Why Is Transit Ridership Falling in California? Implications for Policy

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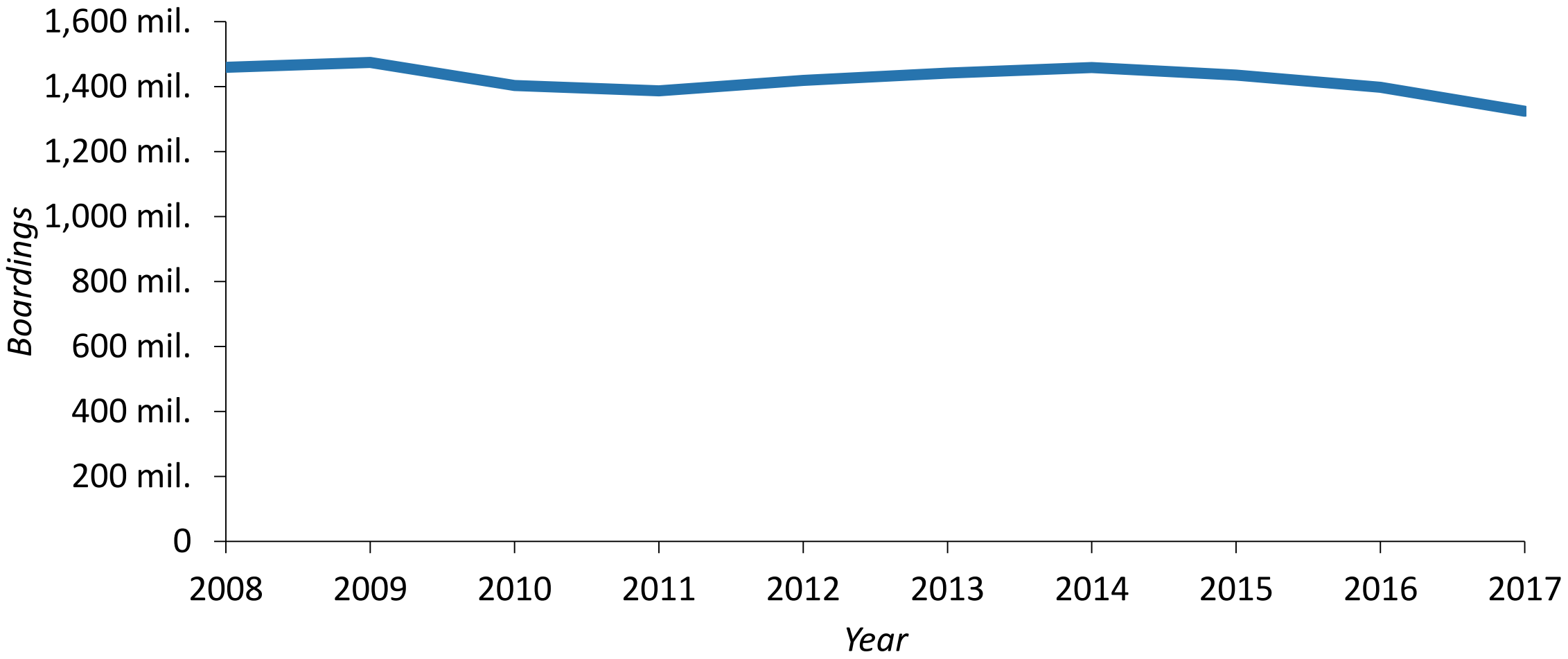
BAD NEWS BEARER

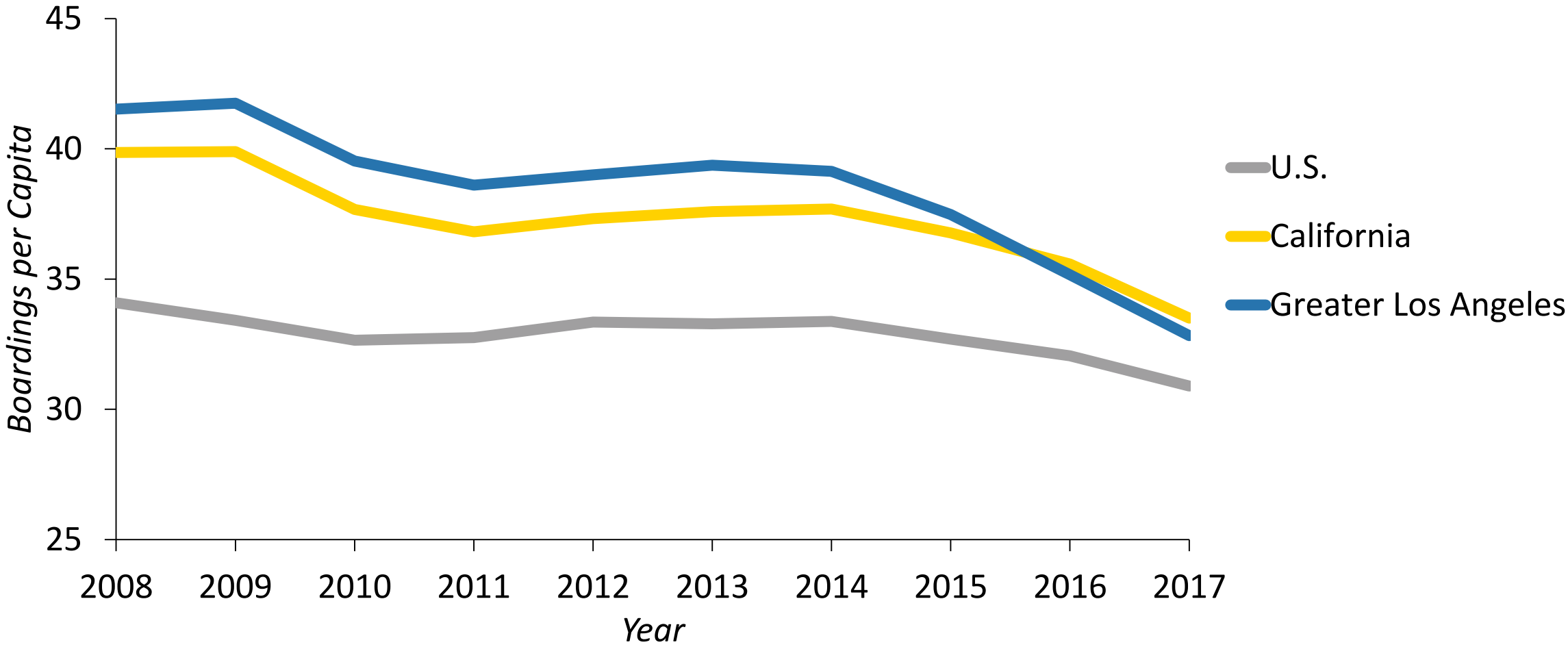
DONT SHOOT the MESSENGER

But…

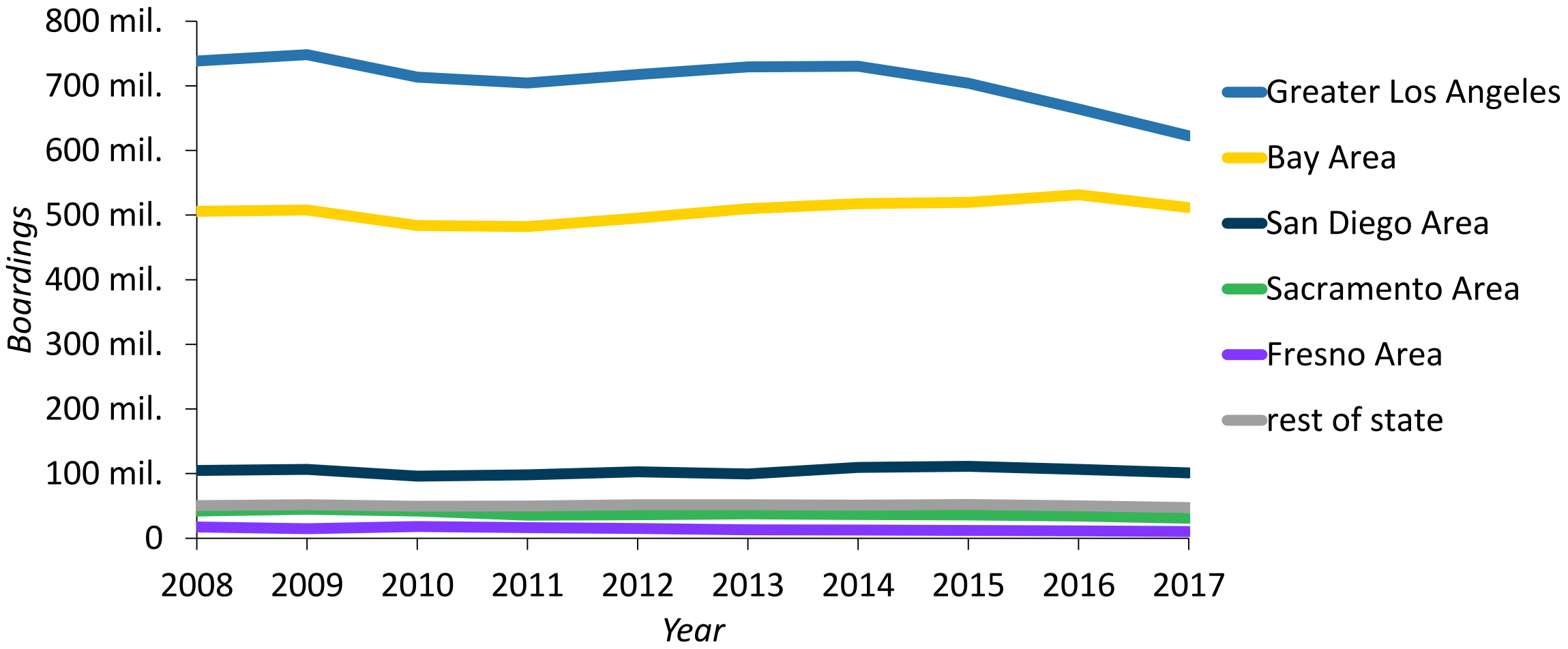
Transit Use Is Down in California over the Past Decade, though the Absolute Decline Is Modest



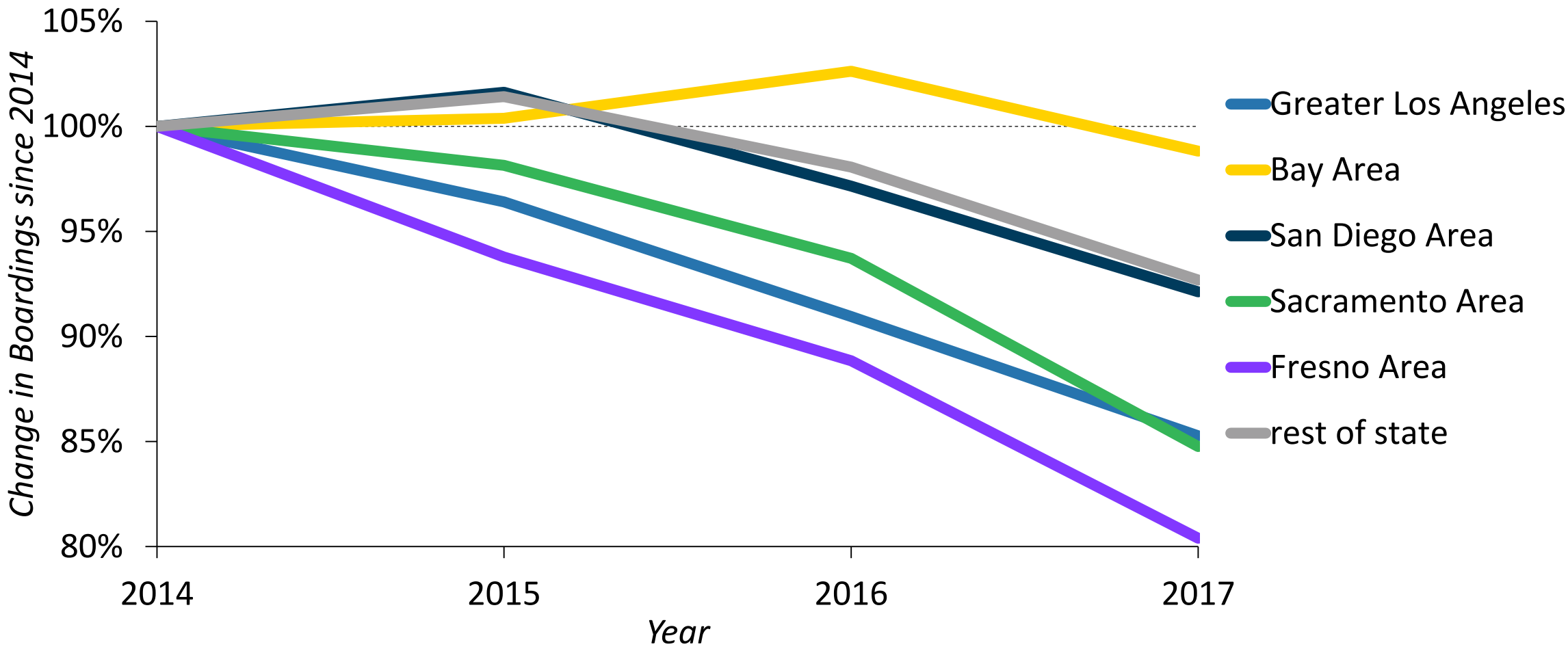
But the Fall in Trips per Resident Has Been Substantially Greater: *Mostly Down since 2008*



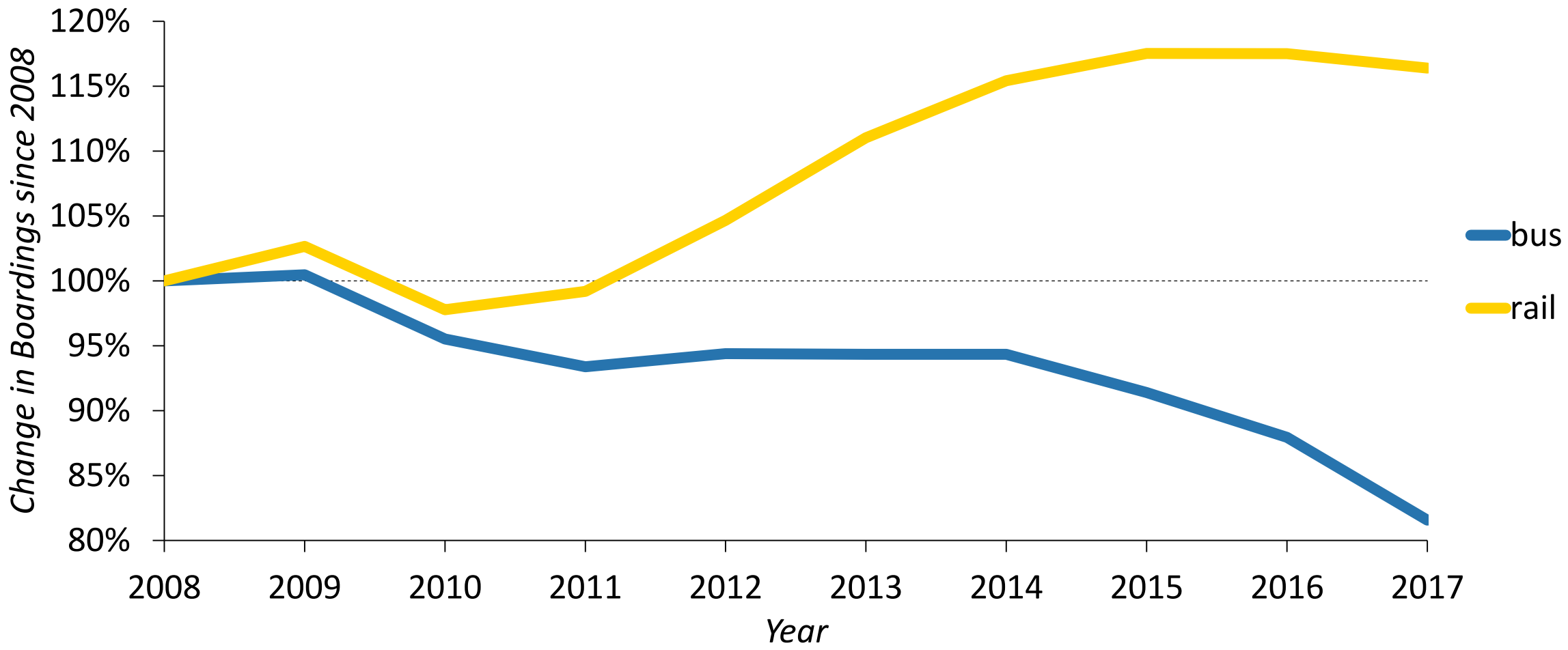
The Biggest Absolute Declines Have Been in Greater Los Angeles (the SCAG Region)



But in Relative Terms, There Is Lots of Variation across Metropolitan Areas



And Lots of Variation across Modes



Ridership Is Down Broadly, but More (because of its great size) in Greater Los Angeles than Most Other Places

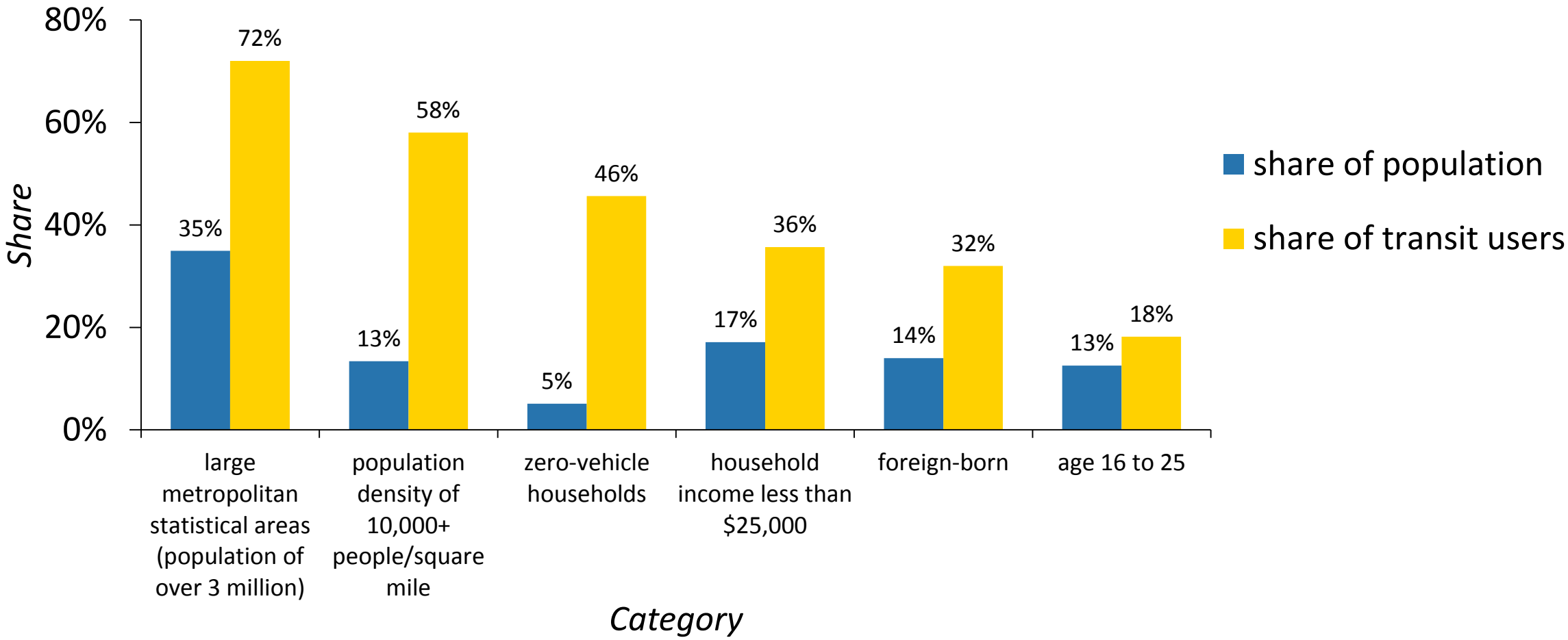

WHAT'S
GOING ON??!!!

Transit Concentration and Asymmetry

- *A few people make most of the trips*
- *A few cities and neighborhoods generate most of the trips*
- *A few operators (and lines on those operators) carry most of the passengers*

As a result, small changes in underlying drivers can make a very big difference in transit use.

Asymmetry



Data source: 2017 National Household Travel Survey, except foreign-born is from 2009 NHTS

Transit Concentration and Asymmetry

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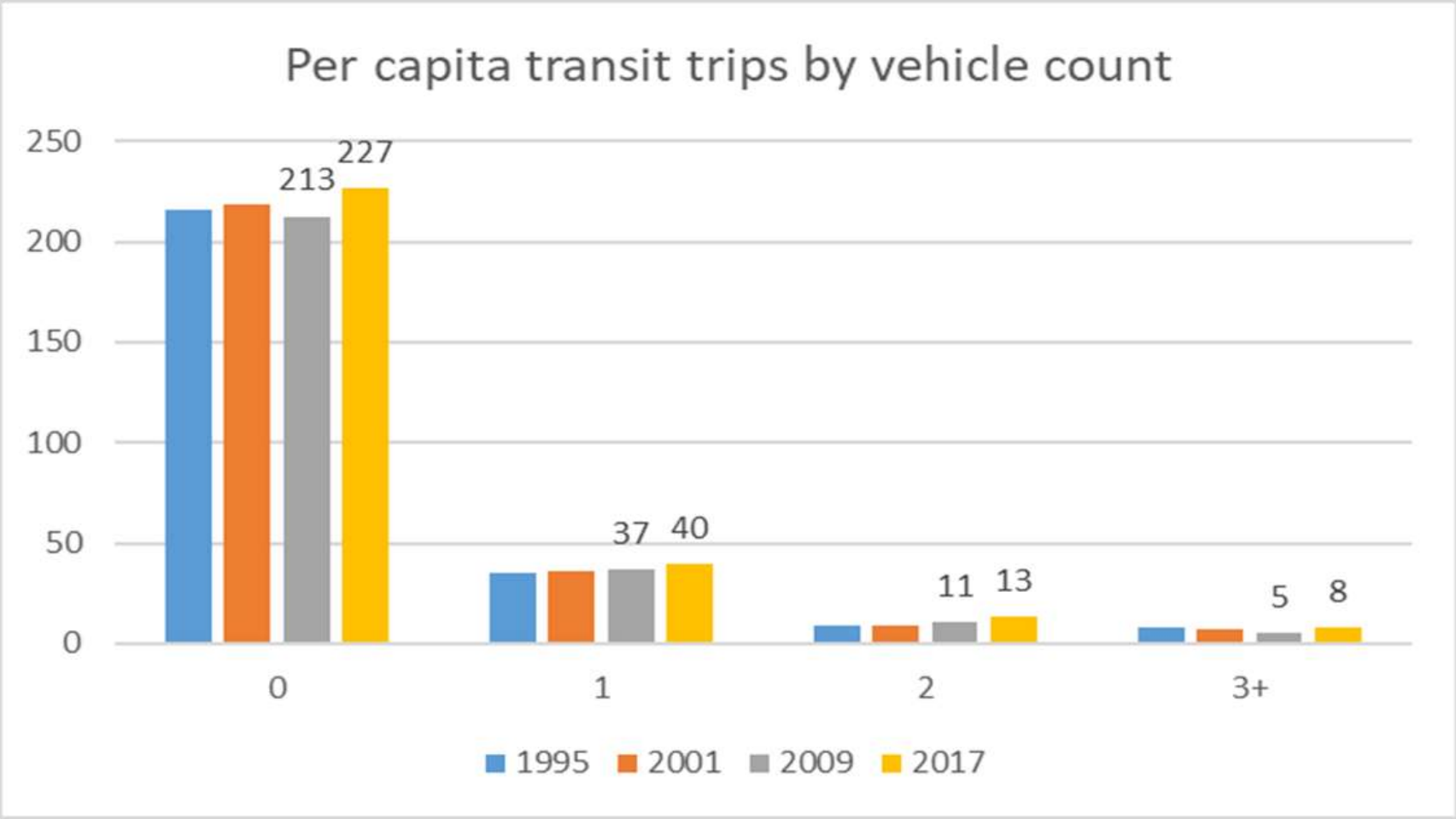
A Few Households Make Most Transit Trips



A Few People Make Most of the Trips

- 2% of Greater Los Angeles residents ride very frequently
  - ~45 trips/month
- 20% ride occasionally
  - ~12 trips/month
- 78% ride transit very little or not at all
  - < 1 trip/month

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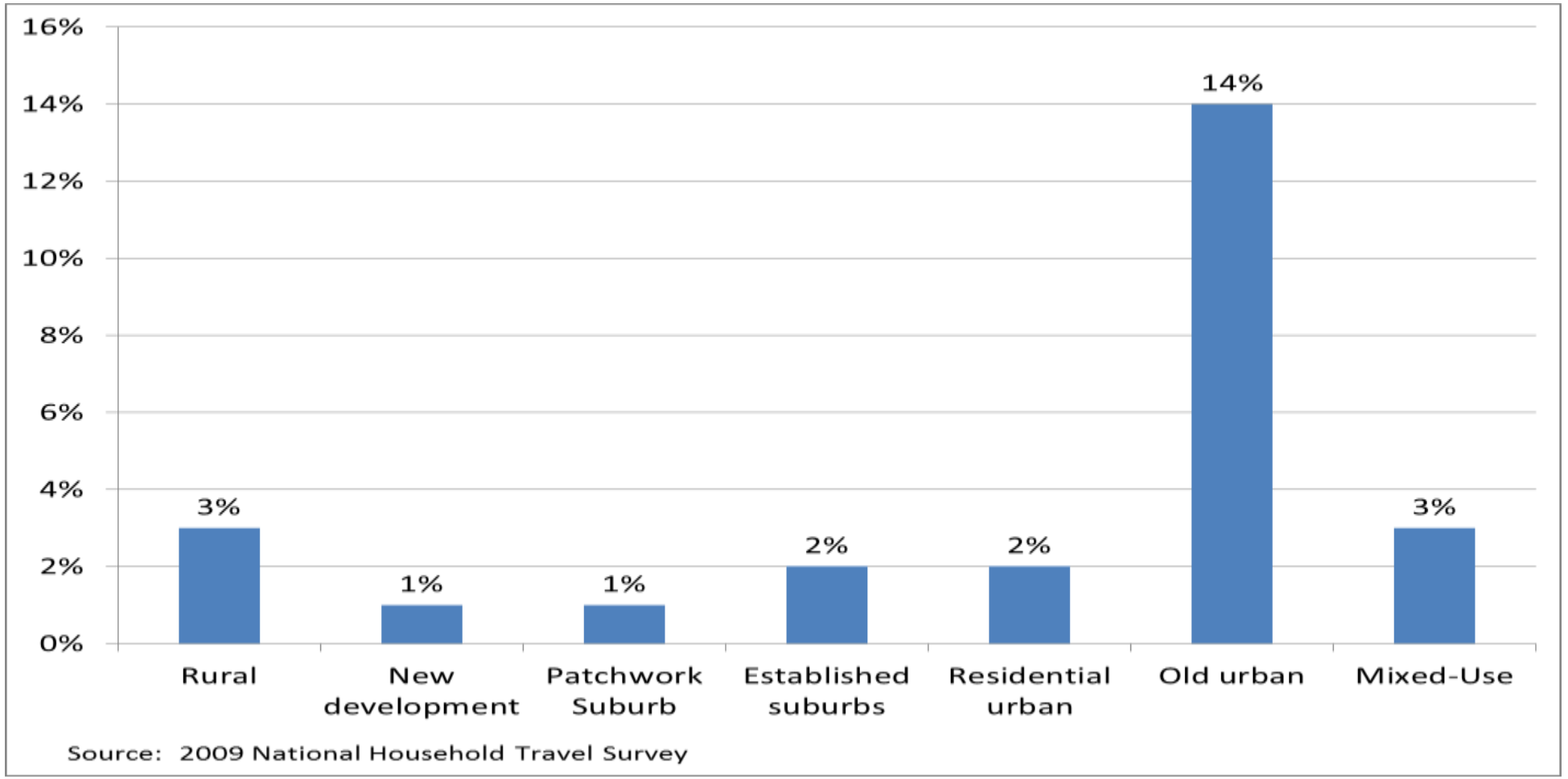
Transit Use by Neighborhood Type



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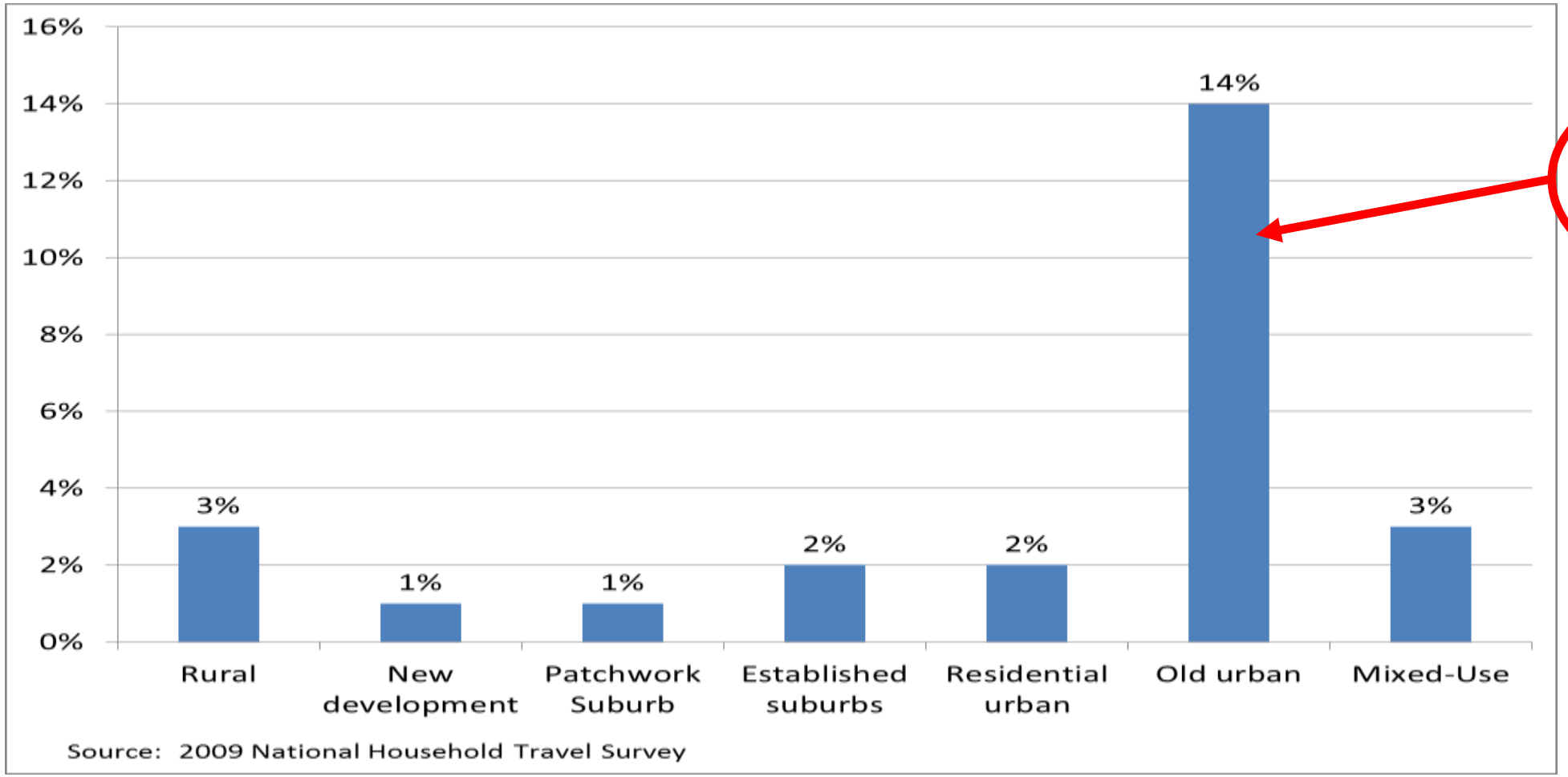
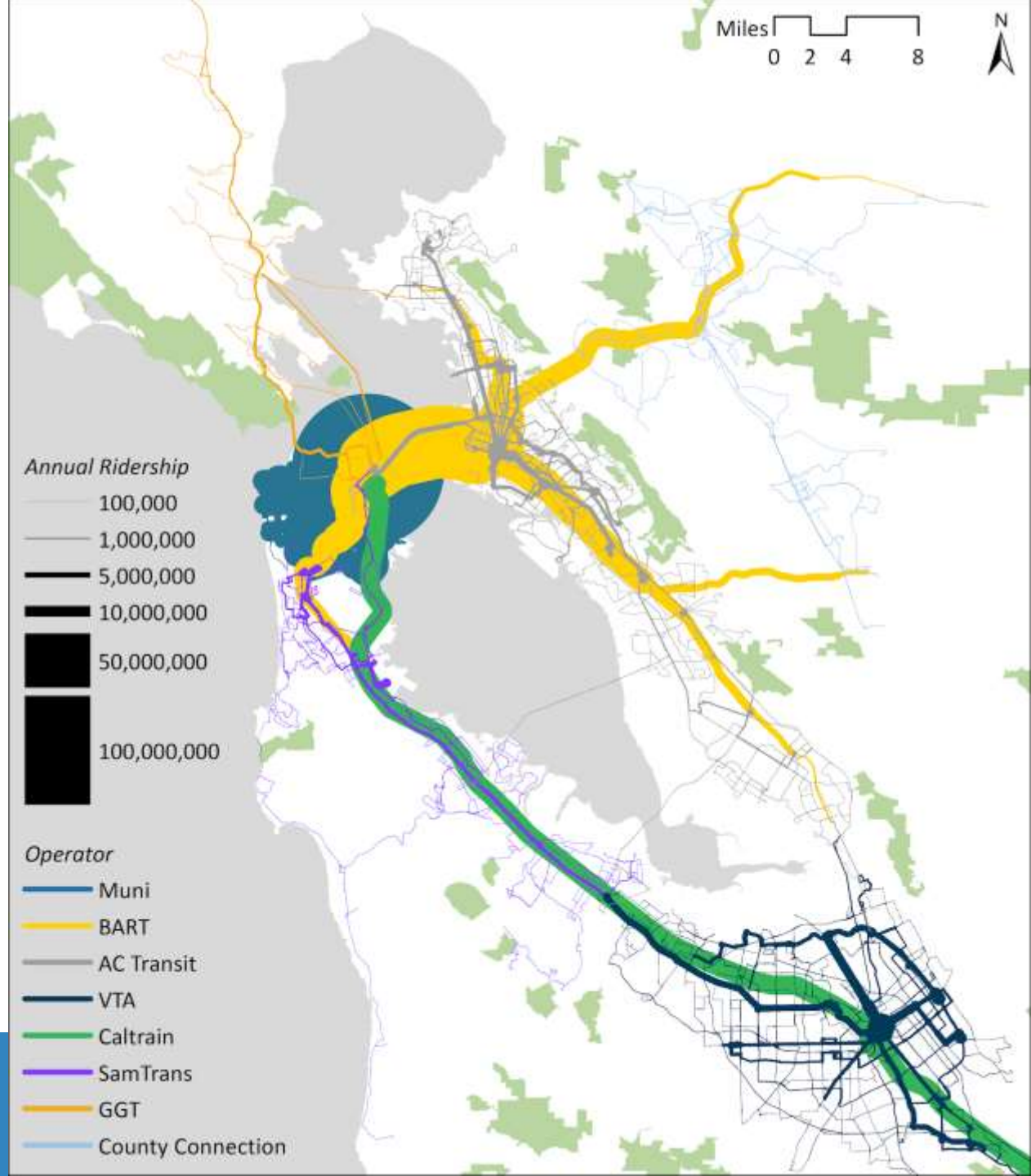


A Few Neighborhoods Generate Most of the Trips

3 out of 5 of Southern California's transit commuters live in census tracts that comprise <1% of the region's land area.

Most Transit Use Is in Just a Few Cities and Neighborhoods

2017 Bay Area transit use was overwhelmingly centered on downtown San Francisco.



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A Few Operators Carry Most of the Riders

TRANSIT OPERATOR	ANNUAL RIDERS	PERCENT OF U.S. TOTAL
MTA (New York City)	3,441,000,000	33.9%
CTA (Chicago)	479,000,000	4.7%
LA Metro (Los Angeles)	407,000,000	4.0%
MBTA (Boston)	383,000,000	3.8%
WMATA (Washingon, D.C.)	353,000,000	3.5%
SEPTA (Philadelphia)	325,000,000	3.2%
NJ Transit (New Jersey	269,000,000	2.6%
Muni (San Francisco)	226,000,000	2.2%
BART (Bay Area)	133,000,000	1.3%
Top Nine Systems	*6,016,000,000*	*59.3%*
Total U.S.	*10,152,000,000*	*100.0%*

While Most Big Systems Are Down, LA Metro Has Been Particularly Hard Hit

TRANSIT OPERATOR	CHANGE IN BOARDINGS, 2014-2017	SHARE OF STATEWIDE LOSSES IN BOARDINGS, 2014-2017
Los Angeles Metro	**-72.5 million**	**54%**
San Francisco Muni (SFMTA)	-2.5 million	2%
BART	+7.0 million	-5%
San Diego MTS	-3.7 million	3%
AC Transit	-3.3 million	2%
OCTA	-8.9 million	7%
VTA	-5.4 million	4%
Long Beach Transit	-3.3 million	2%
Sacramento Regional Transit	-4.7 million	4%
LADOT	-5.9 million	4%
Others (Combined)	-18.9 million	14%
California Total	-134 million	100%

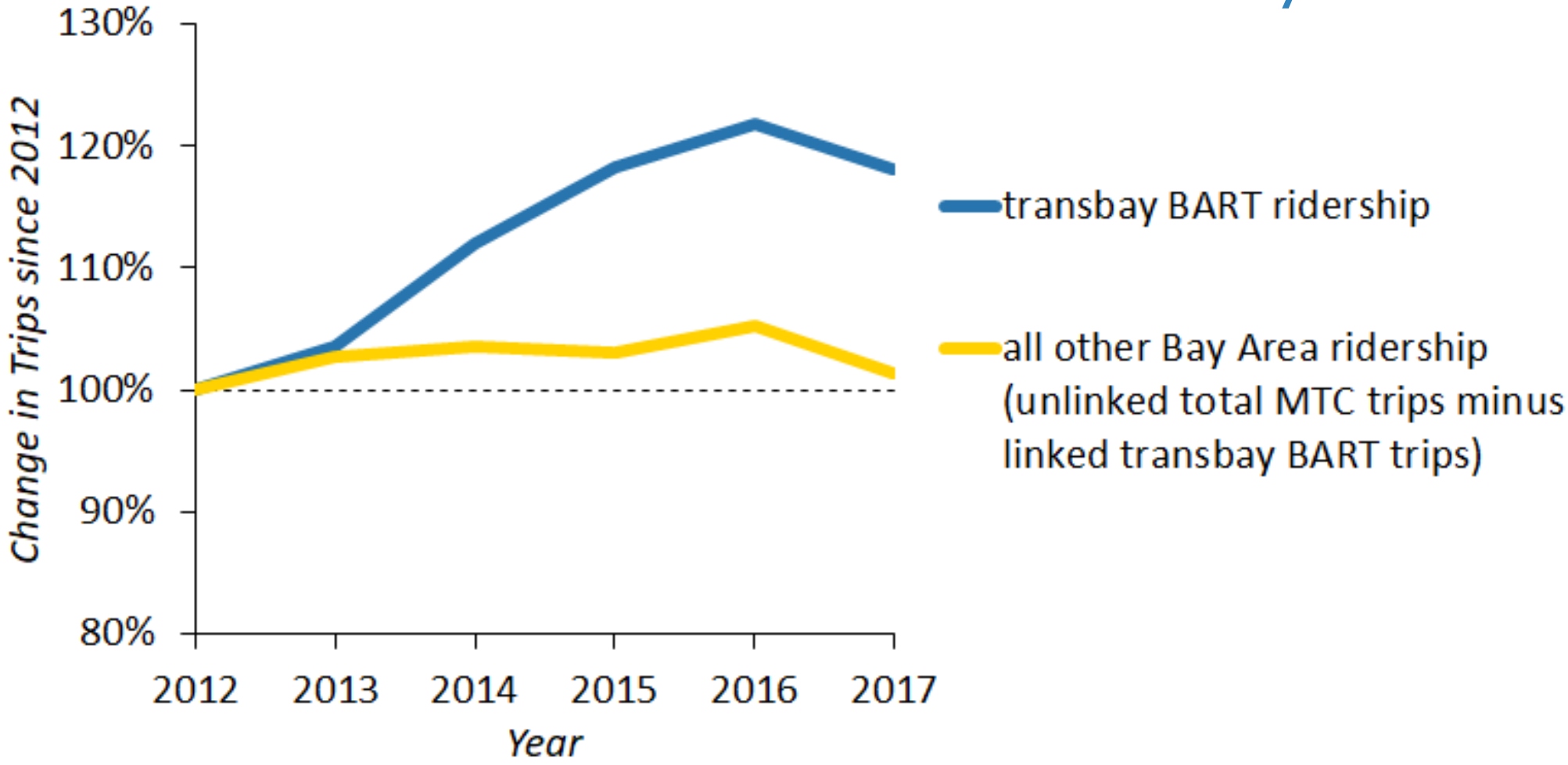
A Few Operators Carry Most of the Passengers

Fewer than 10% of Greater Los Angeles' transit operators carry about 80% of the region's passengers.

A Few Lines (and even a few stations) Handle Most of the Passengers

- *LA Story*: The biggest, highest volume lines have lost of the most passengers
- *Bay Area Story*: Off-peak service and circumferential lines losing the most riders

Almost all region-wide ridership growth in the Bay Area between 2012 – 2017 was due to Transbay BART trips



Size is important when it comes to overall ridership, but it is not *everything* about transit

- Providing mobility in less transit-friendly places is a critical public service, even if it does not generate large absolute numbers of riders (or ridership losses)

Asymmetric Use Means Concentrated Losses when Ridership Declines

- LA Metro, OCTA, LADOT, and Santa Monica Big Blue Bus accounted for 88 percent of the ***state's*** ridership losses between 2010 and 2017.
    - LA Metro alone for 72%
- Half of California's total lost ridership is accounted for by 17 LA Metro ***routes*** (14 bus and 3 rail lines) and one OCTA route.
    - 12 LA Metro routes accounted for 38% of state losses.

So What's behind All of These Ridership Changes?

- ***External*** (or environmental or control) factors
- ***Internal*** (or policy or treatment) factors

External (Environmental) versus Internal (Policy) Factors

External Factors

Factors exogenous to systems and transit managers

- Population
- Employment levels and growth
- Auto access
- Income
- Parking policies
- Residential and employment relocation

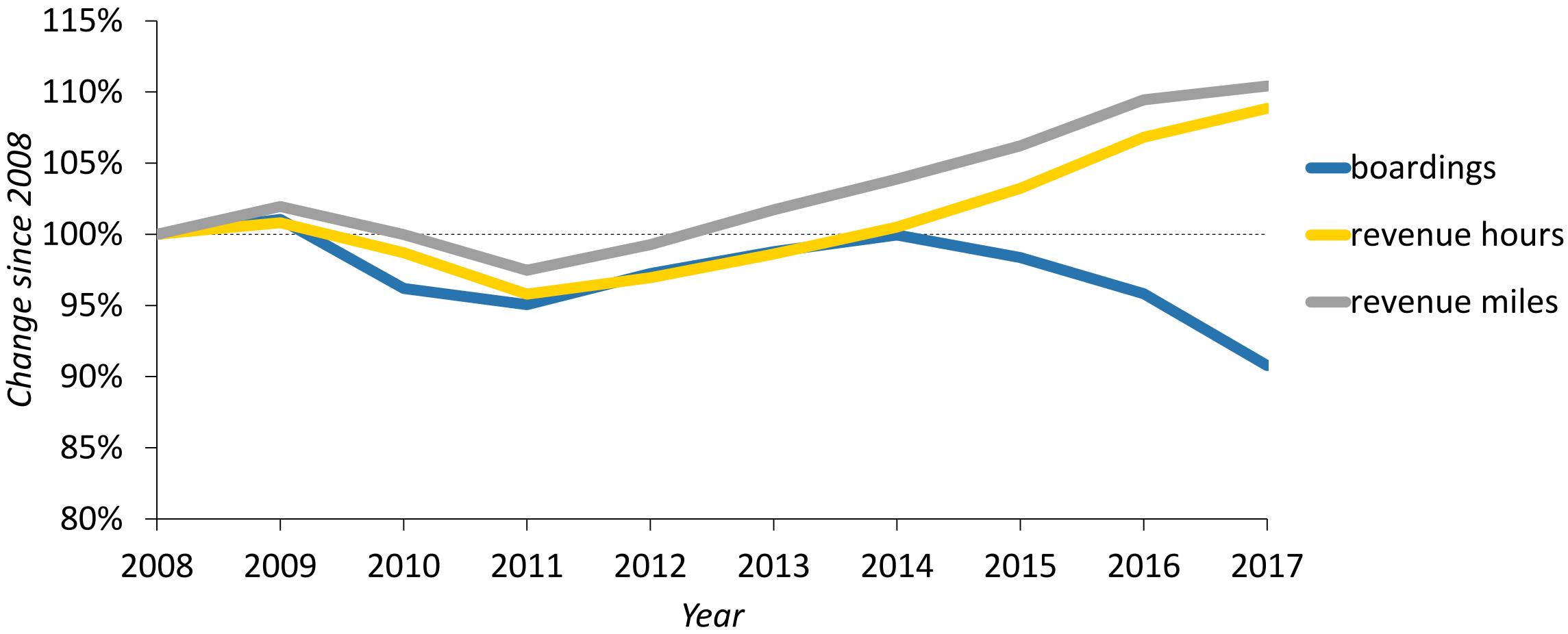
Internal Factors

Factors subject to the discretion of transit managers

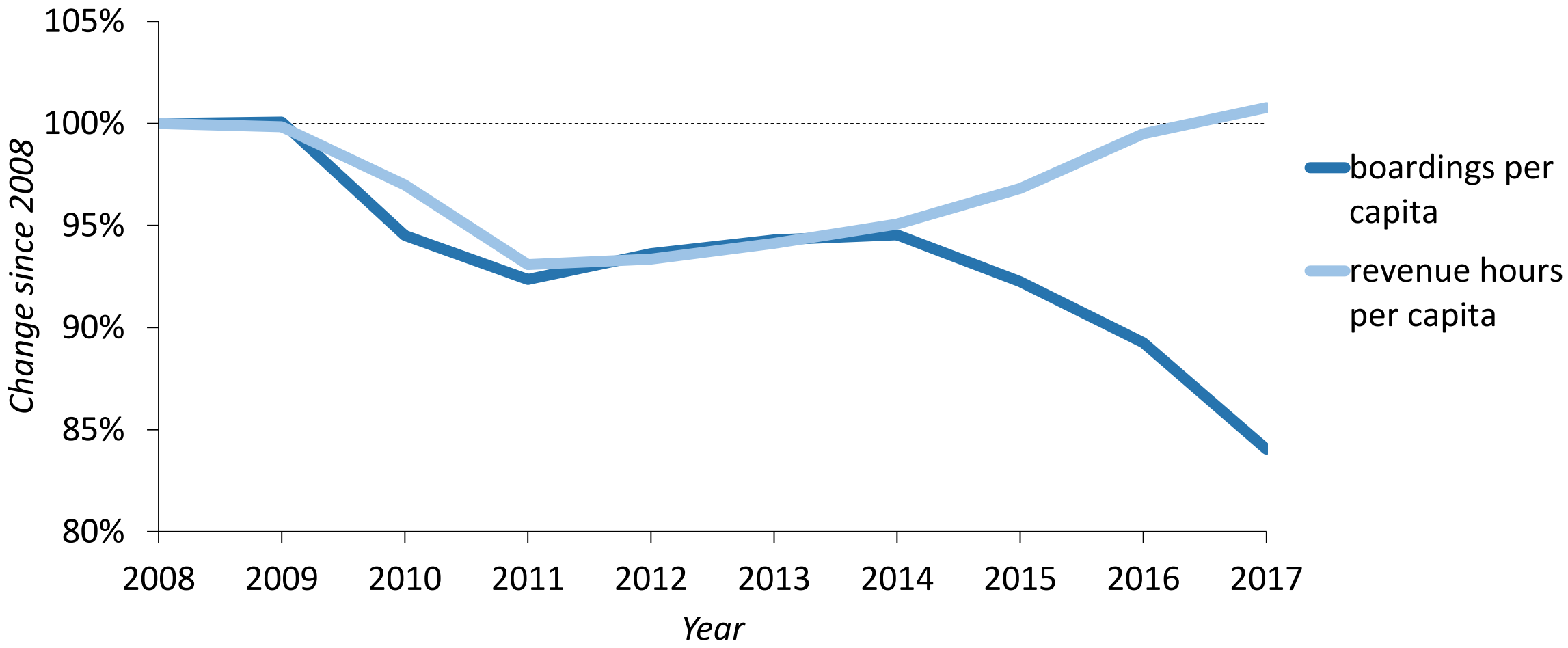
- Level of service
- Service quality
- Fare levels and structures
- Service frequency and schedules
- Route design
- Marketing and information programs

Our Analyses Find that ***External*** Factors Are Mostly behind Patronage Losses

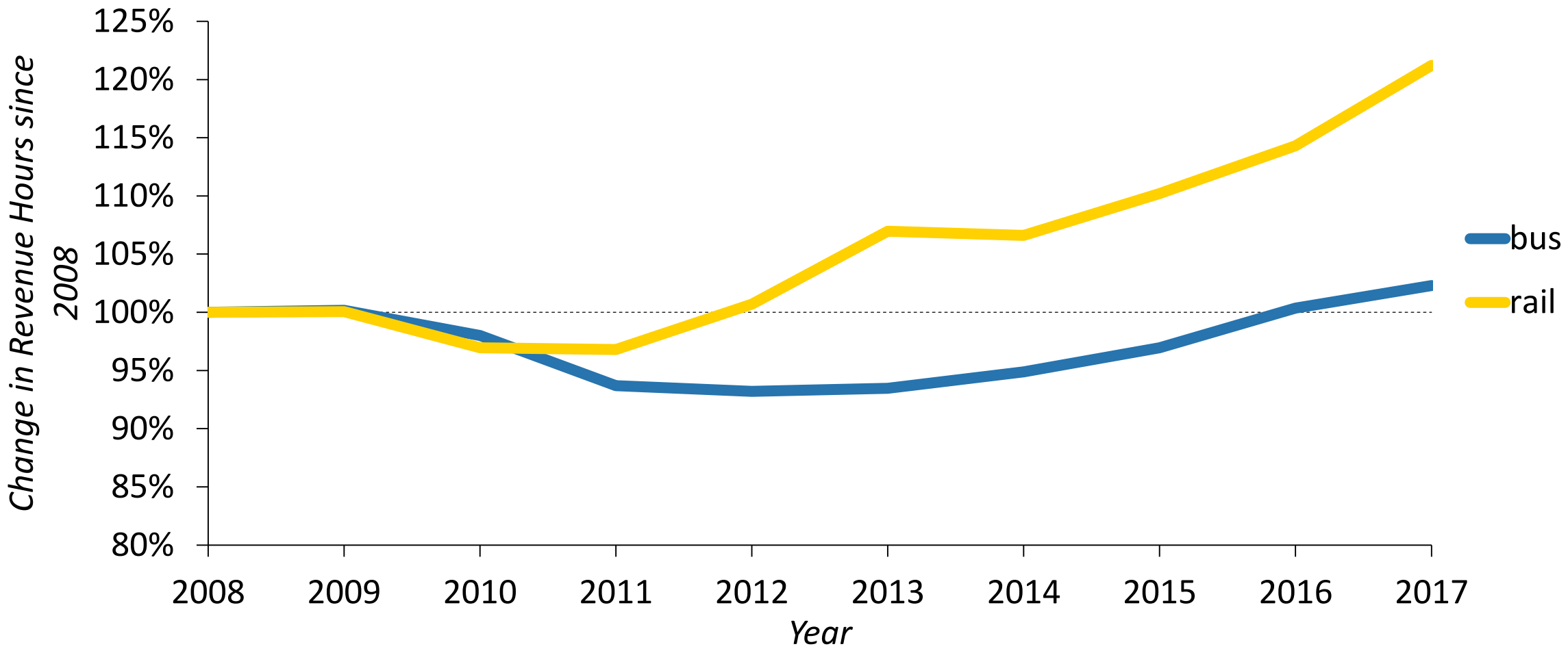
Service Statewide Has Been *Rising*



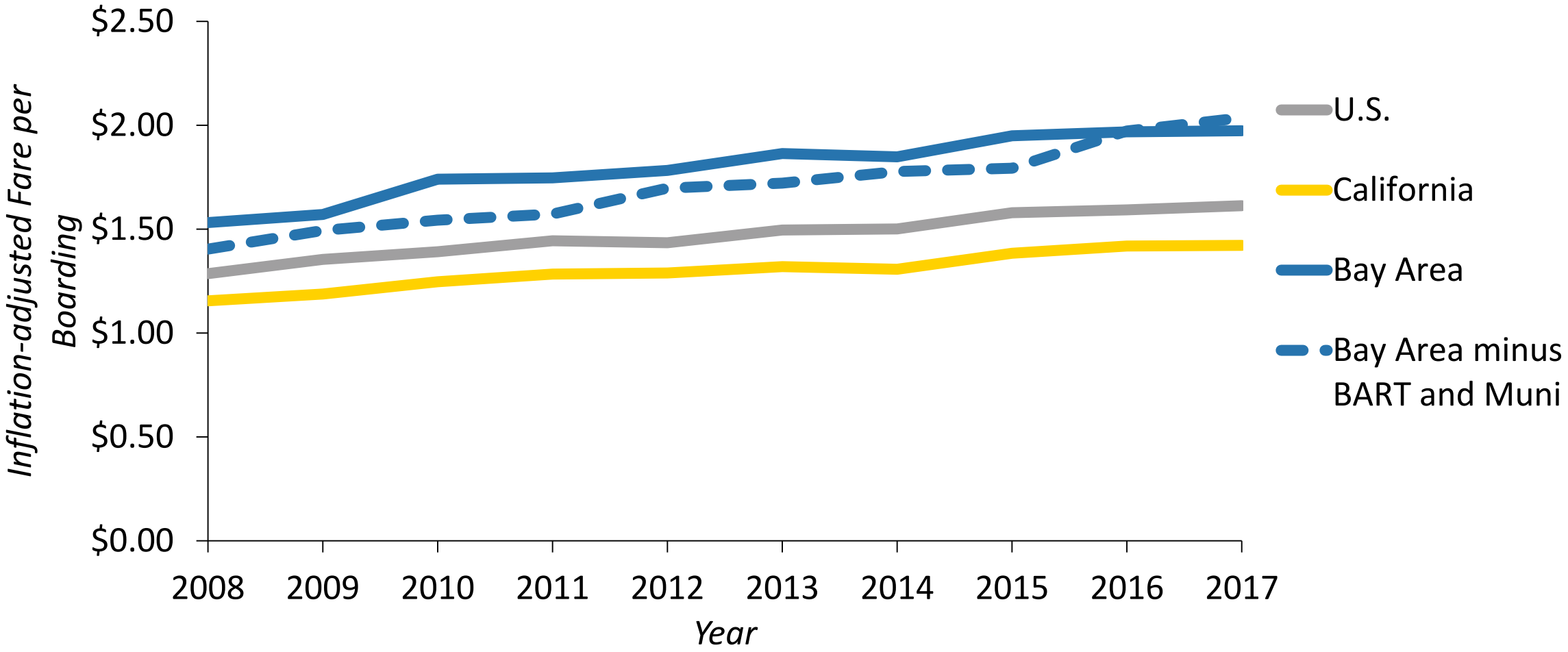
Accounting for population growth, service and ridership trends are diverging



Bus Service Is Relatively Flat Statewide; Rail Is Growing



Overall Transit Fares Have Climbed Gradually, but Trips Have Been Getting Longer, Too



The Data Are Frustratingly Hard to Come by, but Ridehail Is Likely Playing an Increasing, Albeit Moderate, Role in Patronage Losses

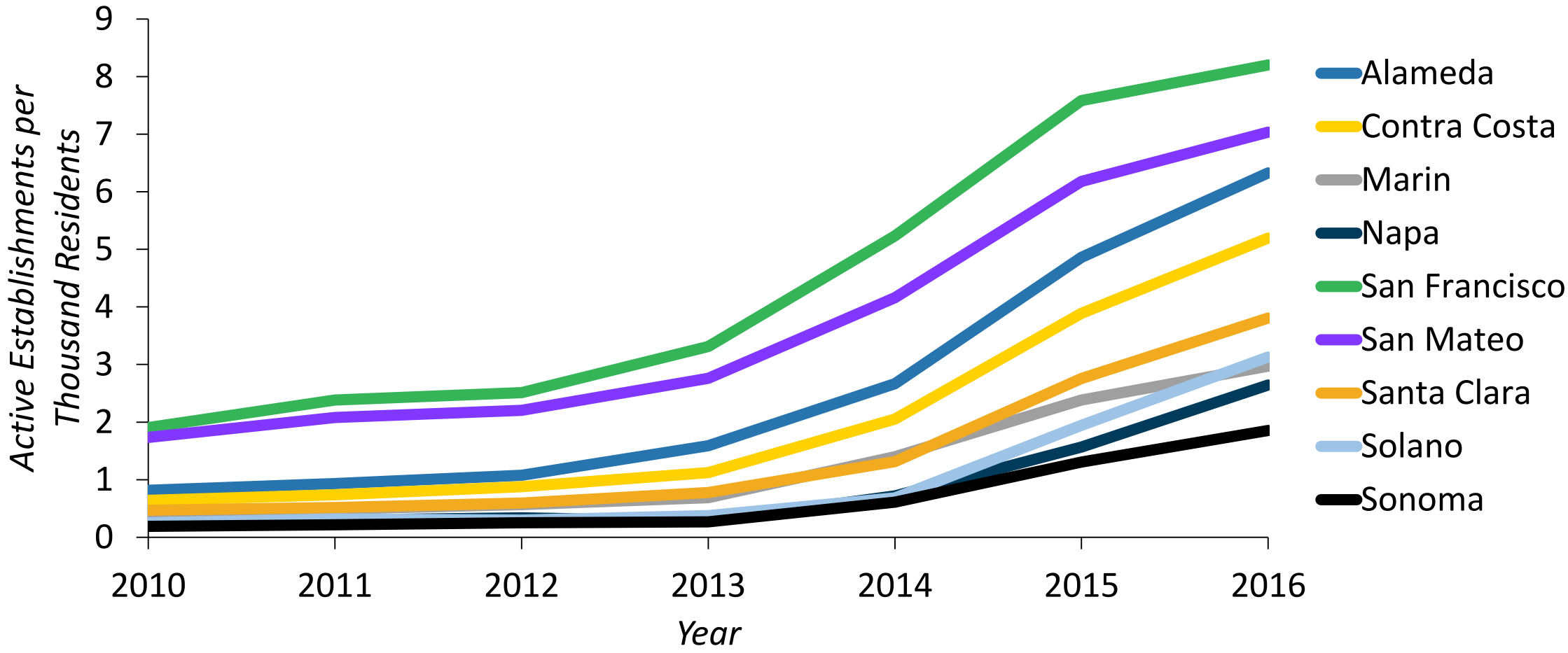
Ridehail Has Likely Played a Contributing but Not Leading Role

Research to date:

- Most ridehail users not core transit users
- Most ridehail trips not core transit trips
- But, ridehail use is highest where transit use is highest
  - New York City has seen big effects

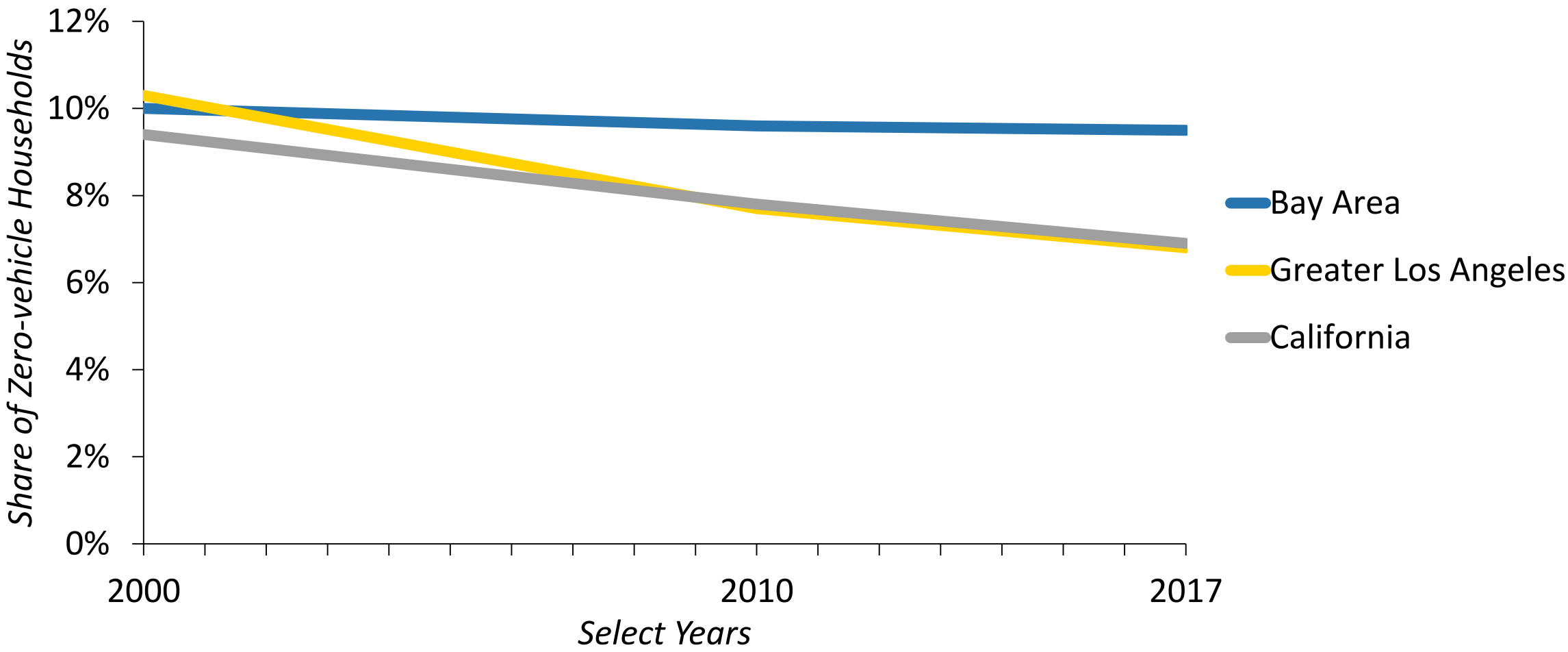
Ridehail increases auto access, one trip at a time.

Taxi, Limousine, and Ridehail "Independent Contractors" per Capita in the Bay Area



So What ***Is*** Going On?

Zero-vehicle Households, whose Members Ride Transit the Most by Far, Are Declining in California, Outside of the Bay Area



Smoking Gun: *Private Vehicle Access in California, Outside of the Bay Area, Increased Substantially in the 2000s*

- In the 1990s:
  - Greater Los Angeles added 1.8 million people and 456,000 household vehicles
  - 0.25 vehicles/new resident
- From 2000 to 2015:
  - Greater Los Angeles added 2.3 million people and 2.1 million household vehicles
  - 0.95 vehicles/new resident

Smoking Gun: *Private Vehicle Access in California, Outside of the Bay Area, Increased Substantially in the 2000s*

- Greater Los Angeles households during the 2000s added vehicles are nearly four times the rate of the 1990s
- Back of the envelope:
  - Greater LA residents spent more on these 2.1 million additional vehicles than LA Metro and Metrolink spent on all rail and bus rapid transit over the same period

Evidence: *Private Vehicle Access Is Increasing, Especially among Those Most Likely to Use Public Transit*

	All SCAG Share Households With:		Foreign Born Share Households With:		Mexican Foreign Born Share Households With:	
	No Vehicles	Vehicle Deficit	No Vehicles	Vehicle Deficit	No Vehicles	Vehicle Deficit
2000	10.2	30.1	14.1	47.1	15.7	57.2
2010	7.7	26.1	9.4	38.9	7.0	46.0
2015	7.1	25.9	8.2	36.6	5.4	41.6
Pct Change	-0.30	-0.14	-0.42	-0.22	-0.66	-0.27

Table 4. Vehicle ownership trends, SCAG region (US Census, Census IPUMs).

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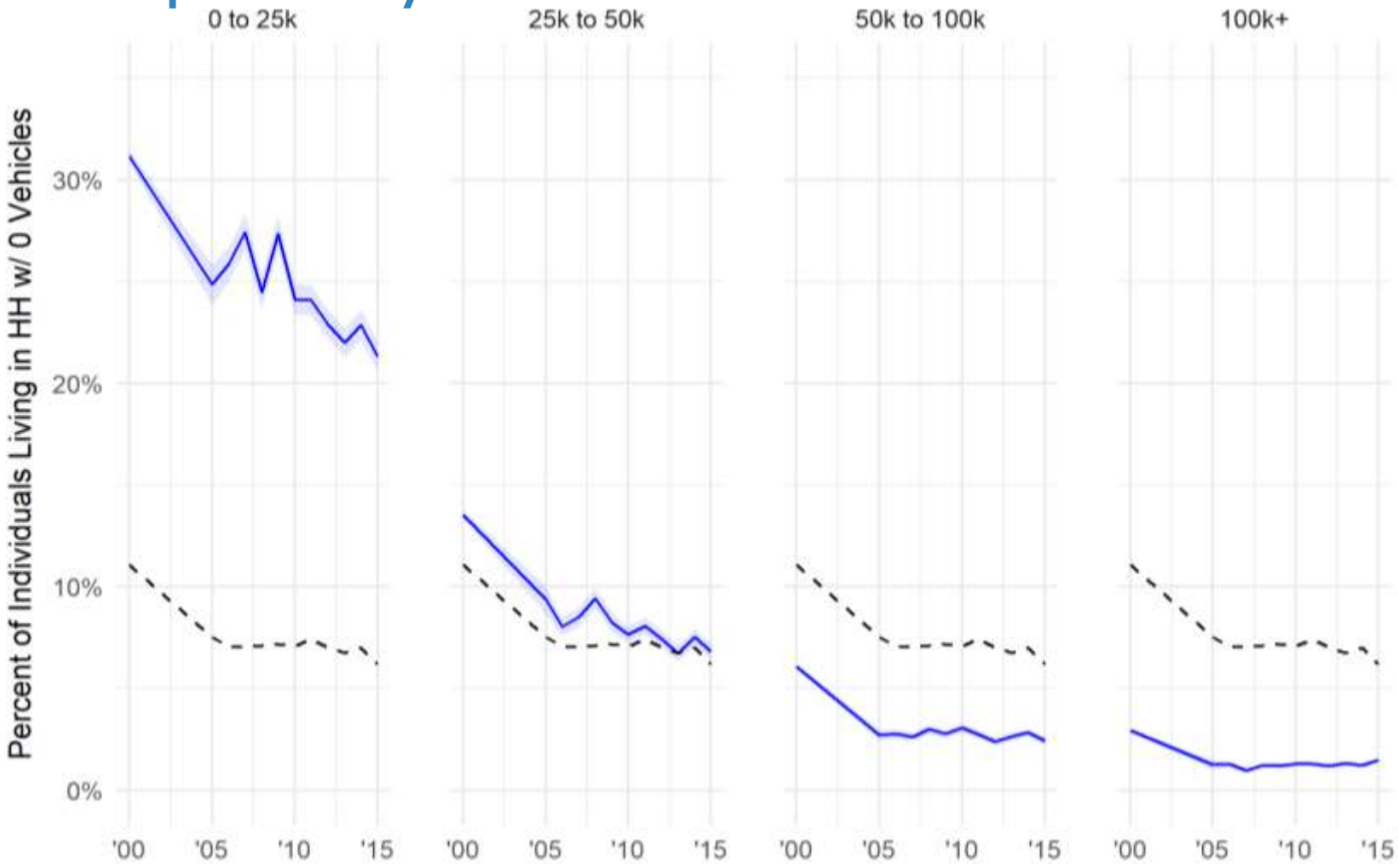
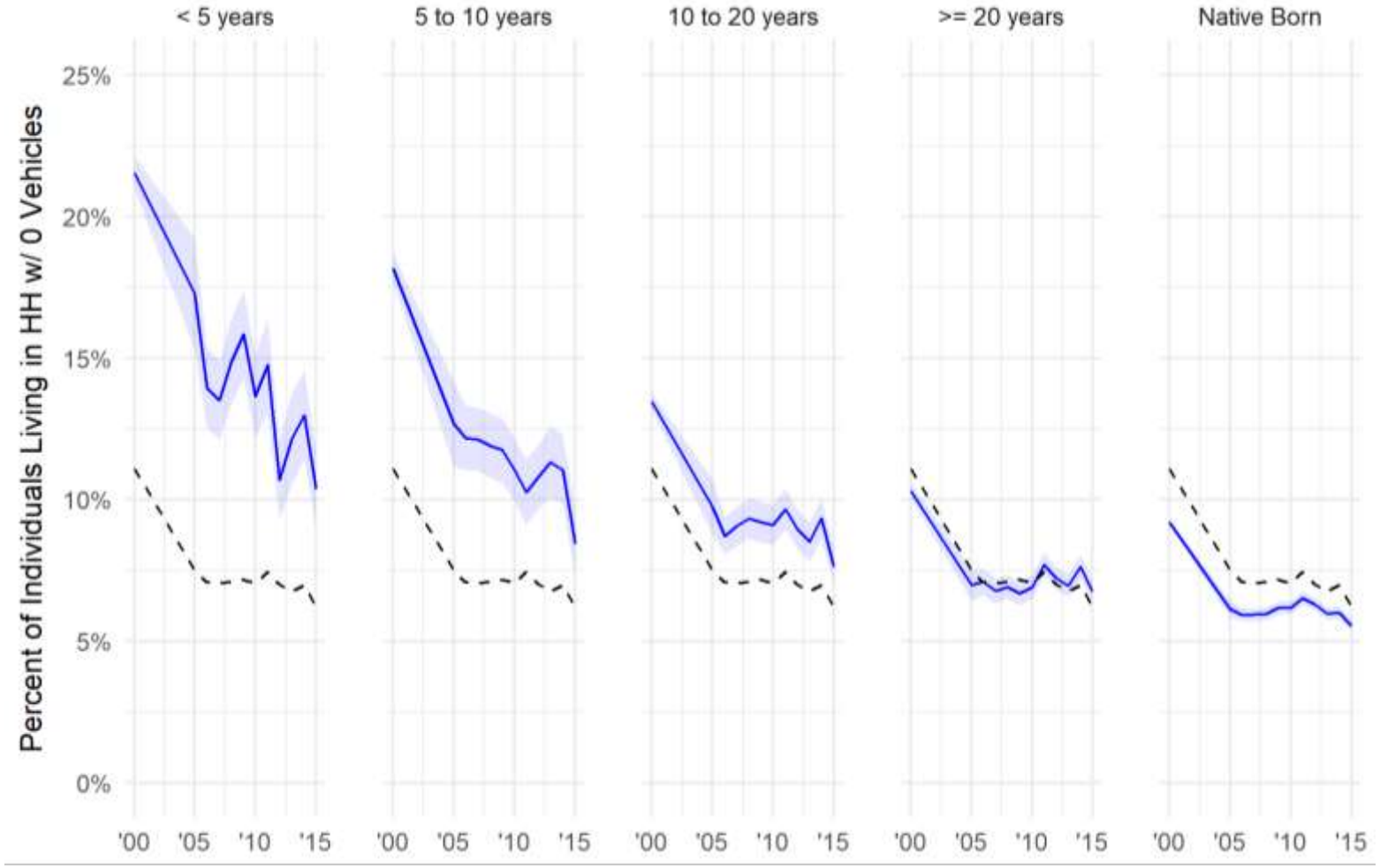
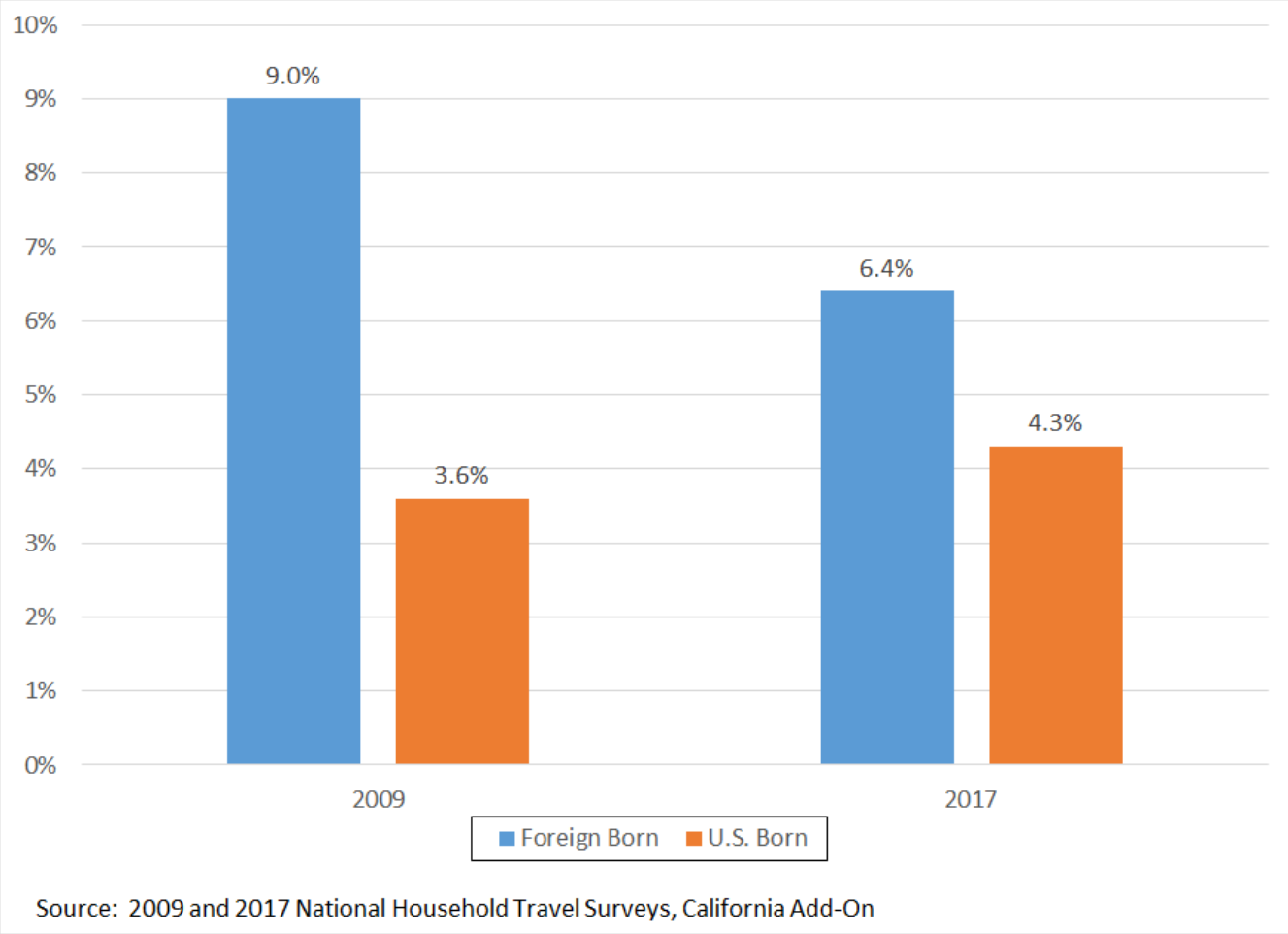
Zero-vehicle Households Are Way Down, Especially in Low-income Households



Zero-vehicle Households Are Way Down among Recent Immigrants

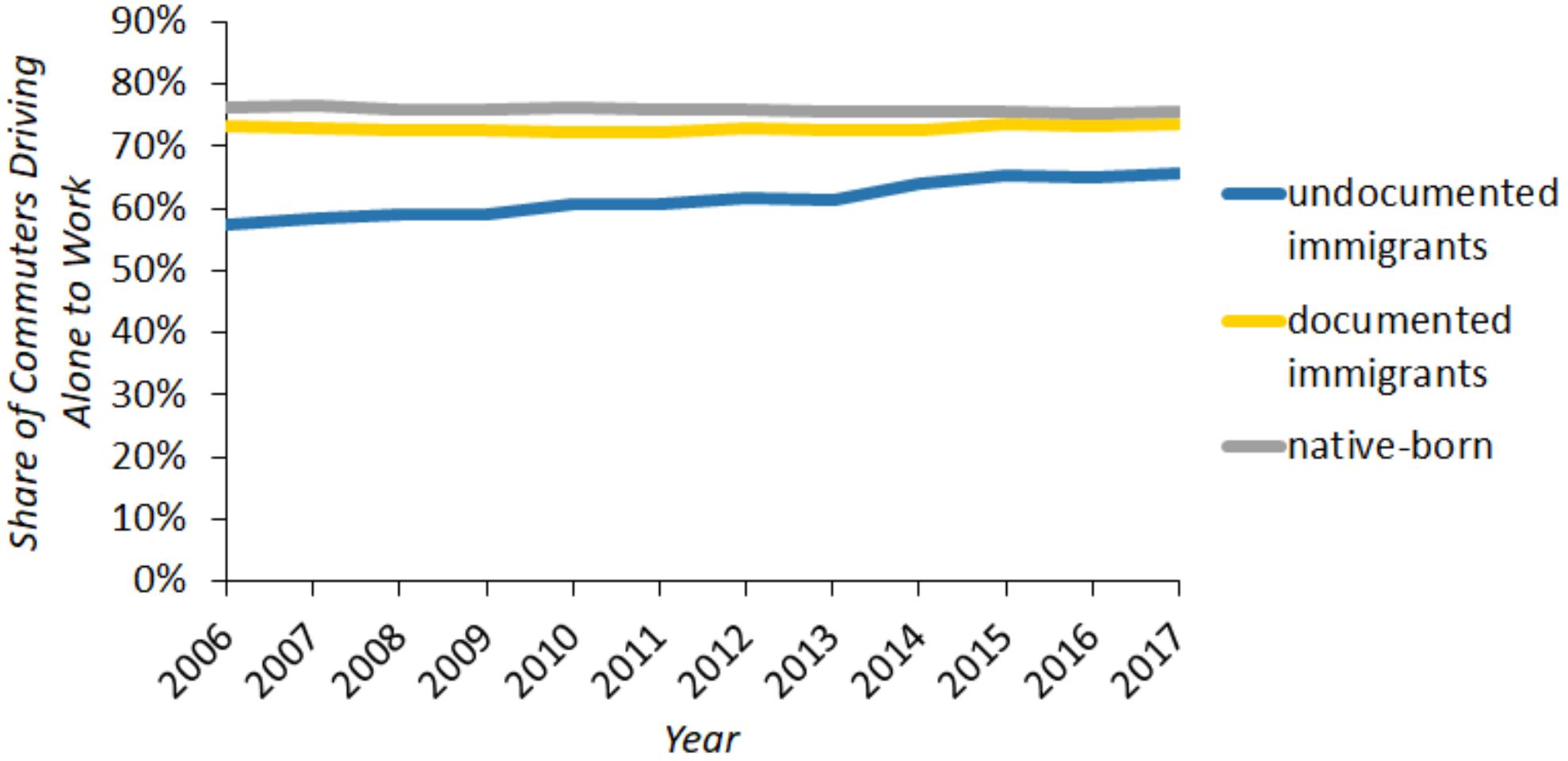


Immigrants in California Are Riding Transit Less over Time

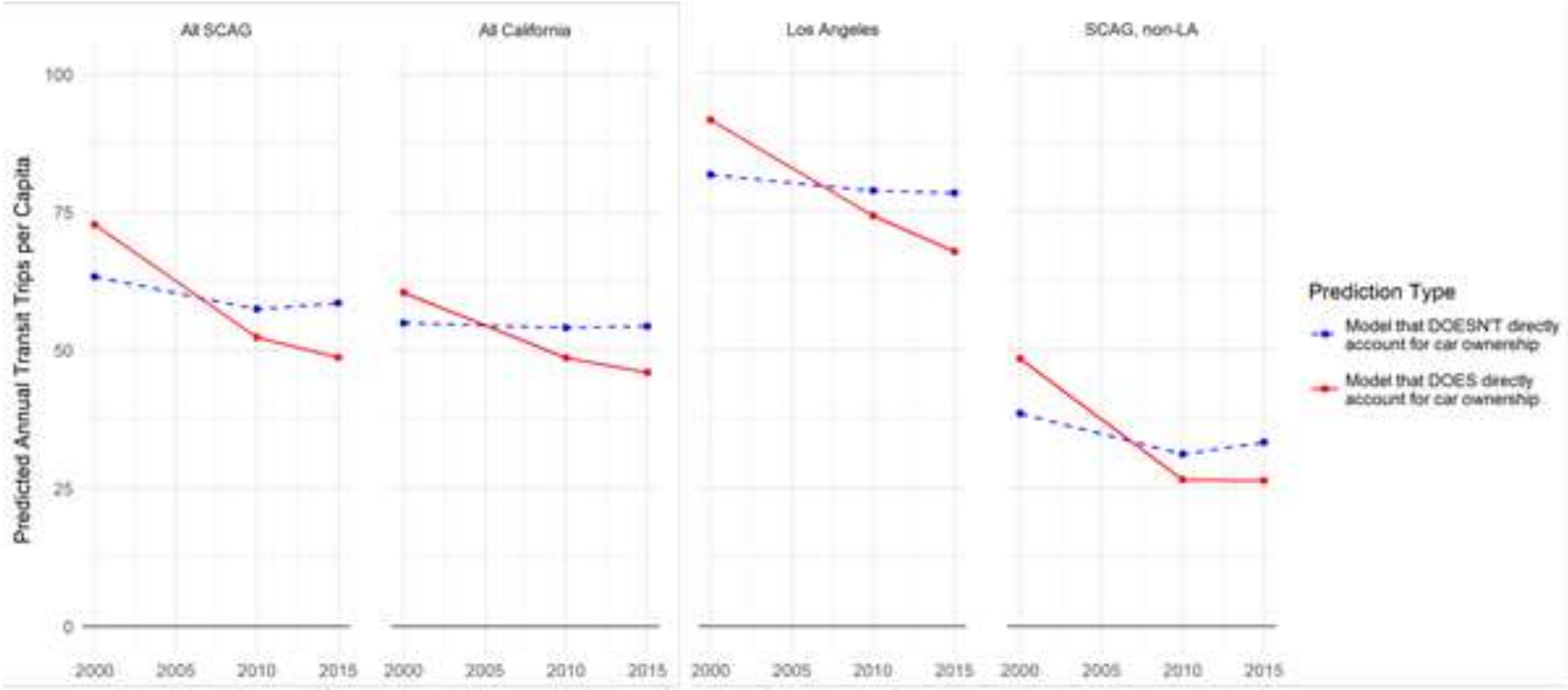


Source: 2009 and 2017 National Household Travel Surveys, California Add-On

And Driving Alone by Immigrants across California Is Up



Increased Vehicle Access Has Likely Had a *Very Large* Effect on Transit Use Outside of the Bay Area



Conclusions

- The pool of transit users in California is changing
  - Fewer heavy-use "transit dependents" over time
  - More "choice riders" with access to cars
  - This situation is unlikely to reverse anytime soon

No Easy Answers

- *One strategy*: Broaden the base of occasional transit users
  - If every 4th non-rider added 1 transit trip every two weeks, ridership would be up, even in Metro LA

No Easy Answers

- About those "choice riders"
  - Bay Area transit users increasingly travel to/from downtown San Francisco, and are growing wealthier over time
  - But the biggest increase in auto access statewide is among those with modest incomes

No Easy Answers

- *Transportation packaging*: These modest income households with cars more likely to...
  - Share them (schedule around car, carpool, etc.)
  - Delay repairs when they are needed
    - And be likely to move back to transit intermittently in such cases
  - Travel via other shared modes
    - Much higher levels of LyftShared/UberPOOL in low-income neighborhoods than elsewhere
- Transit can importantly complement auto travel in "auto deficit" (but no longer zero vehicle) households

Needed Policy Changes Are beyond the Influence of Most Transit Managers

- If we are serious about substantially increasing transit use, we have to start managing private vehicle travel
  - Meter scare roads and expensive-to-provide parking to manage use like we do other public utilities
    - Public officials gradually (VERY gradually) warming to the idea as congestion spreads from central cities to the suburbs and beyond

Needed Policy Changes Are beyond the Influence of Most Transit Managers

- Political motivations to try pricing typically center on revenue generation and congestion management
- But transit systems will benefit *significantly*
  - Congestion priced roads and parking make driving better, *but also rarer*
  - Transit becomes a more attractive alternative, especially in built-up areas with higher driving and parking prices
  - Congestion-managed streets and parking make transit, and in particular buses, a faster, more reliable, and cheaper option

Thank you!

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