The Economic Costs of the Mobility Status Quo

Fixing the first, last & middle miles

Greg Stuart
Executive Director, Broward MPO

Cary Goldberg
President, Diversified Companies
Member, South Florida Regional Planning Council

Jonathan Hopkins
Presenter/Moderator | CEO, SMA

March 17, 2023

SMA
SMART MOBILITY ASSOCIATES

A thriving city needs continuous progress towards integrated, highly utilized world-class mobility options

When traffic grinds to a halt, so does economic opportunity. The bottom line depends on getting people to their destinations — whether it's to live, to work, to spend.

" "We wake up earlier, but how much earlier should I have to suggest our daughter to wake up because traffic is so bad?"

Sunbelt cities are particularly vulnerable to congestion because of poor public transit.

Bad traffic hurts regional economies because people lose time they could be spending working. Shops and restaurants miss out on customers who can't reach them.

"They way underestimated their growth."

Gridlock also threatens to make regions less competitive.

Companies are also hesitant to move operations somewhere with congested traffic [Amazon HQ2, others] "

It's getting costly out there!

Philadelphia PA
-20%
Chg from 2019

Chicago IL
7%
Chg from 2019

Boston MA
-10%
Chg from 2019

New York City NY
-16%
Chg from 2019

Miami FL
30%
Chg from 2019

Hours spent in traffic, urban area

105 hrs

80 hrs

2019   2022

- Transportation is a US household's 2nd highest cost

- Inflation is putting a further squeeze on residents

- Our inaction adds $1,733 per year per resident, or $4.5 billion annually for the region

- National of required car ownership: $10,728. Two person household: $21,456. *Median* household income is only $64,522

- Miami & Orlando spend the highest share of household income on autos in the country: 14% of income. Lowest are Seattle, Minneapolis, DC, SF (7.5% to 9.4%)

- Impacts competitiveness for employer relocation decisions (e.g. value of Amazon HQ2: $6.5 billion in construction, 50,000 jobs, total payroll $10 billion to $13 billion)

- Impacts competitiveness for tourism (Value: $11.1 billion in Miami-Dade & $11.4 billion in Broward)
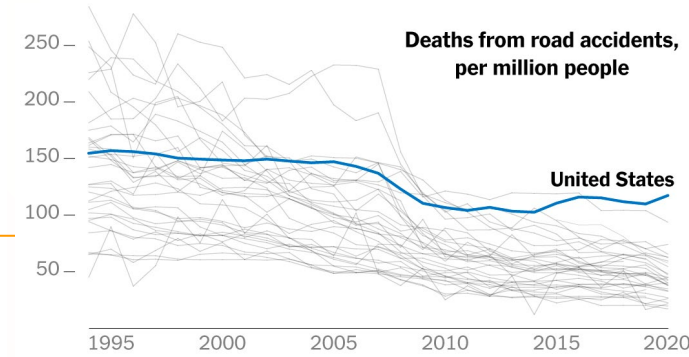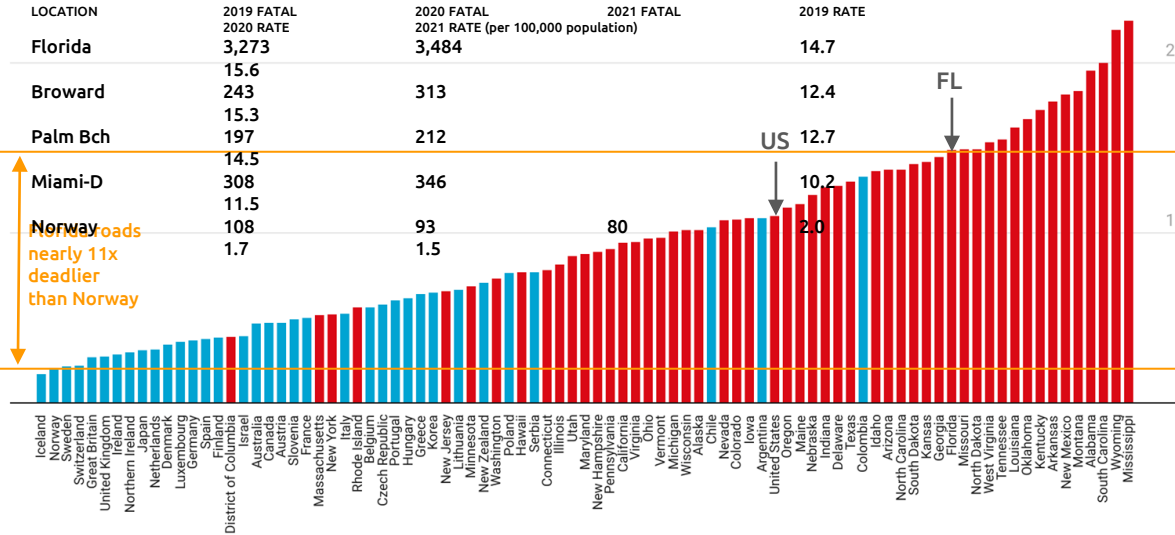
- Impacts quality of life for all residents

SMA
SMART MOBILITY ASSOCIATES

And with deadly consequences

Per Capita Traffic Fatalities in OECD and US States

The United States as a whole has a per capita traffic fatality rate of about twice the OECD average, and five times more deadly than leading countries. Data is traffic fatalities per 100,000 people.

LOCATION	2019 FATAL 2020 RATE	2020 FATAL 2021 RATE (per 100,000 population)	2021 FATAL	2019 RATE
Florida	3,273 15.6	3,484		14.7
Broward	243 15.3	313		12.4
Palm Bch	197 14.5	212		12.7
Miami-D	308 11.5	346		10.2
Norway	108 1.7	93 1.5	80	2.0

Florida roads nearly 11x deadlier than Norway

US states shown in Red. OECD countries in Blue. US traffic deaths per 100,000 created using 2015-2019 NHTSA data and 2019 B01003 5-year estimate from the American Community Survey.
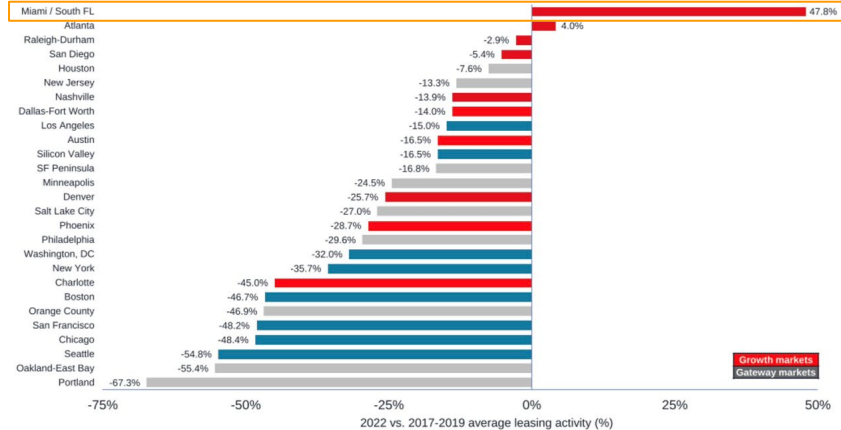
Chart: The League of American Bicyclists • Source: IRTAD, NHTSA, and ACS • Created with Datawrapper

Deaths from road accidents, per million people

United States

"Compared with automobile travel, intercity and commuter passengers have about 1/20th, urban rail passengers about 1/30th, and bus passengers about 1/60th the fatality rate per 100 million passenger-miles"

Growth Pressures

The Miami Herald

Florida is the fastest-growing state in the nation, Census says. What's behind the surge?
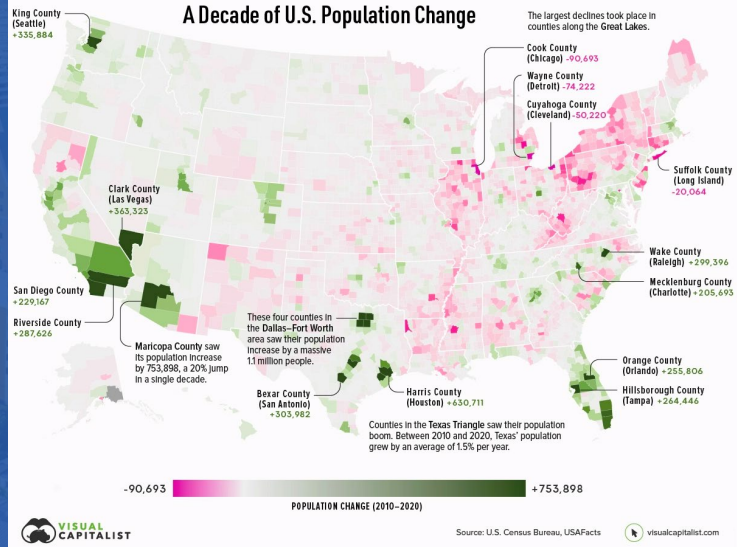
A Case Study in Handling Growth

South Florida & Puget Sound

Case Study in Rapid Growth: 2010s Edition

SMA
SMART MOBILITY ASSOCIATES

Seattle No. 1 for growth this decade

Since 2010, Seattle's population has increased by 18.7 percent, the fastest growth rate among the 50 largest U.S. cities.

Seattle ❶
Percent change since 2010 | *Population increase since 2010*
18.7% | *114,412*

Washington D.C.
14.7%
❽ *88,932*

Charlotte
16.3%
120,535

Denver ❸
16.8%
101,403

❺ ❾ **Raleigh**
14.4%
58,421

Fort Worth
16.8%
125,599
❹

Atlanta ❼
15.0%
63,441

Austin ❷
17.9%
144,252

❿ **San Antonio**
13.40%
178,533

Miami
15.6%
❻ *62,483*

Sources: U.S. Census

MARK NOWLIN /
THE SEATTLE TIMES

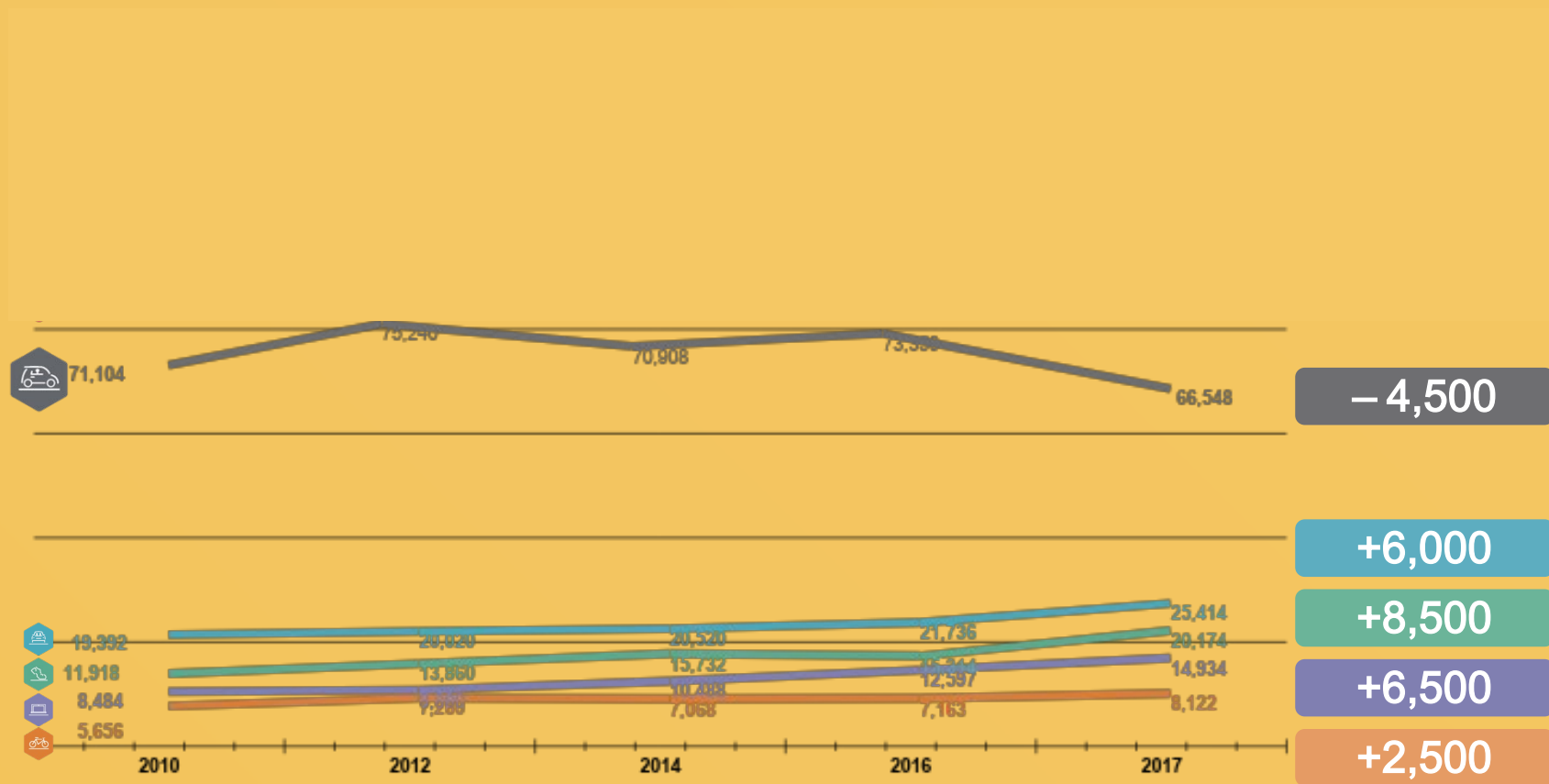OF <u>ALL</u> DOWNTOWN OFFICE DEVELOPMENT <u>NATIONWIDE,</u>

20%

OCCURRED IN DOWNTOWN SEATTLE IN 2017

A Literal Ceiling in System Capacity

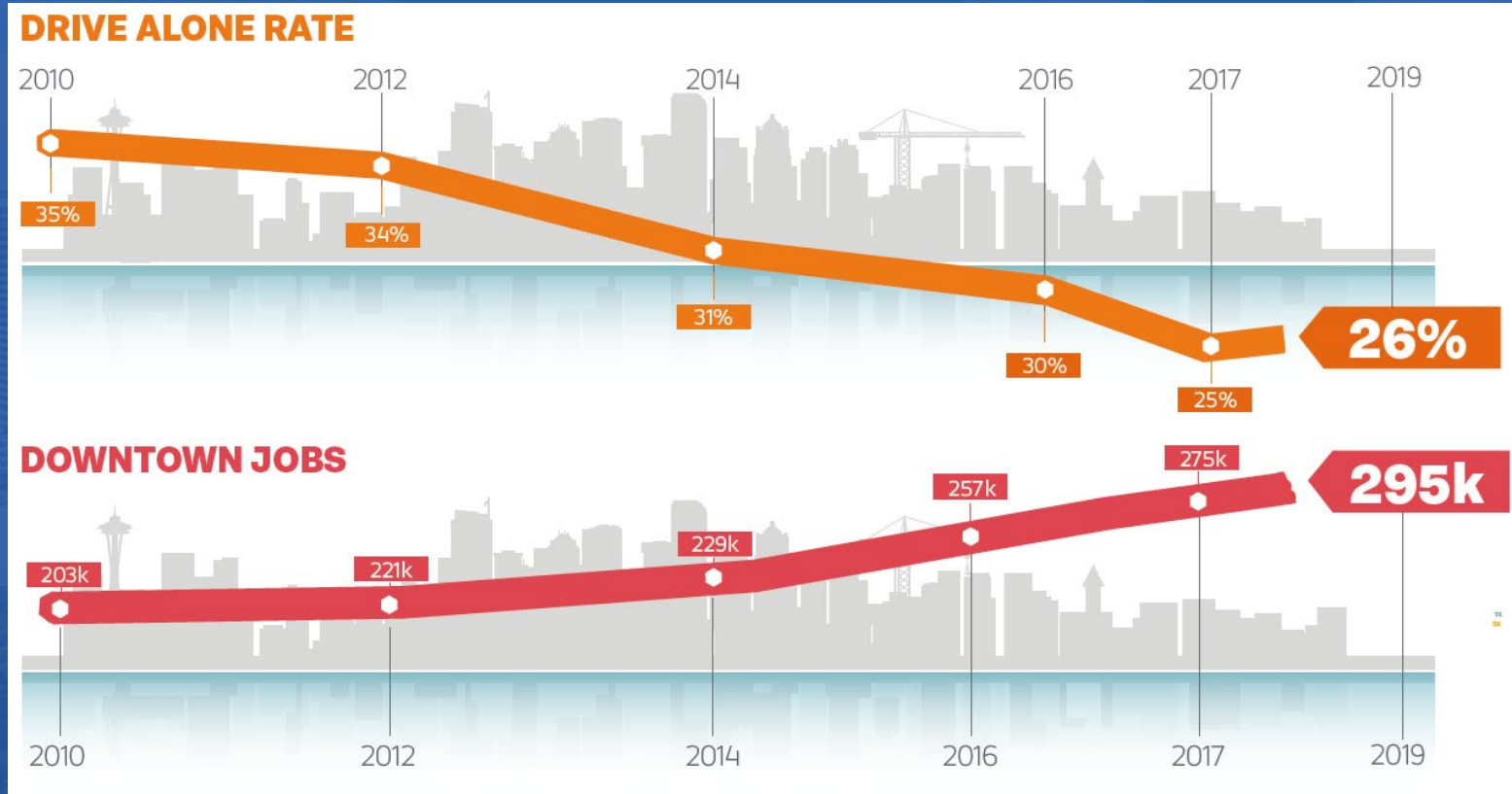Traffic was bad in 2010. Traffic was bad in 2017. But the system moved +60k

71,104	75,240	70,908	73,590	66,548

− 4,500

+6,000

+8,500

+6,500

+2,500

19,392	20,620	20,520	21,736	25,414
11,918	13,850	15,732		20,174
8,484		10,808	12,597	14,934
5,656	7,200	7,068	7,163	8,122

2010   2012   2014   2016   2017

How a City Adds 100,000 Jobs; Same Roads

SMA — SMART MOBILITY ASSOCIATES

DRIVE ALONE RATE

2010	2012	2014	2016	2017	2019
35%	34%	31%	30%	25%	26%

DOWNTOWN JOBS

2010	2012	2014	2016	2017	2019
203k	221k	229k	257k	275k	295k

A Geometry Problem. Merge Right →

Average Victorian car: 243.8 grams of CO2 per km, 104 square feet per occupant
Top Range EV (Victorian grid): 209.1, 104
Dual occupancy car: 121.9, 53
Motorcycle: 119.6, 21
Train: 28.6, 5
Tram: 20.2, 7
Bus: 17.7, 9
Top Range EV (Green power): 104
Bike: 16
Walking: 7

Dirty ←→ Clean

● = grams of CO2 per km traveled   👣 = space in square feet required per occupant
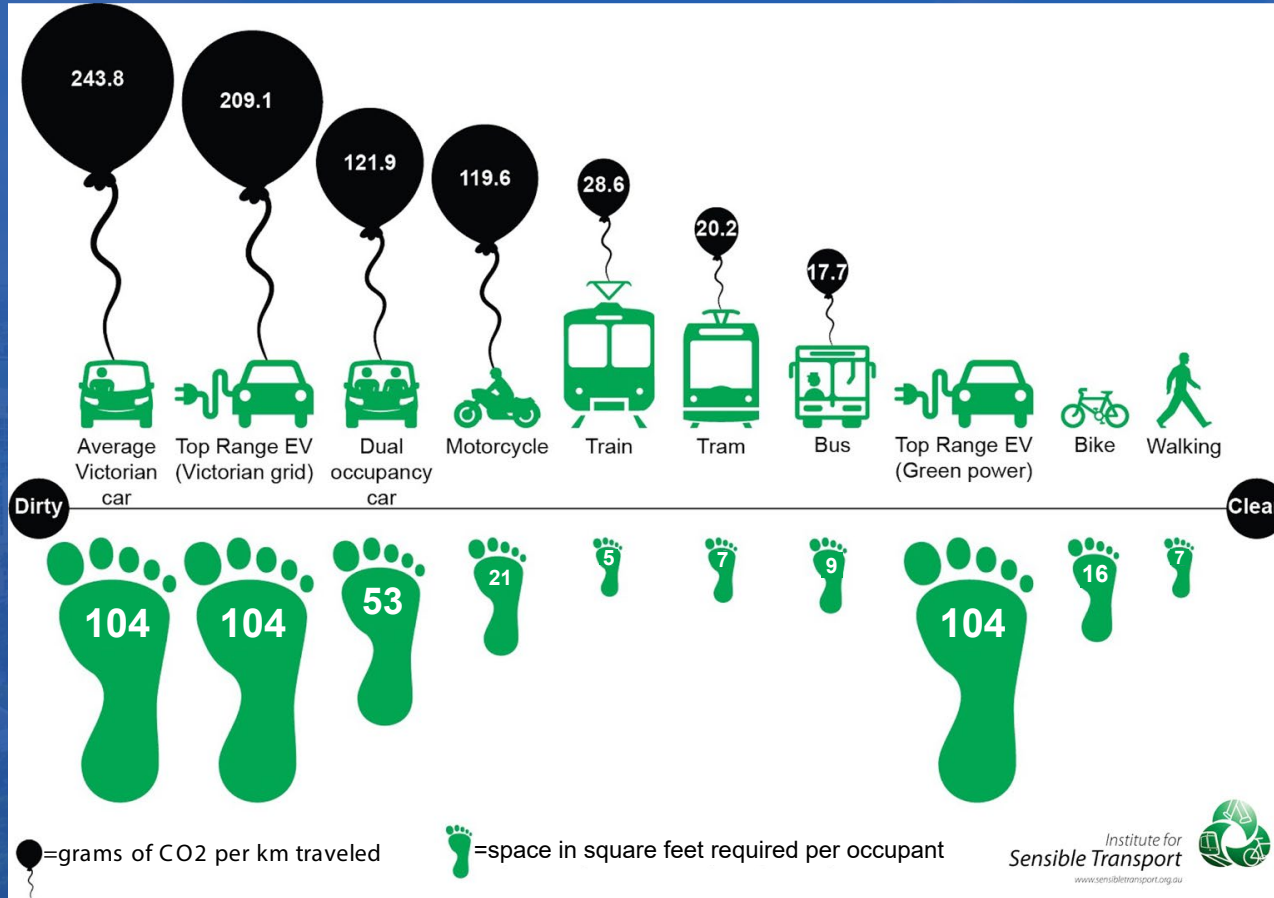
A Geometry Problem. Imagine the Possibilities!

SMA — SMART MOBILITY ASSOCIATES

Here are 200 people in 177 cars

A Geometry Problem.

More Cars, More Gridlock
Estimated share of workers who drive or carpool to work, by metro area
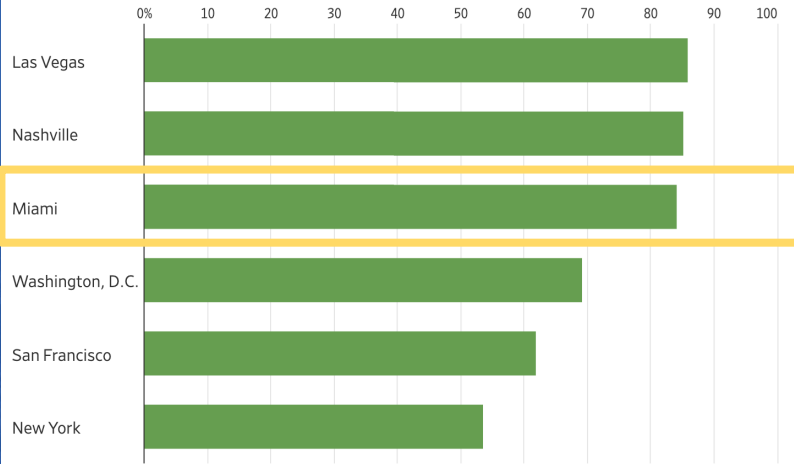
Source: U.S. Census Bureau 2017-2021 American Community Survey

What does it take to move a thousand people?
ST3 edition

One Link train (4 cars)

15 Buses

625 Cars*
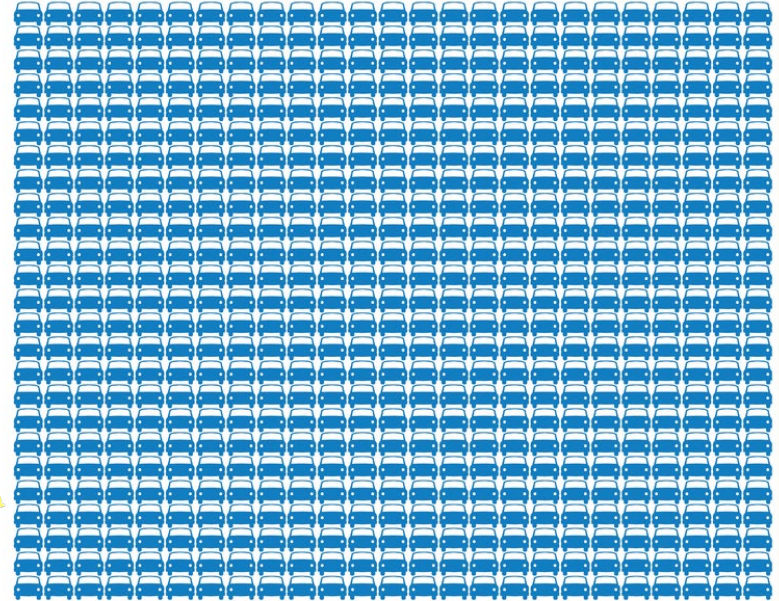
* Car option also requires over five acres of parking at both start and destination

seattle subway

Best Practices in Bridging the Gap

Putting the Rider at the Center of a Seamless Multi-Agency System in All That We Do

SMA
SMART MOBILITY ASSOCIATES

Customer (not Agency) Centricity

OR

??

Bridging the Gap

SMA
SMART MOBILITY ASSOCIATES
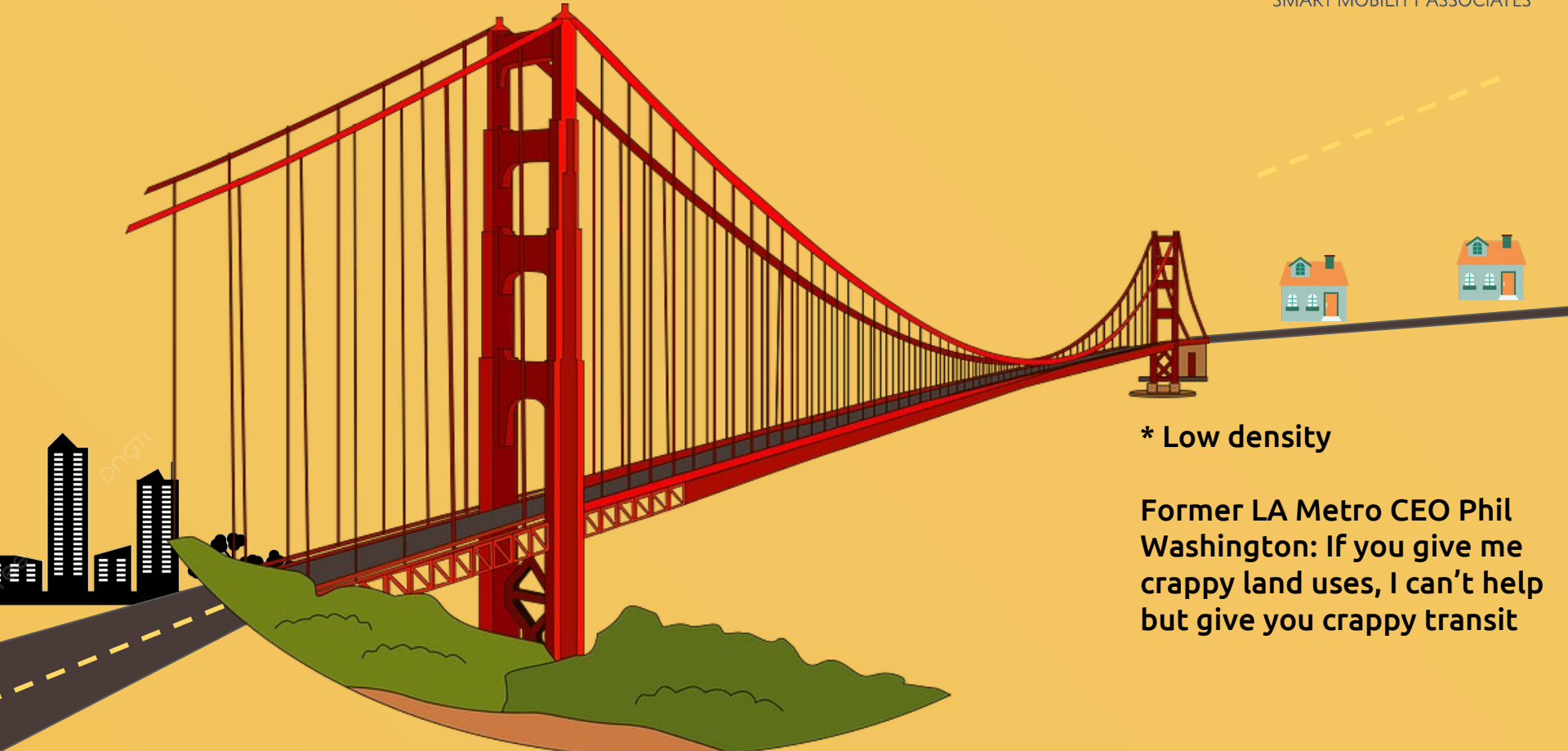
* Low density

Former LA Metro CEO Phil Washington: If you give me crappy land uses, I can't help but give you crappy transit

Bridging the Gap

SMA
SMART MOBILITY ASSOCIATES

* We already have transit oriented communities

Bridging the Gap

SMA
SMART MOBILITY ASSOCIATES

MISSING HIGH QUALITY MIDDLE MILE

Lack of all day, frequent, 10-min service leaves out choice riders

* We already have transit oriented communities

Bridging the Gap

Without a last mile provided by TOD / Density, bus service, safe bike lanes, walkable environments, or other mobility tools & investments, the bridge remains incomplete

Bridging the Gap

If we bridge the gap and put the customer at the center, with service that doesn't waste their time or cost too much, regardless of agency, will it help solve our problems?

Moving the Needle
Adding Jobs Without Adding Misery

71,104   75,240   70,908   73,590   66,548

7   6.722

+6,000

+8,500

+6,500

+2,500

19,392   20,020   20,520   21,736   25,414

11,918   13,860   15,732   20,174

8,484   10,808   12,597   14,934

5,656   7,200   7,068   7,163   8,122

2010   2012   2014   2016   2017
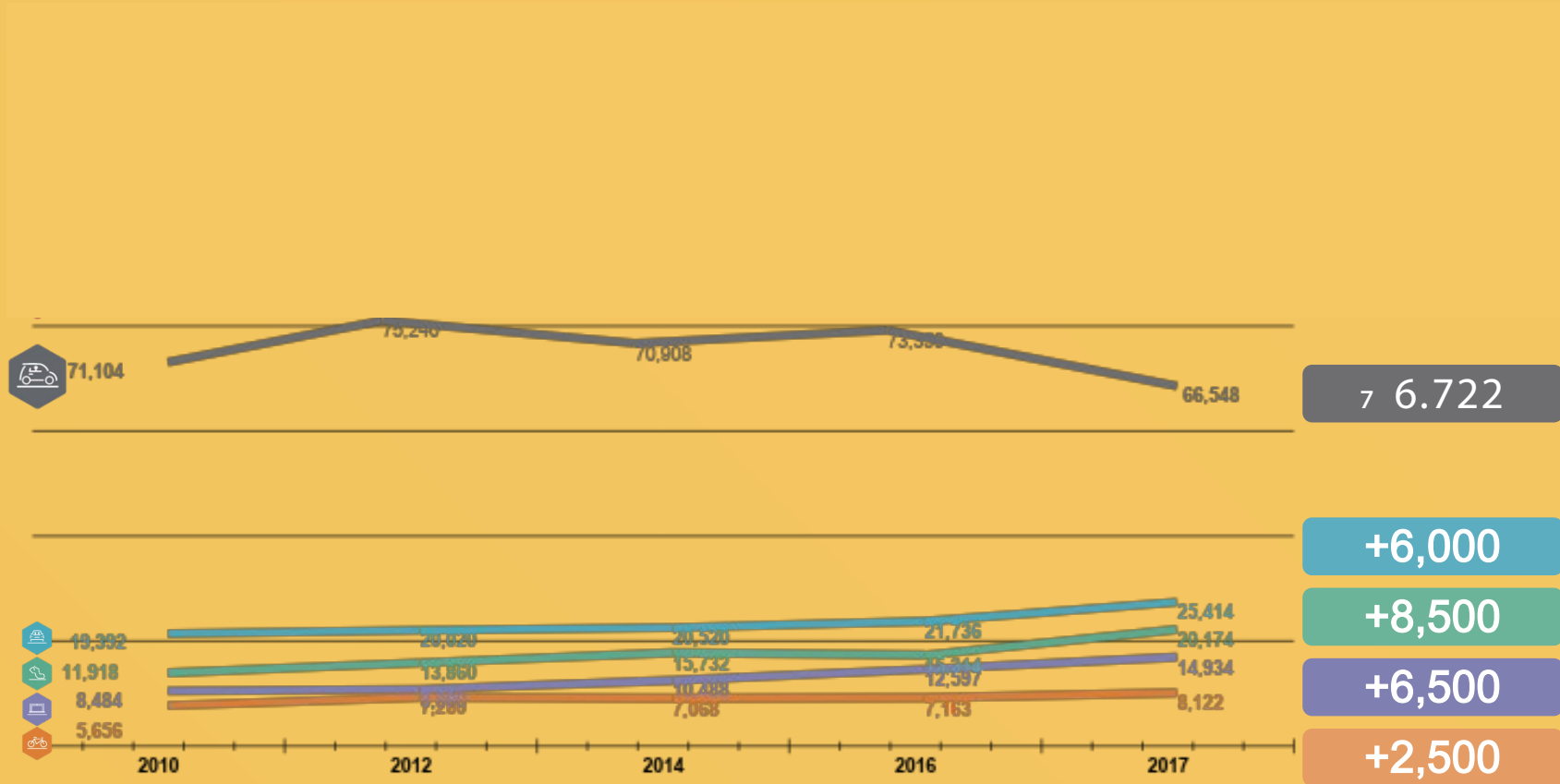
Key Behavioral Levers

Most Important Factors for Mode Shift

Cost
(Borne by the Rider)

1

Convenience
(Time)

2

Experience
(Environment, Safety)

3

Change in Bus + Rail Ridership

Improvements that never stop. It's a competition to win.

Seattle, 60%

Legend:
- Baltimore
- Boston
- Chicago
- Los Angeles
- Miami
- New York
- Philadelphia
- San Francisco
- Seattle
- Washington DC

70%
60%
50%
40%
30%
20%
10%
0%
-10%
-20%

2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

data via Federal Transit Administration's National Transit Database - https://www.transit.dot.gov/ntd

SMA
SMART MOBILITY ASSOCIATES

Date	Item
3; ; 3	UW U-Pass / CTR (measurement)
1993	Employer Pass / Reg. Transit Auth.
1999	Regional Bus
2000	Commuter Rail
2009	Regional Pass
2009	Nki j v'T ckⁿ'Qr gpu
4232	BRT Launches
2016	NT V"Gzr cpukqp
4243	LRT Expansion

Shorten the Last Mile: Transit

10-min bus service within a 10 minute walk

SEATTLE RESIDENTS
NEAR FREQUENT TRANSIT

- 2015: 25%
- 2016: 51%
- 2017: 64%
- 2019: 72%
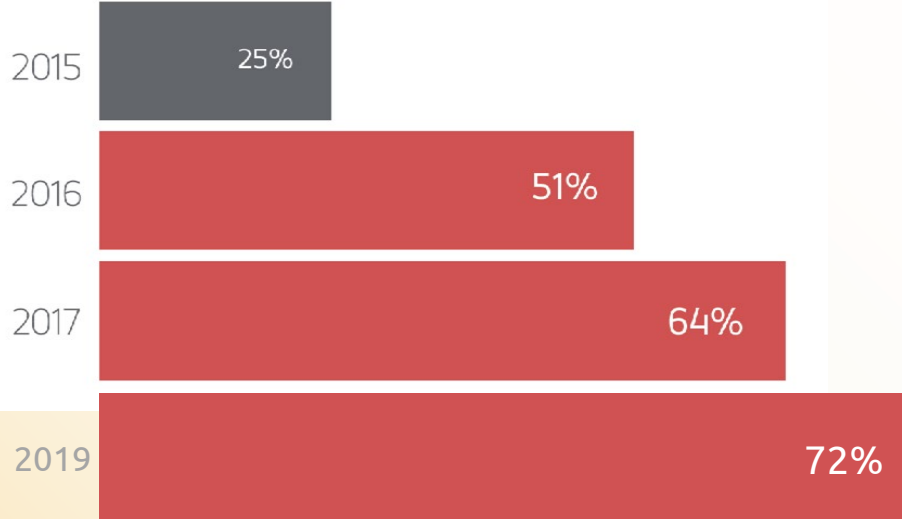
Access to transit stops with frequent service

Legend:
- (blue) walk / bike / scooter
- (pink) walk only

Northgate, Green Lake, Northeast Seattle, Ballard, Discovery Park, Lake Washington, Lake Union, Downtown Seattle, Elliott Bay, West Seattle, Columbia City, Puget Sound

0   1.25   2.5 mi

Produced with Conveyal Analysis
Basemap © OpenStreetMap contributors

SMA
SMART MOBILITY ASSOCIATES
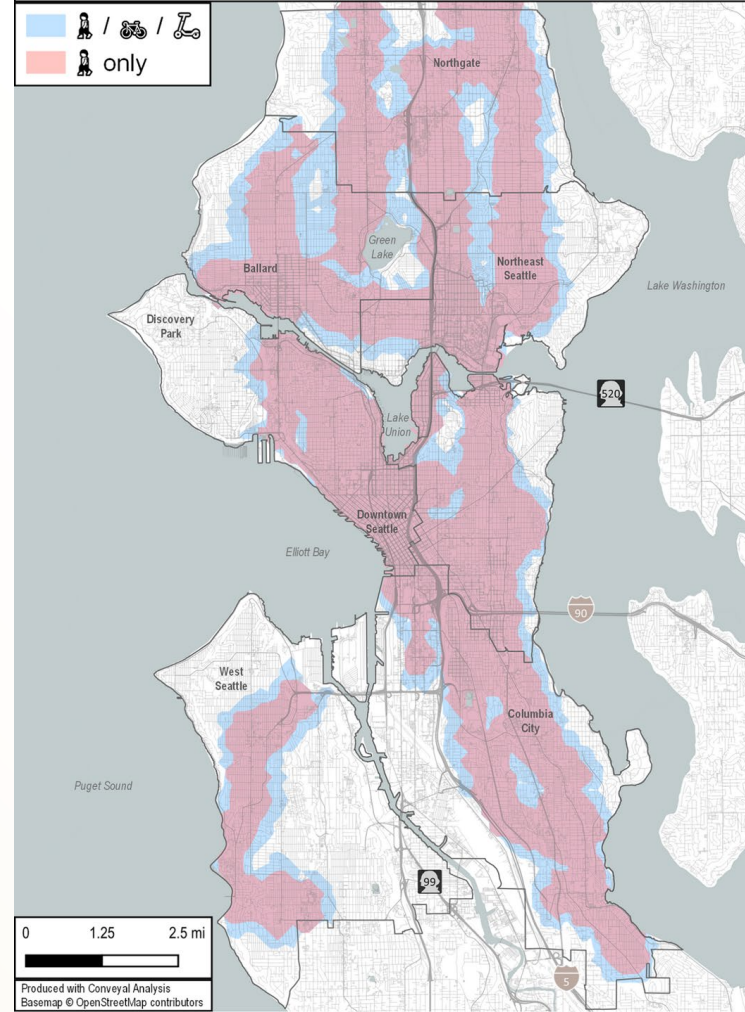
Premium Bus Service Has Impact
BRT-Lite mostly impacts frequency; insufficient on some routes

RapidRide (BRT) Launch Ridership Effects
RapidRide launched in 2014
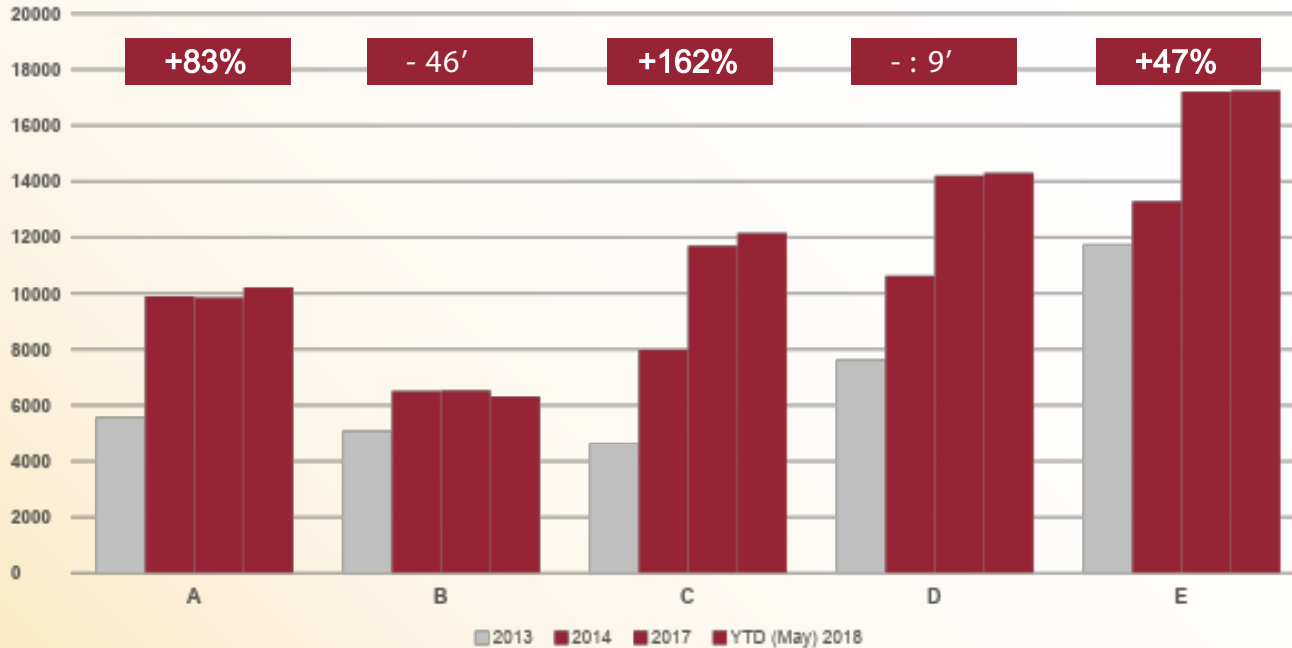
+83%   - 46'   +162%   - : 9'   +47%

2013   2014   2017   YTD (May) 2018
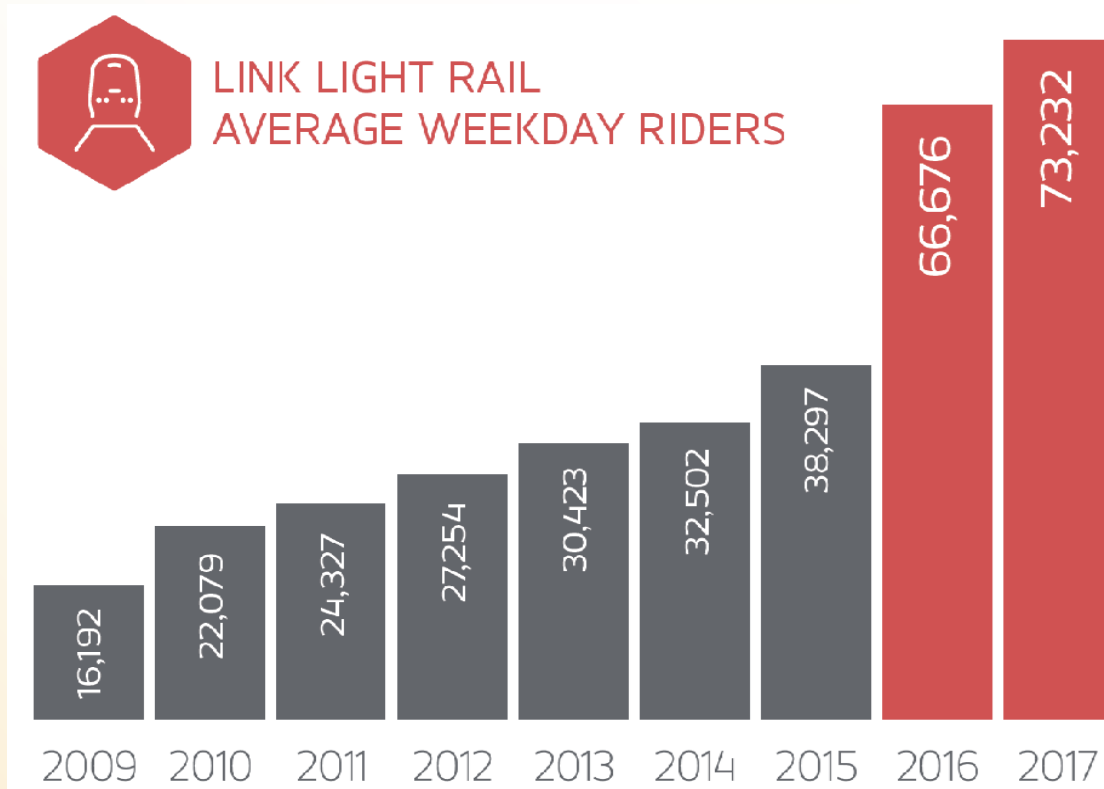
Employers Respond
Enabling employers to choose density helps fix our geometry

Drive-alone Employee Rate Reductions

Employer	Before moving downtown	After moving downtown
CityU	68%	21%
Impinj	50%	21%
Weyerhaeuser	82%	9%
Delta Dental of Washington	75%	15%
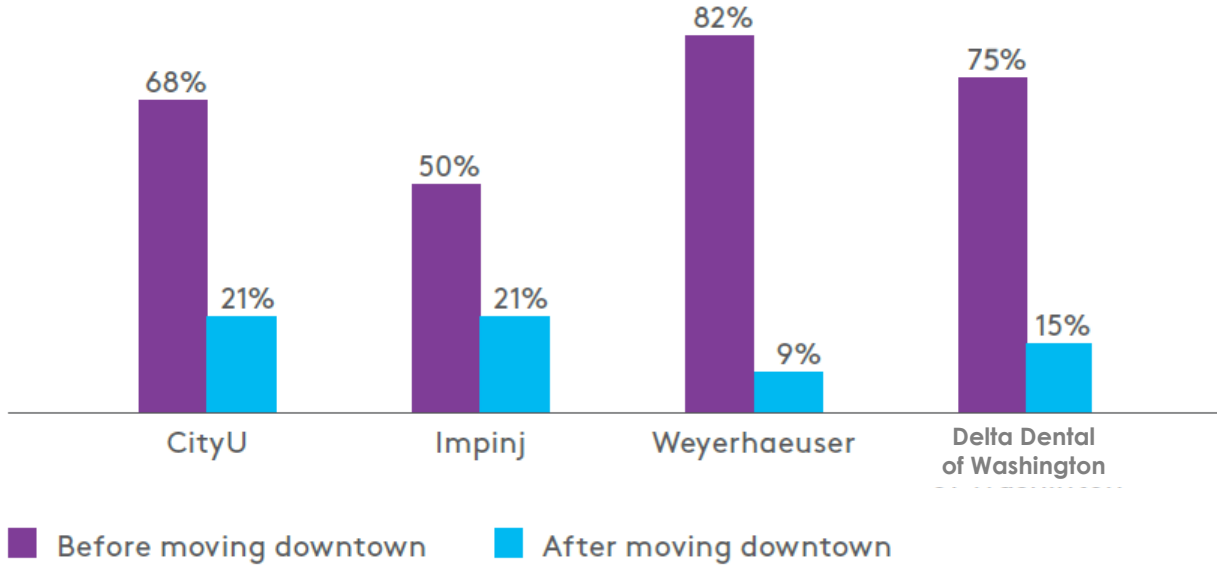
Remove barriers
Partnerships focused on a common goal: SOV mode share reduction
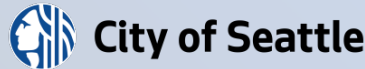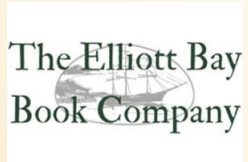
- "J wpf tgf u"O qtg·

Institutional Transit Passes = 60% of Fare $$
Equivalent to fare-free for rider, without budget impacts to agency

SMA — SMART MOBILITY ASSOCIATES

APPROXIMATE GROWTH IN BUSINESS-SUBSIDIZED BOARDINGS

Local Bus Ridership   Regional Transit

commute seattle
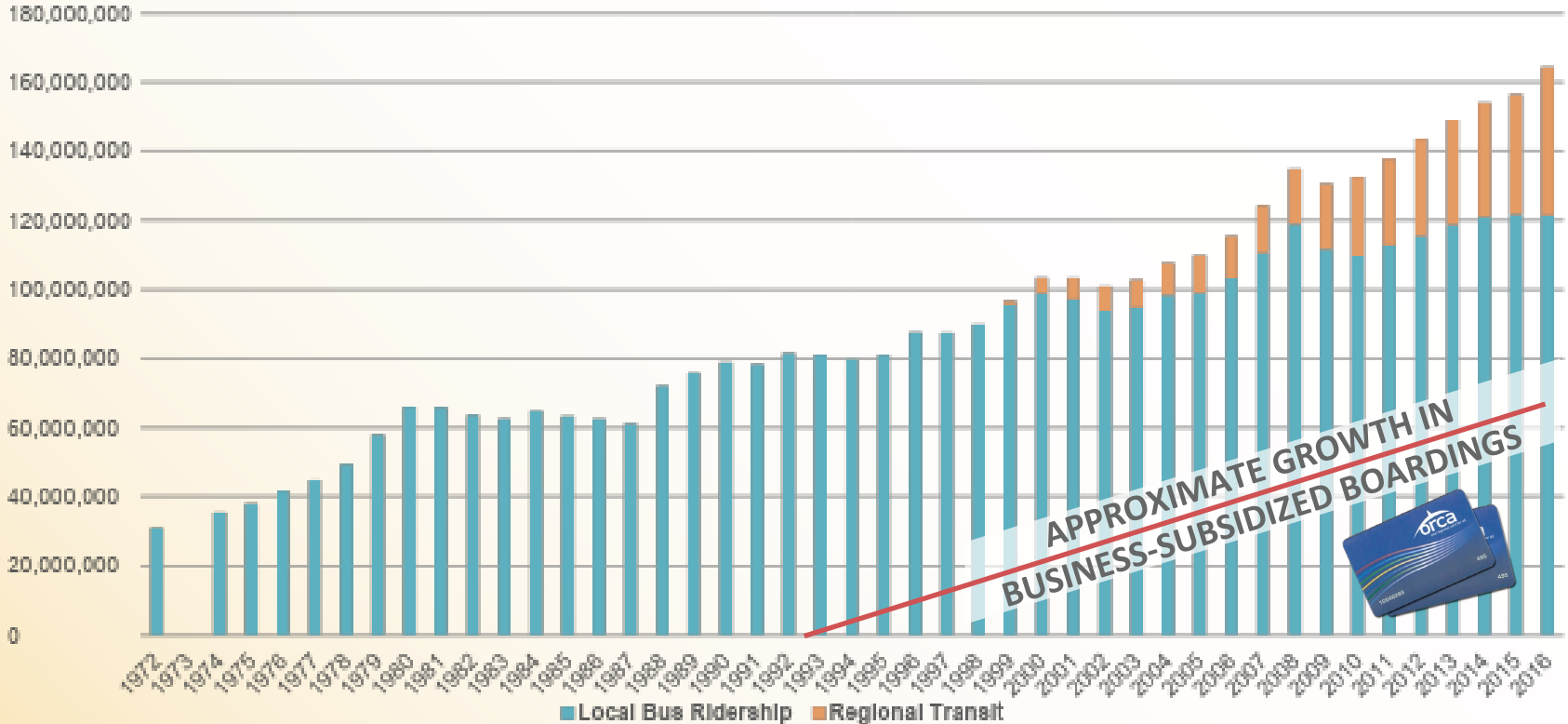
Tools to Move the Needle

Daily Commuters Added 2010 to 2019

From 2010 to 2019, center city drive alone commutes increased by approximately 6,000 while all other modes grew by approximately 82,000 commutes.

Corp. Incentives Better Transit	TRANSIT	**+49K**
Policies, Major Road Closure	TELEWORK	**+18K**
DT residents +50% / +30K	WALK	**+14K**
	CARPOOL & VANPOOL	**+8K** — **Largest Vanpool in the US**
Prot. Bike lanes, Higher Density	BIKE	**+4K**
Parking Policies, Better Options	DRIVE ALONE	**+6K**

UPTOWN

SOUTH LAKE UNION

CAPITOL HILL

DENNY TRIANGLE

BELLTOWN

PIKE/PINE

COMMERCIAL CORE

FIRST HILL

PIONEER SQUARE

CHINATOWN INTERNATIONAL DISTRICT

Illustration of survey area. Detailed map avalable in full report.

commute seattle

The Economic Costs of the Mobility Status Quo

Fixing the first, last & middle miles

SMA
SMART MOBILITY ASSOCIATES

Greg Stuart
Executive Director, Broward MPO

Cary Goldberg
President, Diversified Companies
Member, South Florida Regional
Planning Council

Jonathan Hopkins
Presenter/Moderator | CEO, SMA

March 17, 2023

Jonathan Hopkins

Founder, Smart Mobility Associates
Jonathan@SMA.LLC
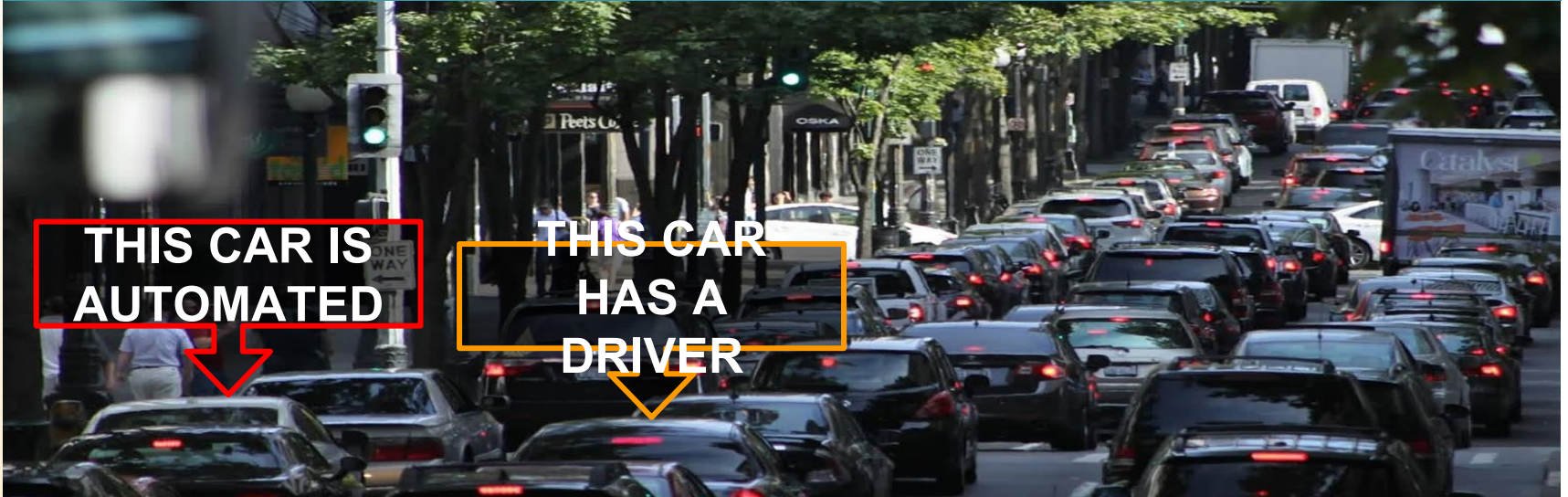
The Seattle Times

2008:

"Most people don't want to get out of their cars. As the world changes, they may buy cars that burn fuel from tar sands, canola, algae or wood chips."

SEATTLE TIMES EDITORIAL BOARD
2008 Endorsement Opposing Link Light Rail to Lynnwood, Federal Way & Bellevue

REALITY ☑

2016:

- New residents choose transit over cars by **2:1 margin**

- Cars and trucks still contribute **nearly 50%** of our state's greenhouse emissions

seattle subway

Numbers of the Day

The Seattle Times

$164

**Annual Subscription Cost
Per Person**

$169

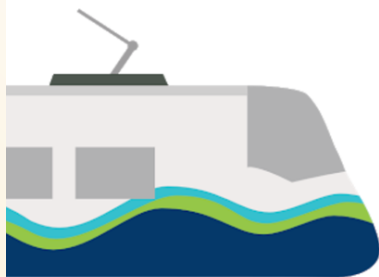**Annual New ST3 Cost
Per Person**

Only one will make your life any easier in the future.

Source: soundtransit3.org/overview. **Need to save money? Call 1-800-542-0820 to cancel your subscription to the Seattle Times.**

RELATED NEWS ARTICLE

RELATED NEWS ARTICLE