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Gentrification and Displacement Near Los Angeles Rail Transit Stations:
New Evidence on Income Distributions and Moves Into and Out of Station Areas

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Today's Webinar

National Center for Sustainable Transportation

- Background: Displacement and Gentrification
- Background: L.A. Rail Transit System
- Research
  - Data
  - Income distribution near L.A. rail transit stations
  - Moves into and out of L.A. rail station areas
- Results
- Conclusions / Policy Recommendations

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Rail Transit and Displacement

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- How does L.A. rail transit and other systems contribute to residential displacement and gentrification?
- Displacement: Larger than otherwise expected moves out of rail station neighborhoods among low-income households.
- Gentrification: Larger than otherwise expected moves into rail station neighborhoods among higher income households.

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Why Los Angeles?

- L.A. Metro is the largest new/expanding system in the U.S. – over 90 stations as of 2013 (the end point of the current study)
- Research has shown that rail transit neighborhoods are at risk of gentrification and displacement
- Rail areas are a focus of proposals for housing investment

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Background: Rail Transit in Los Angeles

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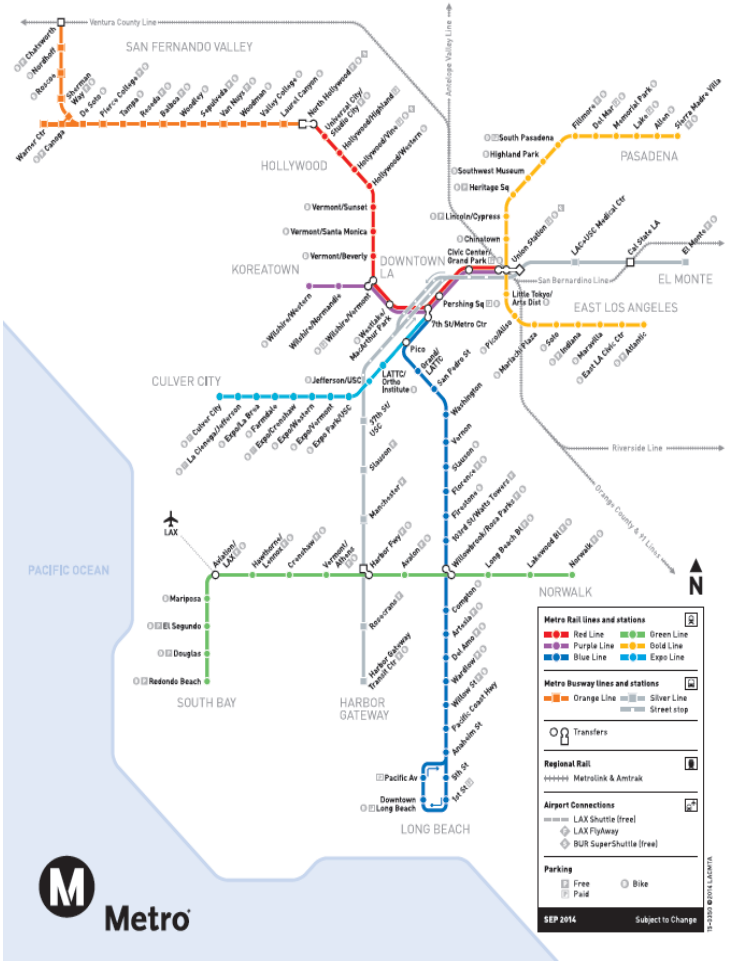
- Since 1990, 93 new rail stations
- 13 stations under construction
- Measure M – estimated $120 billion over 30 years for transportation – overwhelming majority to transit



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Los Angeles rail station neighborhoods are mostly renter and have large stocks of affordable housing

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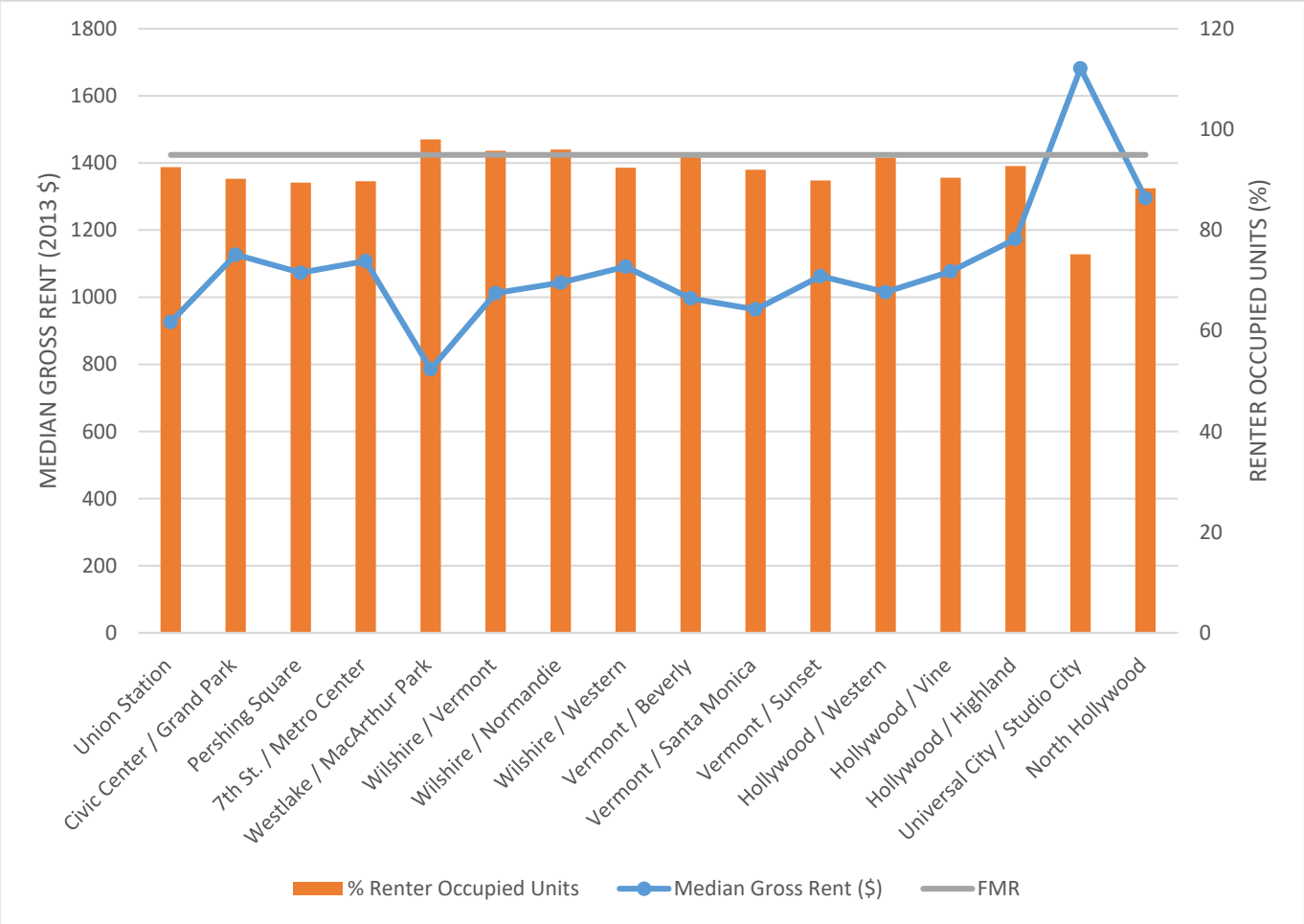

Red/Purple – source ACS 2009-2013

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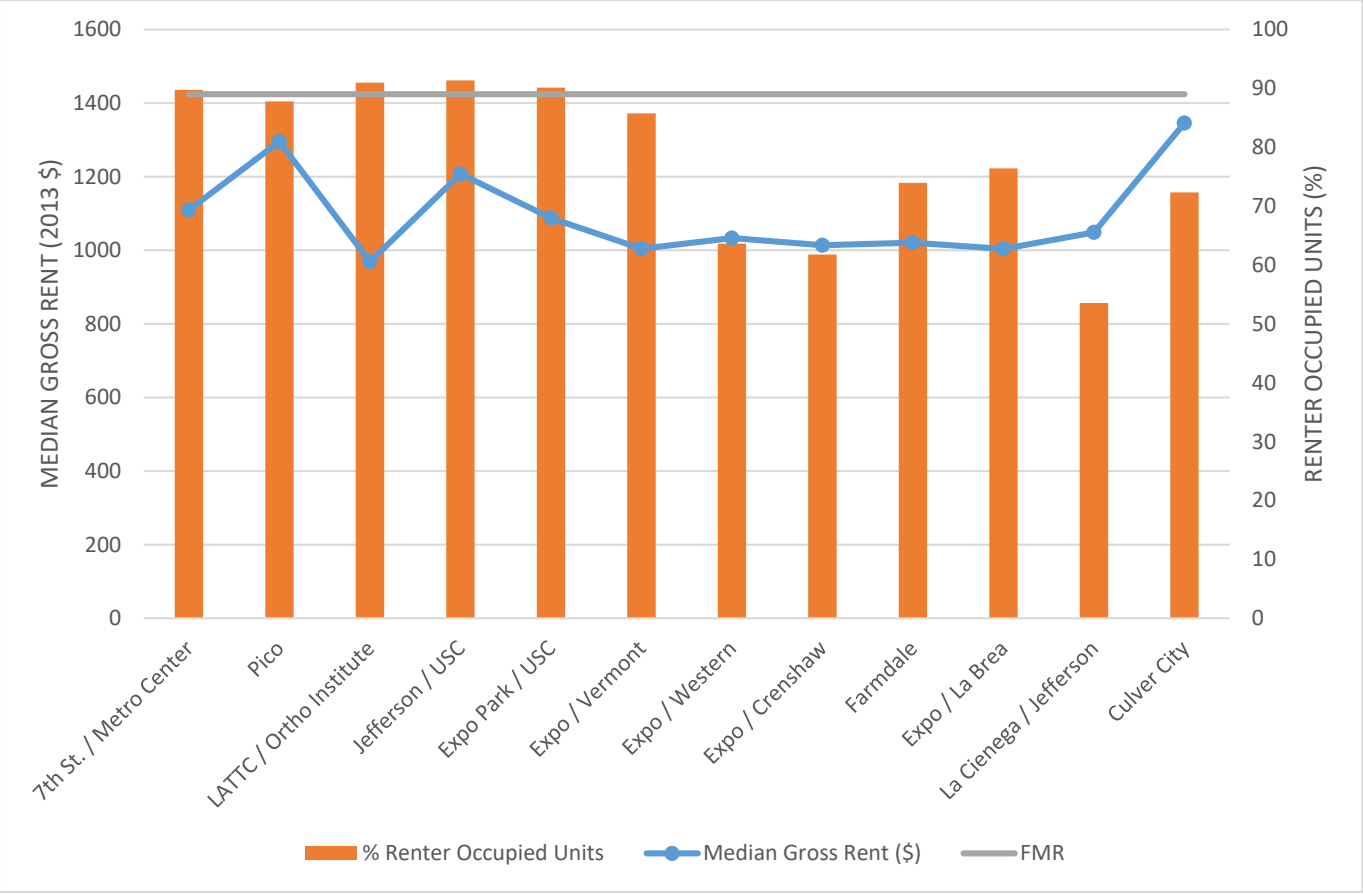

Expo – source ACS 2009-2013

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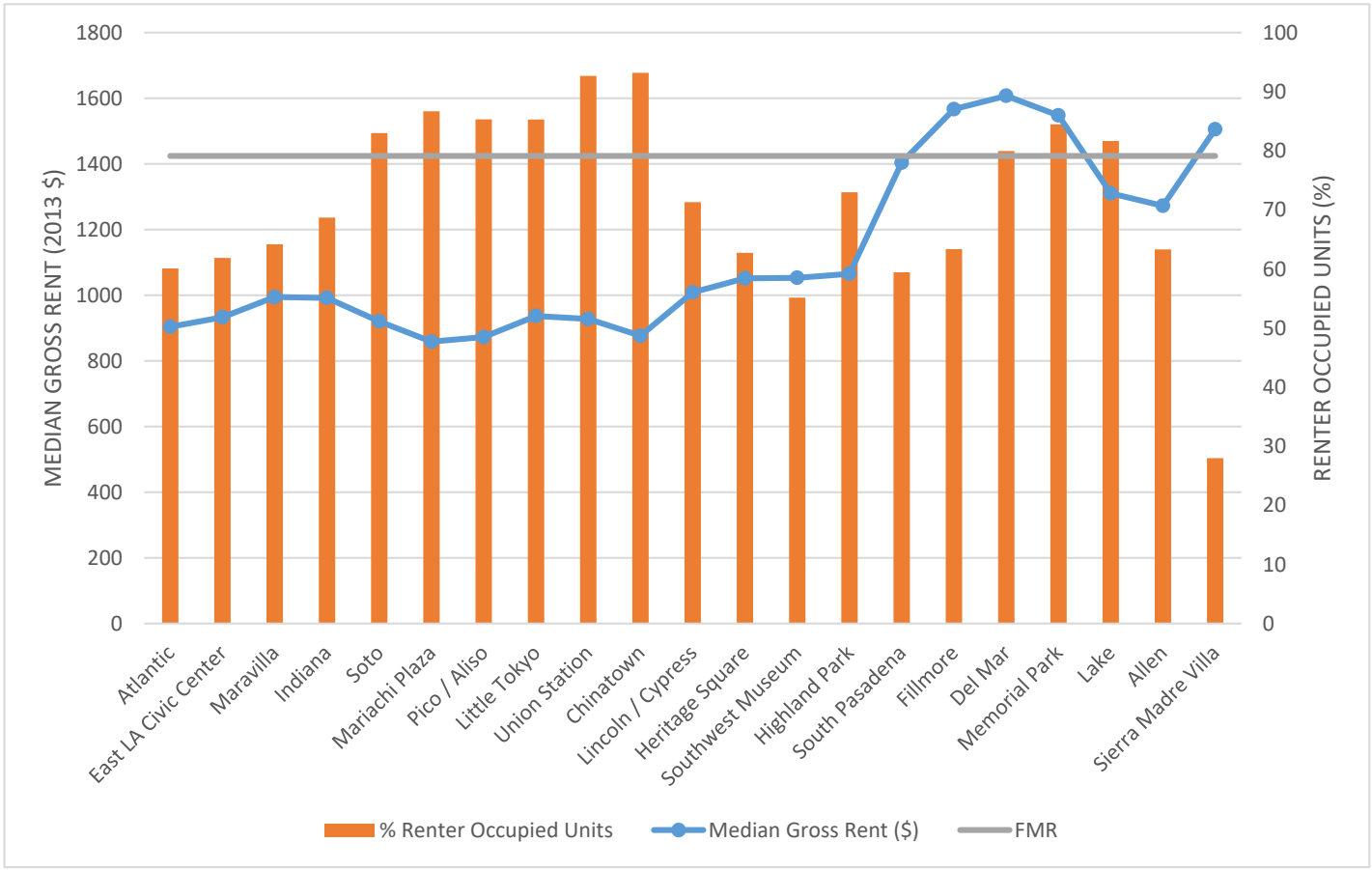

Gold – source ACS 2009-2013

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Signs of increases in rents in recent years

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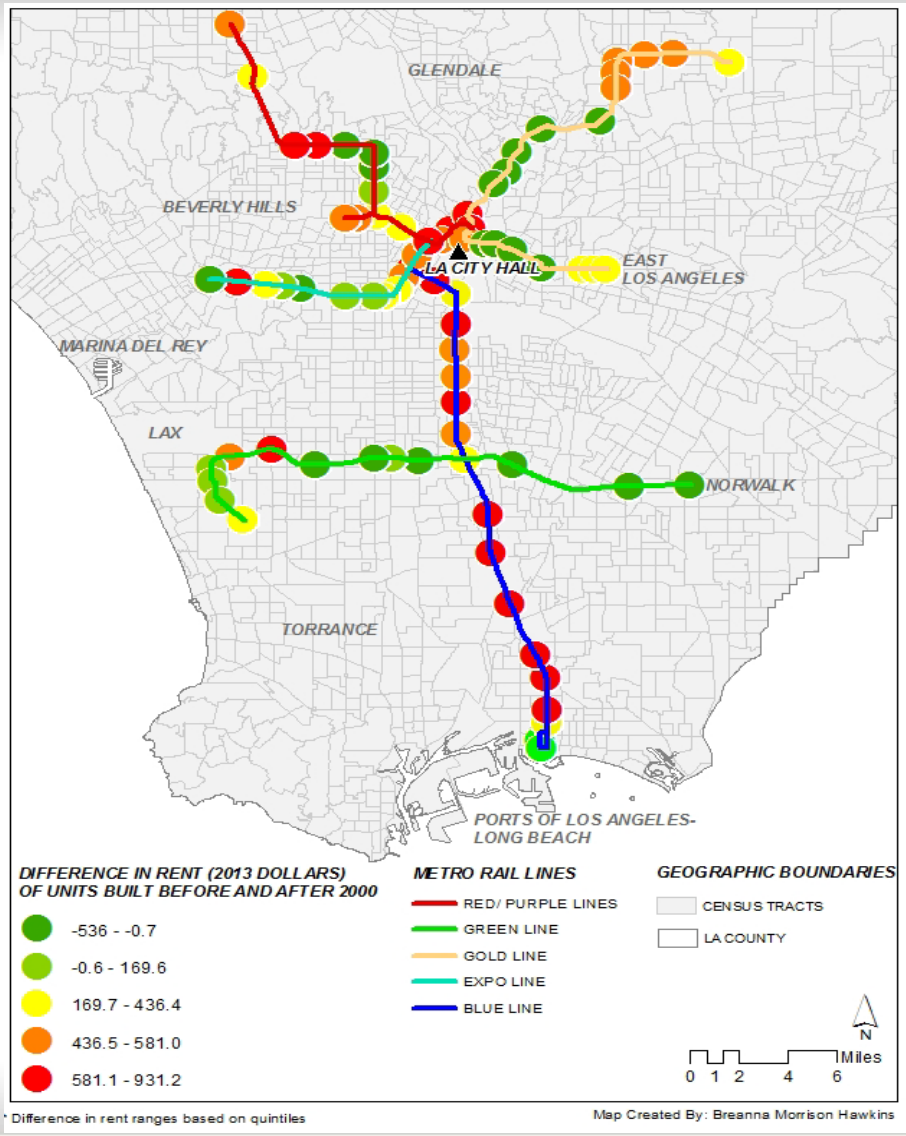
New (post-2000) rental units are in some station areas >$500/month more expensive than pre-2000 units, ACS 2009-2013



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Data

- For anyone who filed California income tax in Los Angeles County from 1993-2013, we have data on all filings for that person/household in all years
- > 140 million observations (of which about 1.6 million are in station areas after exclusion restrictions and 5 million used for regression analysis)
- Data are anonymized
- Matched to 9-digit zip codes if population of filers > 100 per year
- On average over study years, 49% of L.A. County sample is matched to 9-digit zip codes
- Matched to 9-digit zip code areas using Geolytics maps for 2000, 2002, 2004, 2007, 2009, 2011, 2012, 2013

Income Tax Data

- Households below a certain income threshold are not mandated to file taxes
  - Federal: $20,000; California: families -- $16,000, single persons -- $8,000
- Tax compliance is relatively high, 84-90% federally, 89% in California (mid-2000s)
  - In 2005, 38 million persons (13.1%) or 22.7 million households did not file a federal tax return (Lawrence et al., 2011)
  - 77% of households who did not file had incomes below $20,000 (federal mandate)
- Many lower-income households still file and claim Earned-Income Tax Credit (EITC): 75% of EITC-eligible California families claimed it in 2014

Income Categories

- Categories:

<0% AMI (likely self employed)

0-30% of AMI

30-50% of AMI

50-80% of AMI

80-100% of AMI

100-200% of AMI

200-300% of AMI

- Los Angeles County AMI

In 1993 = $33,840

In 2011 = $51,200

In 2013 = $49,520

In each year, households sorted based on HUD Area Median Income, AMI

Income distribution within ½ mile of stations, Blue Line

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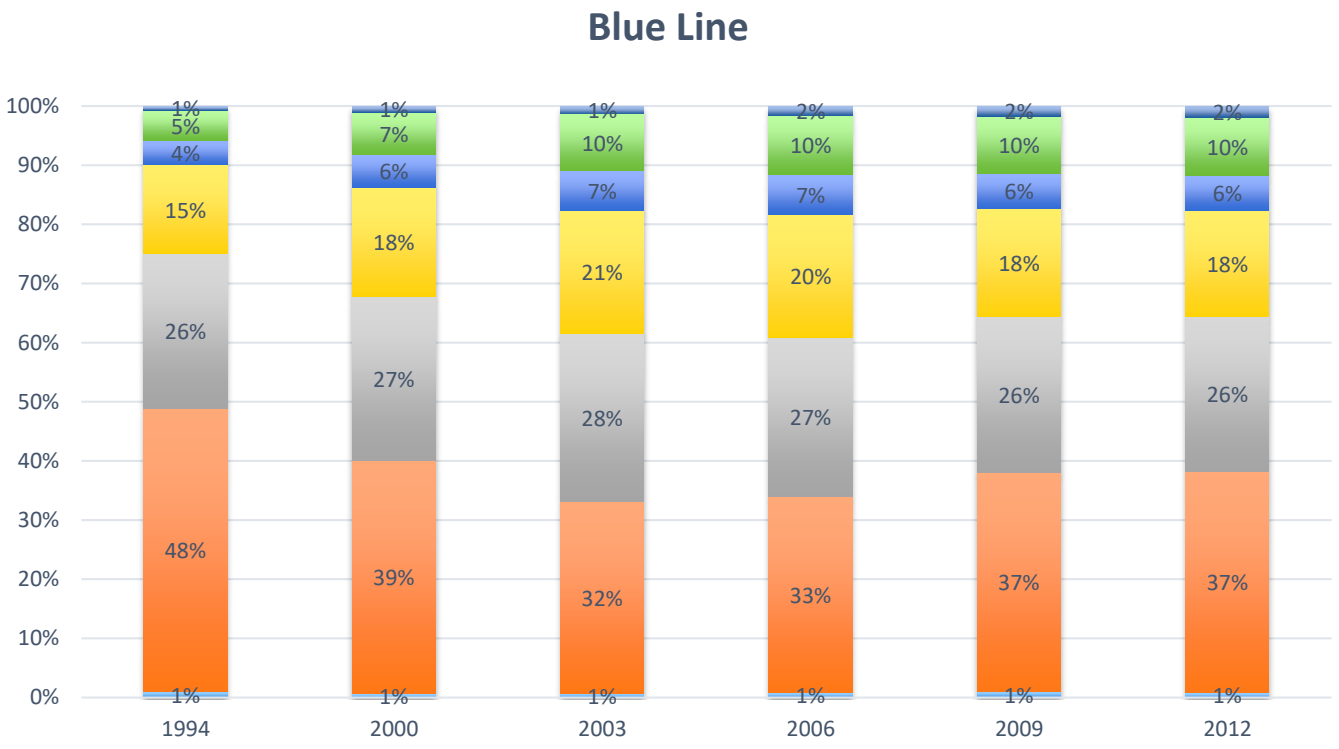

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Income distribution within ½ mile of stations, Gold Line

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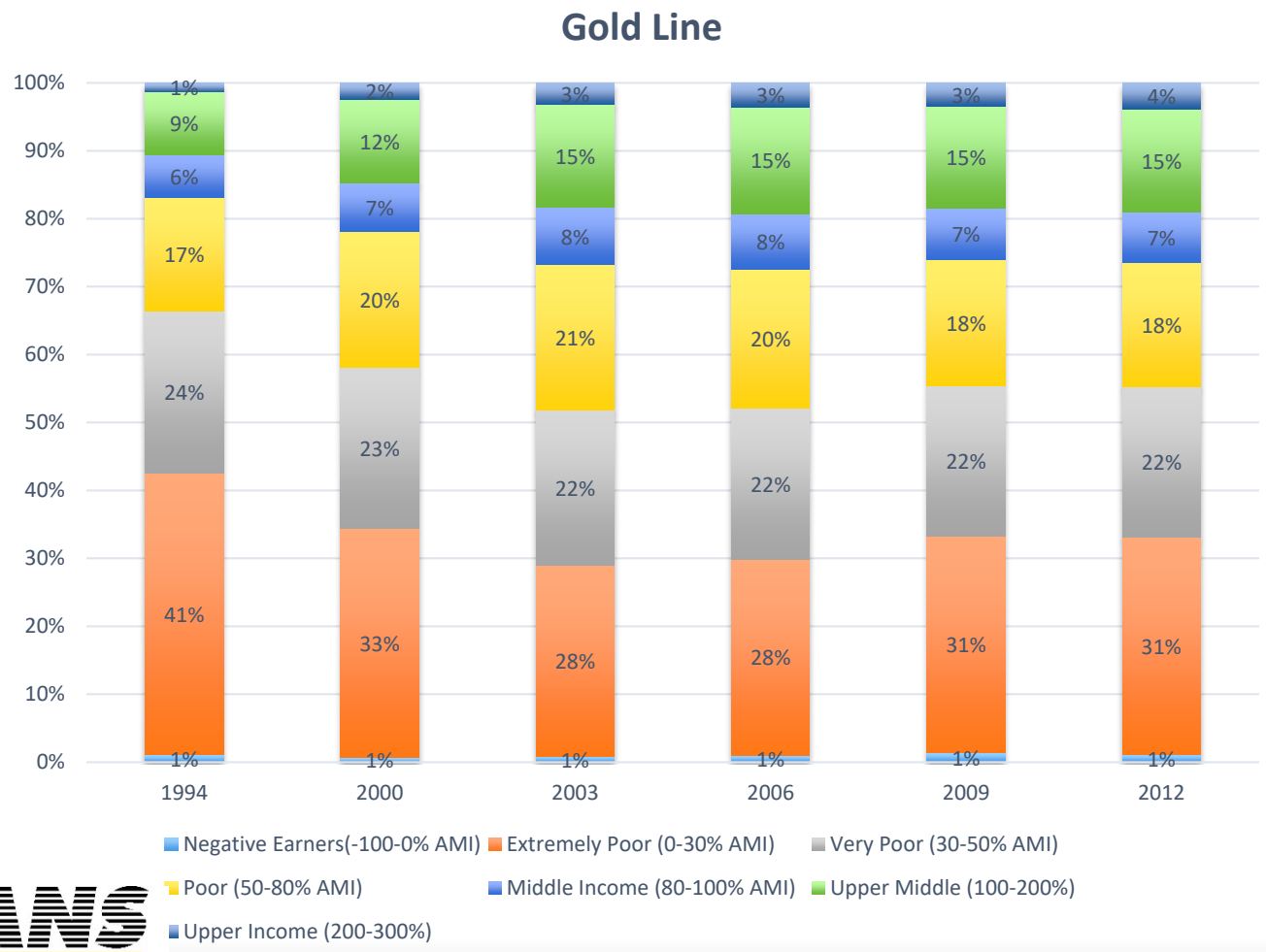

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Income distribution within ½ mile of stations, Red/Purple Line

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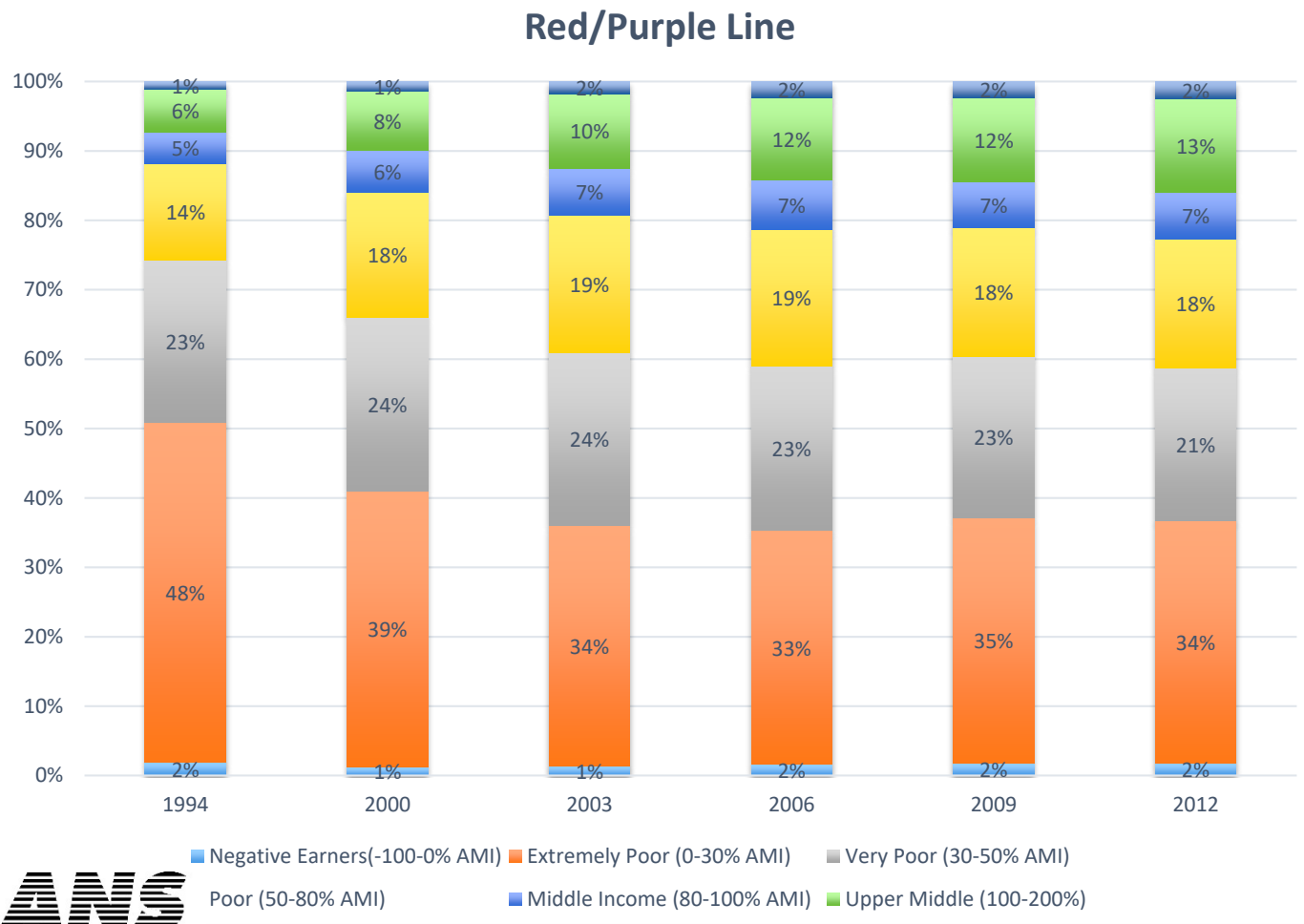

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Why the changes in income distribution near stations?

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- Most changes are from 1994-2003
- Mirrors countywide trends
- Income distribution will change if:
  - Station area households have changes in income (without moving)
  - Patterns of out-movement vary by income level
  - Patterns of in-movement vary by income level
- We look at out-movement and in-movement, by station area.

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What is a move?

- Filed in two consecutive years
- Out-move: Filed in a ½ mile station area (by 9-digit zip code) in year “t” and outside ½ mile station area (same station) in year “t+1”
- In-move: Filed outside any station area in year “t”, within a station area in year “t+1”

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Rates of Move-Out and Move-In Rail Station ½ mile areas, 1994-2012

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Move-Out Rate

Extremely Poor	0 - 30% AMI	9.4%
Very Poor	30 - 50% AMI	9.3%
Poor	50 - 80% AMI	9.0%
Middle Income	80 - 100% AMI	8.7%
Upper Middle Income	100 -200% AMI	8.6%
Upper Income	200 - 300% AMI	8.8%

Move-In Rate

Extremely Poor	0 - 30% AMI	8.5%
Very Poor	30 - 50% AMI	8.2%
Poor	50 - 80% AMI	8.1%
Middle Income	80 - 100% AMI	7.7%
Upper Middle Income	100 -200% AMI	6.9%
Upper Income	200 - 300% AMI	6.3%

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Regression Analysis

- Regress Move-Out and Move-In Rate on variables for station, year, and indicator for whether station was open
- Measures effect of station opening on move-out and move-in rate

Effect of Rail Station Opening on Move-Out and Move-In

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- Station Opening is Associated with:
  - Reduced in-movement of extremely poor (< 30% AMI)
  - Reduced in-movement of upper-middle income (100-200% of AMI)
- Station Opening is Associated with:
  - Reduced out-movement of very poor (30-50% AMI)
  - Reduced out-movement of poor (50-80% AMI)
- Interpretation: Stations do not displace poor so much as **reduce in-movement** of lowest income.

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Alternative Analytical Approach

- 9-digit zip-code data
- Moves are changes in residential location that are > ½ mile distance
- Paired experimental – control group analysis, looking at changes in move-out rates (only) among experimental vs. control group stations after stations open
- Different income categories (nothing above 150% AMI)

Move Rates

	Blue	Expo	Gold	Green	Red / Purple	Los Angeles County
All Incomes	21%	21%	19%	17%	24%	17%
<30% AMI	23%	22%	19%	19%	23%	17%
30-50% AMI	21%	22%	18%	17%	23%	18%
50-80% AMI	20%	21%	19%	14%	24%	18%
80-150% AMI	20%	20%	20%	13%	26%	16%
>150% AMI	21%	19%	21%	17%	28%	14%

Changes in Move-Out Rates Associated with Station Opening from Alternative Regression Analysis

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Rail Station Opening						
	Whole System (N = 3,933)	Blue (N = 851)	Expo (N = 736)	Gold (N = 1,150)	Green (N = 529)	Red / Purple (N = 667)
All Incomes						1.4%**
<30% AMI						1.5%**
30-50% AMI						
50-80% AMI						1.2%**
80-150% AMI						1.3%**
>150% AMI						3.1%**

Year of Station Opening

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Changes in Move-Out Rates Associated with Station Opening from Alternative Regression Analysis

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Five Years After Opening						
	Whole System (N = 3,933)	Blue (N = 851)	Expo (N = 736)	Gold (N = 1,150)	Green (N = 529)	Red / Purple (N = 667)
All Incomes					-1.5%*	
<30% AMI					-1.8%**	
30-50% AMI						
50-80% AMI					-1.9%*	0.9%*
80-150% AMI	0.8%*			1.3%*		1.0%***
>150% AMI	1.3%**			1.2%*		2.9%**

5 Years After Station Opening

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Results of Alternative Analysis Method

- Higher move-out rates
- Weak association between station opening and increases in move-out rates
  - Only for Red/Purple in year of opening, at about 1.5 percentage point increase on 20-24 percent annual move-out base (less than one-tenth of base move-rate)
  - Similar magnitude of move-out increases five years after opening for Red/Purple and Gold Lines, at incomes above 80% of AMI

Conclusions

- High mobility (year-to-year) move rates near rail stations
  - 10 to above 20 percent move-out rates per year
  - High housing insecurity
- At best limited evidence of increases in move-out rates from station opening
  - Hints for Red/Purple and Gold
  - Station effect is about one-tenth of baseline
  - Had we never built a rail system, L.A. would have a housing insecurity problem
- At lowest income level, < 30% AMI, rail opening associated with reduced move-in rate into station areas.

Policies

- Build more housing
- Provide more affordable housing

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Where is Housing Being Built in Los Angeles? 2013-2019

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Rail Line	Change in DUs: Station Area	% of Station Areas with Available Permits Data
Blue	6,846	50%
Expo 1	2,034	90%
Expo 2	993	57%
Gold	1,394	50%
Green	125	31%
Purple	4,231	100%
Red	8,553	100%
Whole System	**24,176**	**60%**

Author Calculations: Los Angeles open data

Total Change in Dwelling Units, 2013-2019 = 60,179

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Good News / Bad News

- 40% of new units in Los Angeles were within ½ mile of rail stations
- Of that station residential development, 75% were in three clusters in downtown, Koreatown, and Hollywood (next slide)
- Affordability …

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Clusters of New Housing Near L.A. Rail

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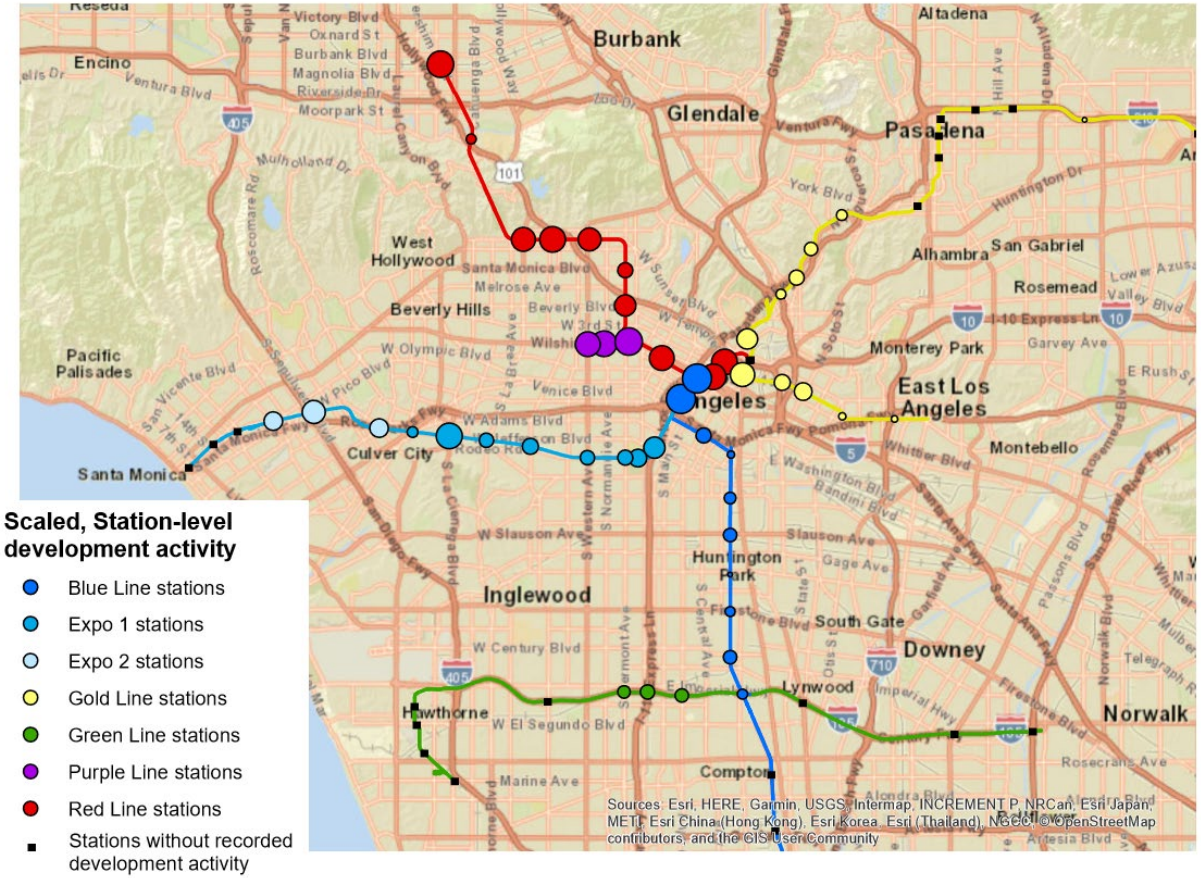

Note: Visual depictions of station areas with identified development activity are logarithmically scaled (base 10) to portray changes in dwelling units within a half-mile of station area from 2013 to 2019. Station areas without identified development activity are depicted using black squares.
Source: Author calculations using City of Los Angeles and Los Angeles County open data

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Clusters of New Housing Near L.A. Rail

Major Permitting Clusters	Net Change in DUs
Greater Downtown LA (7th and Metro Center, Pico station, Pershing Square, Civic Center / Grand Park, Little Tokyo / Arts District)	10,320
Koreatown (Wilshire / Western, Wilshire / Normandie, Wilshire / Vermont)	4,231
Hollywood (Hollywood / Highland, Hollywood / Vine, Hollywood / Western)	2,750
Rest of System	6,875
Systemwide	24,176

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More Reading

National Center for Sustainable Transportation

Effect of New Rail Transit Stations on Income Distribution of Nearby Residential Moves, Marlon Boarnet, Evgeny Burinskiy, Raphael Bostic, Seva Rodnyansky, and Allen Prohofsky, policy brief of the National Center for Sustainable Transportation, 2019
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