HOUSING UNDERPRODUCTION IN THE U.S. :

Economic, Fiscal, and Environmental Impacts of Enabling Transit-Oriented Smart Growth to Address America's Housing Affordability Challenge

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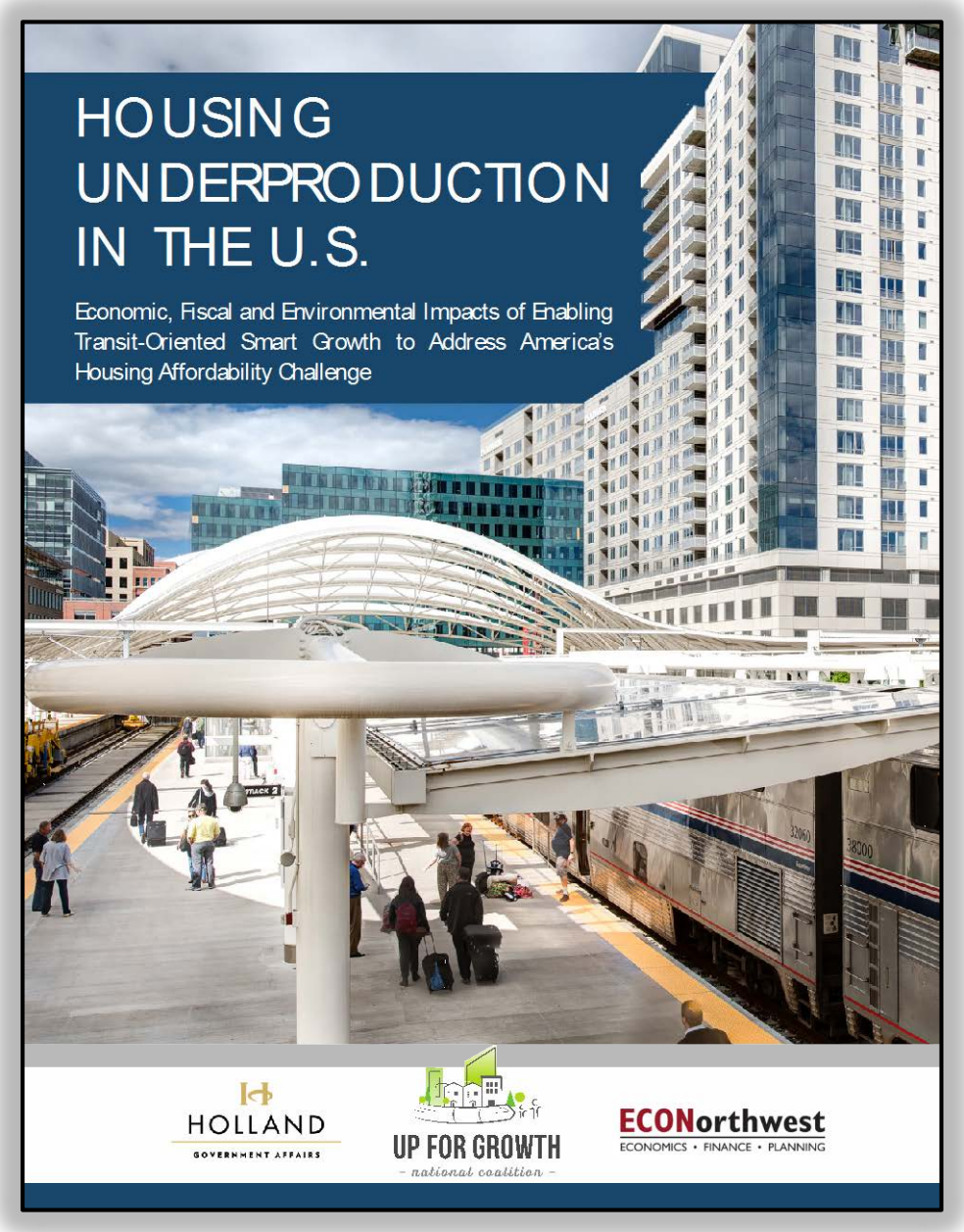
National Report



Available for download at:

www.upforgrowth.org

State reports are forthcoming for:

-California
-Oregon
-Washington

Research Question

Design policies to leverage existing transportation and other infrastructure to incentivize smart growth (TOD) to increase the production of housing units.

Study Methodology

Contributes to existing literature through:

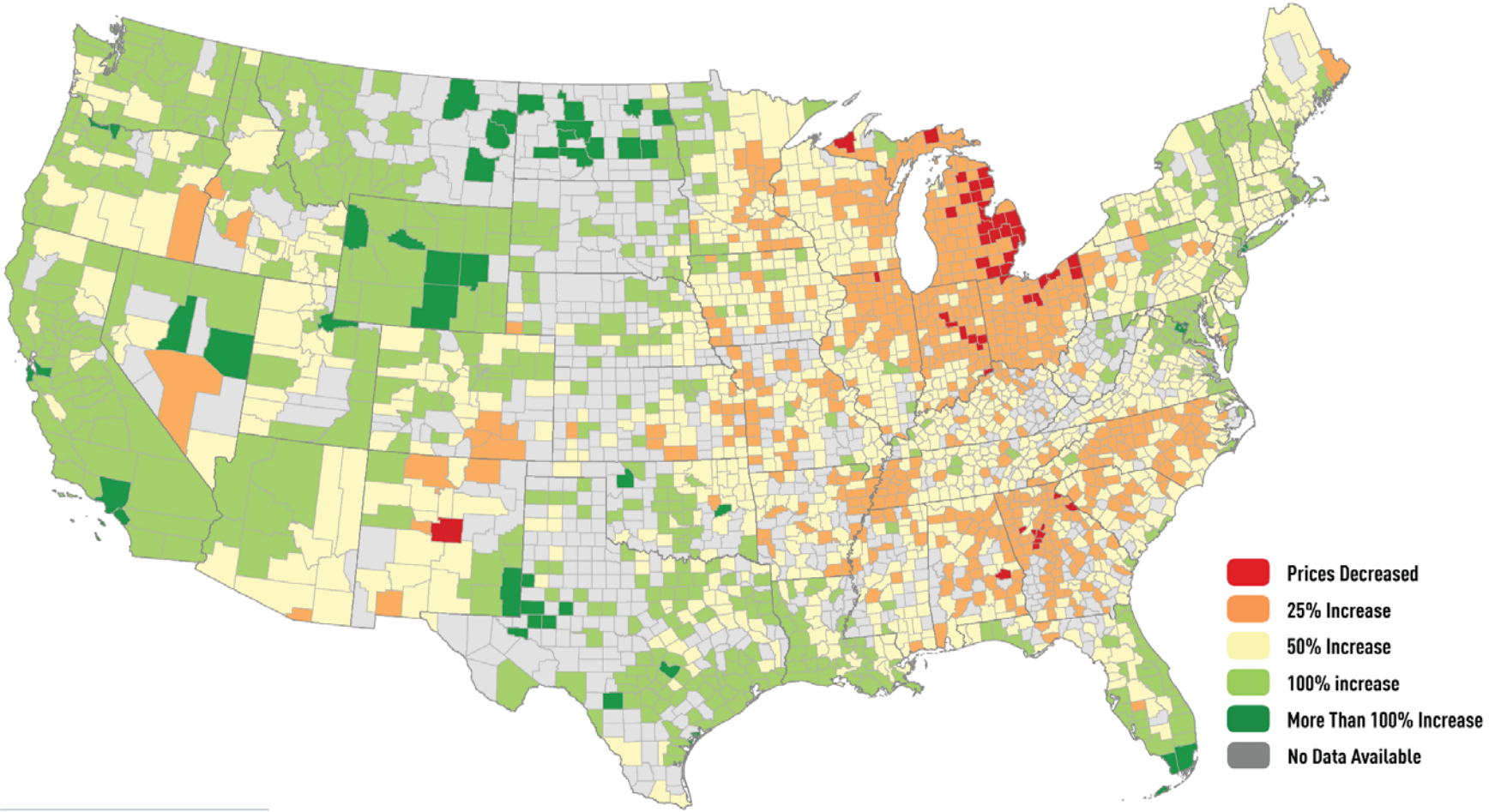
1) Econometric model to calculate housing supply elasticity and underproduction of units nationally

1) Create growth scenarios to analyze different economic, fiscal, and environmental impacts associated with increasing the production of housing

1) Use REMI to model dynamic economic and fiscal impacts over a 20 year production period

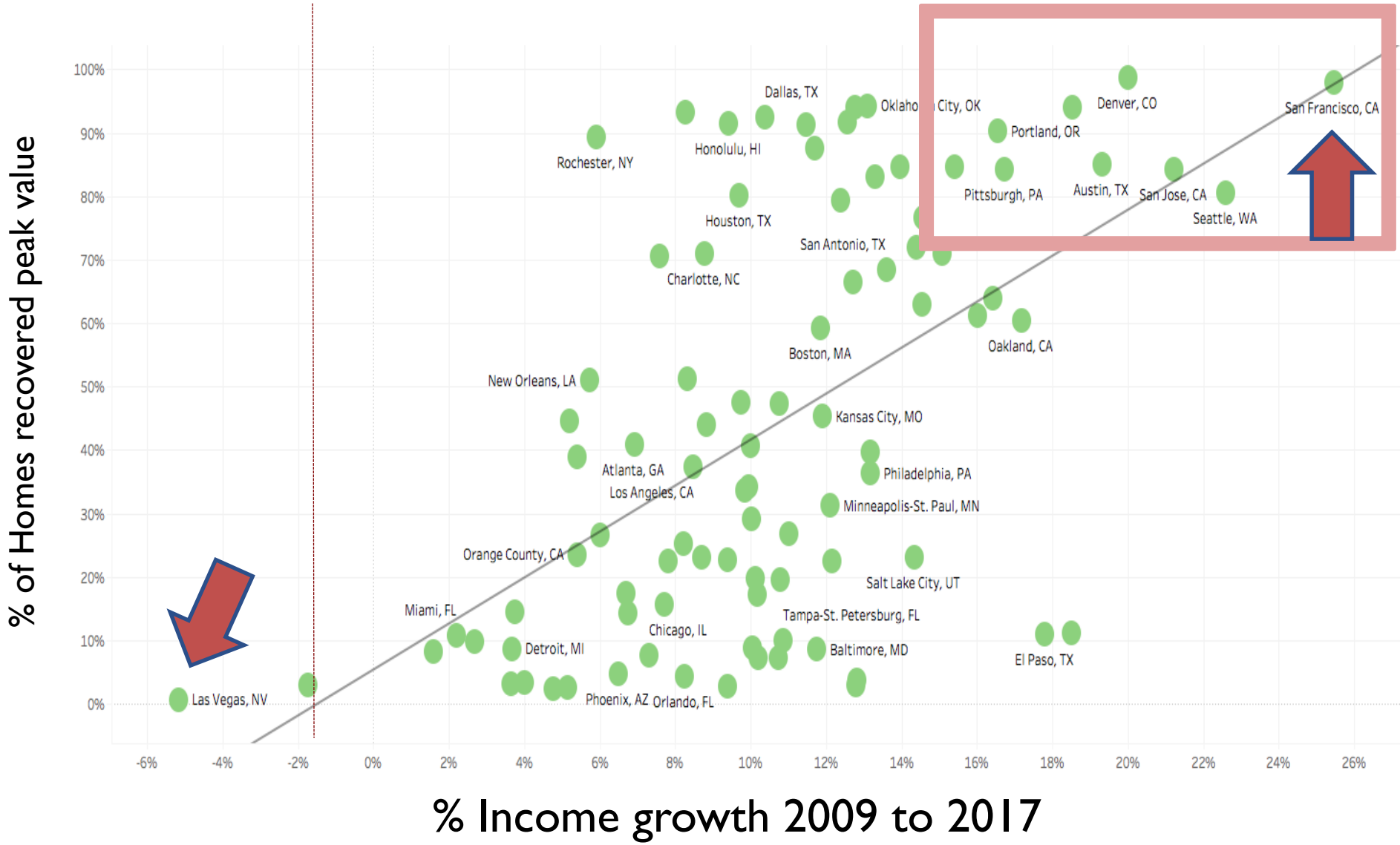
Varied housing appreciation nationally since 2000

AVERAGE CHANGE IN HOME PRICES BY COUNTY 2000-2016



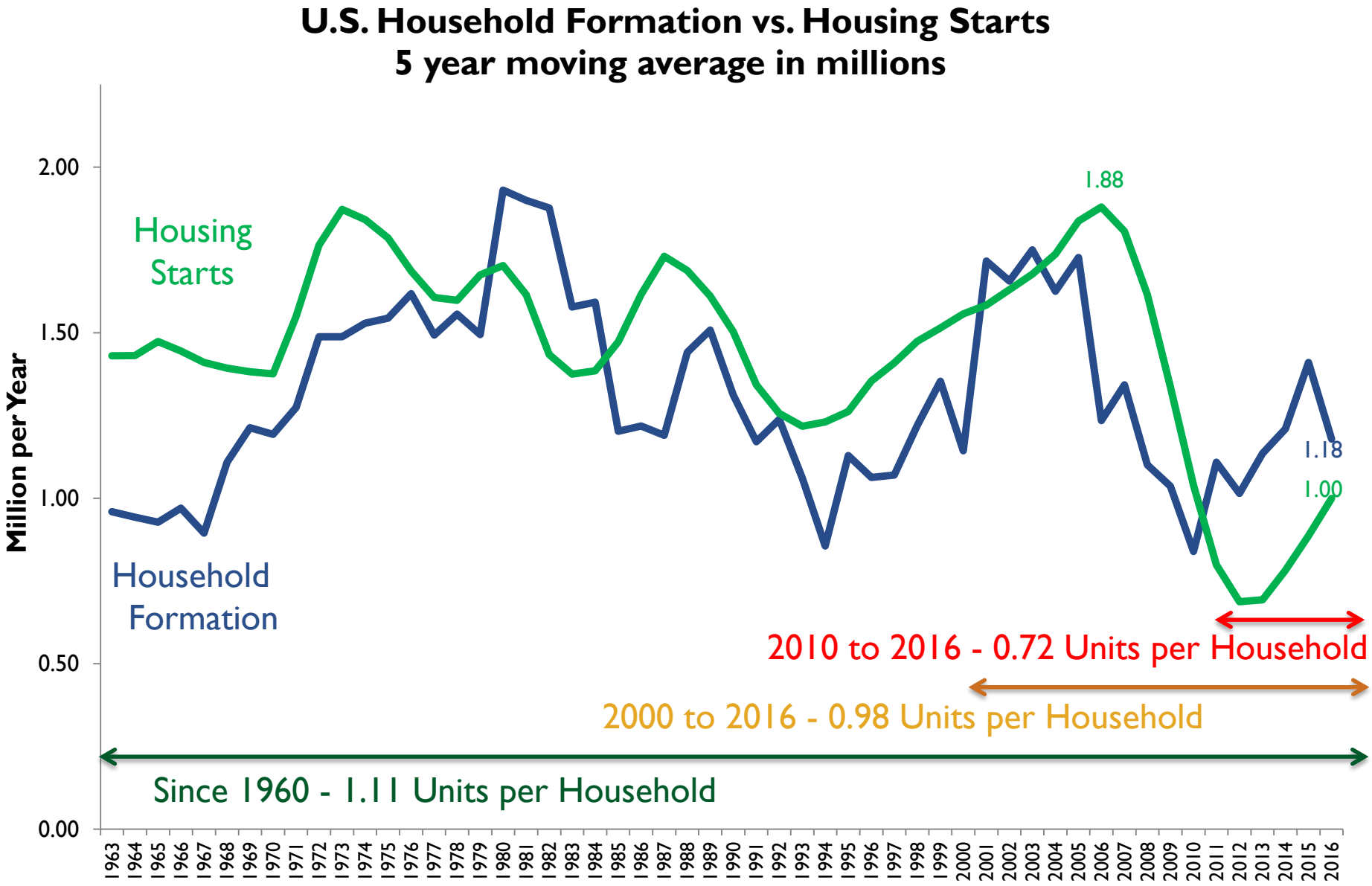
Source: St. Louis Federal Reserve GEOFRED

Income growth drove individual home price recovery



Source: Trulia

Housing starts haven't kept pace with household formation

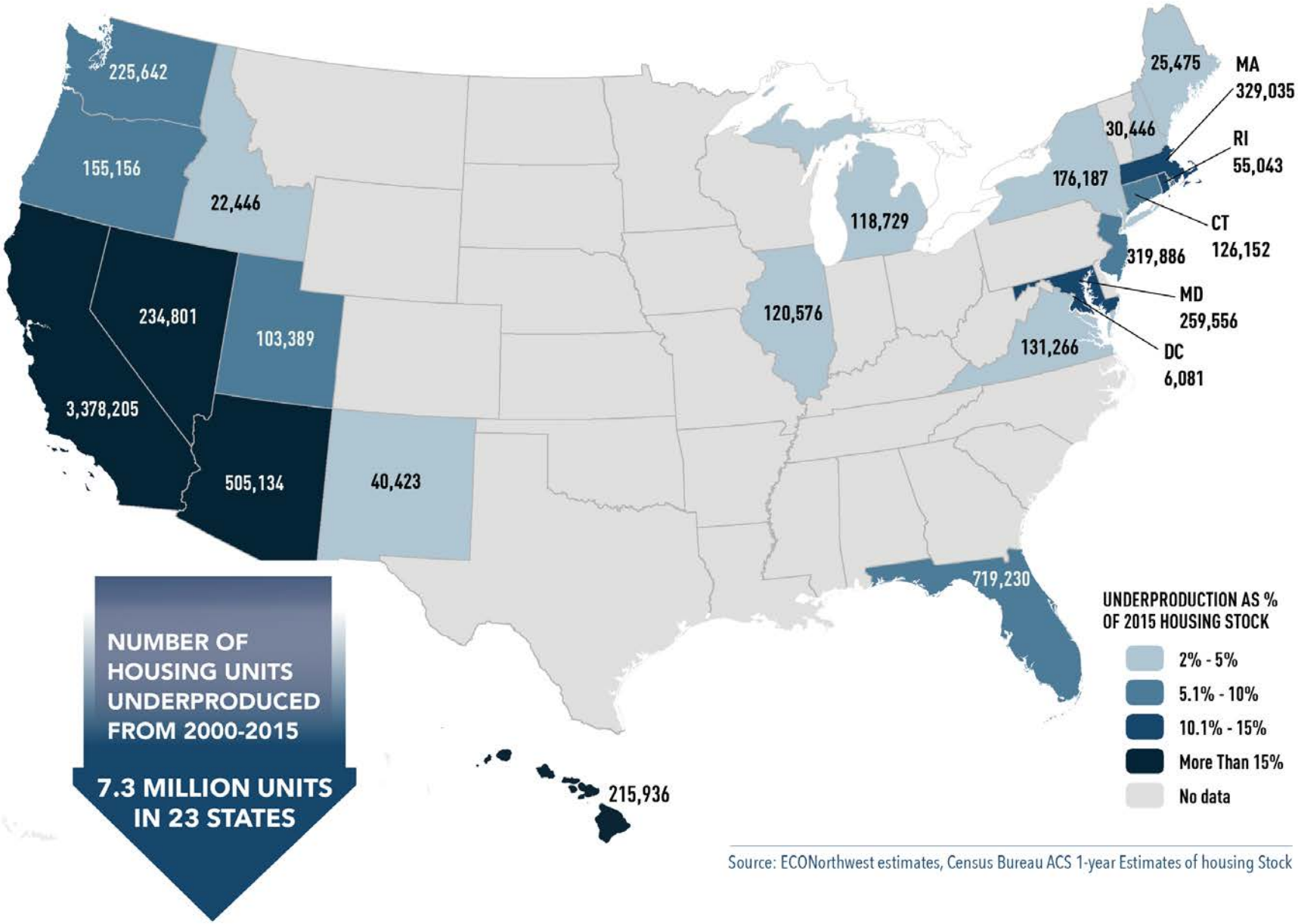


Source: U.S. Census Bureau

Process

- Task 1) Quantify underproduction of housing
- Task 2) Model growth scenarios
- Task 3) Quantify economic and fiscal impacts

7.3 million housing units under produced from 2000 to 2015



Source: ECONorthwest estimates, Census Bureau ACS 1-year Estimates of housing Stock

Process

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How = Housing Prototypes

Where = Growth Scenarios

Housing Prototypes

Units are distributed as 3 prototypes:

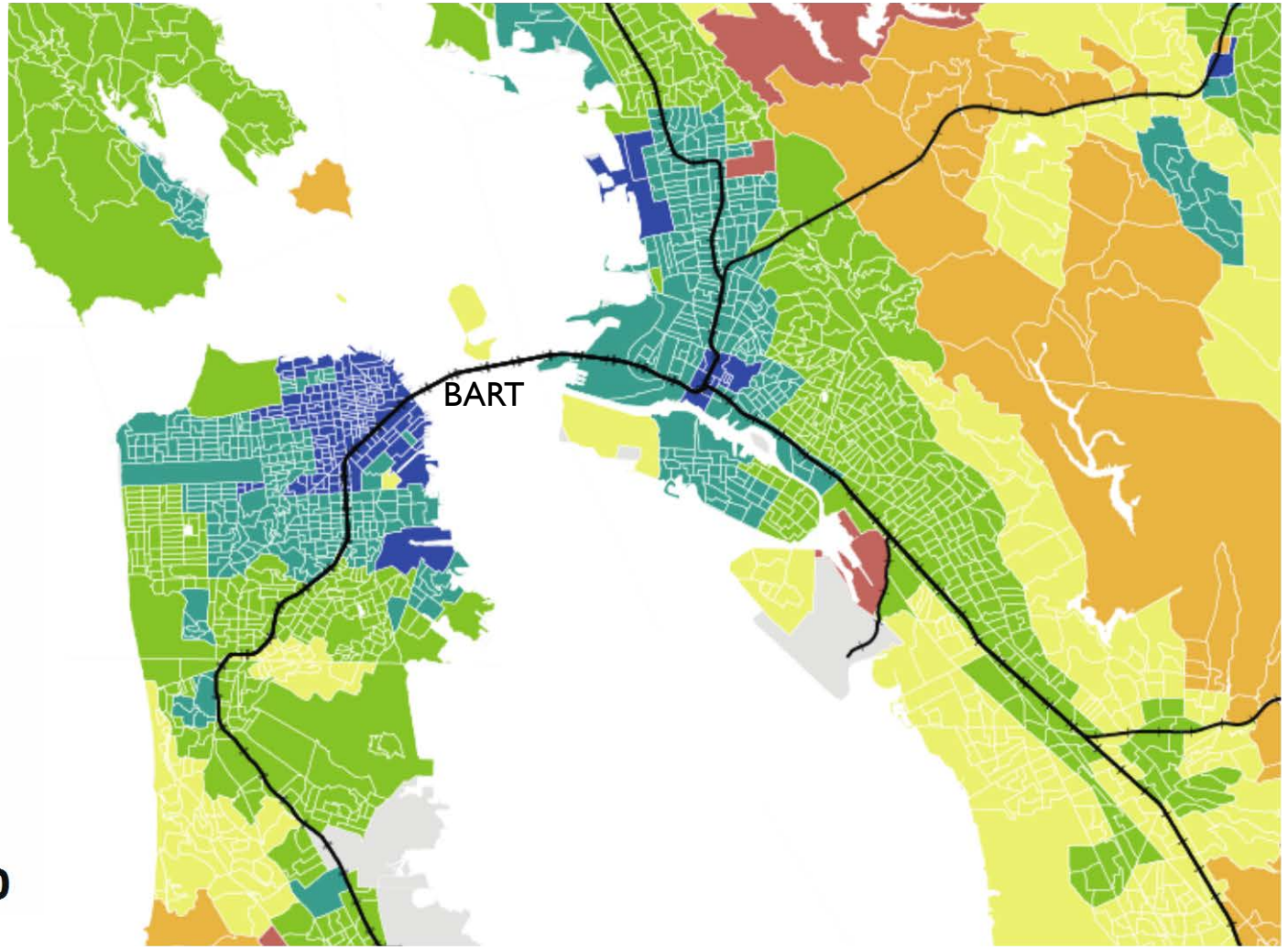
Single Family
5 Units per Acre

Tower
High Rise 6+ stories
240 Units per Acre

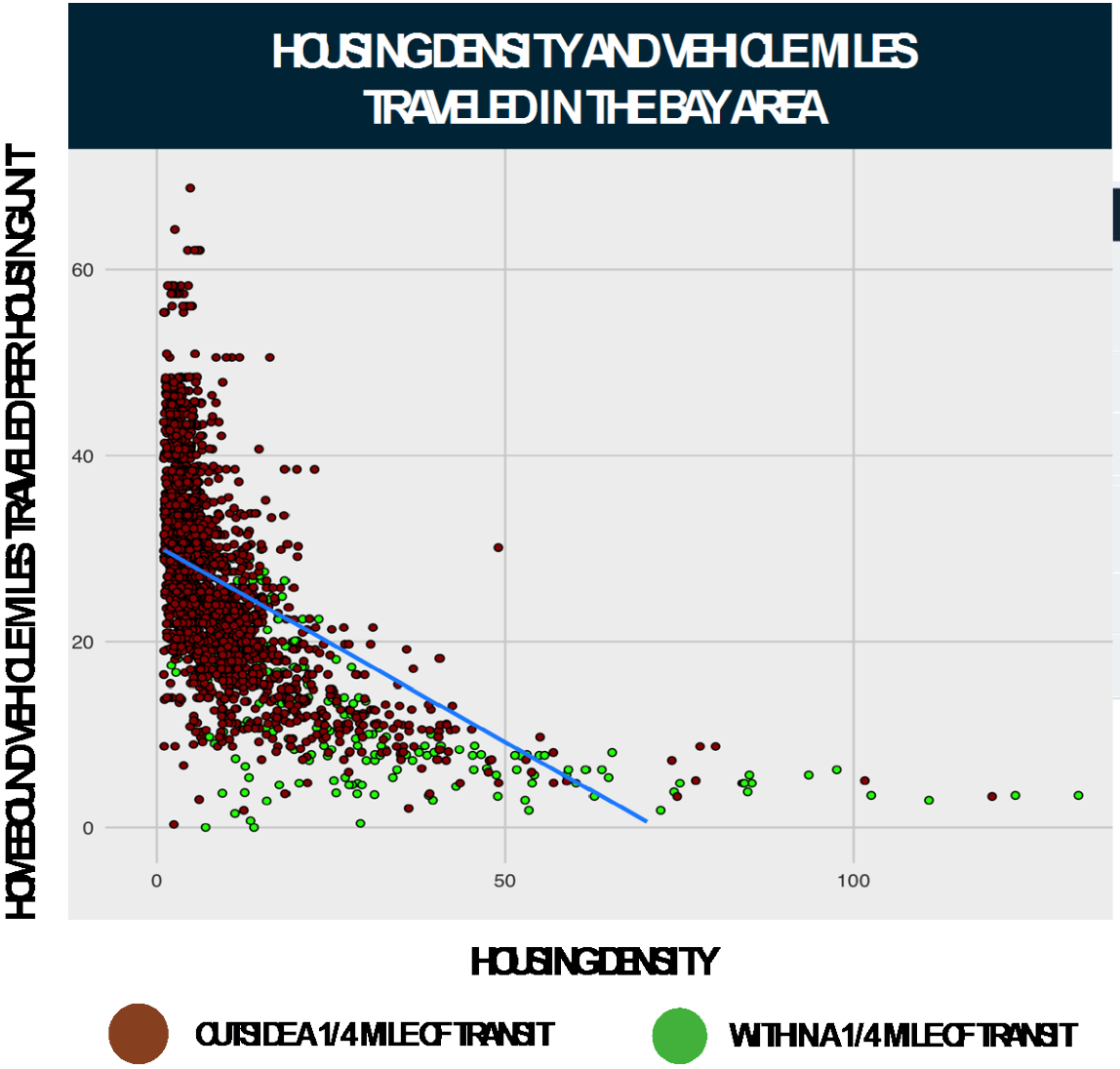
Medium Density
Up to 5 stories
120 Units per Acre

VMT in the Bay Area lower in station areas

ENVIRONMENTAL IMPACT OF SMARTER GROWTH:
LOWER VEHICLE MILES TRAVELED

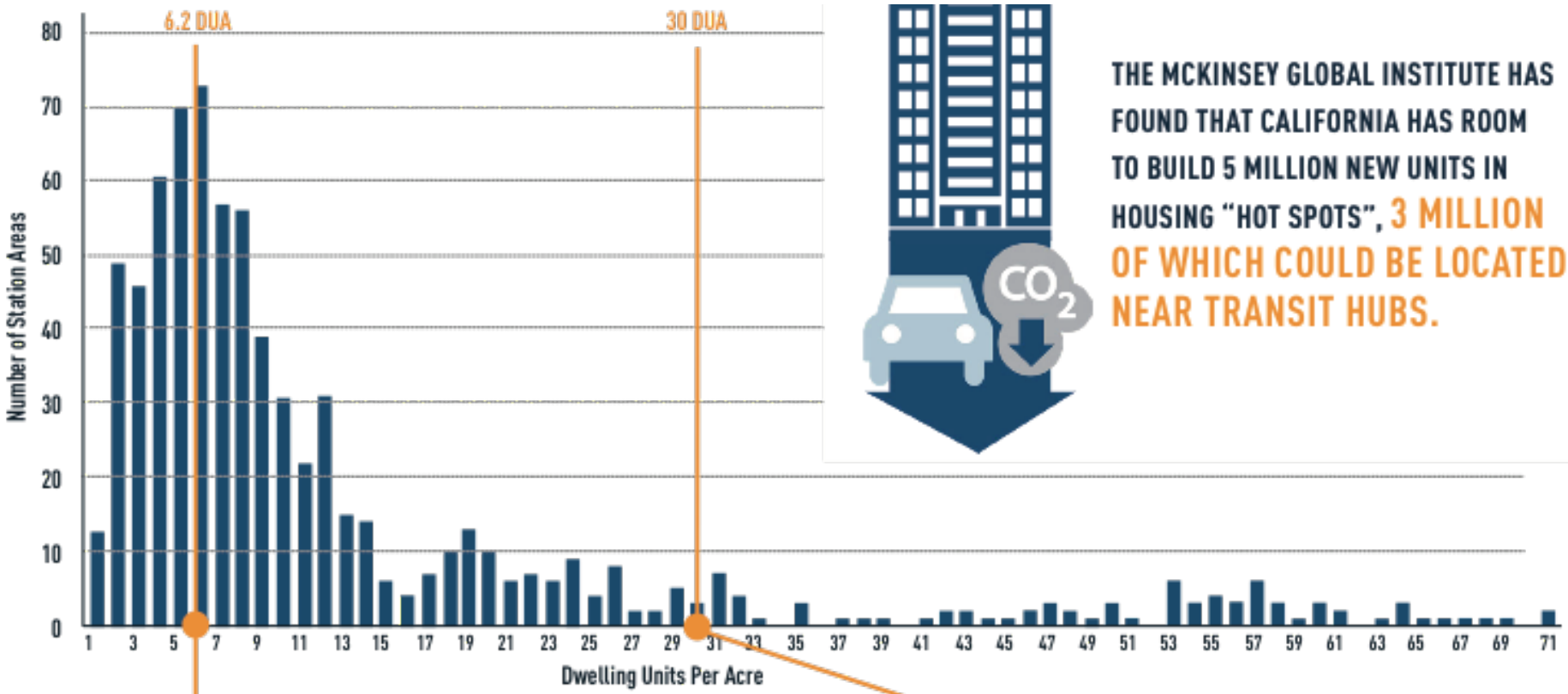


VMT vs. Housing Density in the Bay Area



IN THE BAY AREA	MEDIAN HOUSING DENSITY	99TH % HOUSING DENSITY
TRANSIT CORRIDOR	12	125
NON-TRANSIT CORRIDOR	5	43
	MEDIAN VMT	**99TH % VMT**
TRANSIT CORRIDOR	18	44
NON-TRANSIT CORRIDOR	28	57

Station Area Housing Density in California



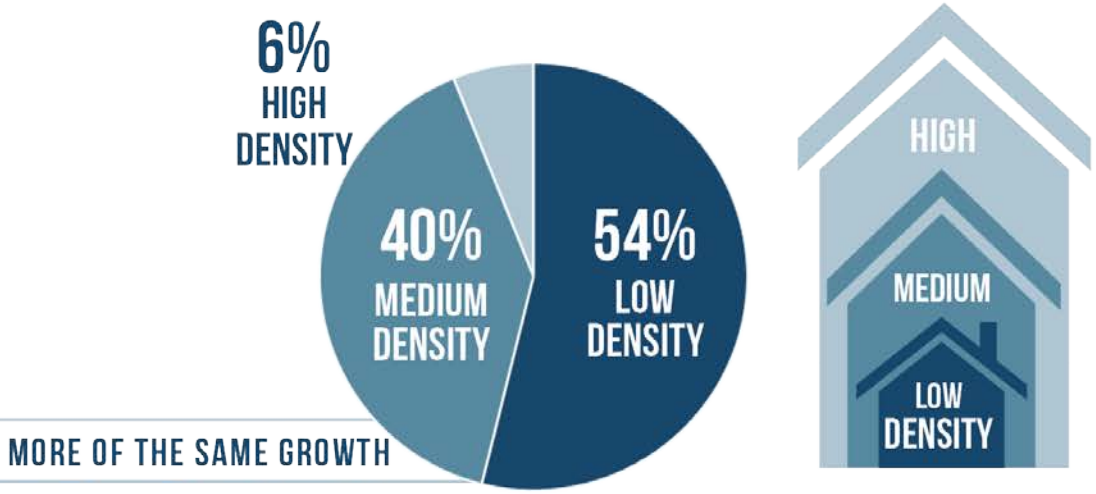
THE MCKINSEY GLOBAL INSTITUTE HAS FOUND THAT CALIFORNIA HAS ROOM TO BUILD 5 MILLION NEW UNITS IN HOUSING "HOT SPOTS", 3 MILLION OF WHICH COULD BE LOCATED NEAR TRANSIT HUBS.

Land around CA transit stations is currently underdeveloped: current median unit density is 6.2 dwelling units per acre.

The Vertical Housing Program can increase median unit density around transit stations to 30 dwelling units per acre, which would effectively address the existing housing shortfall.

Growth Scenario Prototype Distribution Nationally

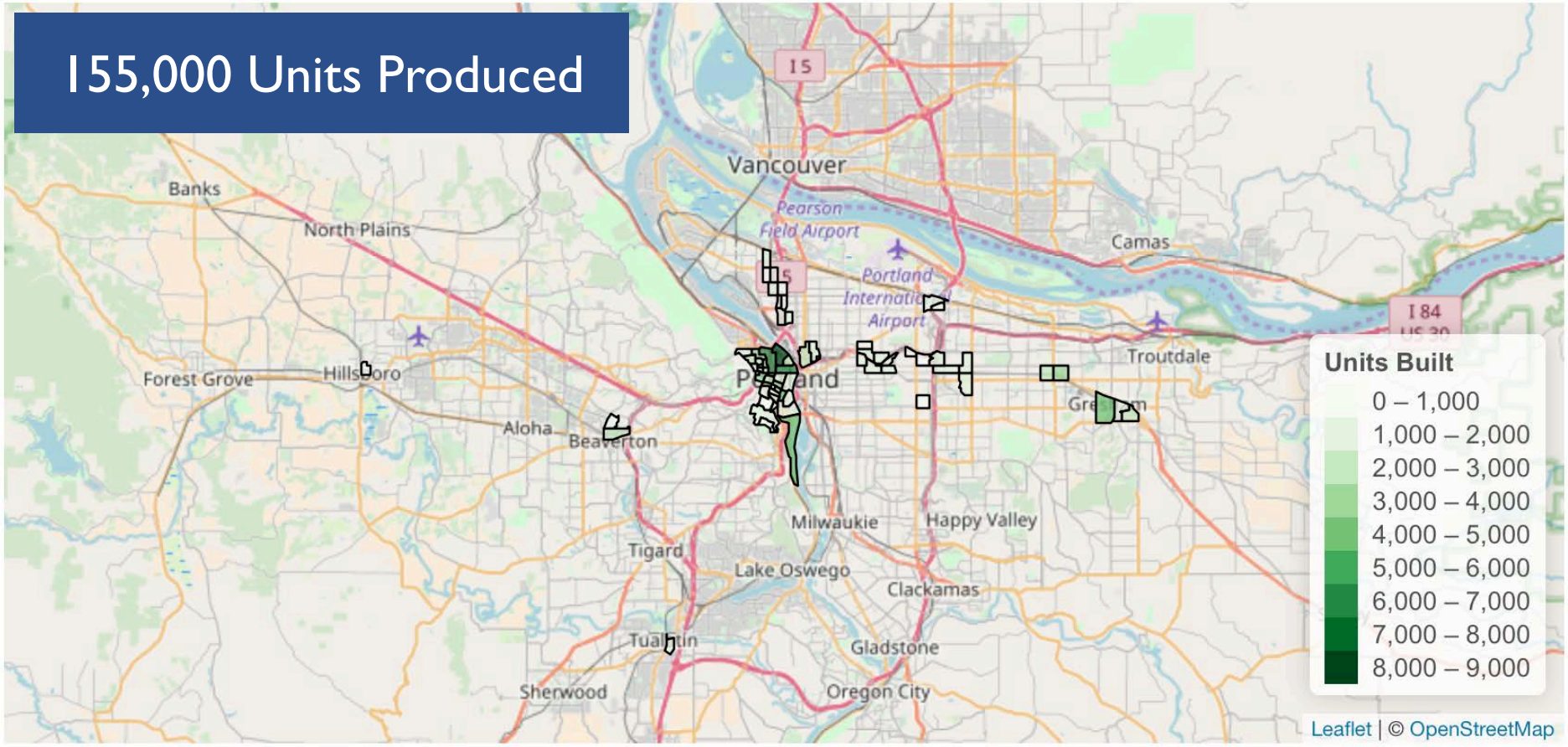
More of the Same



Assumes same growth pattern will continue

Why create a max density scenario?

Growth Scenarios – Portland Example



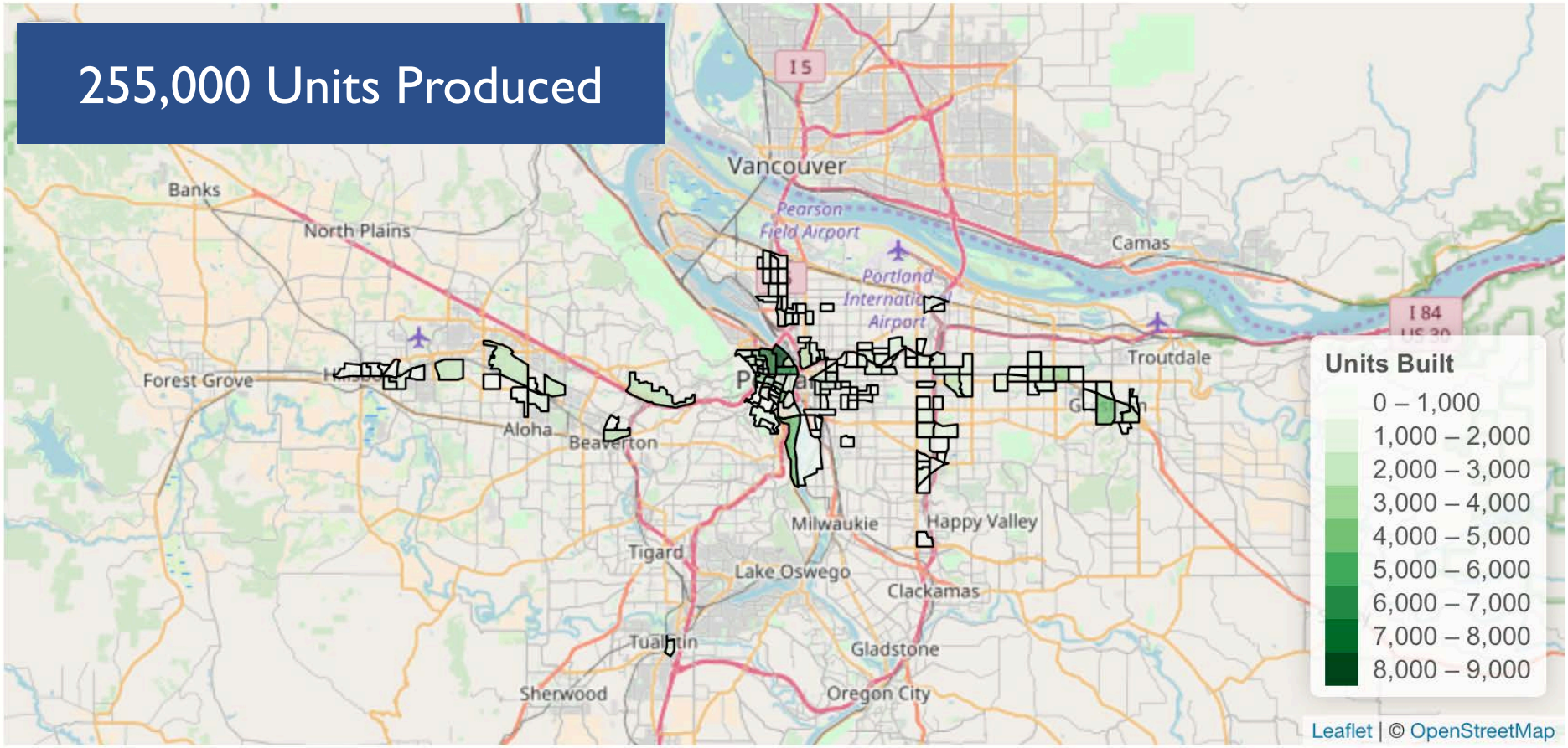
Prioritize low VMT transit stops

300% increase within ¼ mile of transit

200% increase within ½ mile of transit

99% of Units in ½ Mile Transit Corridor

Growth Scenarios – Portland Example



Prioritize low VMT transit stops

300% increase within ¼ mile of transit

200% increase within ½ mile of transit

83% of Units in ½ Mile Transit Corridor

Process

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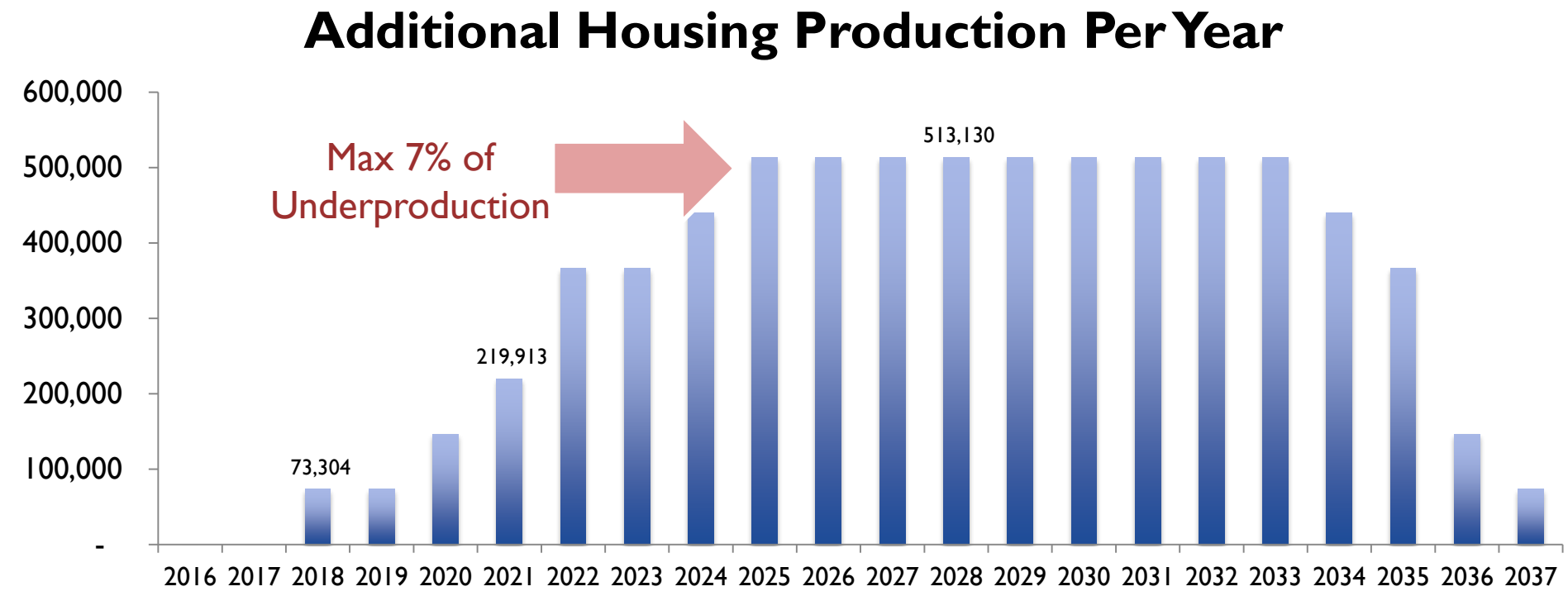
Impacts of Growth Scenarios

- If additional housing were built in each scenario (step 2) to meet underproduction amounts (step 1), what economic and fiscal impacts would be supported?

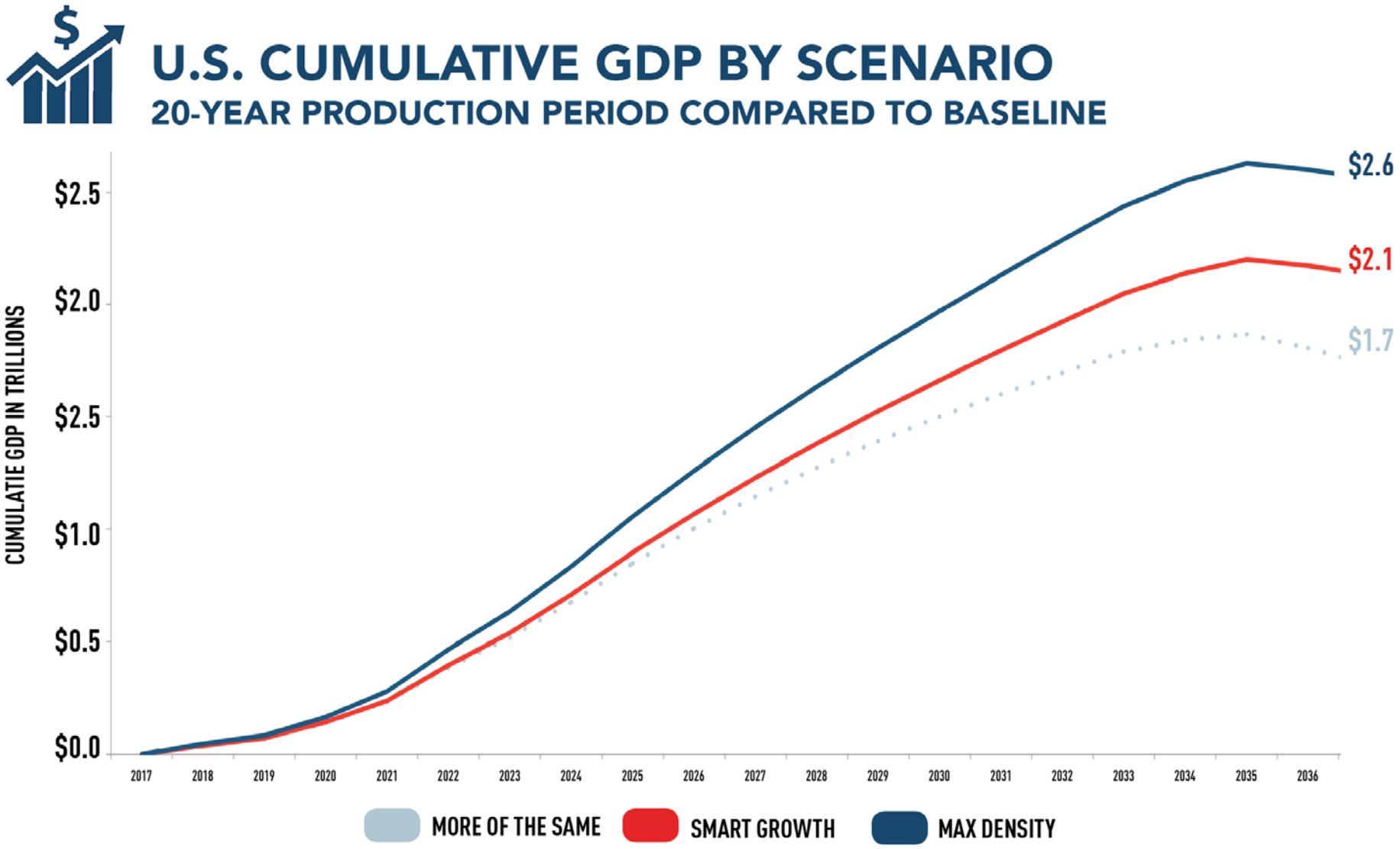
- Use REMI PI+ model to estimate impacts related to increased housing production

Modeling Additional Housing Production

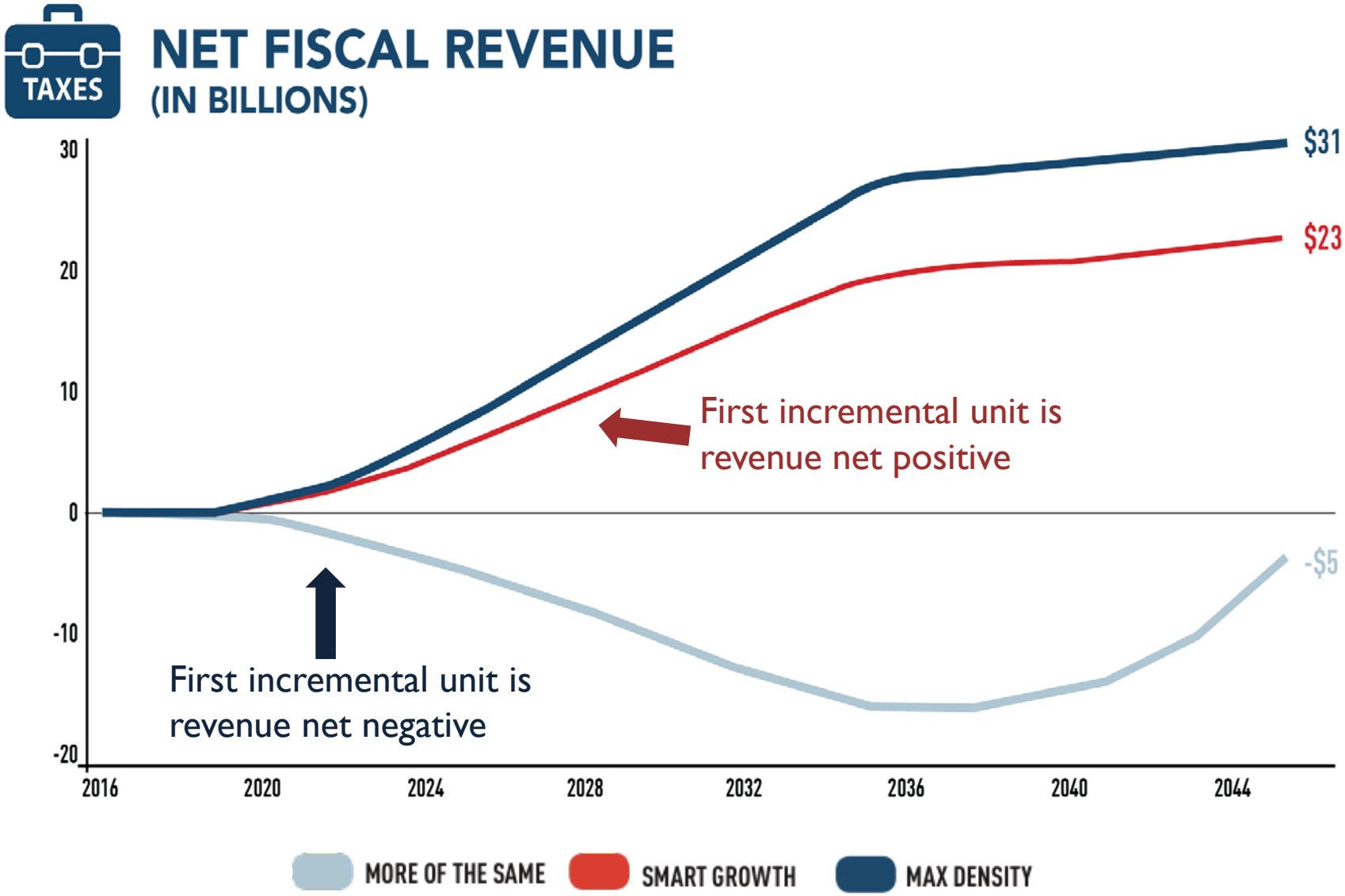
- 1.18 Million Starts in 2016, 1 million average last 5 years
  - 1/20th of total underproduction is 366,000 units
  - Represents a 31% increase in current unit production
- Industry needs time to train labor to ramp up production
- Production in max year is less than previous cycle peak



Smart growth generates an additional $400 million in GDP



Smart Growth marginal unit production generates positive revenue



Smart Growth scenario generates positive fiscal revenue

Cost of infrastructure is not supported by fiscal revenue in More of the Same

GROWTH SCENARIO	TOTAL ACRES REQUIRED	INFRASTRUCTURE INSTALLATION COST	INFRASTRUCURE TOTAL O&M SPEND	TOTAL IMPACT FEES	PROPERTY TAX REVENUE	NET TAX REVENUE
MORE OF THE SAME	602,051[1]	$612,041,200,836	$14,223,456,016	$54,272,253,249	$204,353,021,677	$(367,639,381,926)
SMART GROWTH	148,442	$84,741,386,954	$3,506,937,451	$39,904,589,077	$225,193,796,354	$176,850,061,026

Smart Growth vs. More of the Same:

- Generates positive fiscal revenue
- Reduces VMT impact by 16%*
- Uses 25% of the land footprint
- Delivers a variety of housing units across the income spectrum

Note: Local fiscal impacts calculations do not include local services such as education, public safety, etc.

* Draft finding in forthcoming national report update

THANK YOU!

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