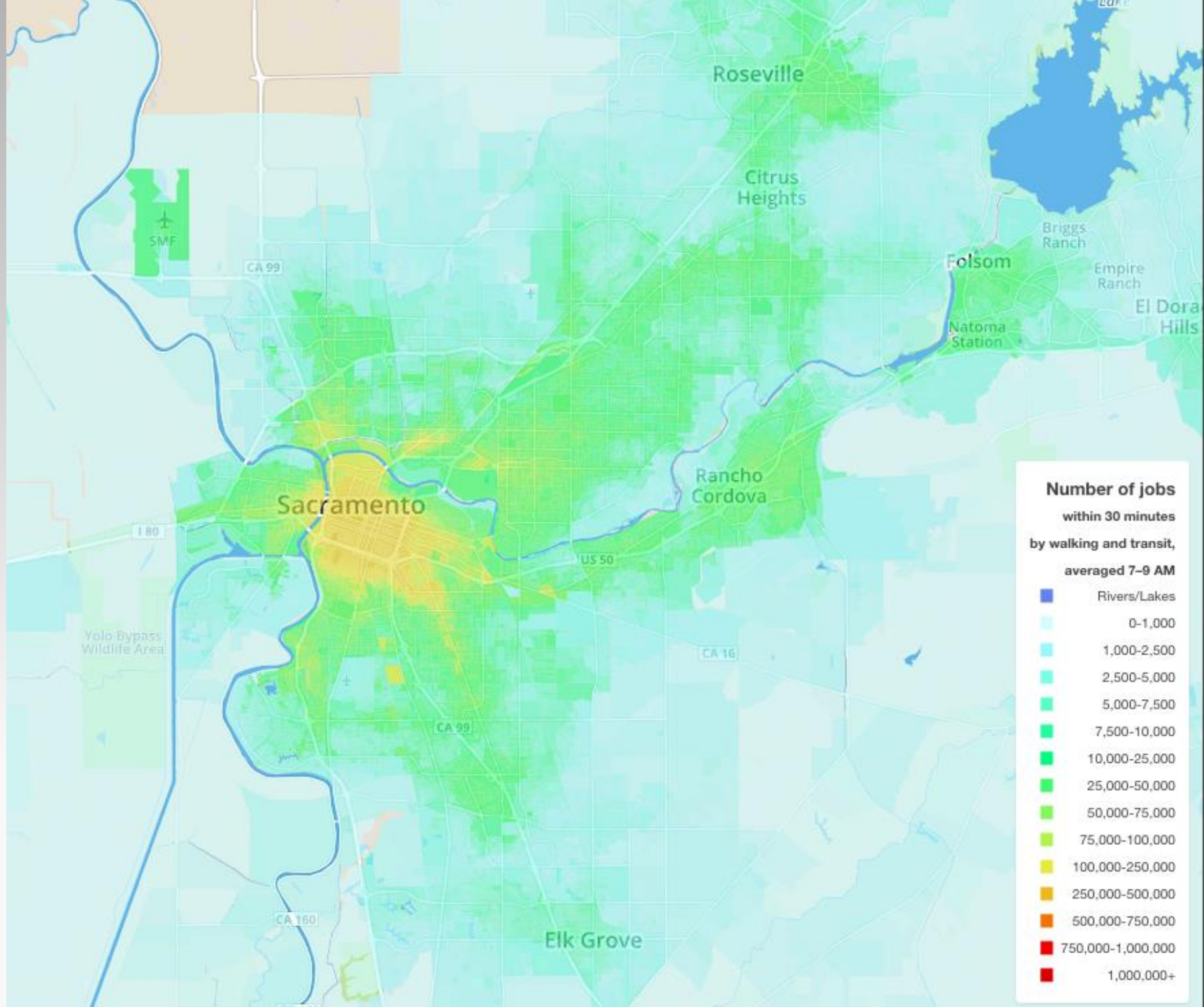
National Accessibility
Evaluation

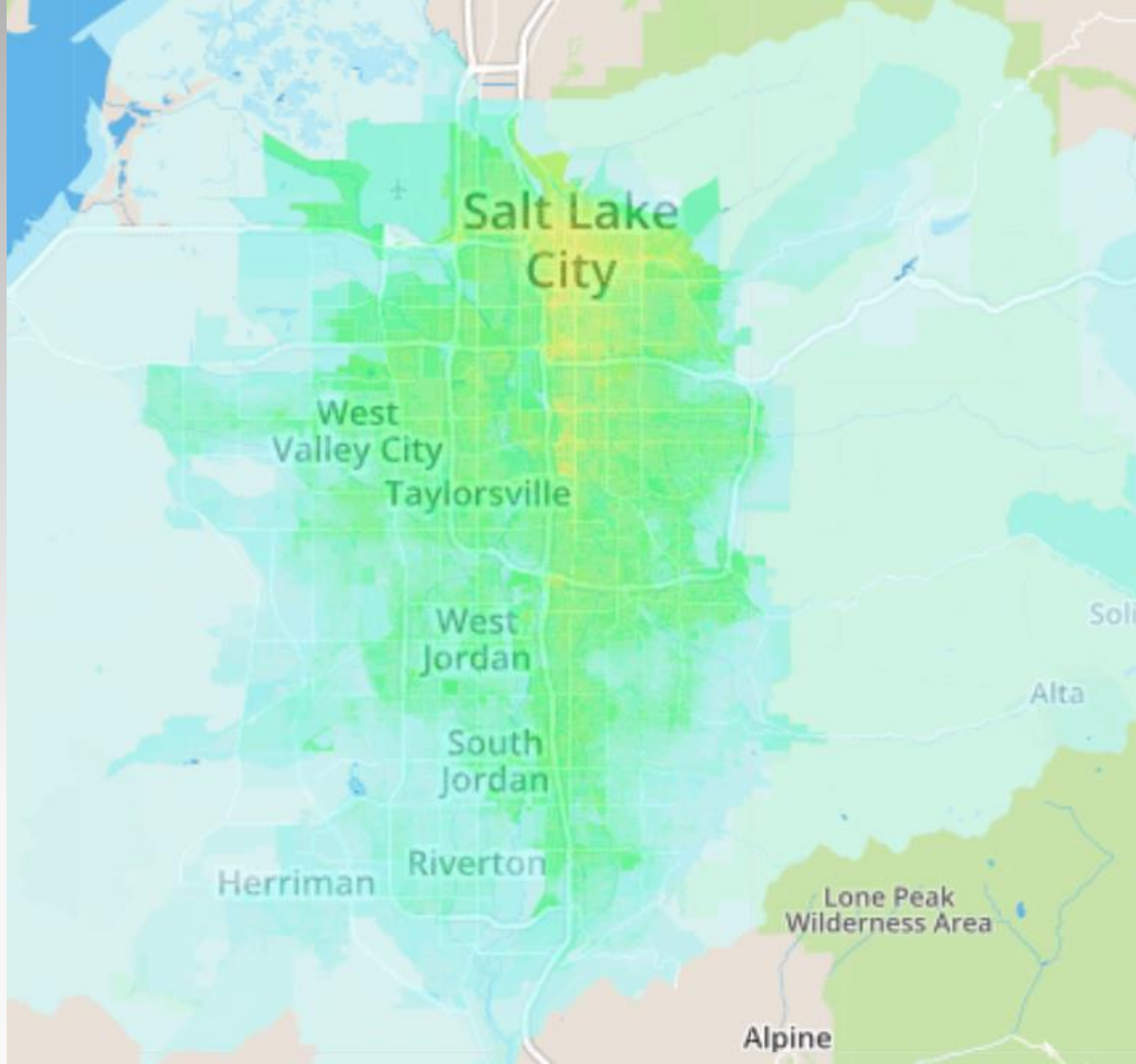
Previous Studies

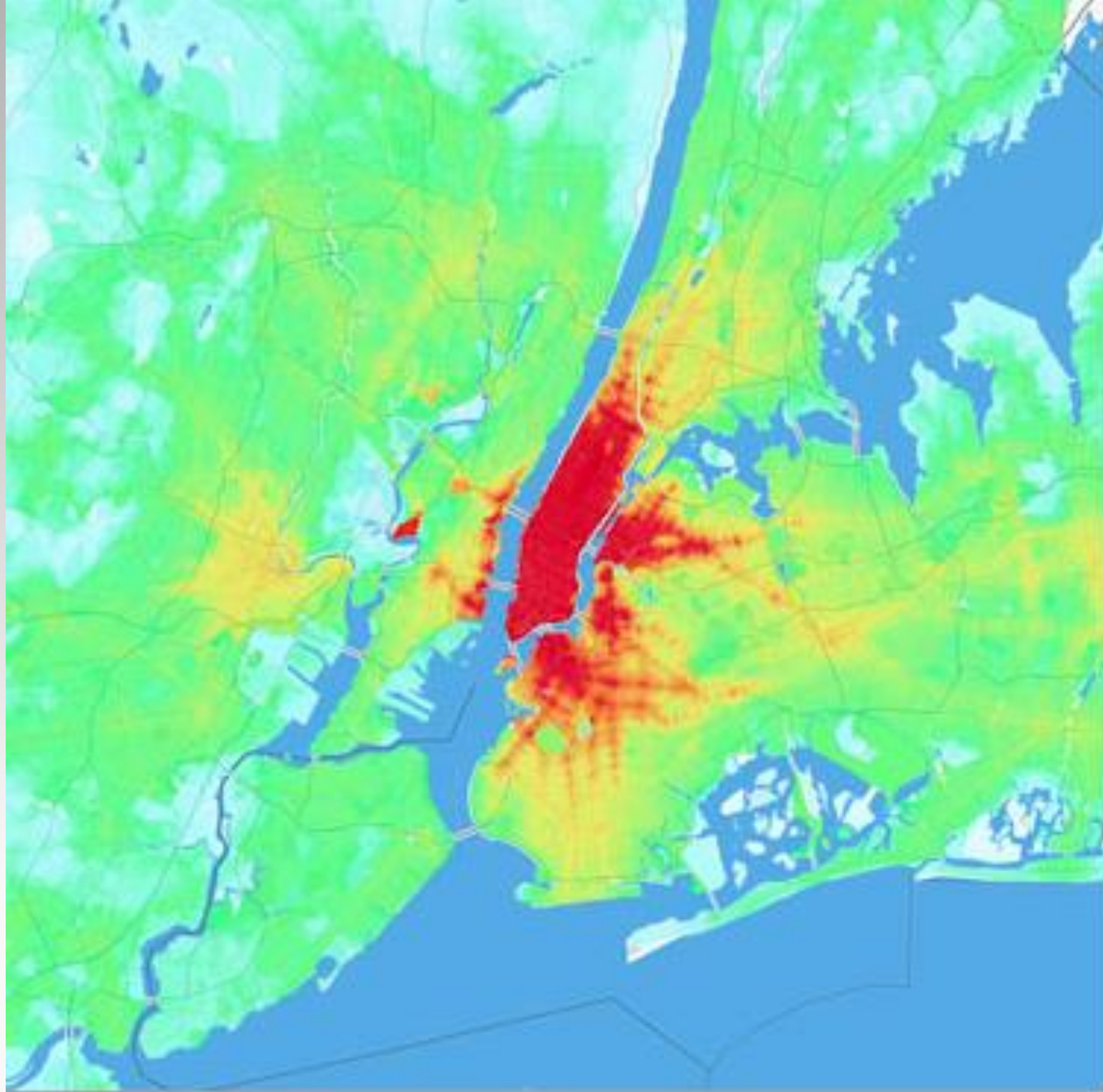
Access Across America: Transit 2014 Accessibility Maps

The following maps show summary accessibility data and maps for each of the 46 metropolitan areas included in the study.

The maps show 30-minute accessibility values at the Census block level. Lighter colors indicate few jobs can be reached within 30 minutes; darker colors indicate more jobs can be reached within 30 minutes. At the highest levels, millions of jobs are accessible by transit within 30 minutes. Travel times include walking, waiting, riding, and transfers.







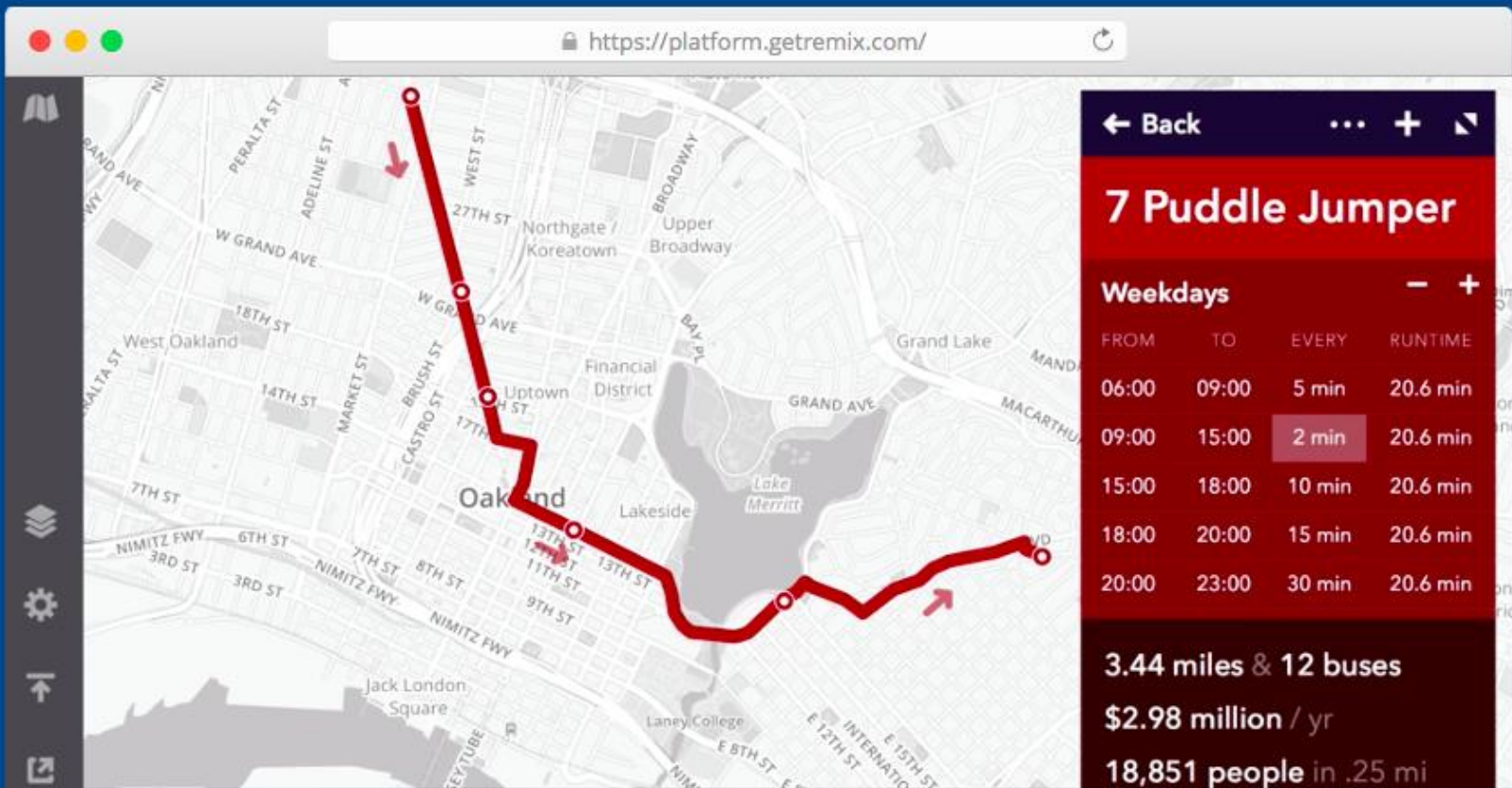
Accessibility map of New York City

NEW TOOLS IN TRANSIT PLANNING

A Planning Platform for Public Transit

See your plans come to life. Used by 100+ transit agencies in 8 countries.

[Request a Demo](#)



The screenshot shows a web browser window with the URL <https://platform.getremix.com/>. The main content is a map of Oakland, California, with a red line representing a transit route. The route starts at the top left, goes south on West Grand Ave, then east on Grand Ave, then south on Nimitz Fwy, and ends at the bottom right. A sidebar on the right provides details for the route:

7 Puddle Jumper

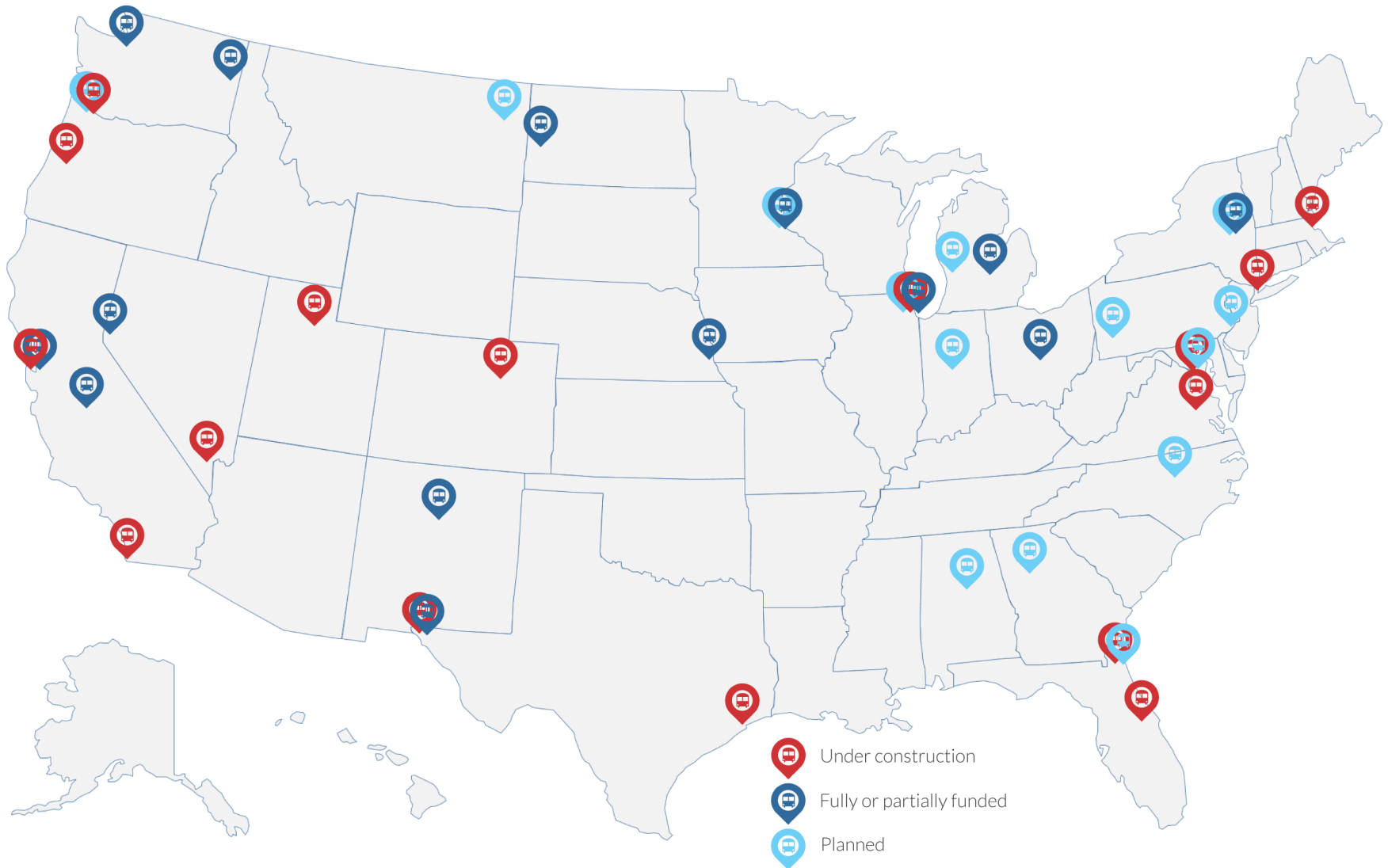
Weekdays

FROM	TO	EVERY	RUNTIME
06:00	09:00	5 min	20.6 min
09:00	15:00	2 min	20.6 min
15:00	18:00	10 min	20.6 min
18:00	20:00	15 min	20.6 min
20:00	23:00	30 min	20.6 min

3.44 miles & 12 buses
\$2.98 million / yr
18,851 people in .25 mi

CASE STUDIES

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/>

Running Ways

Running ways—lanes in which BRT vehicles operate—are improved to help decrease travel time, increase predictability, and increase a sense of permanence. Examples of improvements include: vehicles using dedicated lanes or guideways; semi-dedicated lanes (including high occupancy vehicle (HOV) or high occupancy toll (HOT) lanes).

Stations

Stations or shelters provide additional rider amenities and differentiate BRT from standard bus service. Amenities can include, among other things, weather-proofing, safety improvements, public art and landscaping.

Vehicles

Stylized vehicles run on alternative fuels or hybrid technology for a cleaner and quieter trip. BRT vehicles are also often designed to carry more riders and improve boarding with multiple boarding doors or low floors.



Source: United States Government Accountability Office (2012)

Improved Service

BRT systems provide service for riders that is faster, more reliable, and more frequent than standard bus service.

Fare Collection

Pre-paid or electronic passes can increase the convenience and speed of fare collection decreasing boarding times and providing travel time savings.

Branding

Distinguishes BRT from standard bus service by marketing the BRT as a separate service, or unique branding of stations or vehicles.

Intelligent Transportation Systems (ITS)

Improves service reliability by providing priority for BRT vehicles at intersections or extending a green light.

tation
caution

Cleveland OH

Built bus rapid transit system – “Health Line”

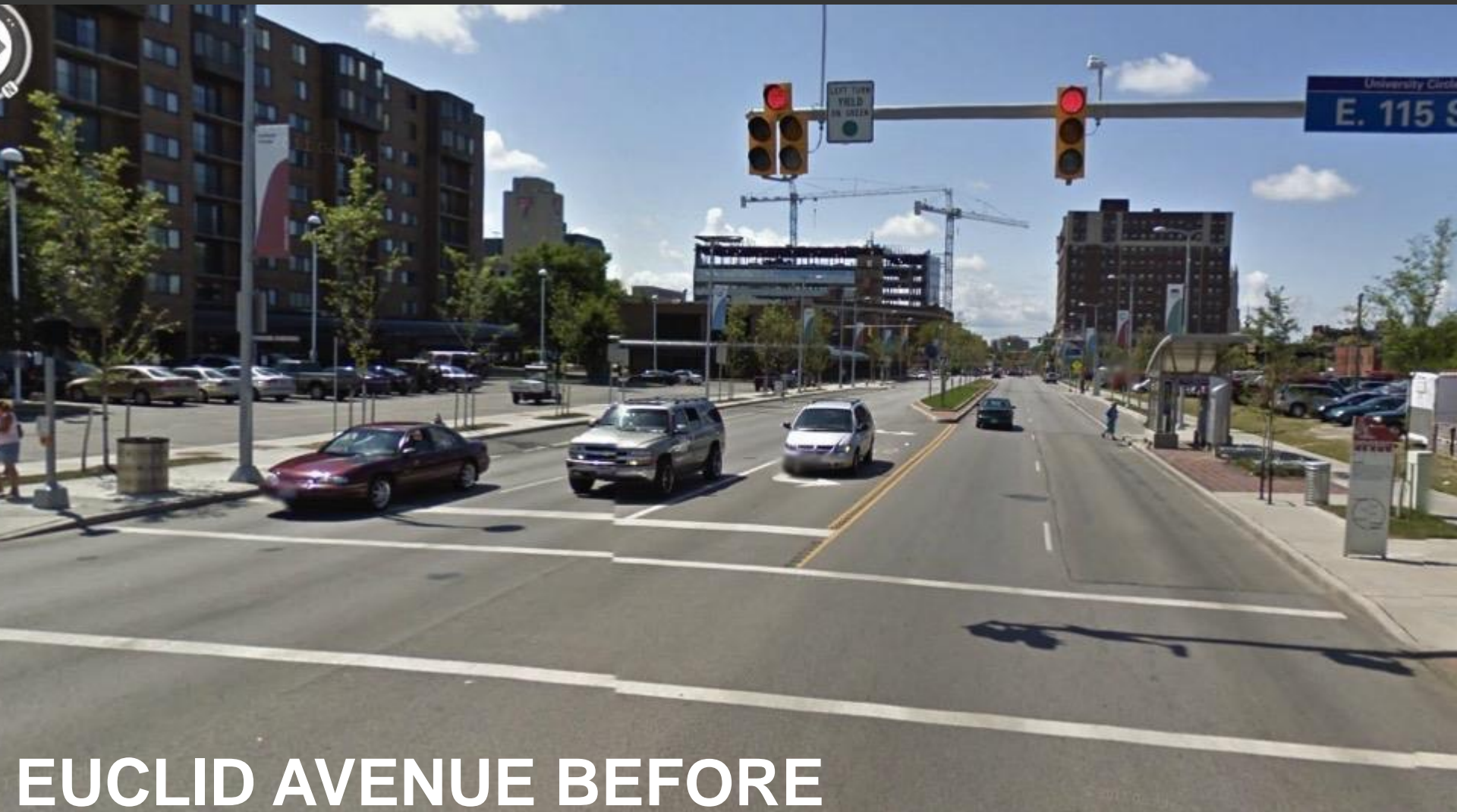
Opened in 2008 replacing local bus service

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

BRT Gaining Office Share

OFFICE Development Metric	BRT Metros
2000-2007	
New Office Square Feet	39.0 million square feet
Within less than 1/2 mile of BRT	4.5 million square feet
Share	11%
2007-2015	
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>	-455	22

Major Disruptive Technologies

- Geolocation
- Ridematching
- Fare Payment
- Driverless vehicles

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

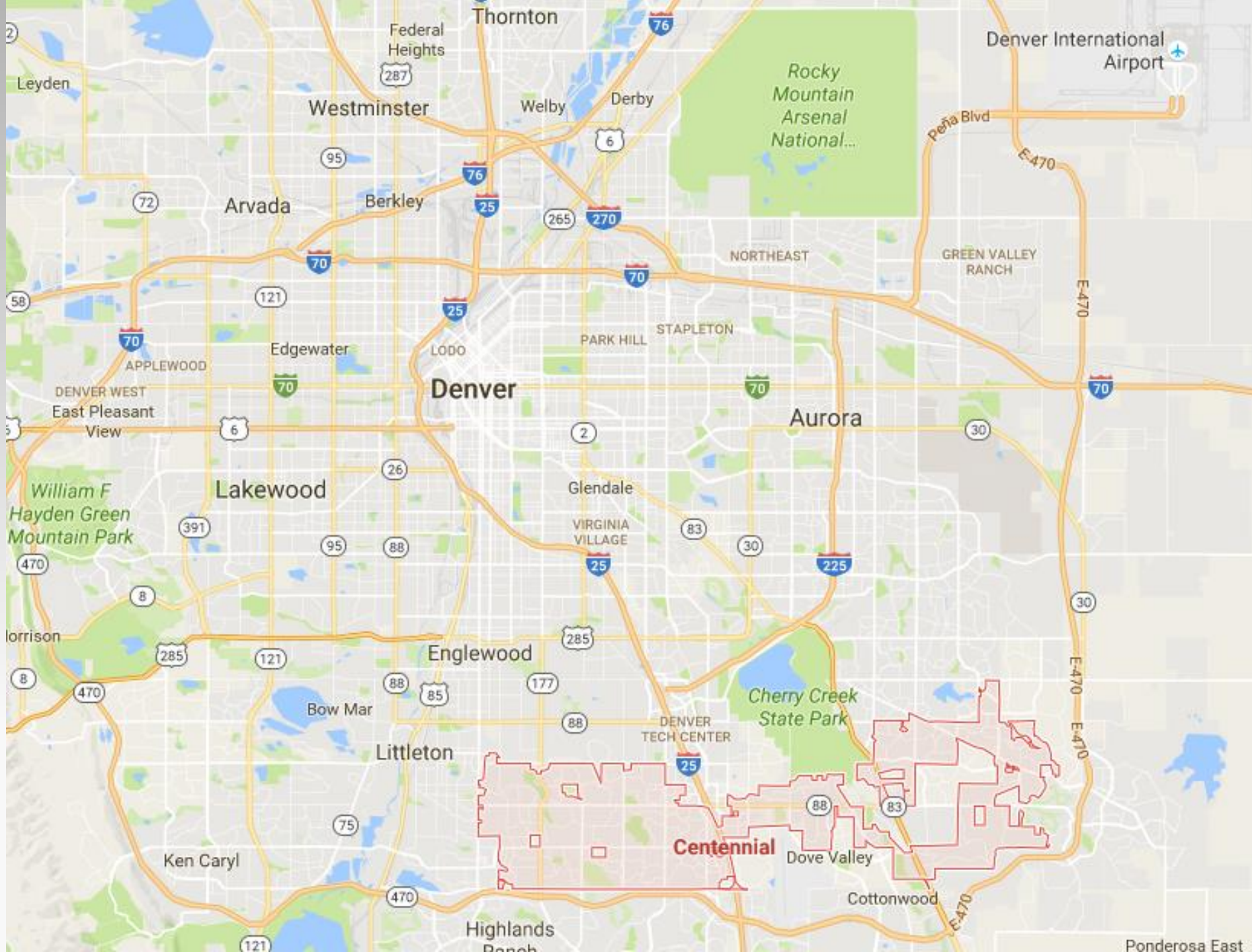
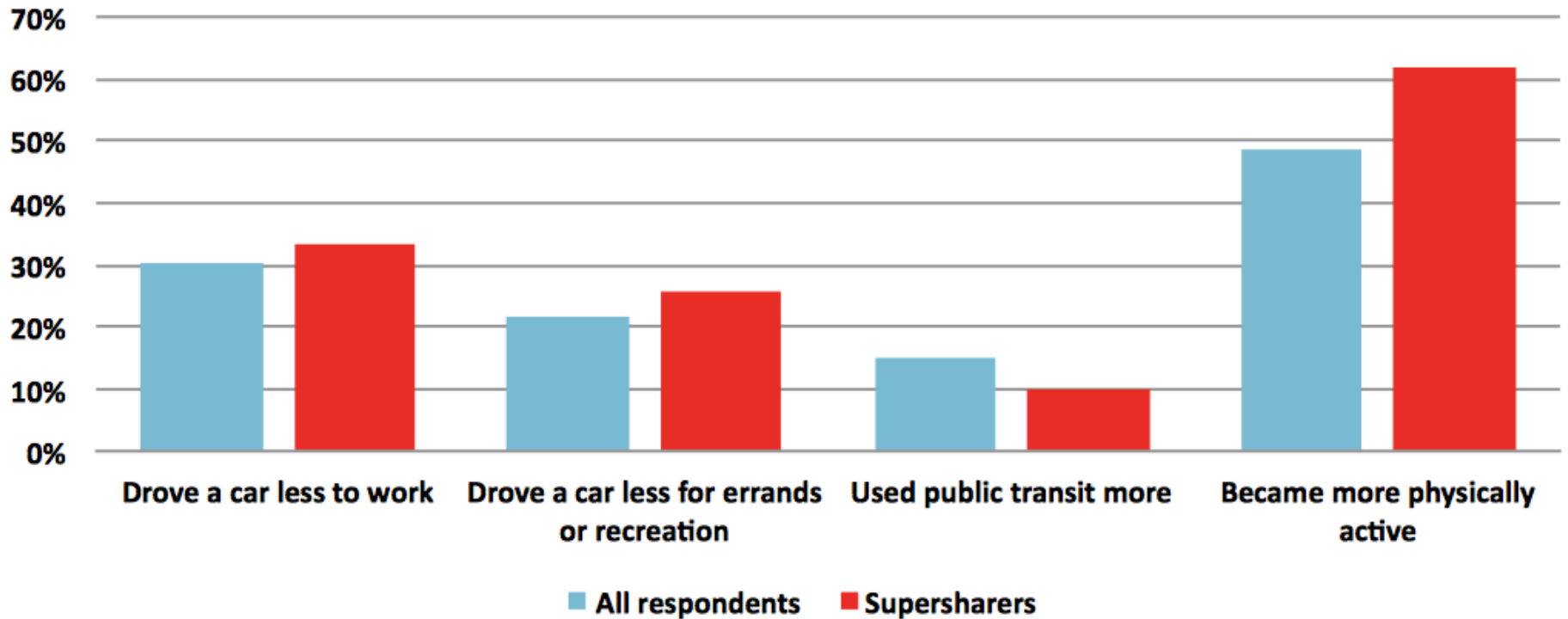


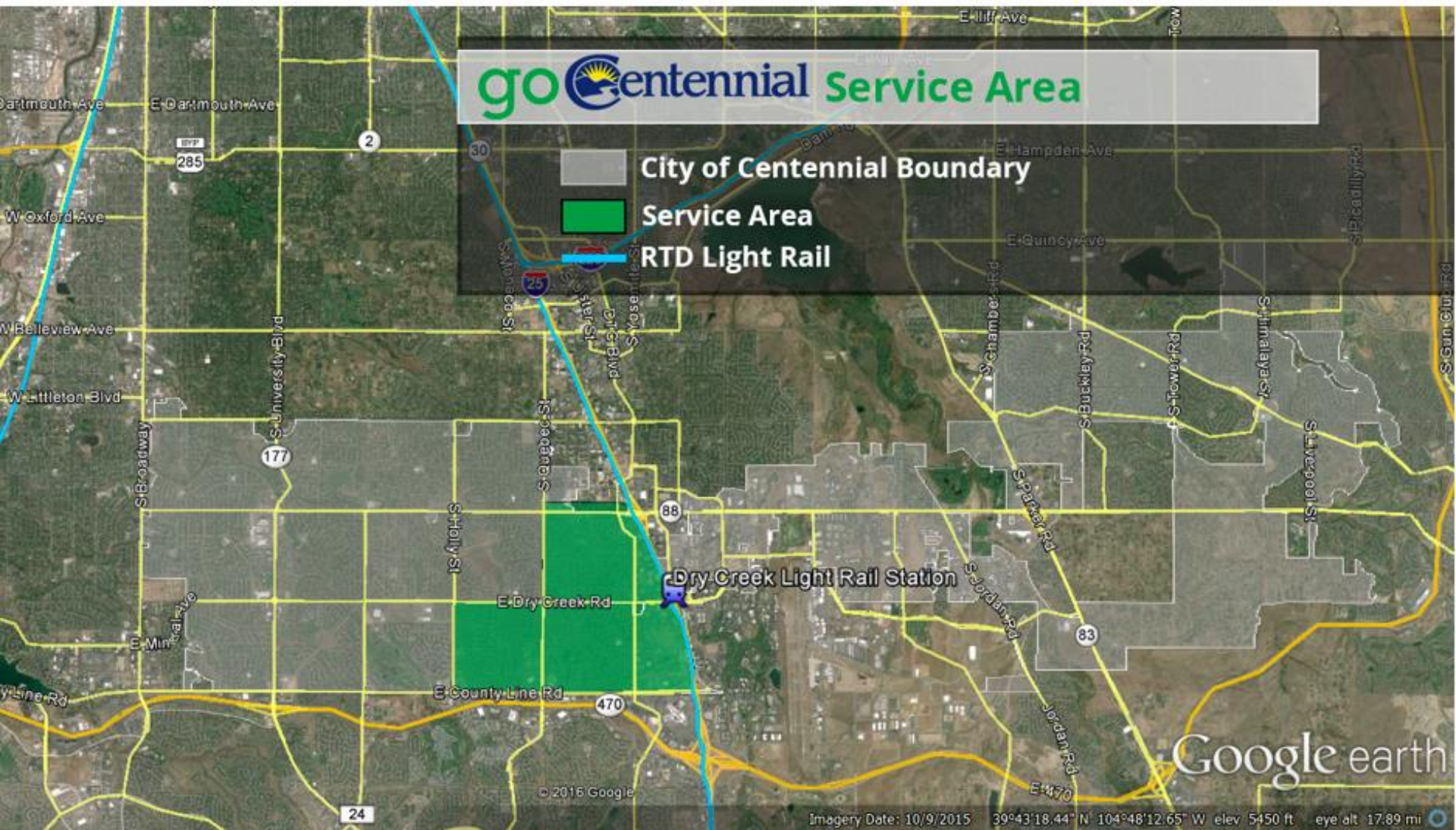
Figure 4:
Lifestyle changes since starting to use shared modes (net change)
—supersharers v. all respondents⁴



Source: SUMC and APTA; March 2016

go Centennial Service Area

- City of Centennial Boundary
- Service Area
- RTD Light Rail



Google earth

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

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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



F



<1 min

\$4.50

0.1kg CO₂

22 calories

8:15 - **9:00** (📶 46m)

Take Lyft, Board tram line E and Take Lyft

More Info



Pilot



8m: Free



E



3m

\$10.63

1.2kg CO₂

5 calories



With Special Recognition to:



Pinellas County, FL



**NO TAX
FOR TRACKS**



**STOP
PINELLAS
LIGHT RAIL**

Vote No Nov. 4th

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
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

Source: PSTA, 2016



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

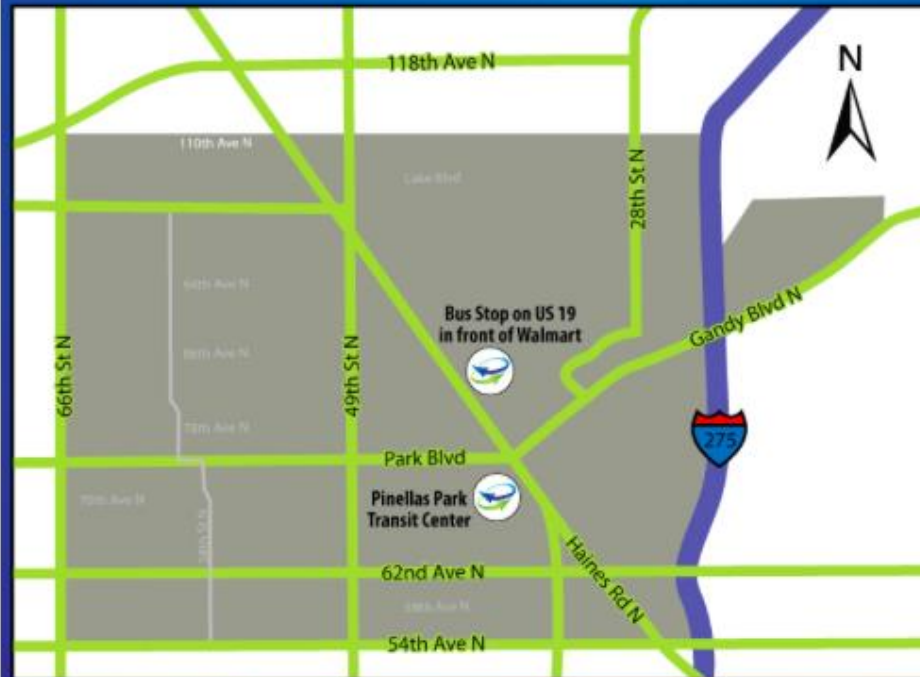
(South end of Shoppes at Park Place)

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**

abc
6:16

Pinellas County, FL

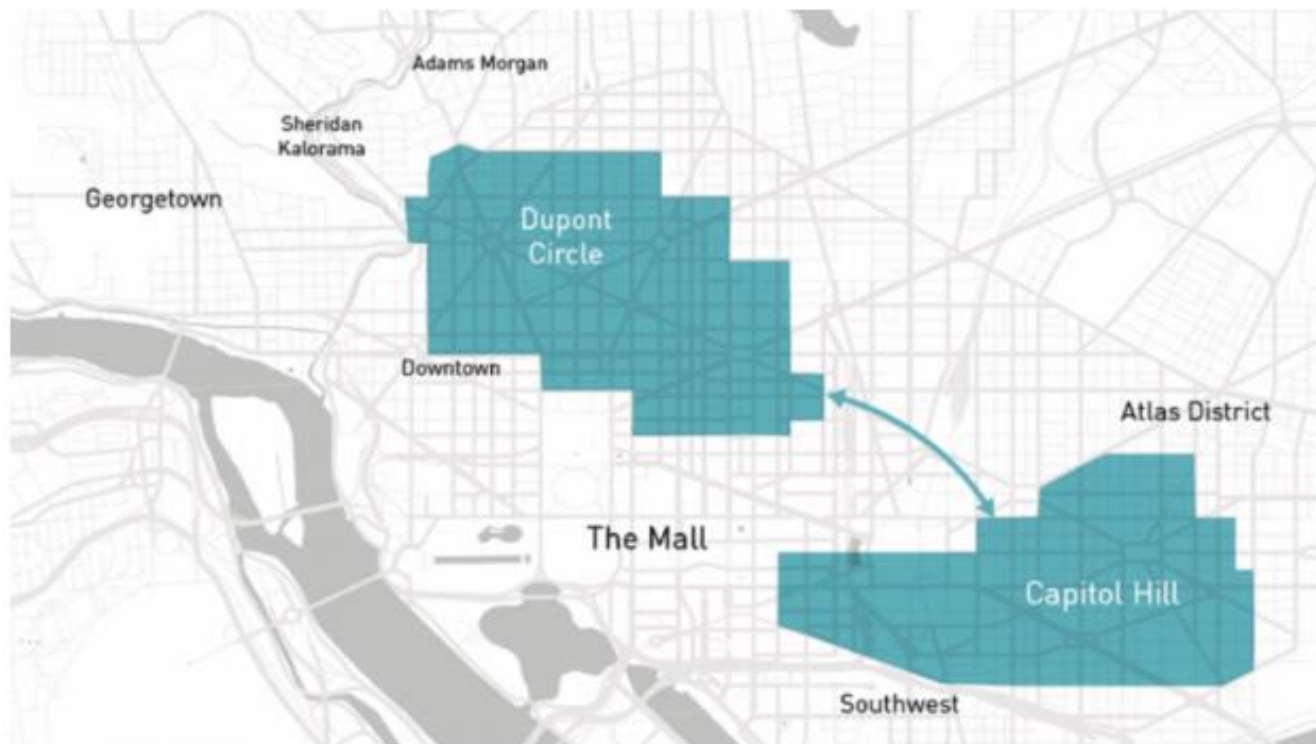
- Two services cut: one fixed route, one shuttle
- 6 month pilot \$40,000 – half of prior service cost
- Provided paratransit service plus dial-up service
- Expanded pilot to 20 more cities August 2016
- New service “TD late shift” for low income workers
 - 9pm-6am free rides on Uber

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 the price 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



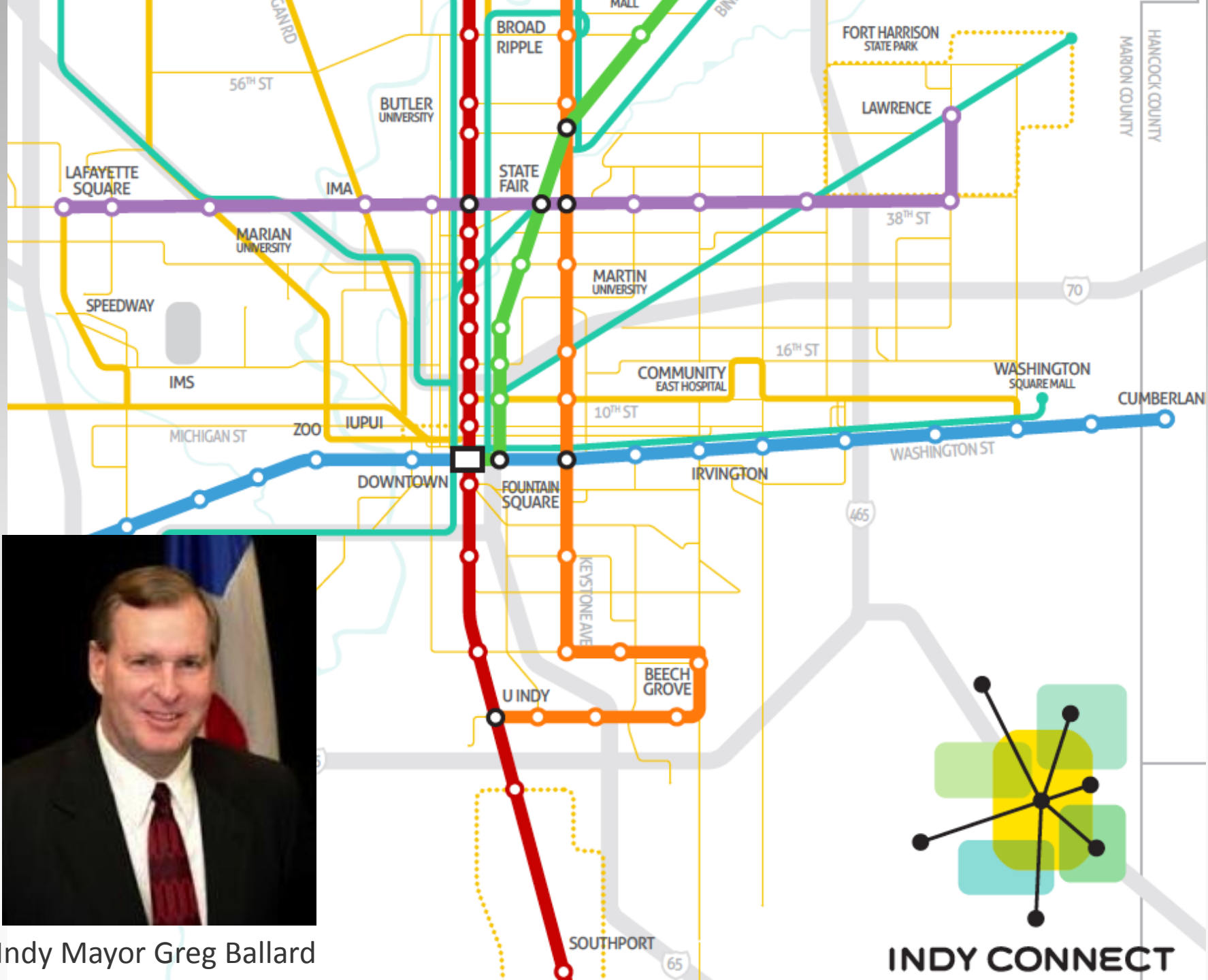
TAKEAWAYS

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

Transportation Takeaways

- Local Government – plan supportive land uses – consider bus priority features – fund pilot programs to test mobility services and allow them to fail fast
- Highway Districts – consider transit as an investment in avoided roadway cost – consider signal preemption other transit features – replace LOS with access measures
- Transit agencies – test new pilots, partner with mobility providers, seek new grants from health agencies & foundations
- MPOs/regional agencies – develop multimodal access measures to evaluate projects based on cost-benefit – ID flex funds to support mobility pilots – use new modeling tools
- State DOTs – see highway districts!



Indy Mayor Greg Ballard



T4America

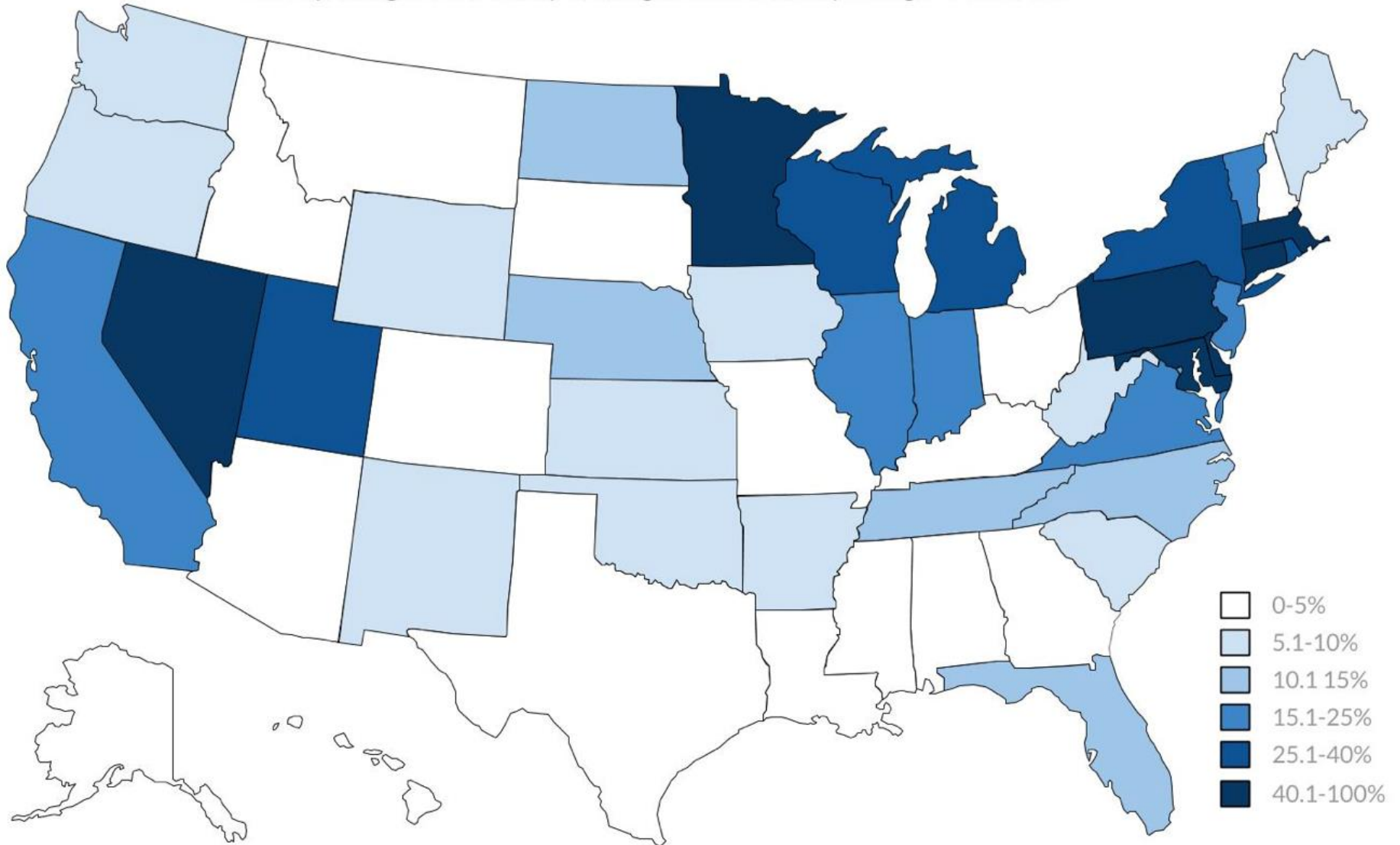
1707 L Street NW Ste 250
Washington DC 20036
jcorless@t4america.org

t4america.org
[@T4America](#)



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



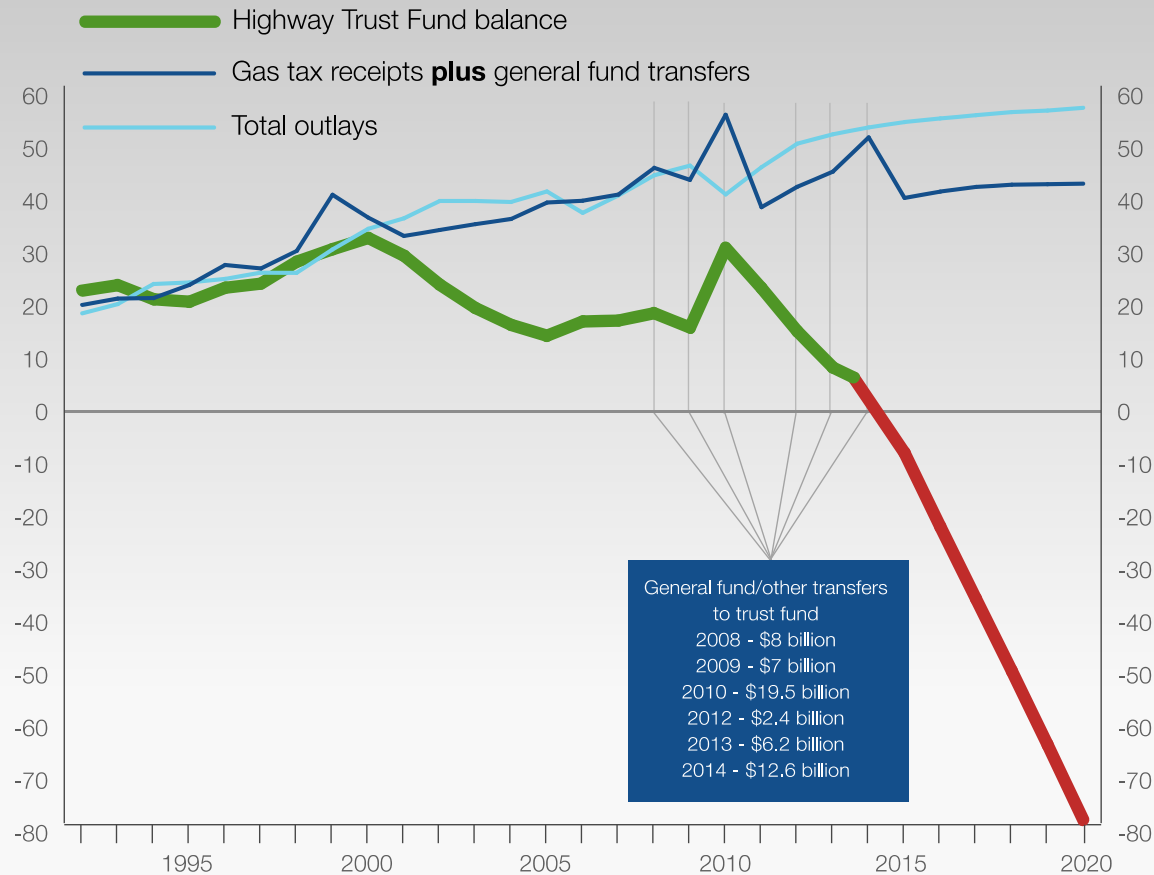
Source: National Transit Database

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

Fast Forward to 2016

Outlays exceeding gas tax receipts since the turn of the century
 Only general fund transfers have kept the trust fund solvent

In billions



*2012-2020 numbers are based on most recent CBO projections- August 27th, 2012

**DOT requires a minimum \$6 billion cushion, hence the HTF hits the red before crossing zero.

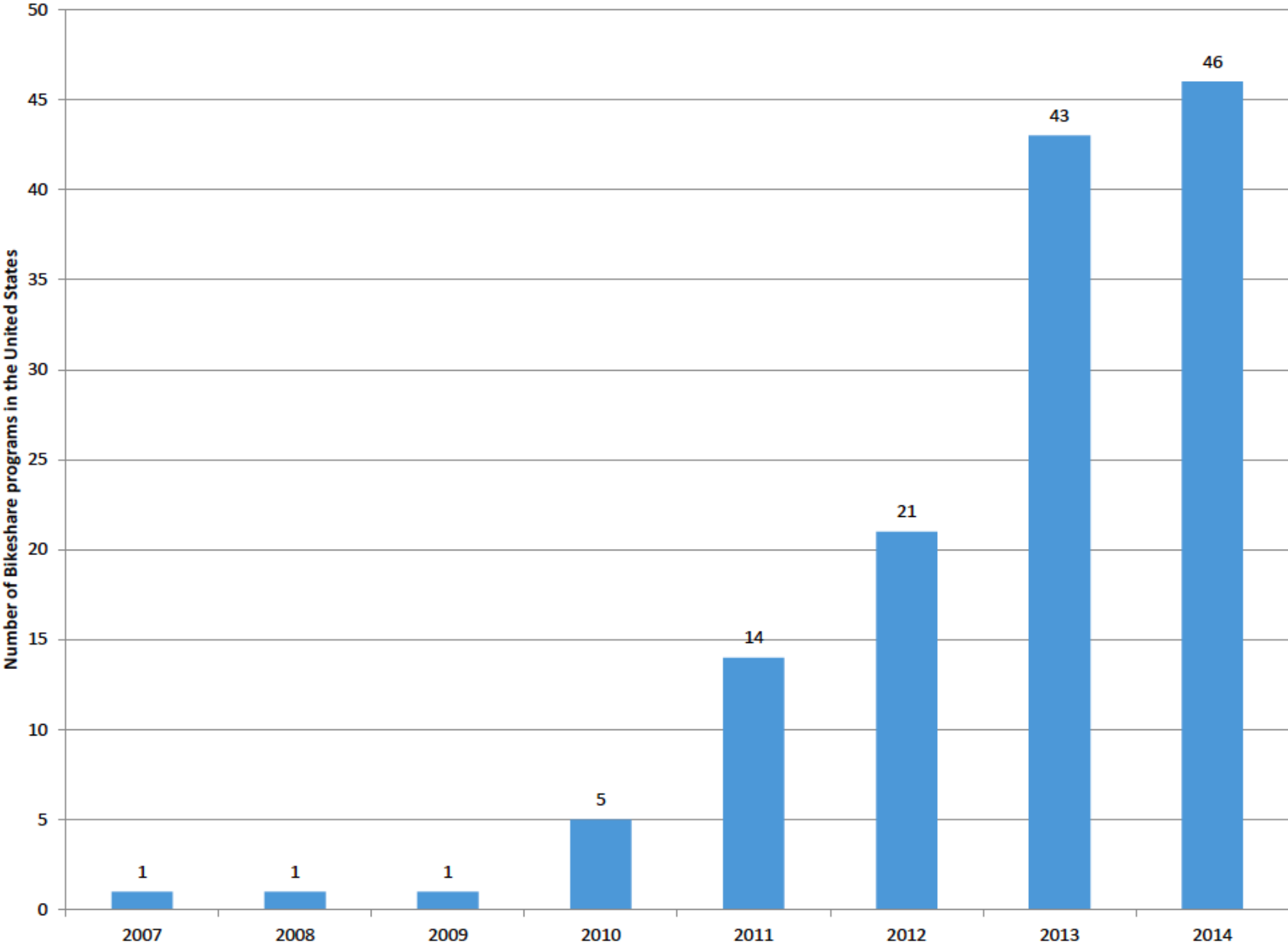
<http://www.fhwa.dot.gov/policyinformation/statistics/2010/fe210.cfm>



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



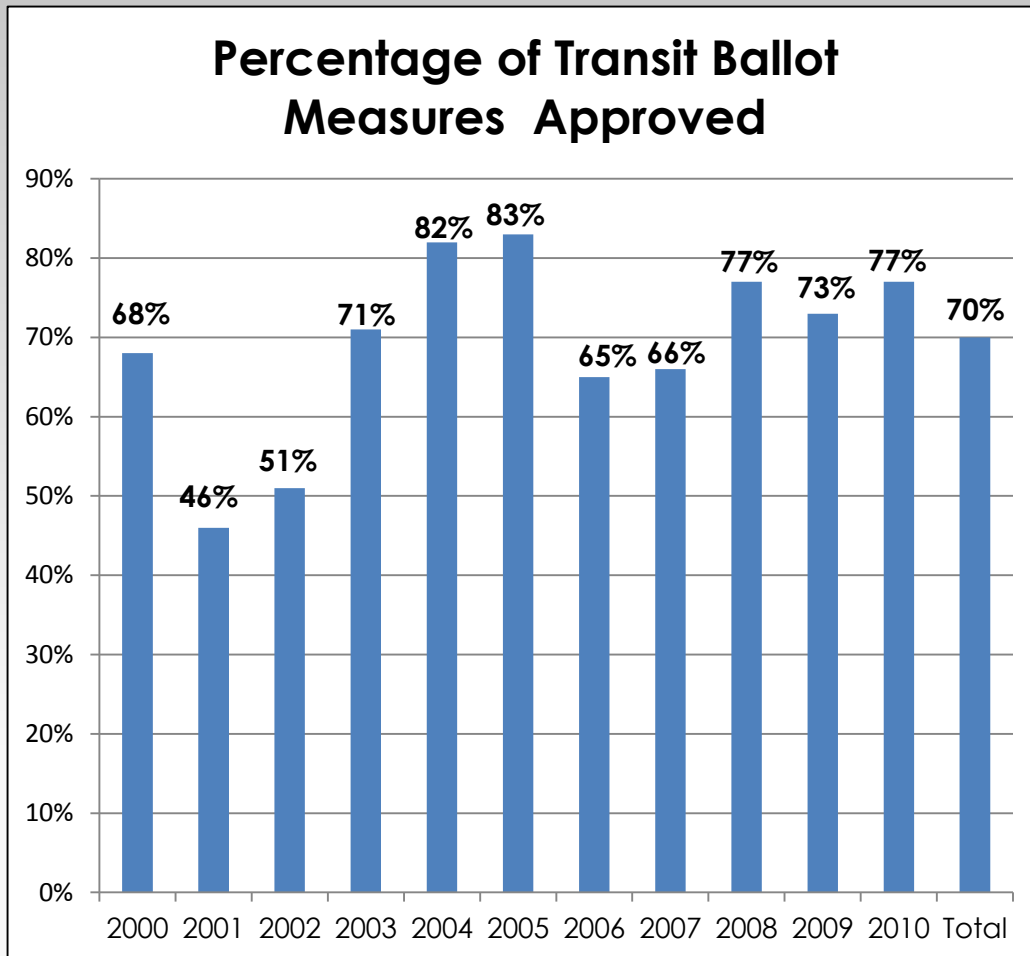
Figure 2. The Growth in Bikeshare Programs in the United States (2007-2014)²⁶



Transportation Takeaways

- You are in a race for talent against other peer regions
- You must learn from others – Denver, Salt Lake
- Those who raise more local dollars will do better
- A comprehensive approach is critical
 - Not just about bus vs. rail
 - Bigger ‘signature’ projects are important – so too are small ones
- Your tent must be big and diverse
- It’s not about rubber tires vs. steel wheels
 - Name of the game is prosperity, competitiveness, quality of life

Transportation Measures Win at the Polls



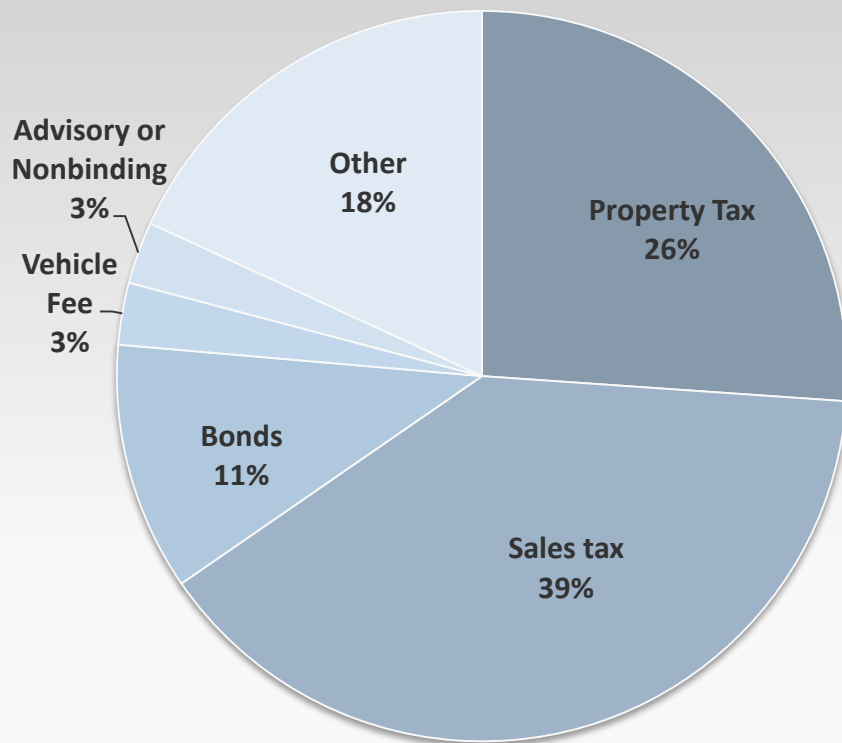
70% Approval Rate
for Transportation
Measures

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

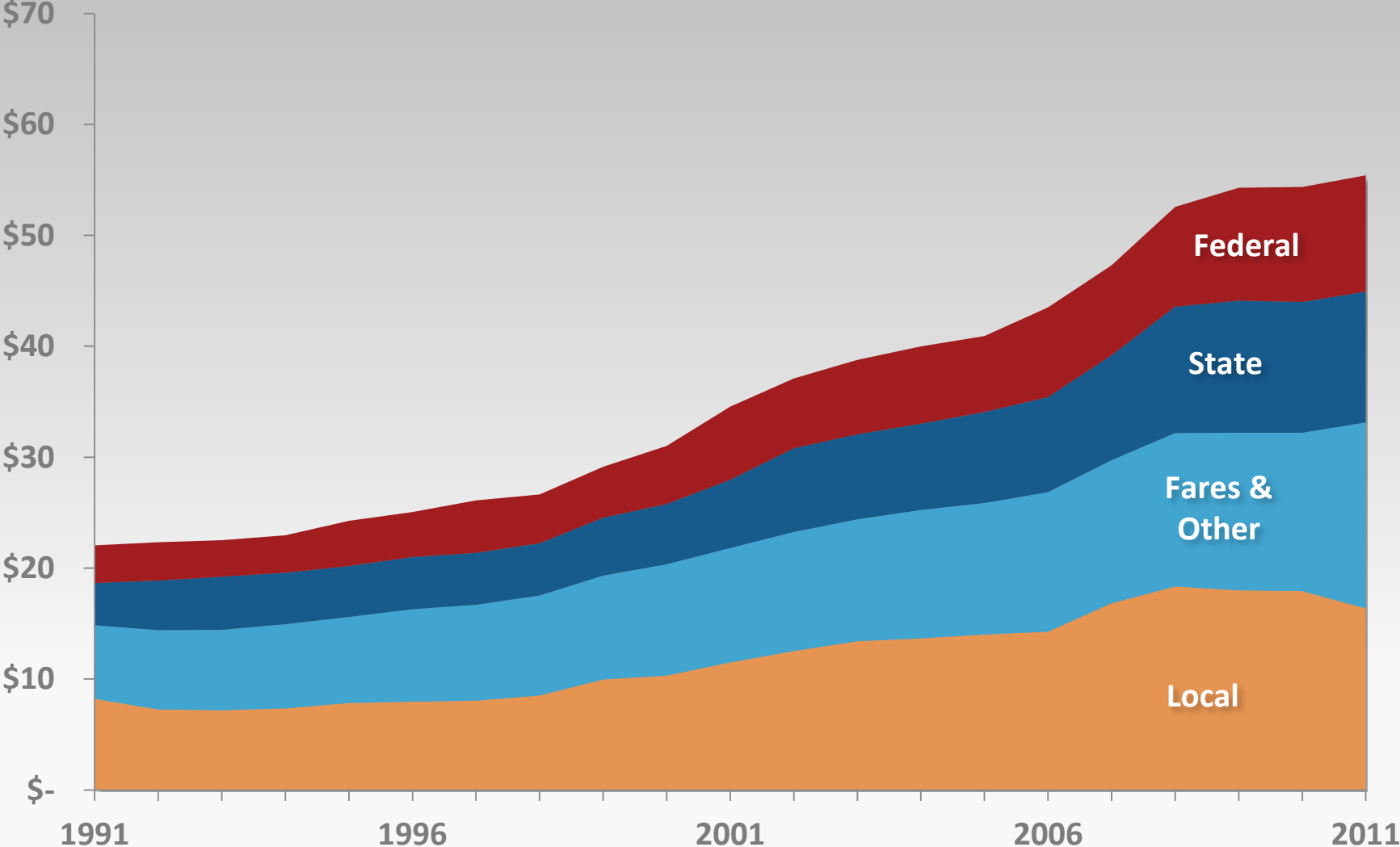
84% of all transportation measures are finance-related

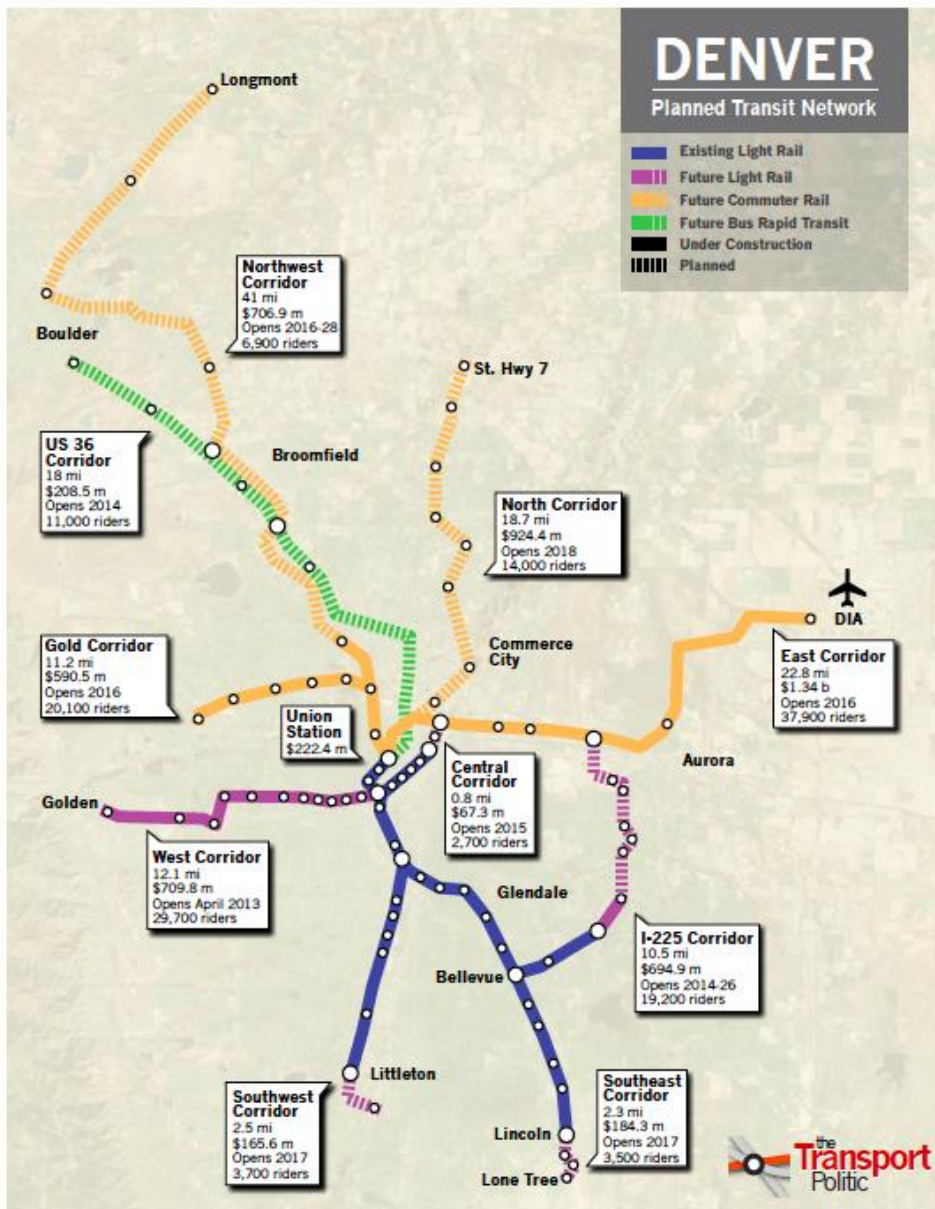
Sales tax increases or renewals are most common type

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

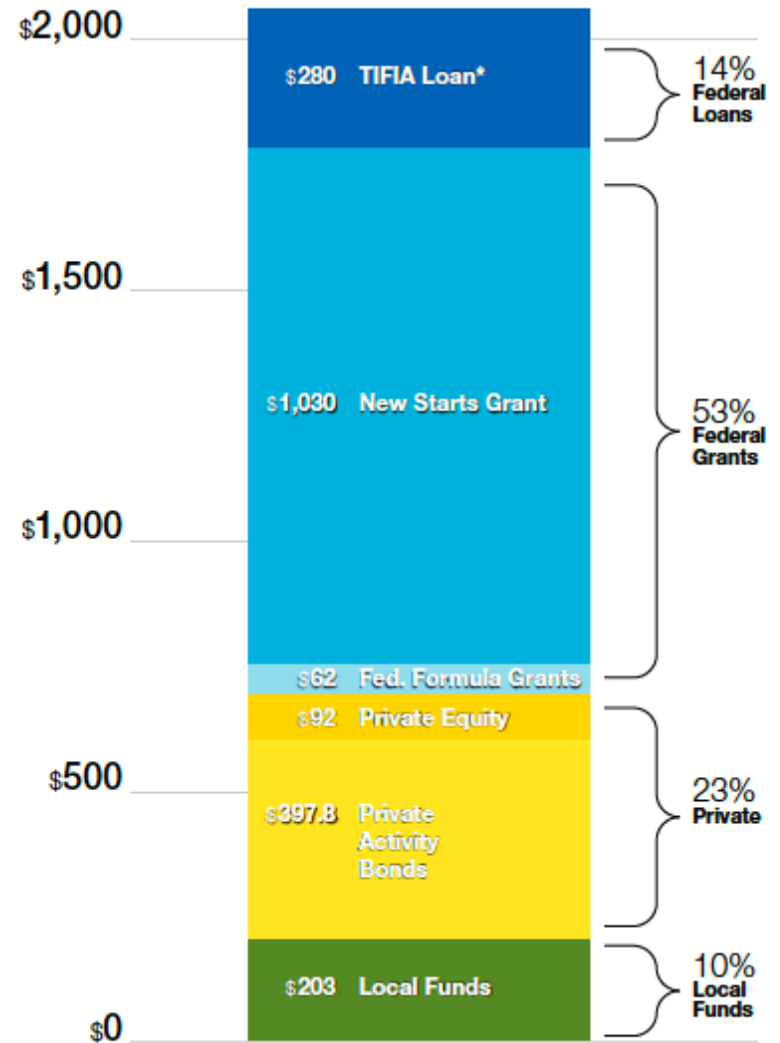
Property tax measures are more successful than sales tax measures, with 81% approved vs. 59%

Public Transit Funding, All Sources (Billions of \$)





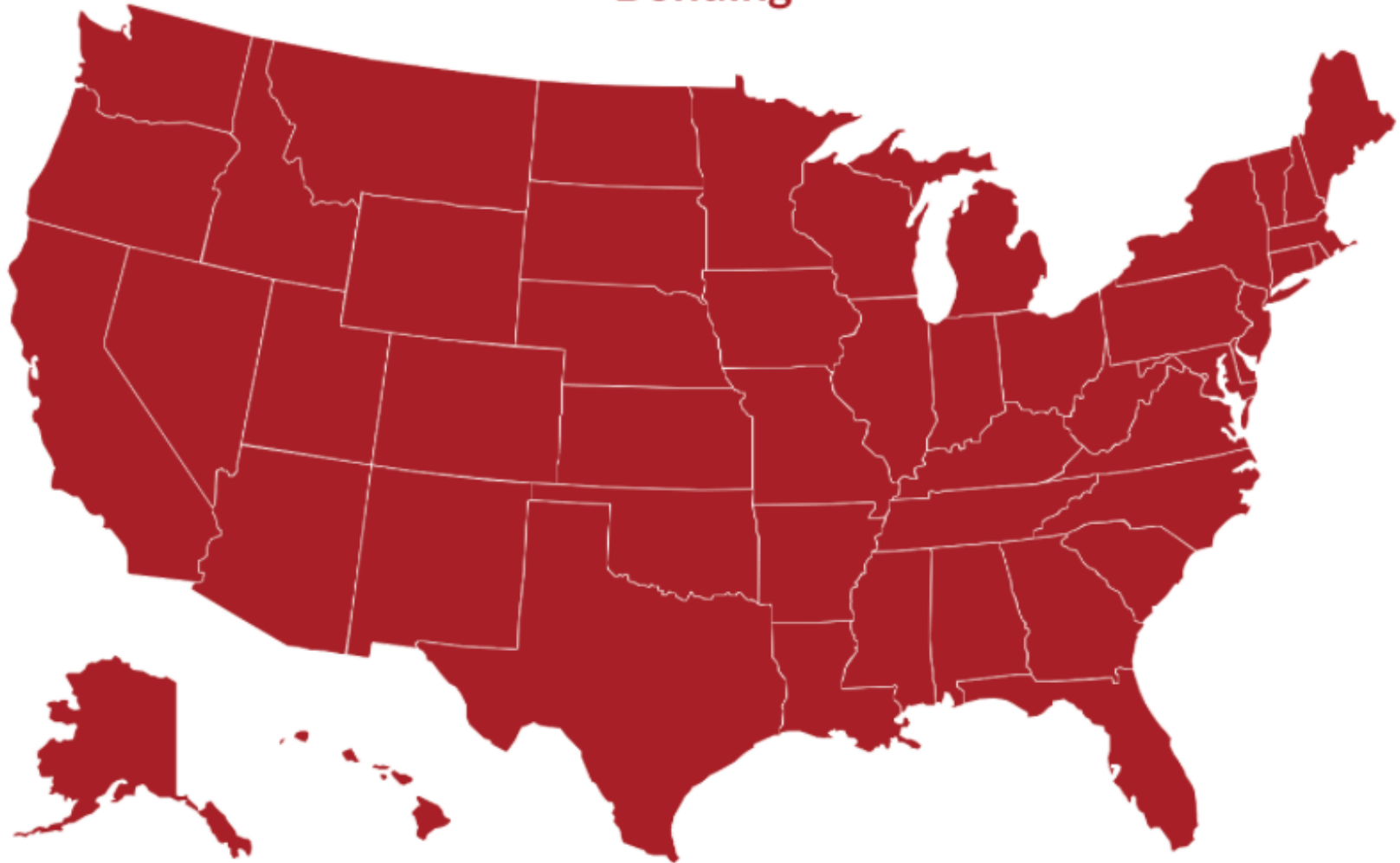
Denver Eagle P3 Funding** in Millions of Dollars



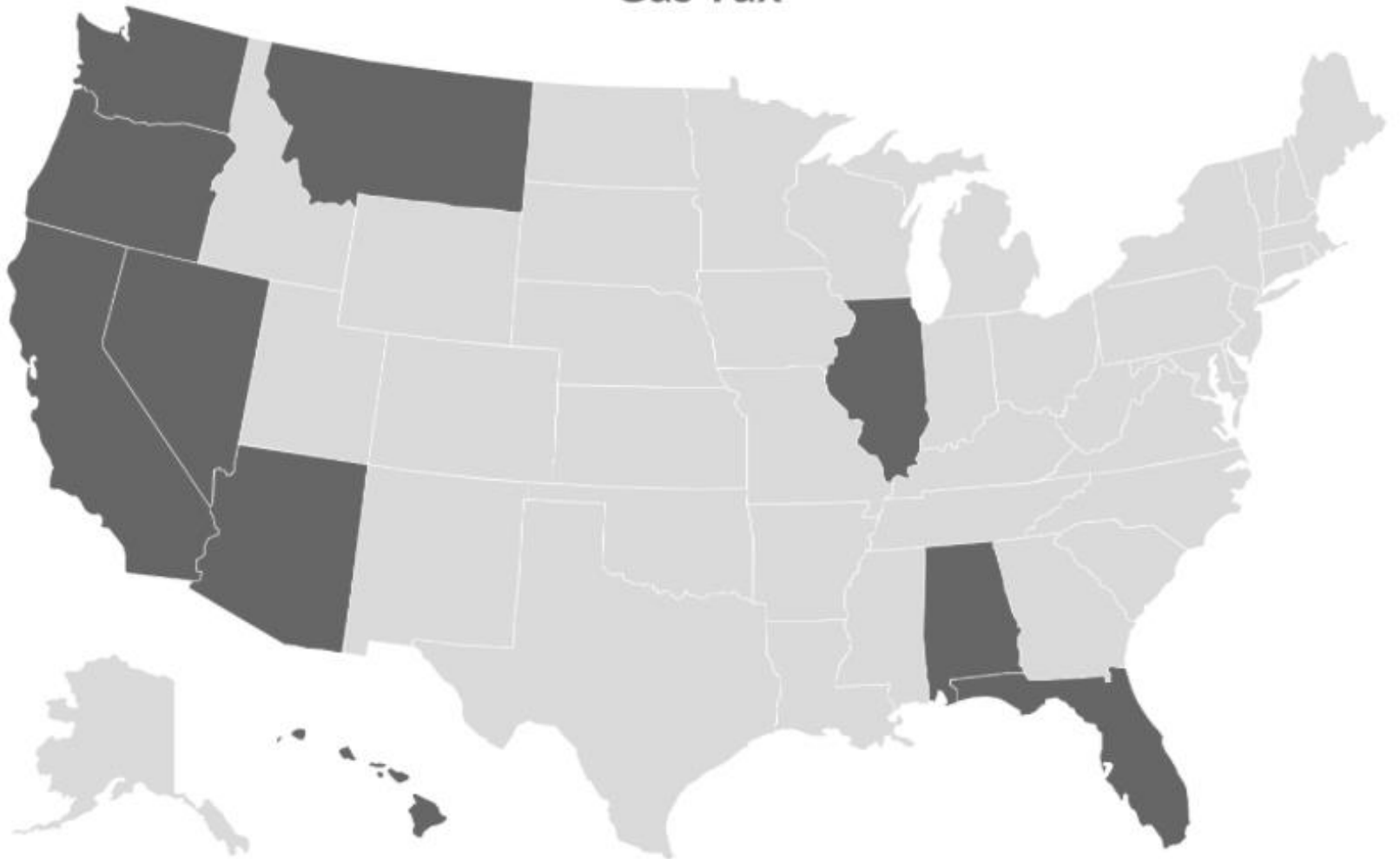
*All federal loans and private bonds will have to be repaid with local funding.
 **Denver Regional Transportation District "2011 Annual Report to DRCOG on FasTracks," available through the following link: http://www.rtd-fastracks.com/main_54

Available funding options by local ballot measure

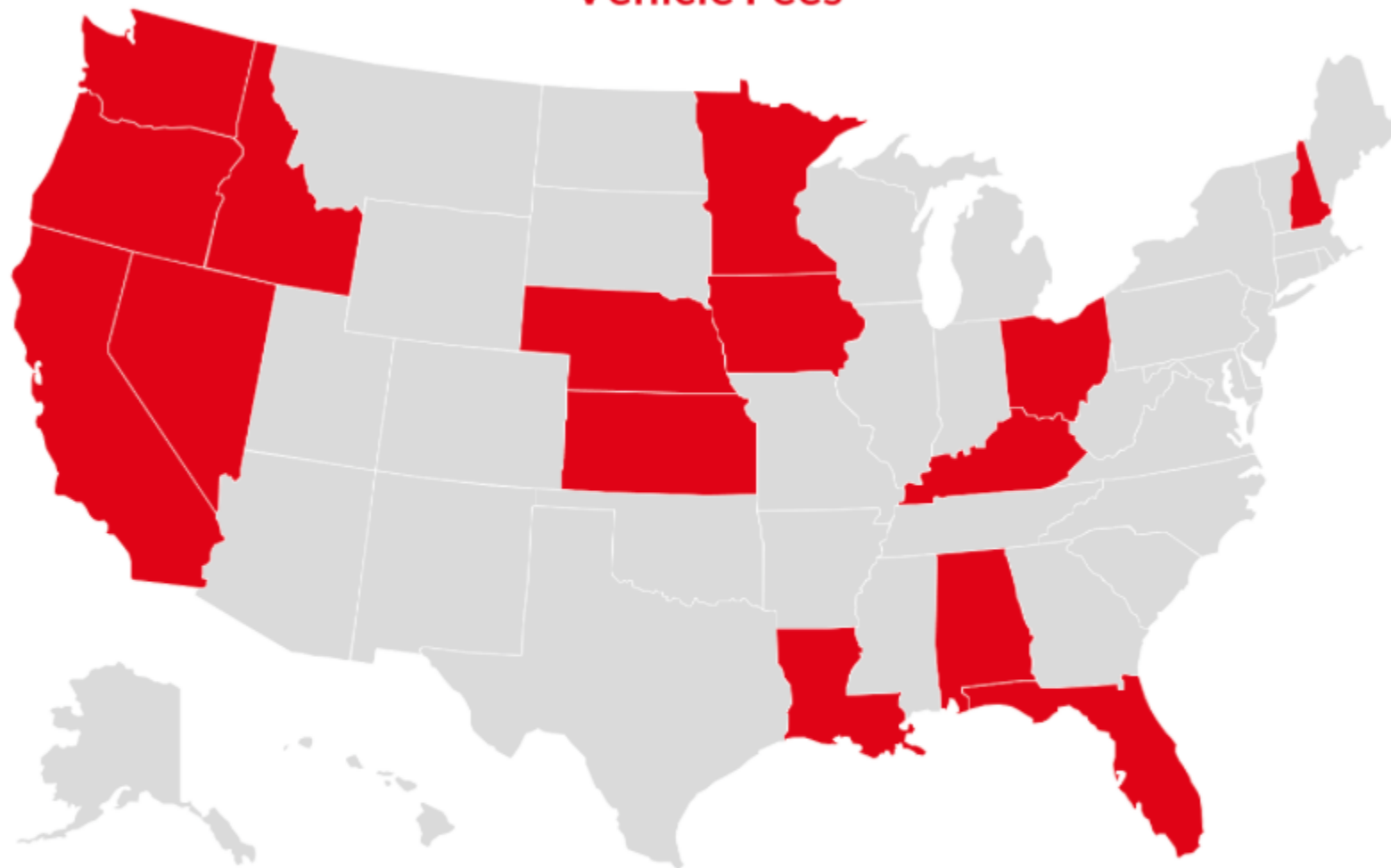
Bonding



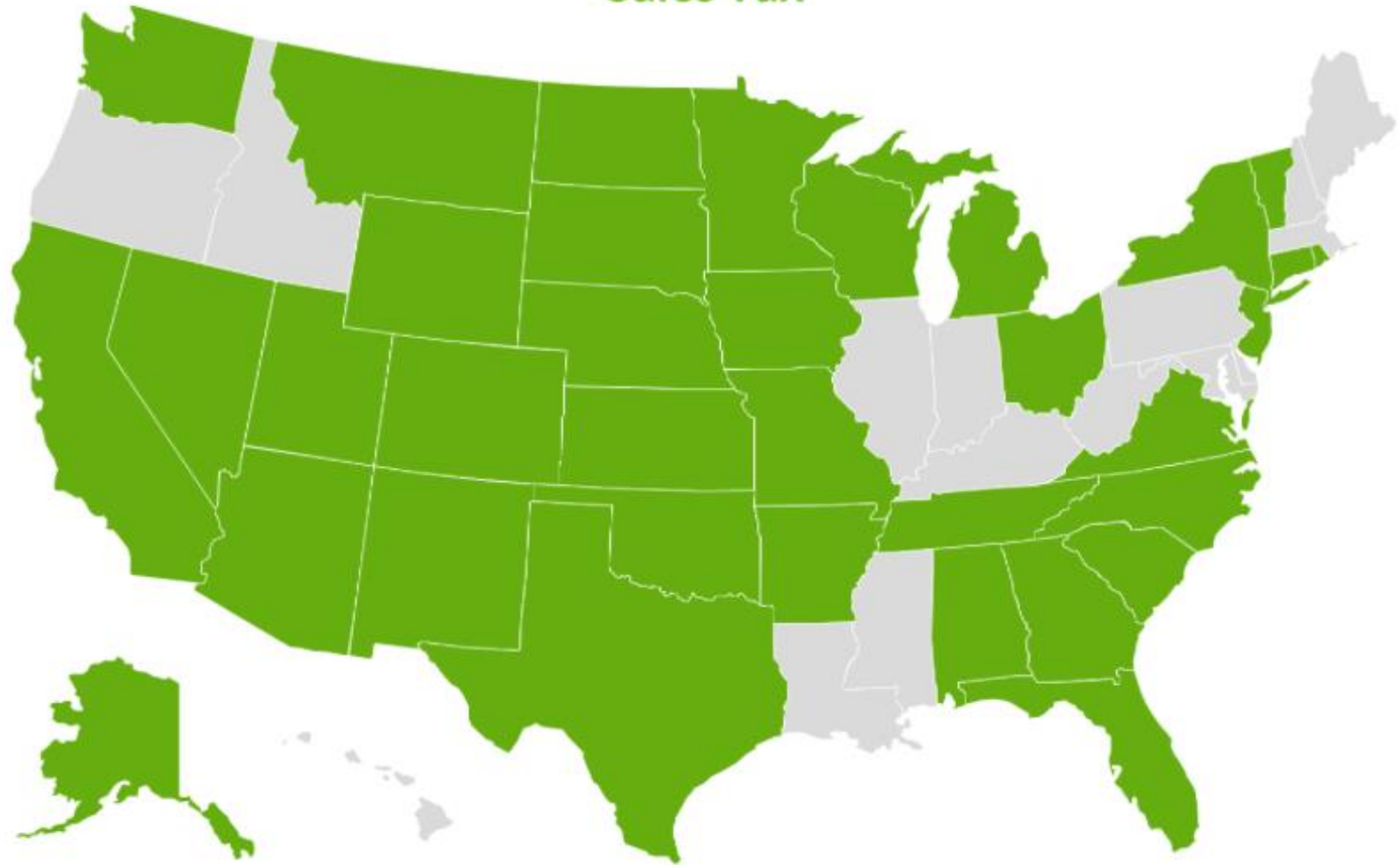
Available funding options by local ballot measure
Gas Tax



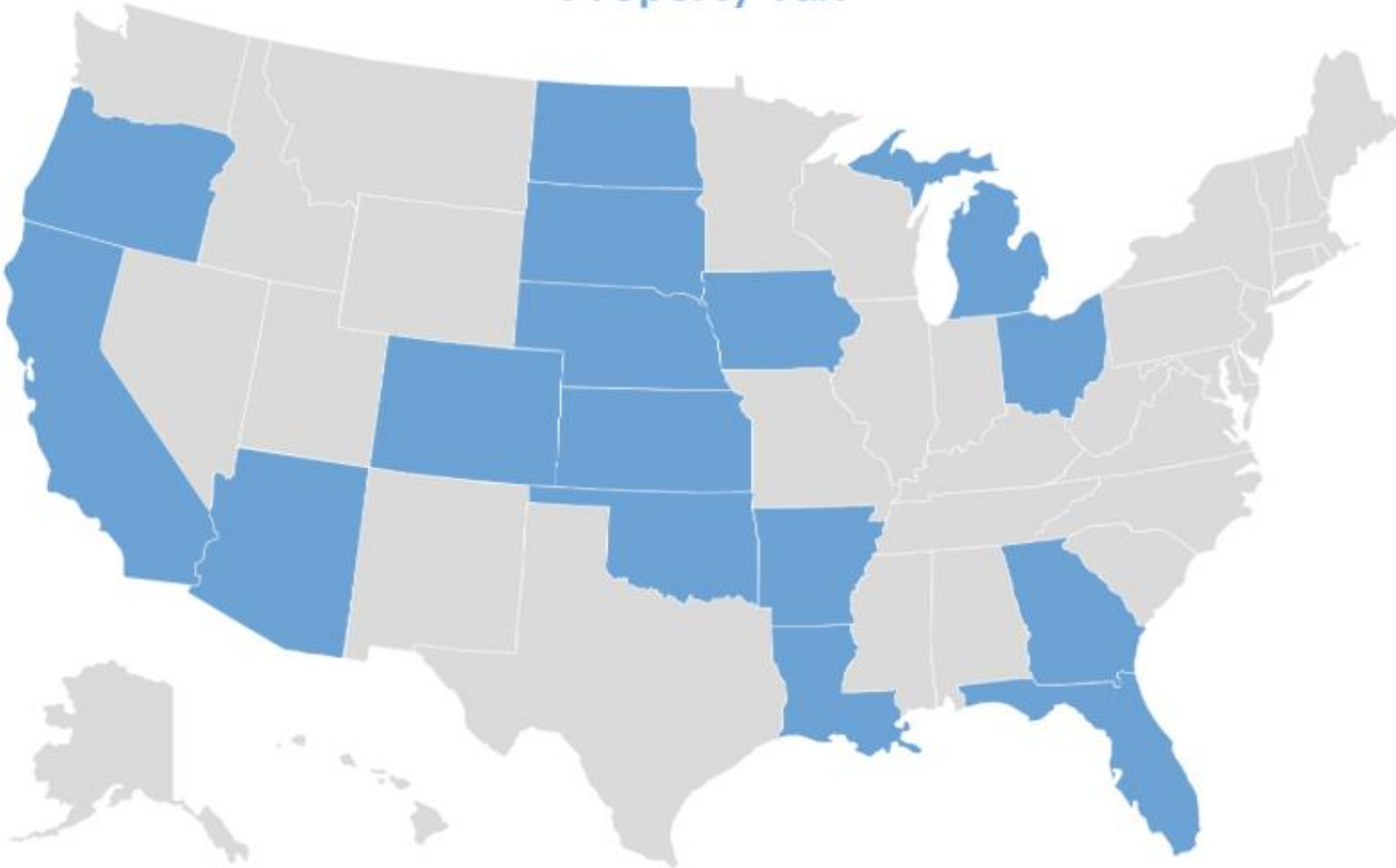
Available funding options by local ballot measure
Vehicle Fees



Available funding options by local ballot measure
Sales Tax



Available funding options by local ballot measure
Property Tax

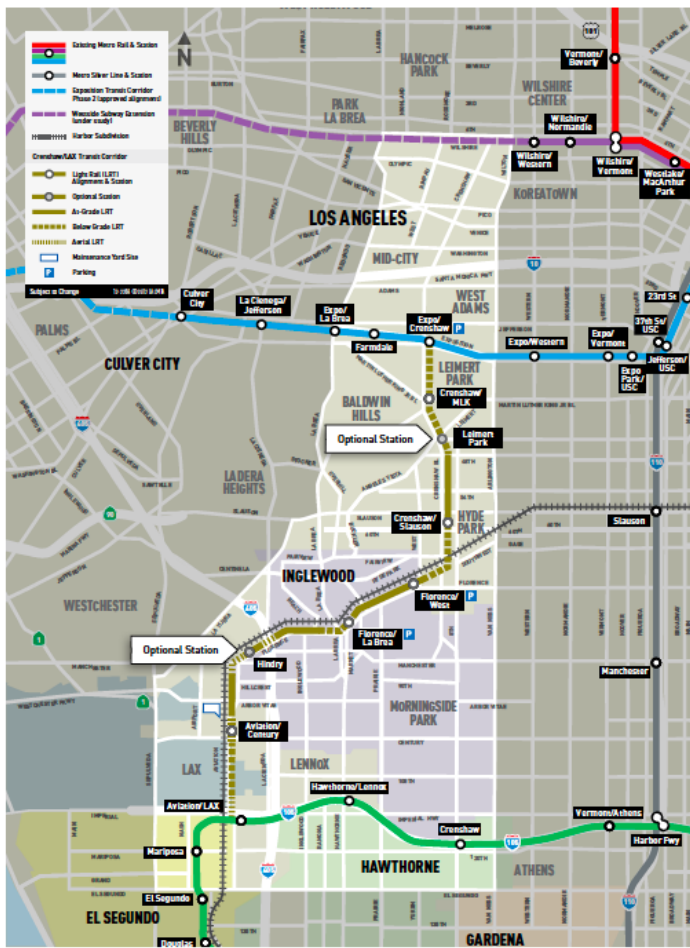


Sales tax**P**roperty tax**V**ehicle fees**G**as tax
Other**I**ncome
Dedicated Revenue**B**onding**Dedicated revenue refers to measures committing existing funds*

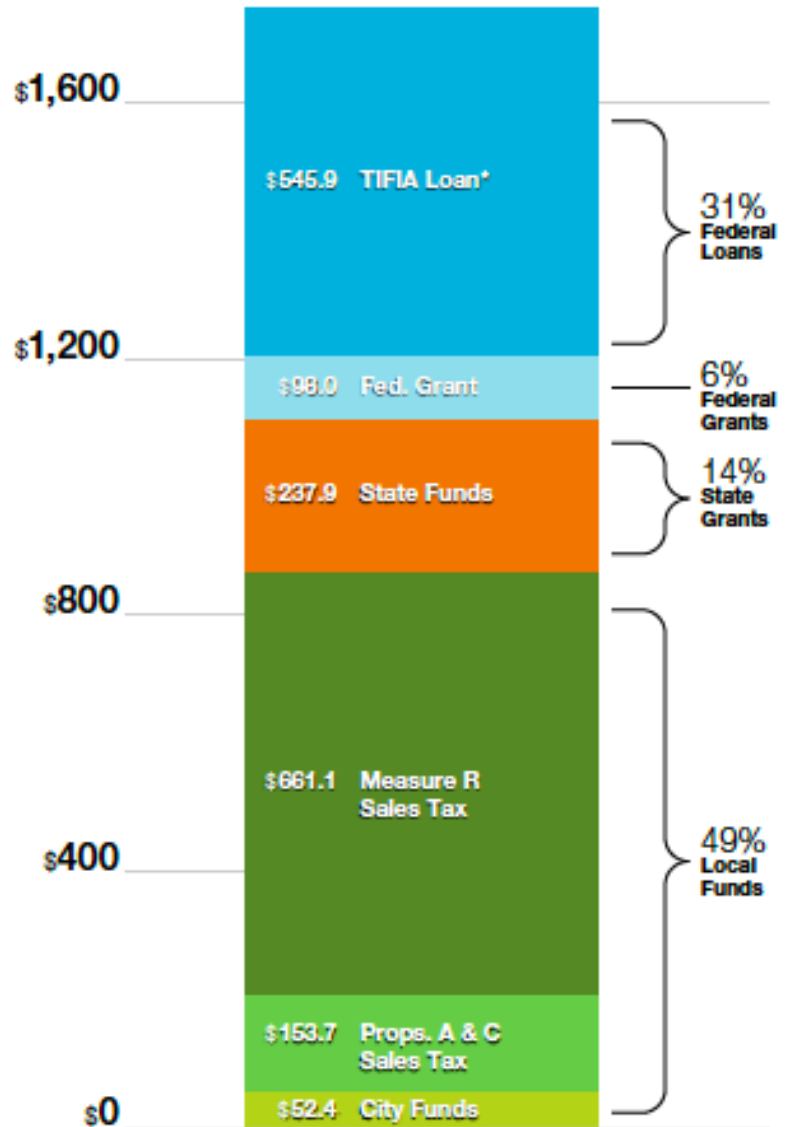
	Key funding options available by local ballot measure	Ballot measures considered 2000-13	Local funding legislation considered 2013-14	Ballot measures anticipated 2014-16
NE	S P V B			
NV	S V G B	S	S G B	
NH	V B		V G	
NJ	S B	D		
NM	S G B	S	S	
NY	S B	B	G	
NC	S B	B	S V B	S
ND	S P B	S		
OH	S P V I B	S P D B	G B	
OK	S P B	O B		
OR	P V G I B	P B	G	B
PA	I B		S V G B	



Crenshaw/LAX Transit Corridor



Funding for Crenshaw Light Rail Line in Millions of Dollars**

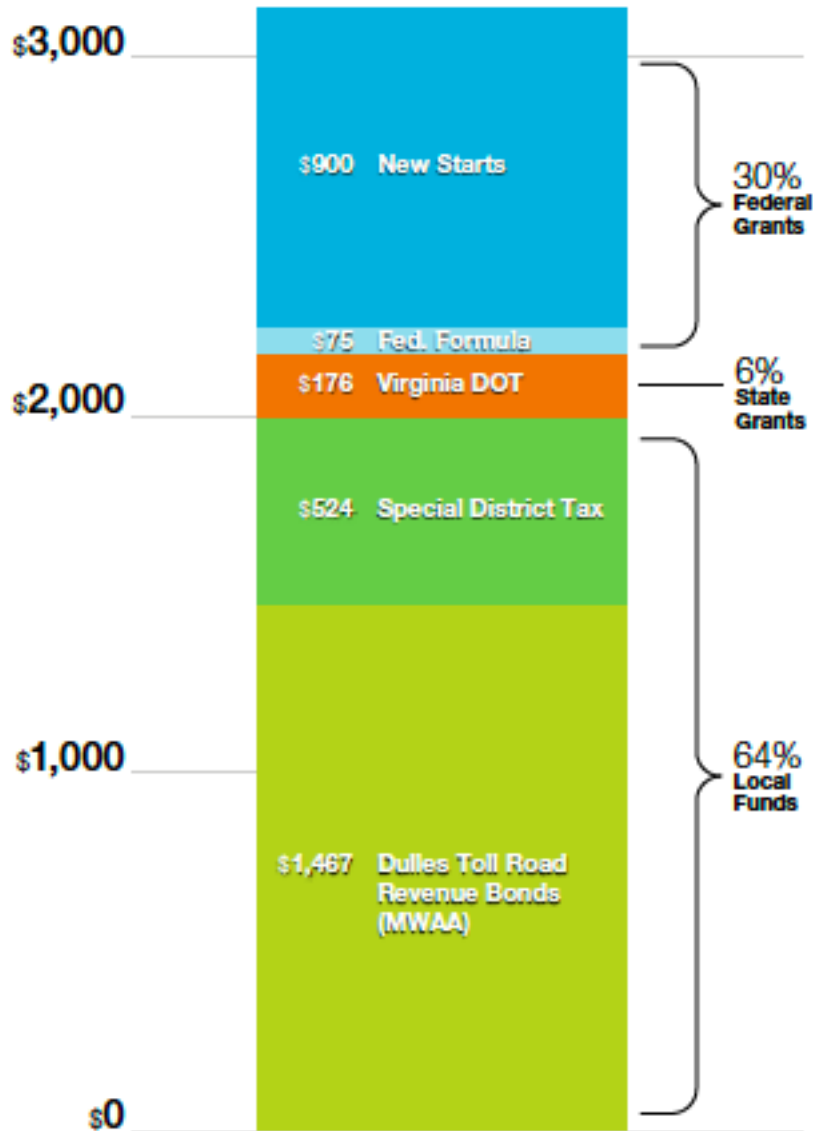


*All federal loans and private bonds will have to be repaid with local funding.

**LA Metro Finance, Budget, and Audit Committee (October 2011)

Crenshaw/LAX Transit Corridor Project

Funding for Dulles Metrorail Extension Phase I in Millions of Dollars

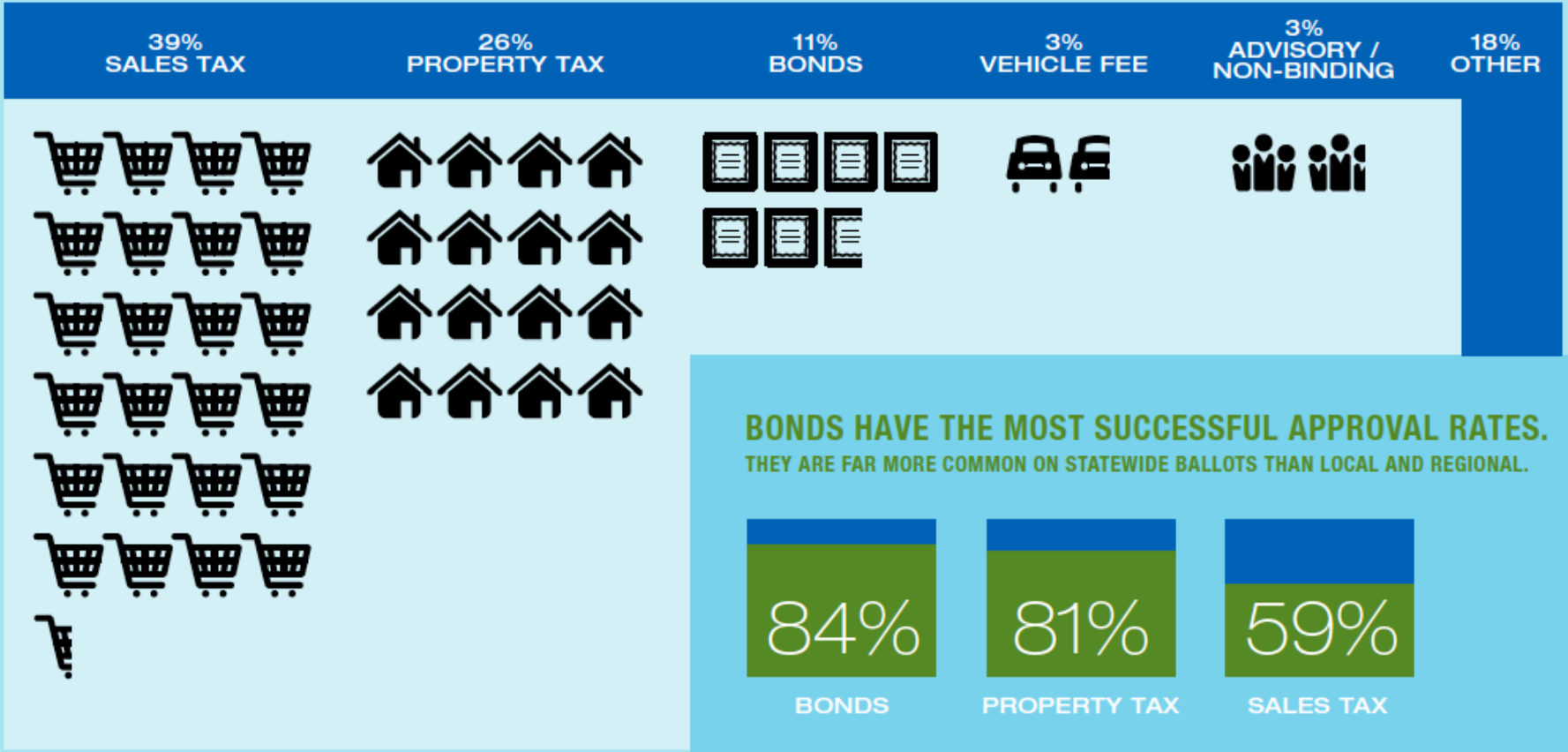


By 2025, the Dulles Metrorail Extension is anticipated to annually reduce...



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BALLOT MEASURES WERE CONSIDERED NATIONWIDE FROM 2000–2010 TO RAISE NEW REVENUES FOR TRANSPORTATION. WHAT TYPES OF REVENUES DID THEY SEEK?



* Each icon represents five transportation measures on ballots from 2000–2010.

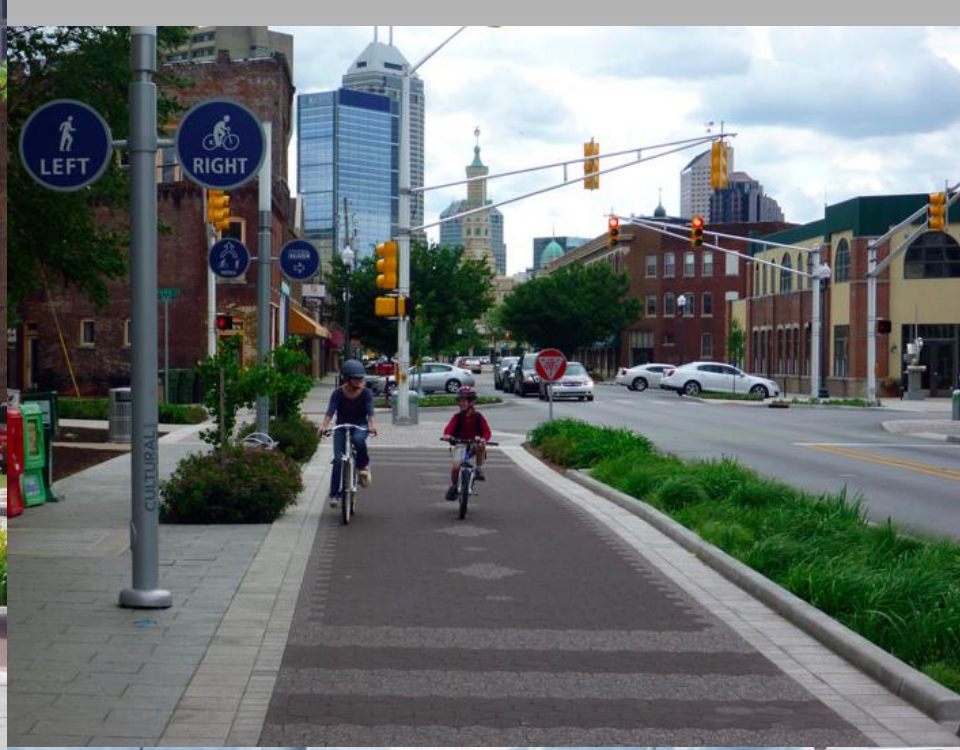
TRANSPORTATION BALLOT MEASURES PASS AT **TWICE** THE RATE OF ALL OTHER BALLOT MEASURES.



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







Bus



Private Car



Bus



Private Car



Uber/Lyft Car