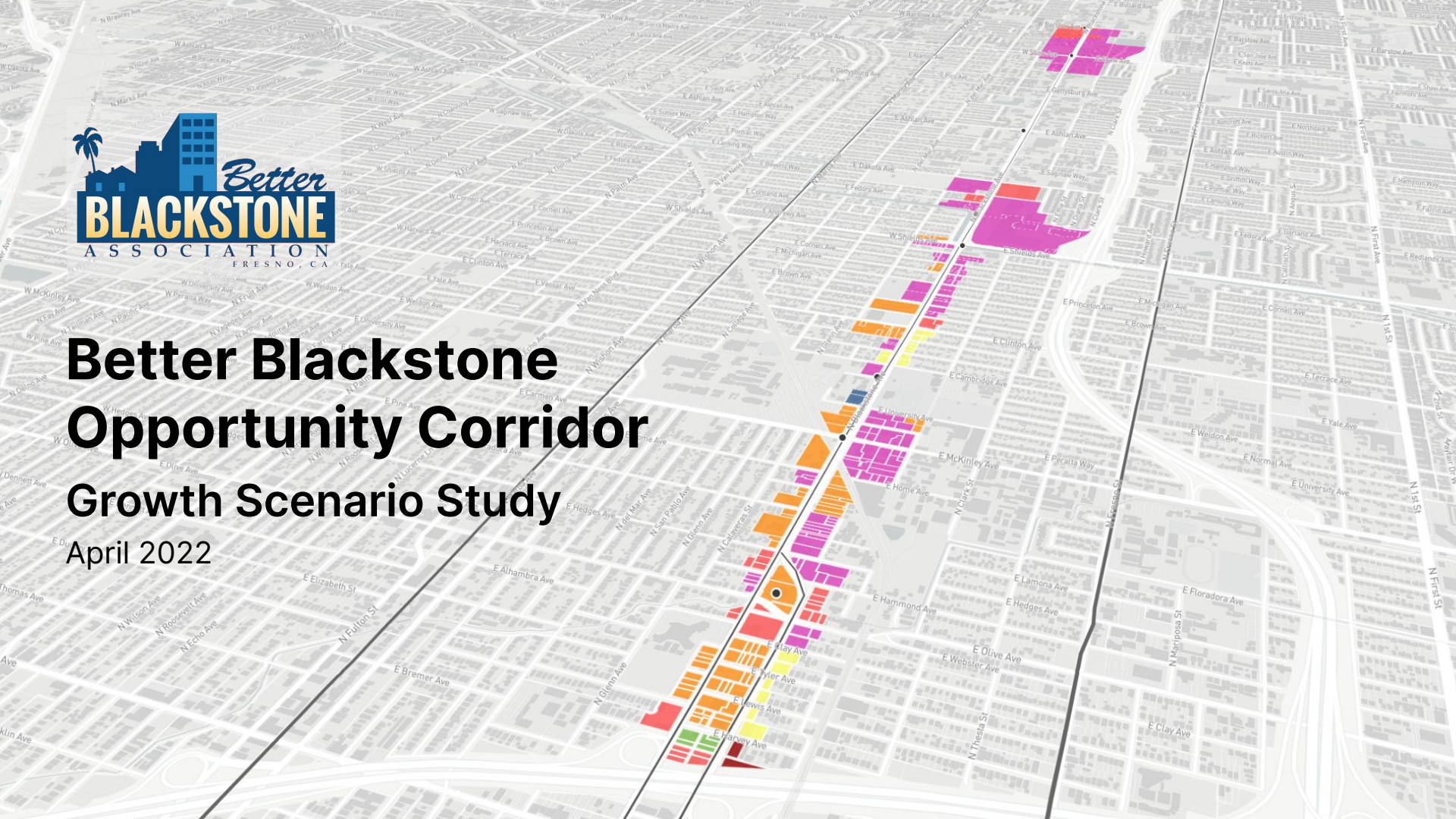




# Better Blackstone Opportunity Corridor Growth Scenario Study

April 2022



# Blackstone Opportunity Corridor Growth Scenarios

The Better Blackstone Design Challenge (BBDC) is a study that recognizes The Blackstone Opportunity Corridor as a critical urban form asset that has measurable potential to significantly contribute to increasing the relevance, resilience and relative competitiveness of Fresno and our region. The BBDC study was funded by Caltrans through the Fresno Council of Governments, and was planned and led by Fresno Metro Ministry/Better Blackstone Community Development Corporation, a community-based non-profit organization working with collaborating community stakeholders, local design professionals, a national caliber data analytics firm, a university, and many other contributors.

The study offers spatially feasible urban design scenarios and site plan solutions for intensifying corridor mixed-use development with housing and supportive commercial and public facilities and services, coordinated with proposed multi-modal streetscape improvements. These scenarios reveal design imagination and opportunity, not prescriptive plans, should commercial property owners, neighborhood stakeholders and local government wish to work together and reap the related benefits. The scenarios are consistent with zoning requirements and conceived by our local architect teams for selected clusters of parcels defined as Activity Centers along Fresno's Blackstone Bus Rapid Transit Corridor. The study also provides quantitative multi-variate performance impact analyses of these design scenarios that can be contrasted with citywide and suburban edge development impact performance metrics.

# Blackstone Opportunity Corridor Growth Scenarios

Building on the site designs of the **Better Blackstone Design Challenge**, the **Blackstone Opportunity Corridor Growth Scenarios** explore the amount of housing and jobs that can be accommodated in new walkable, mixed-use Activity Centers – and the benefits of strategic, transit-oriented development and placemaking.



**Base Scenario (Existing Conditions)**  
Shaw Activity Center

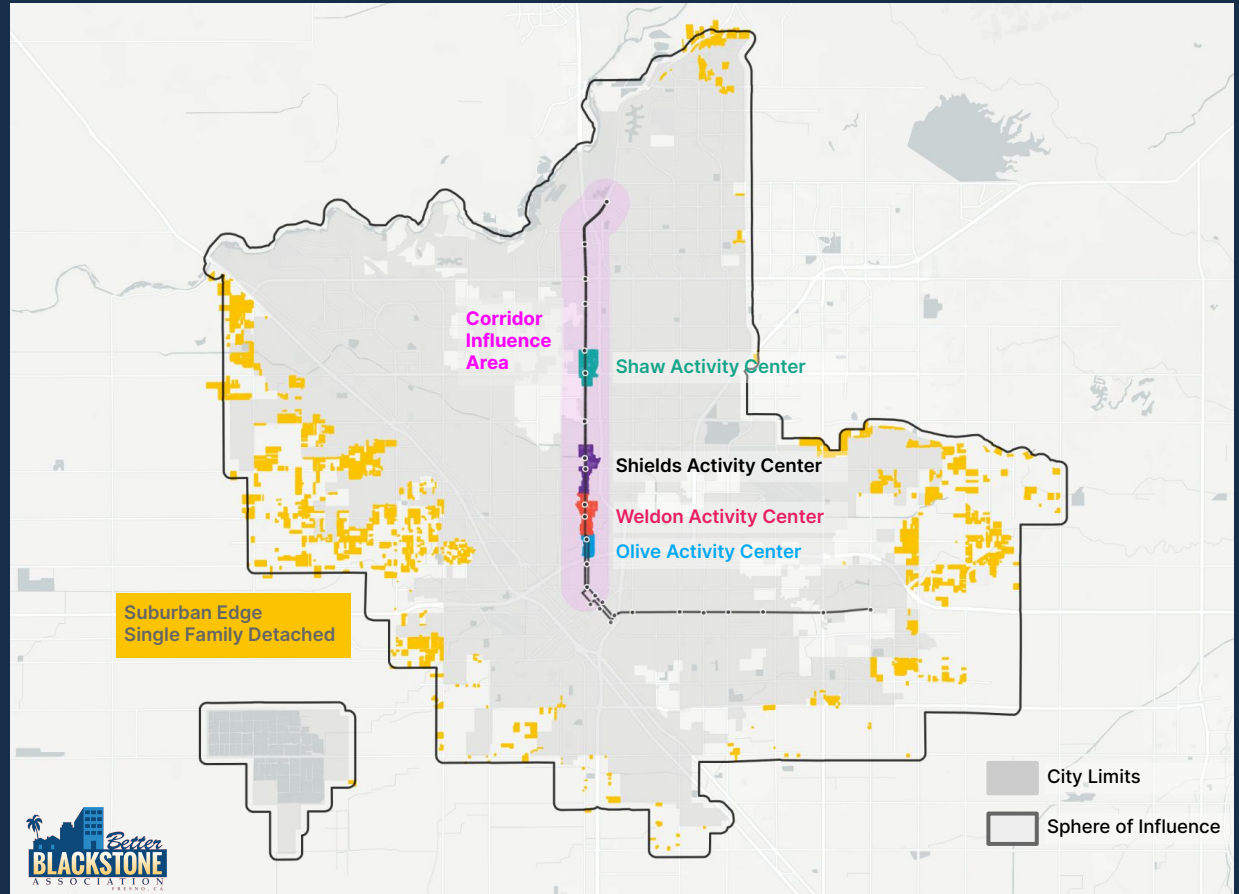


**Unconstrained Scenario**  
Shaw Activity Center

# Locating Growth Strategically

The scenarios compare alternatives for development on sites in four areas along the Blackstone Avenue corridor – the **Shaw, Shields, Weldon, and Olive Activity Centers**.

Scenario analysis for a range of impacts – energy and water use, vehicle miles traveled (VMT), walk and transit access, local fiscal impacts, GHG emissions and household costs – compares the impacts and benefits of development in the Activity Centers, in the "Corridor Influence Area," and in suburban edge locations within Fresno's Sphere of Influence.



# Blackstone Opportunity Corridor Growth Scenarios

Three alternative development scenarios were explored for the future of the Blackstone Opportunity corridor.

The three scenarios – **Constrained**, **Unconstrained**, and **Max Unconstrained** – include new development in four Activity Centers on the corridor. They do not account for growth anywhere else in Fresno.

## **Base**

Existing development on the corridor and throughout Fresno, serving as a comparison point for growth and performance among scenarios.

## **Constrained**

Includes some redevelopment along the Blackstone corridor according to Constrained site design options.

## **Unconstrained**

Reflects Unconstrained site design options along the Blackstone corridor, including primarily mixed-use and multifamily development.

## **Max Unconstrained**

Buildout to maximum allowable FAR and densities on the mixed-use and multifamily development sites of the Unconstrained scenario, according to the Neighborhood, Corridor/Center, and Regional Mixed-Use Zoning designations.

# BBDC Development Areas – Activity Centers

Development in the corridor growth scenarios takes place as redevelopment of primarily retail areas, on land zoned as Mixed-Use, in the four Activity Centers. All development would be served by bus rapid transit (BRT) and street and sidewalk infrastructure improvements.





# Blackstone Opportunity Corridor Scenarios

## Housing and Job Growth

The growth scenarios were built at the parcel scale, with housing units and building floor areas specified by BBDC site designs.

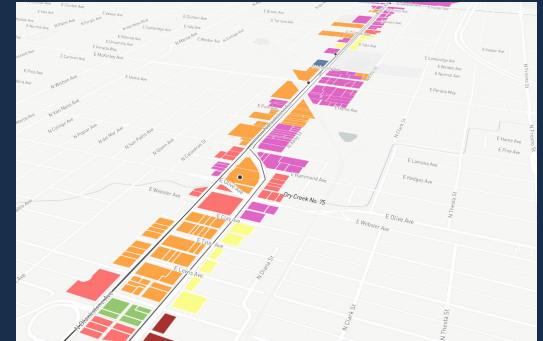
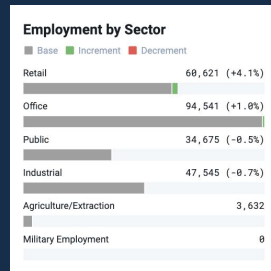
Jobs are modeled based on the given floor areas and assumed employee floorspace requirements by employment sector, including retail, office, and public.

Growth occurs on studied sites only – scenarios do not locate new growth elsewhere in the city.



**LOGISTICS UNCONSTRAINED SCENARIO\***  
PARCELS 425-00-18 & 425-00-20

TYPE OF CONSTRUCTION	AREA (SQ FT)	PERCENTAGE
RETAIL	1,200,000	10.0%
OFFICE	1,800,000	15.0%
PUBLIC	1,200,000	10.0%
INDUSTRIAL	1,200,000	10.0%
AGRICULTURE/EXTRACTION	1,200,000	10.0%
MILITARY EMPLOYMENT	1,200,000	10.0%





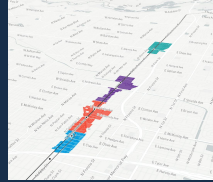
# Scenario Growth Comparisons

	<b>Base</b> (City Total)	<b>Base</b> (in BBDC development areas)	<b>Constrained</b>	<b>Unconstrained</b>	<b>Max</b> <b>Unconstrained</b>
<b>Population</b>	534,000	150	<b>7,110</b> <i>(6,960 net growth)</i>	<b>20,570</b> <i>(20,420 net growth)</i>	<b>39,840</b> <i>(39,690 net growth)</i>
<b>Housing Units</b>	182,100	65	<b>2,300</b> <i>(2,235 net growth)</i>	<b>6,640</b> <i>(6,570 net growth)</i>	<b>12,850</b> <i>(12,785 net growth)</i>
<b>Employment</b>	238,200	3,290	<b>4,570</b> <i>(1,280 net growth)</i>	<b>6,100</b> <i>(2,810 net growth)</i>	<b>9,200</b> <i>(5,910 net growth)</i>

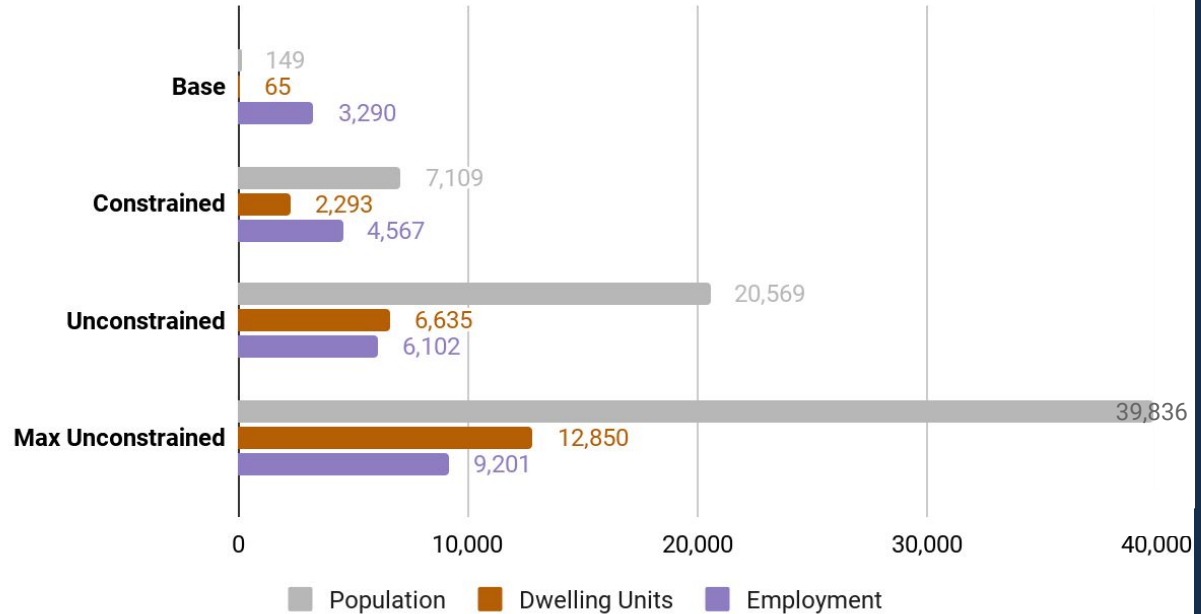
# BBDC Development Area

## Population, Dwelling Units, and Employment

The scenarios range greatly in the amount of new homes, population, and employment they accommodate. All significantly expand on what exists today, demonstrating not only tremendous opportunities, but a responsibility to make the most of them in order to best serve Fresno now and into the future.



### BBDC Development Area Population, Dwelling Units, and Employment



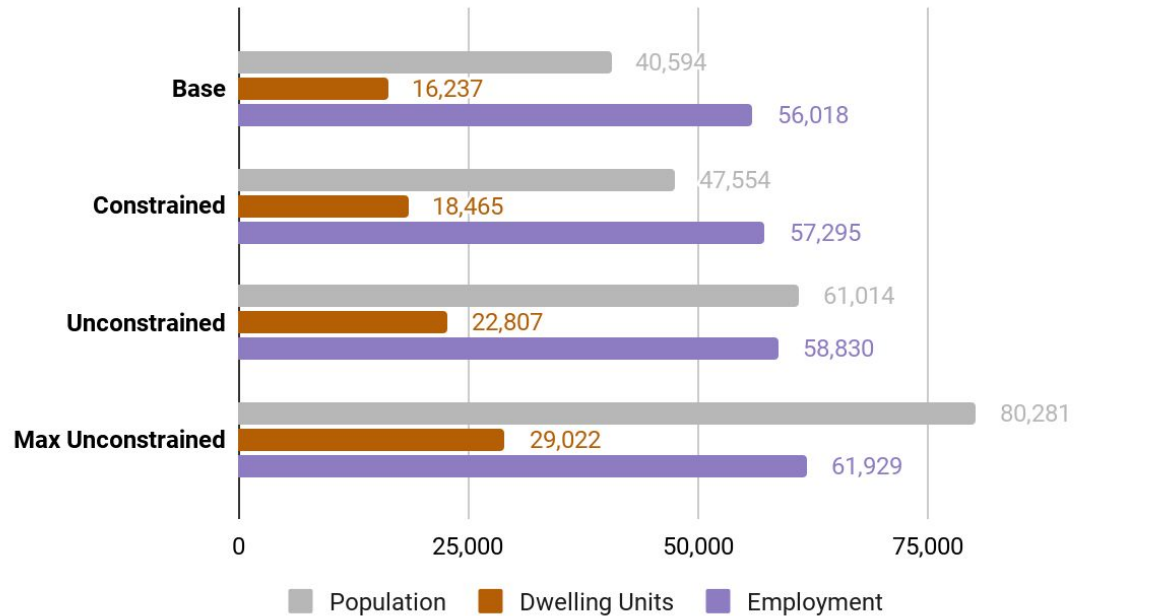
# Corridor Influence Area

## Population, Dwelling Units, and Employment

Transit and the amenities and employment opportunities of new development in the Activity Centers can serve residents throughout the city. Residents and employers within the Corridor Influence Area (a half-mile distance on either side of Blackstone Ave) are expected to benefit from increased access.



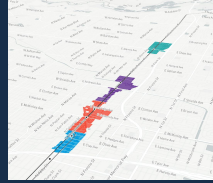
### Corridor Influence Area Population, Dwelling Units, and Employment



## Growth Scenarios

# BBDC Development Area

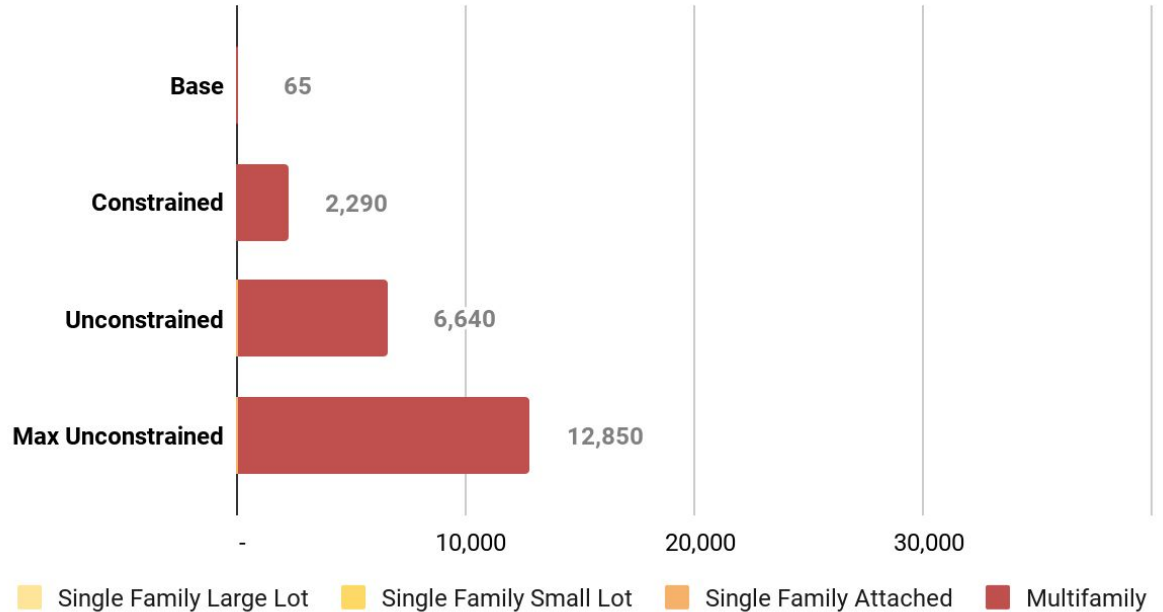
## Housing Mix



New housing is critically needed to serve Fresno residents now and into the future, and to address significant affordability challenges. The scenarios vary in their amounts of housing growth, primarily as multifamily apartments and condos. Ranging from 2,300 new homes in the Constrained scenario to 6,650 in the Unconstrained scenario – and as many as 12,850 in the Max Unconstrained scenario, it's clear that there is ample capacity within already-developed areas.

Increasing housing supply in strategic locations such as the Blackstone corridor is essential to reducing displacement and gentrification pressures in existing neighborhoods.

### Housing Mix in BBDC Development Area



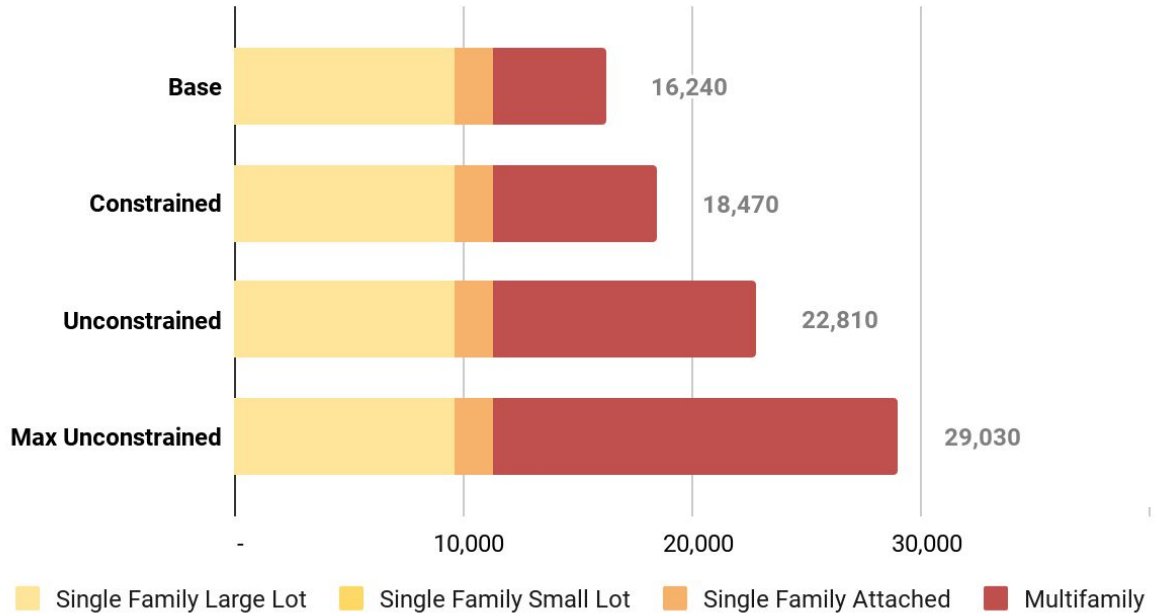
# Corridor Influence Area

## Housing Mix

While most new housing development along the corridor takes place as multifamily, it's important to consider that the Corridor Influence Area includes over 16,000 existing homes, rounding out the diversity of options for households of all types to benefit from living on or near the corridor.



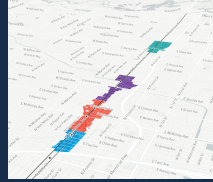
### Housing Mix in Corridor Influence Area



## Growth Scenarios

# BBDC Development Area

## Employment Mix

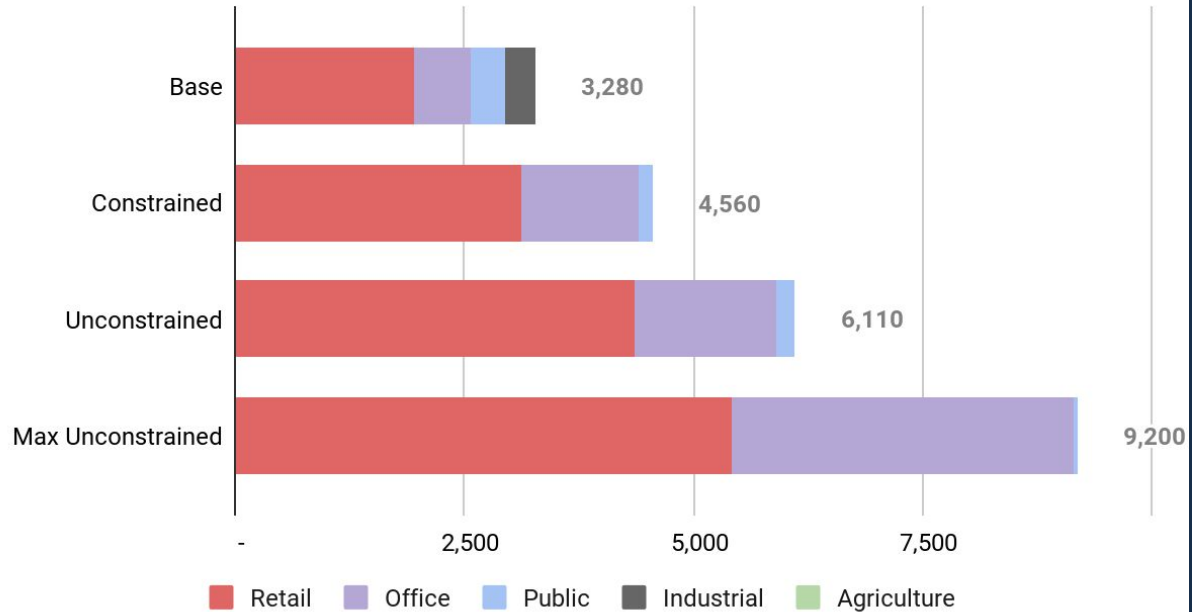


Existing employment in the BBDC development area consists of a mix of retail, office, public, and industrial jobs. The majority of jobs are in retail.

Each of the growth scenarios accommodates more employment than exists today. Jobs are modeled on the basis of commercial building area in the site design alternatives, and reflect an estimate of potential jobs by sector. The Unconstrained scenario sees a net growth of over **2,800 jobs**.

The employment mix captures a net loss of industrial jobs, since new development is primarily mixed-use. New building area categorized as office may flexibly be used for public employment.

### Employment Mix in BBDC Development Area



## Growth Scenarios

# Corridor Influence Area

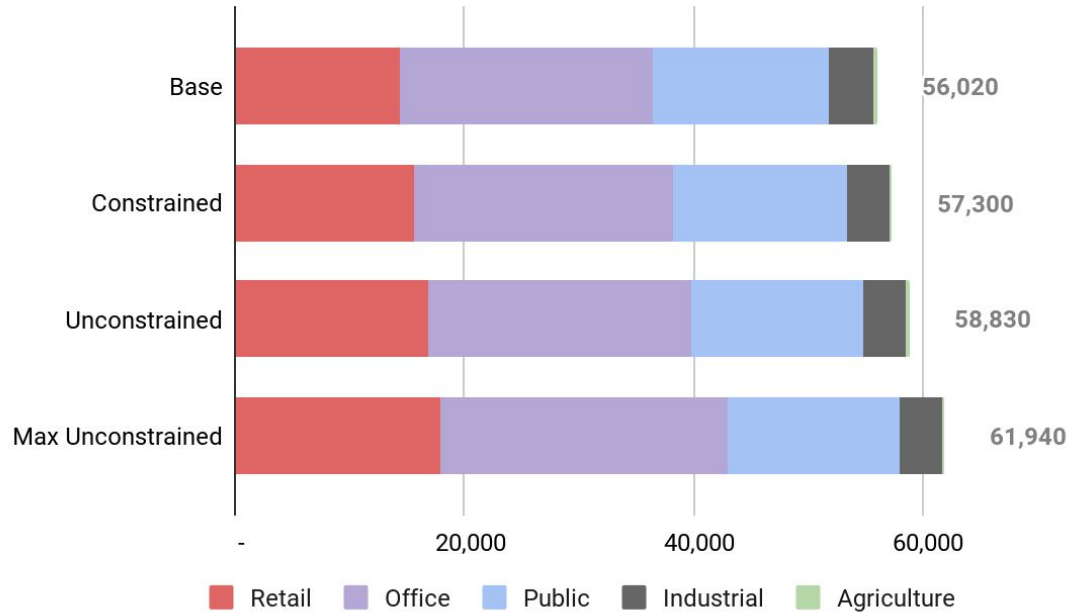
## Employment Mix

The Corridor Influence Area, which includes parts of Downtown Fresno, includes a high number of jobs, all in proximity to transit.

The growth scenarios do not significantly alter the relative distribution of jobs by type.



### Employment Mix in Corridor Influence Area



## Scenario Land Use

# Base - Existing Development

Existing development on the corridor is almost entirely single-use commercial, consisting largely of retail.

Existing housing units: ~65  
0.25 DU/ac average

Net new jobs: ~3,290  
12.4 emp/ac average





## Scenario Land Use

# Constrained Scenario

The Constrained scenario includes some mixed-use and multifamily development, at densities lower than in the Unconstrained scenario.

Net new housing units: 2,230  
9.8 DU/ac average

Net new jobs: ~1,280  
5.6 emp/ac average



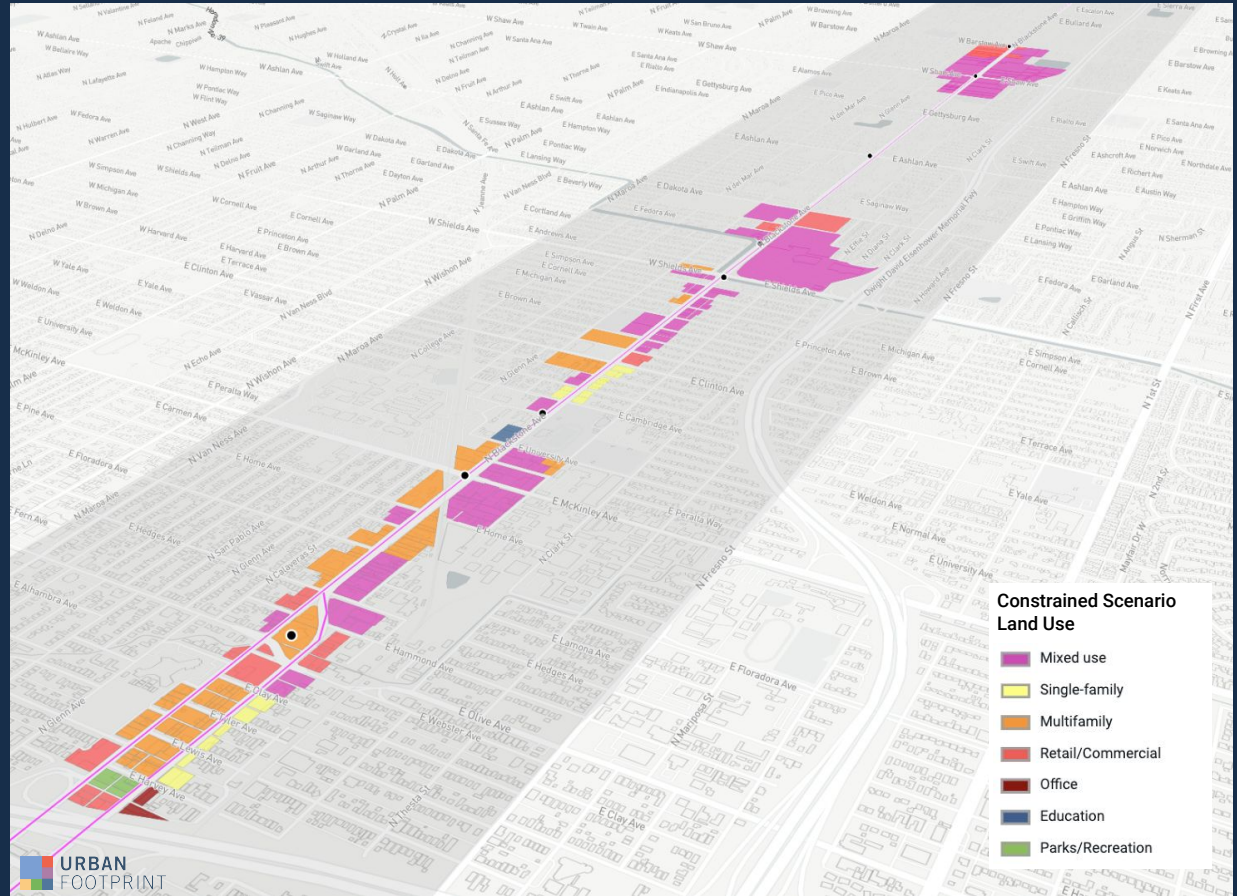
## Scenario Land Use

# Unconstrained Scenario

The Unconstrained scenario includes substantial mixed-use and multifamily development, with an average housing density more than twice, and employment density nearly twice, that in the Constrained scenario.

Net new housing units: 6,570  
25 DU/ac average

Net new jobs: ~2,800  
11 emp/ac average



## Scenario Land Use

# Max Unconstrained Scenario

The Max Unconstrained scenario reflects the maximum zoned capacity of sites developed in the Unconstrained scenario, assuming all density bonuses and parking minimums. The average housing and employment densities are roughly double those in the Unconstrained scenario.

Net new housing units: 12,790  
48 DU/ac average

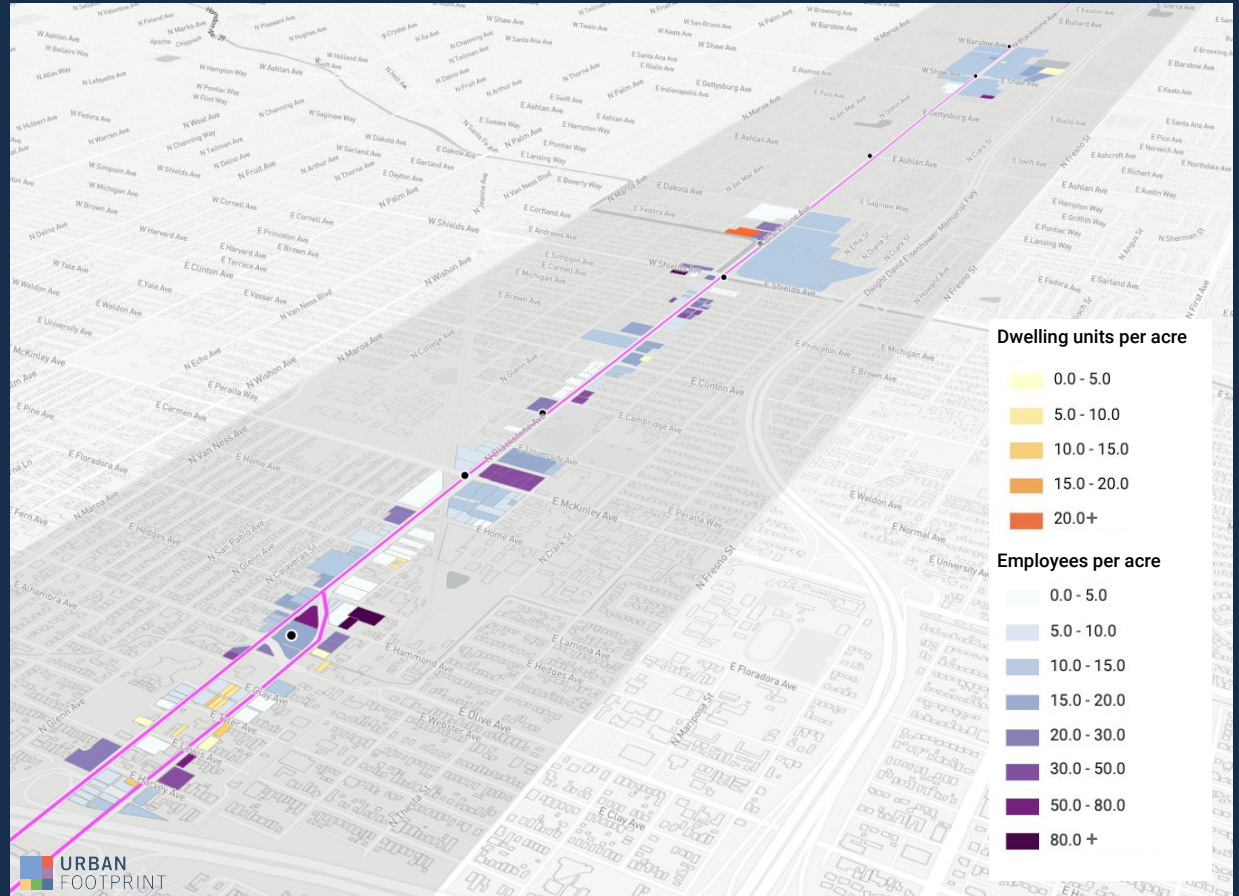
Net new jobs: ~5,900  
22 emp/ac average



## Scenario Land Use

# Base - Existing Development

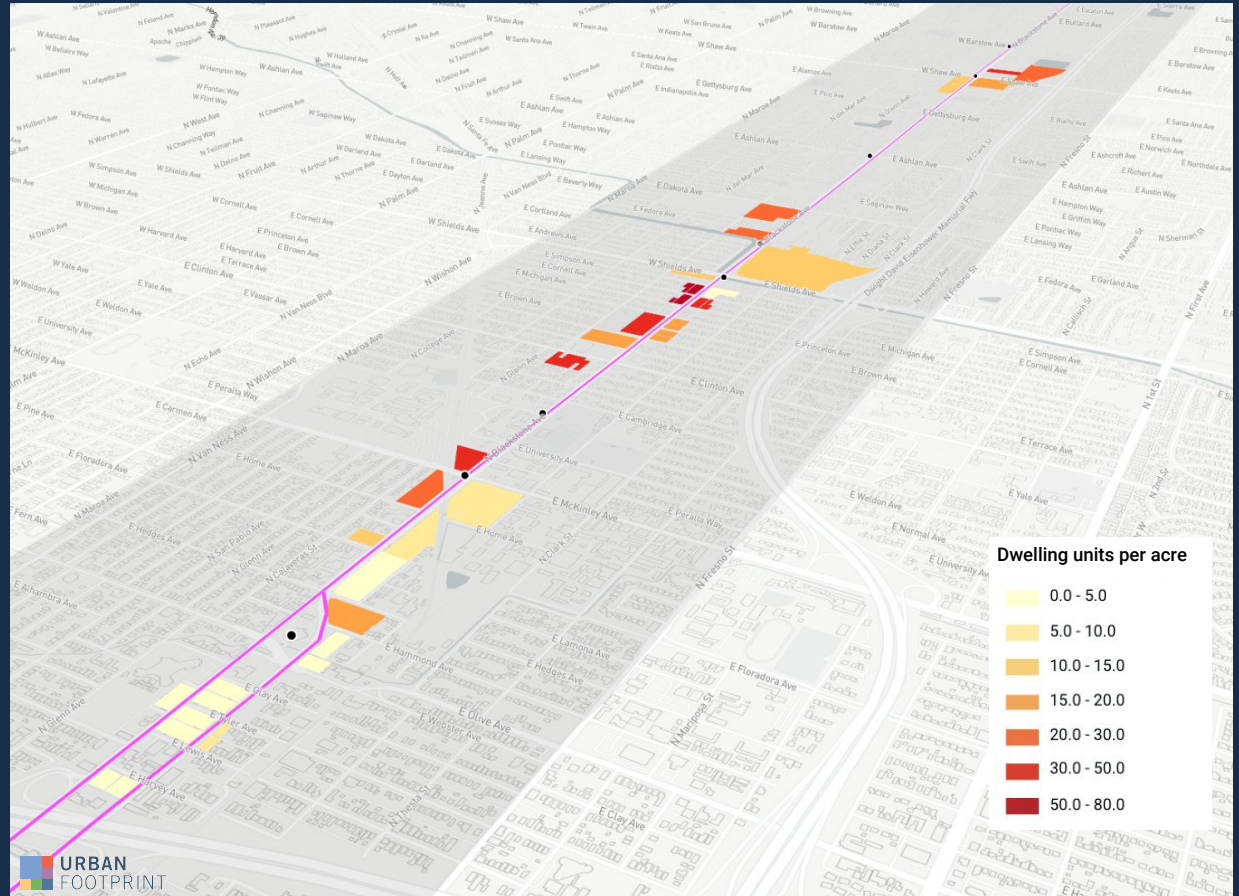
This view shows the net densities of existing housing and employment in the BBDC Development Area. The vast majority of sites are commercial-only.



## Scenario Land Use

# Constrained Scenario

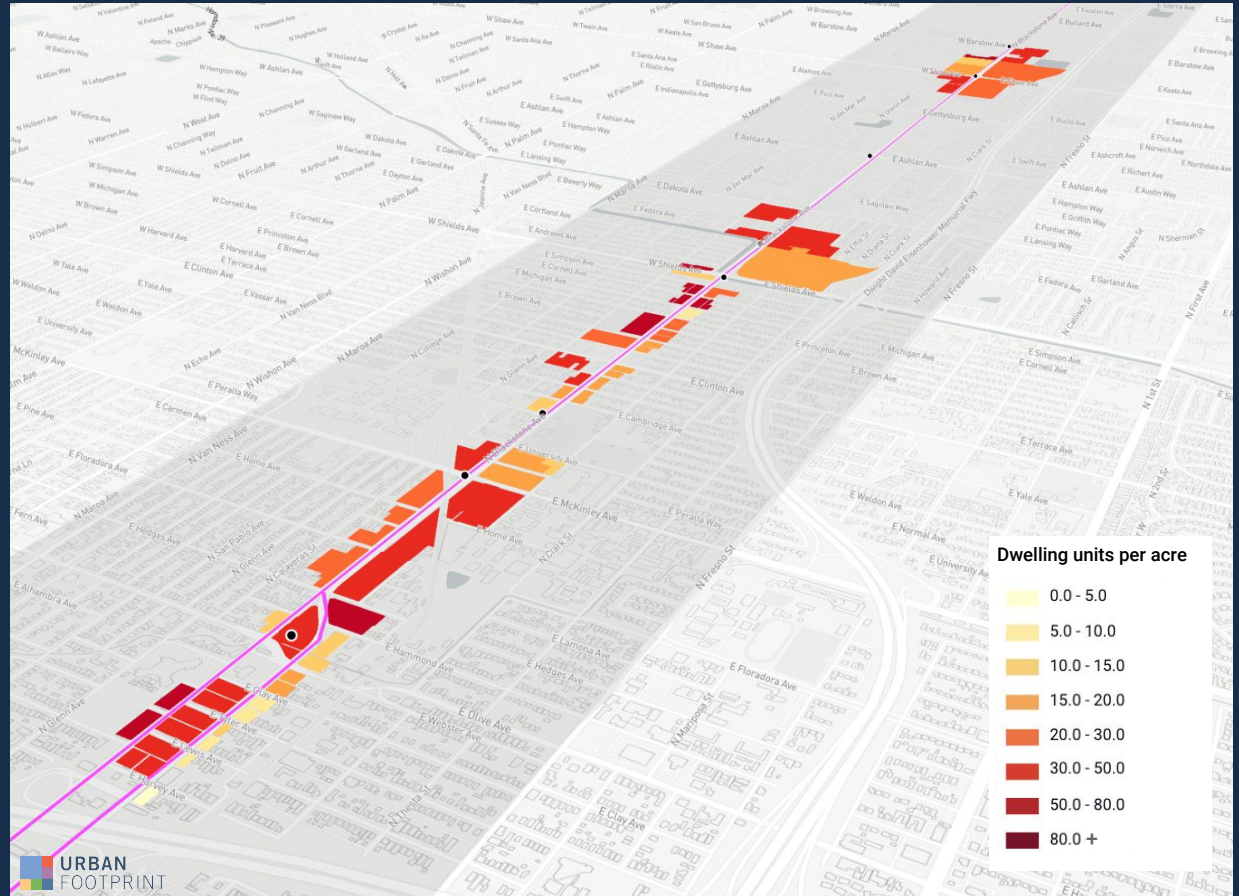
This scenario view shows the net housing density of new development, allowing for comparison across scenarios.



## Scenario Land Use

# Unconstrained Scenario

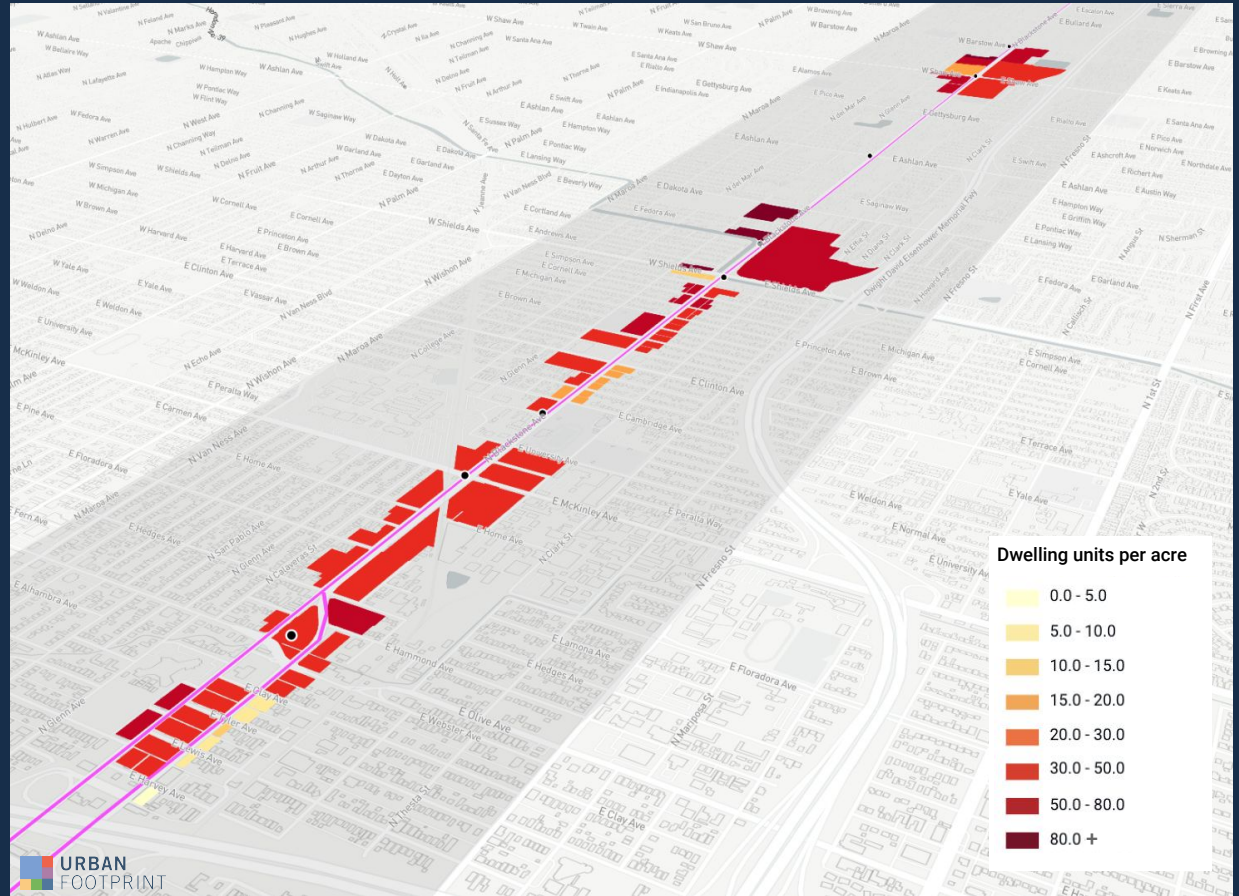
This scenario view shows the net housing density of new development, allowing for comparison across scenarios.



## Scenario Land Use

# Max Unconstrained Scenario

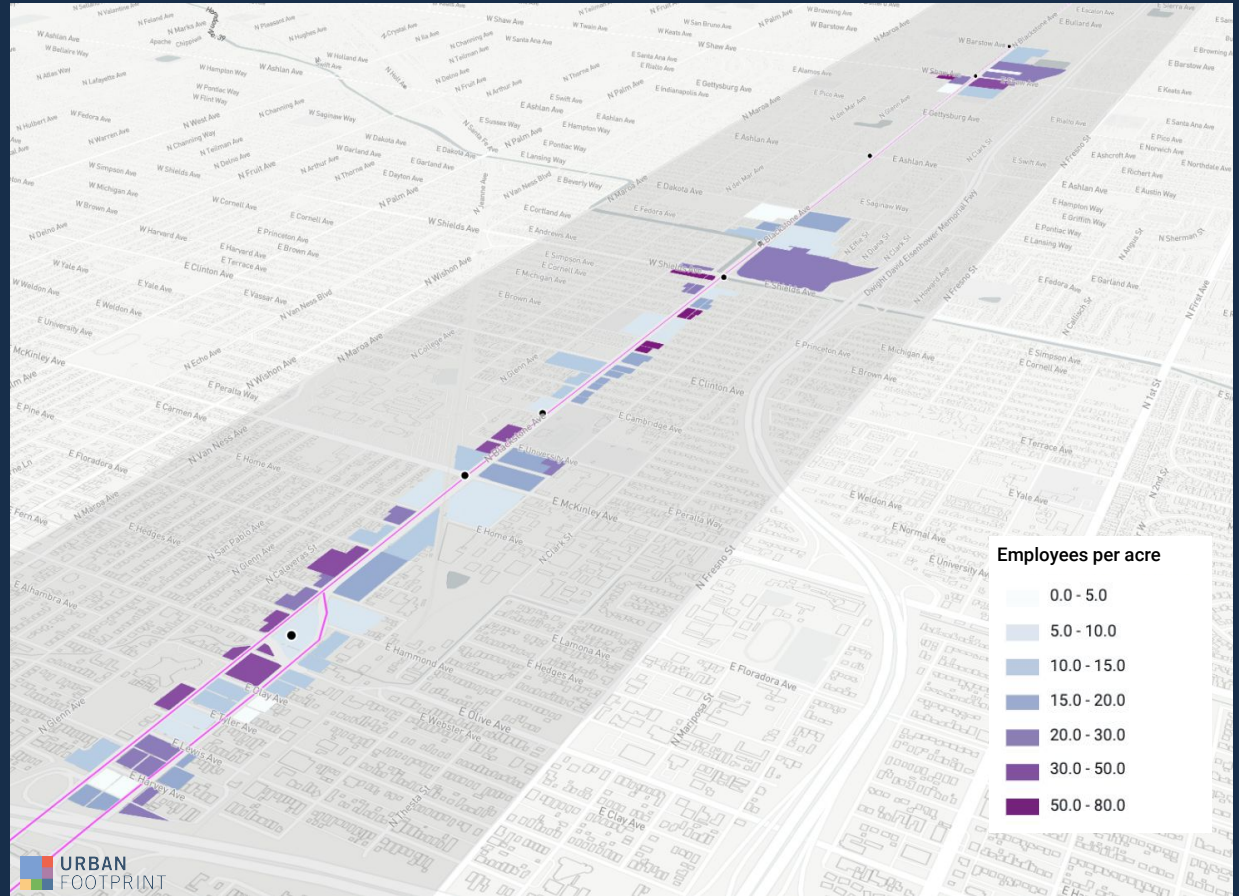
This scenario view shows the net housing density of new development, allowing for comparison across scenarios.



## Scenario Land Use

# Constrained Scenario

This scenario view shows the net employment density of new development, allowing for comparison across scenarios.





## Scenario Land Use

# Unconstrained Scenario

This scenario view shows the net employment density of new development, allowing for comparison across scenarios.



## Scenario Land Use

# Max Unconstrained Scenario

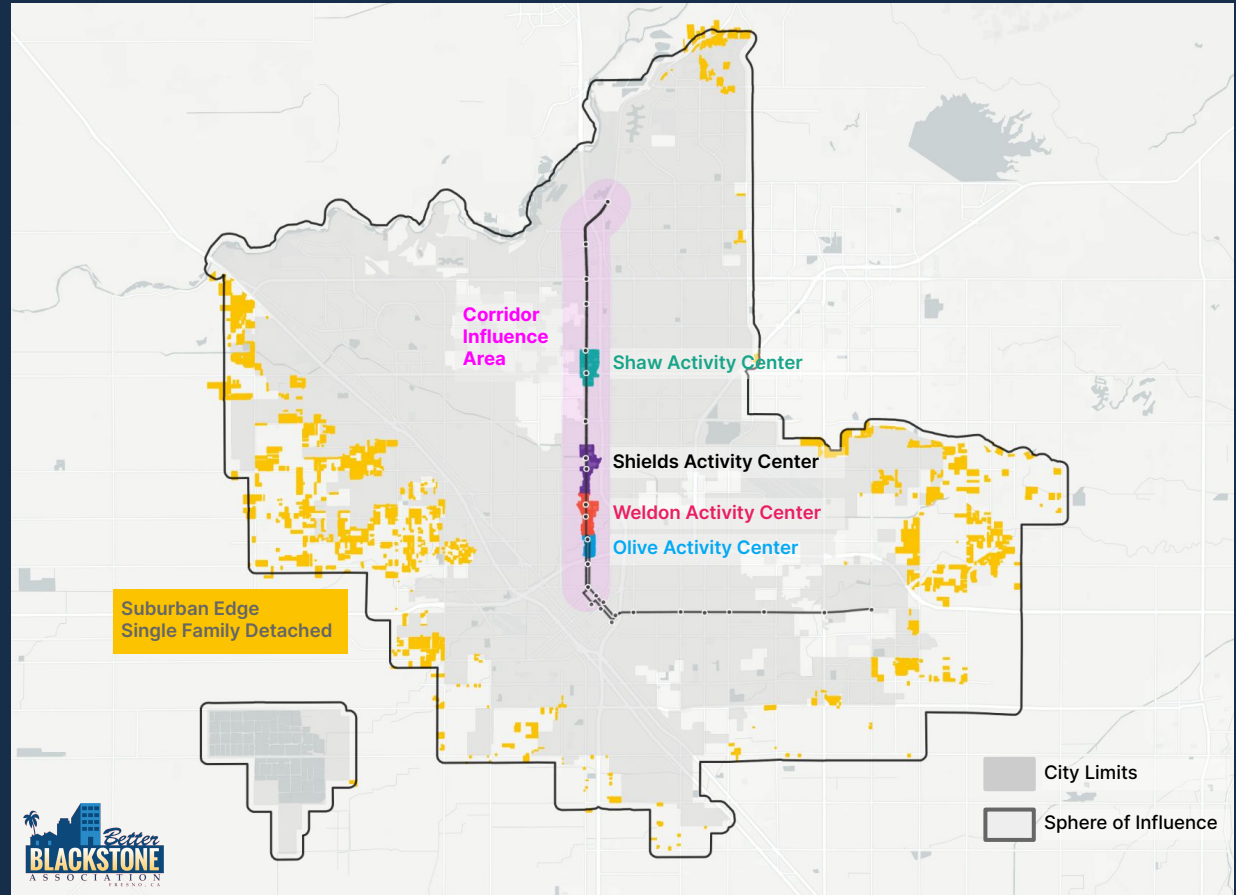
This scenario view shows the net employment density of new development, allowing for comparison across scenarios.



## Scenario Comparisons

# Corridor Influence Area and Suburban Edge Locations

To demonstrate the impacts of location on travel demand, accessibility, energy use, water use, and household costs, the study explores the performance of average households citywide, at the suburban edge, in the Blackstone Corridor Influence Area, and for new development in the Activity Centers.

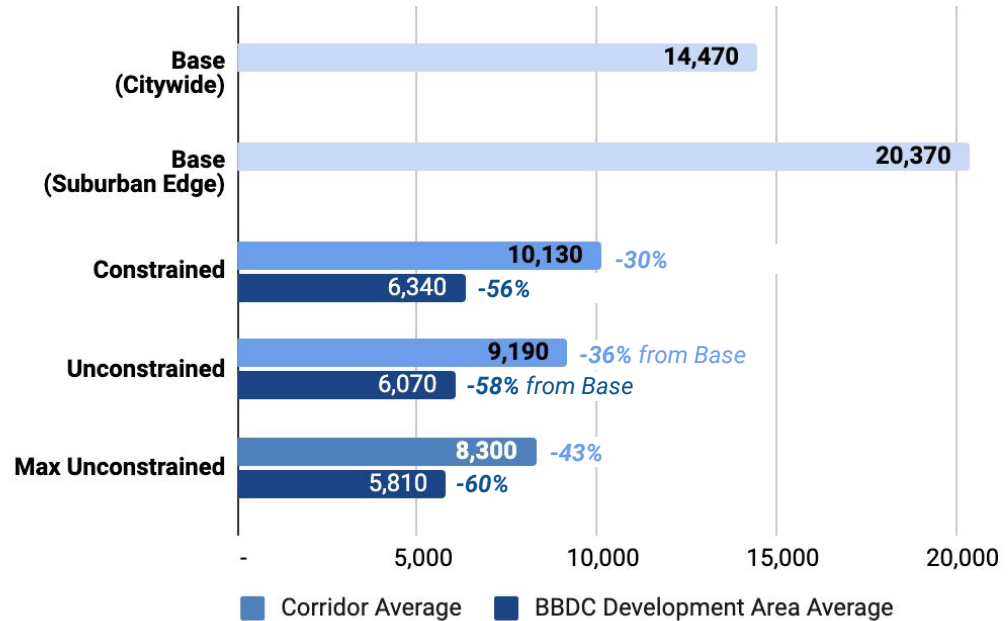


# Vehicle Miles Traveled per Household

Within the Corridor Influence Area, households in the Unconstrained scenario drive **36%** fewer miles than the Base citywide average.

For new Unconstrained development alone, households drive **58%** fewer miles than the Base citywide average.

### Annual Residential VMT per Household

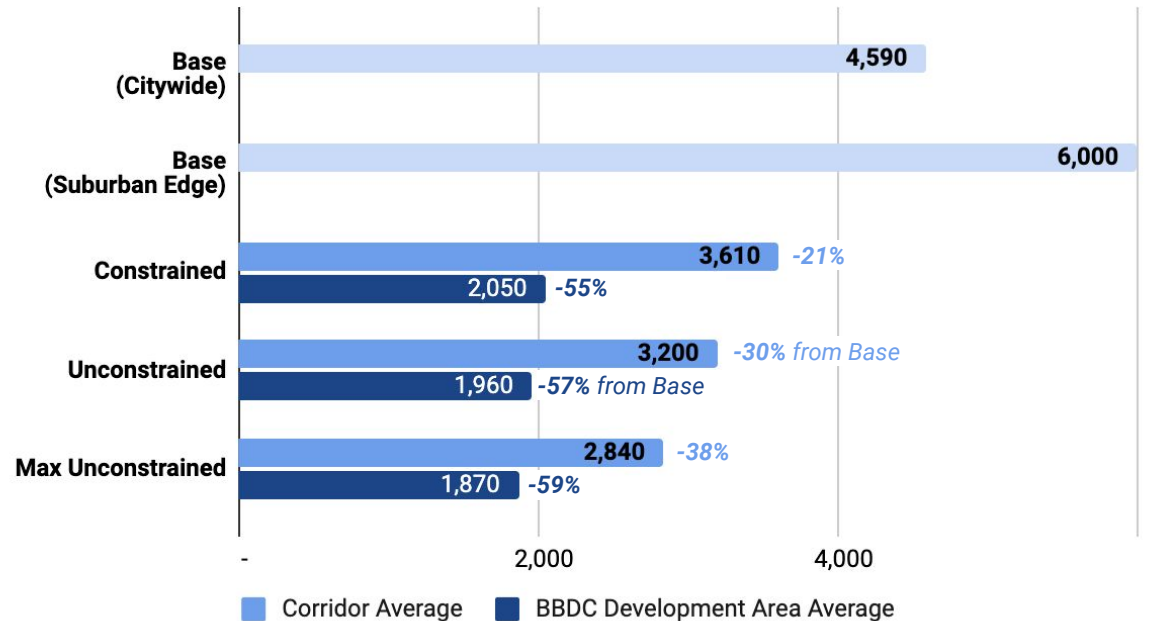


# Vehicle Miles Traveled per Capita

Within the Blackstone Corridor, residents in the Unconstrained scenario drive **30%** fewer miles than the Base citywide average.

For new Unconstrained development alone, residents drive **57%** fewer miles than the Base citywide average.

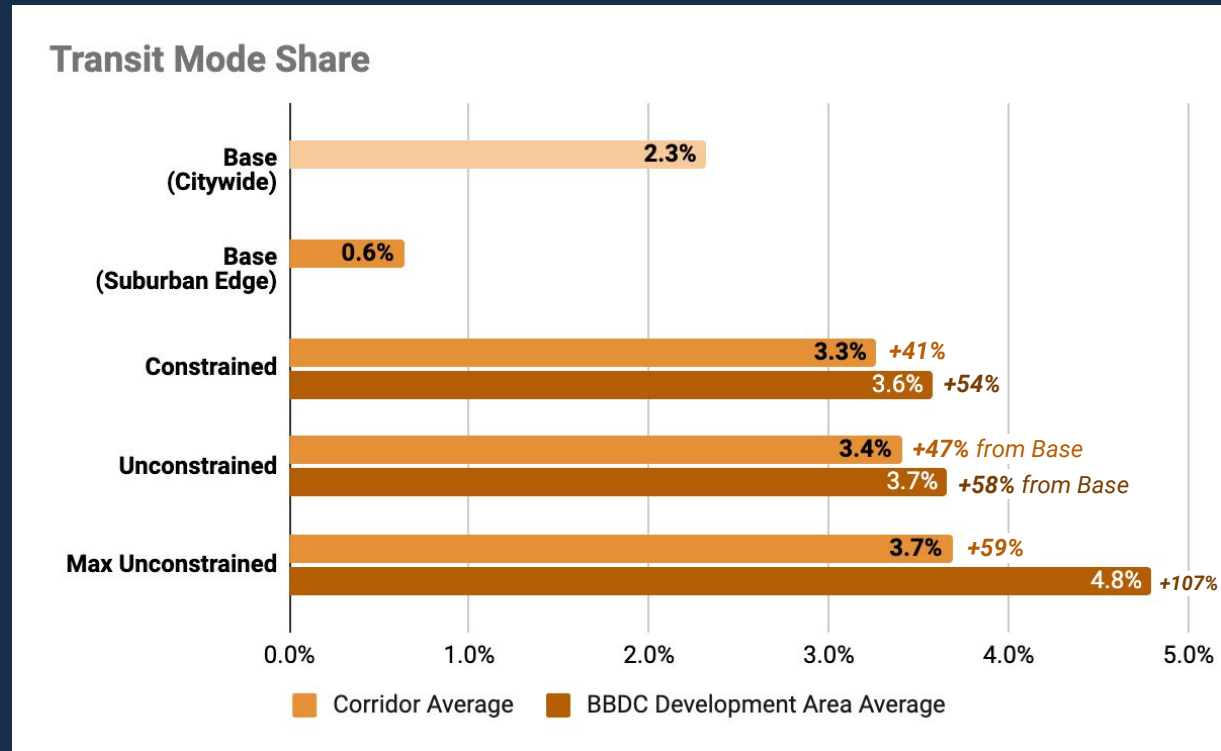
### Annual Residential VMT per Capita



# Transit Mode Share

Within the Blackstone Corridor, transit mode share (the percentage of all trips taken by transit) in the Unconstrained scenario is **47%** higher than the Base citywide average.

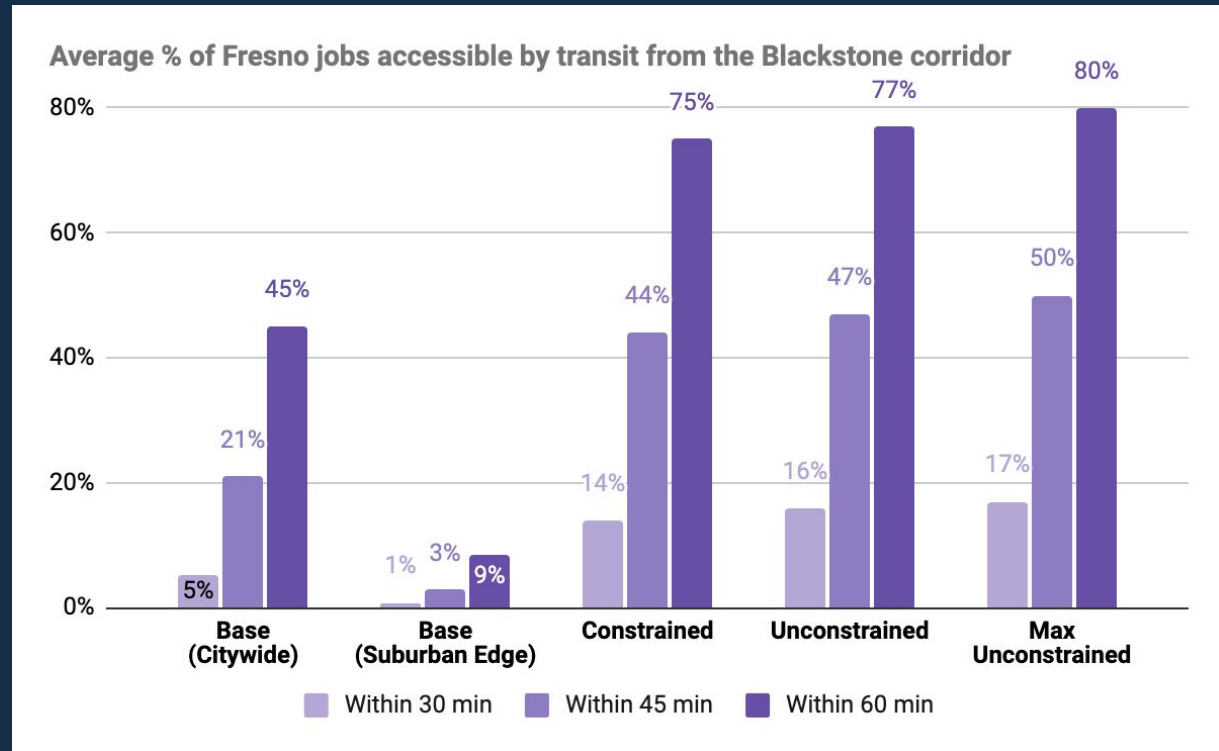
For new Unconstrained development alone, transit mode share is **58%** higher than the Base citywide average.



## Transit Access to Jobs

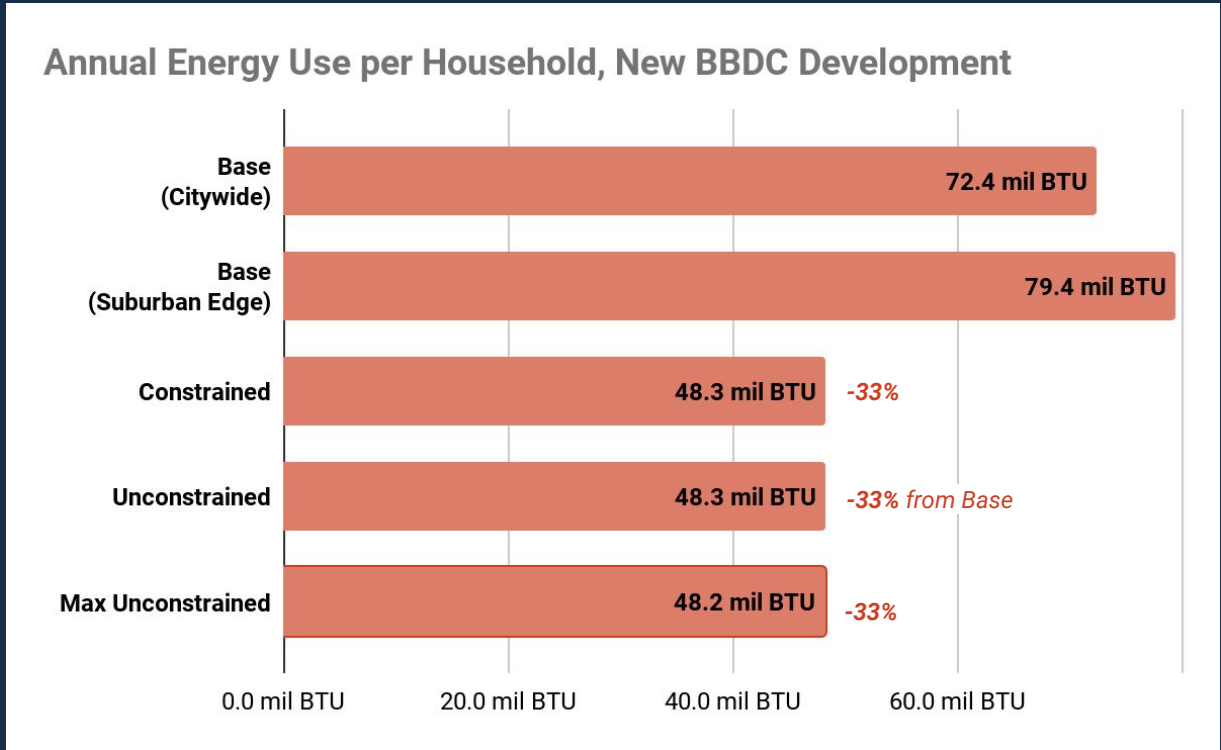
The average Fresno household today can only reach 21% of jobs in the city within 45 minutes by transit.

Within the Blackstone Corridor, the average household in the Unconstrained scenario can access nearly half of Fresno jobs (~112,000) within the same timeframe.



# Building Energy Use per Household

In new Unconstrained development, households use **33%** less energy than the Base citywide average.

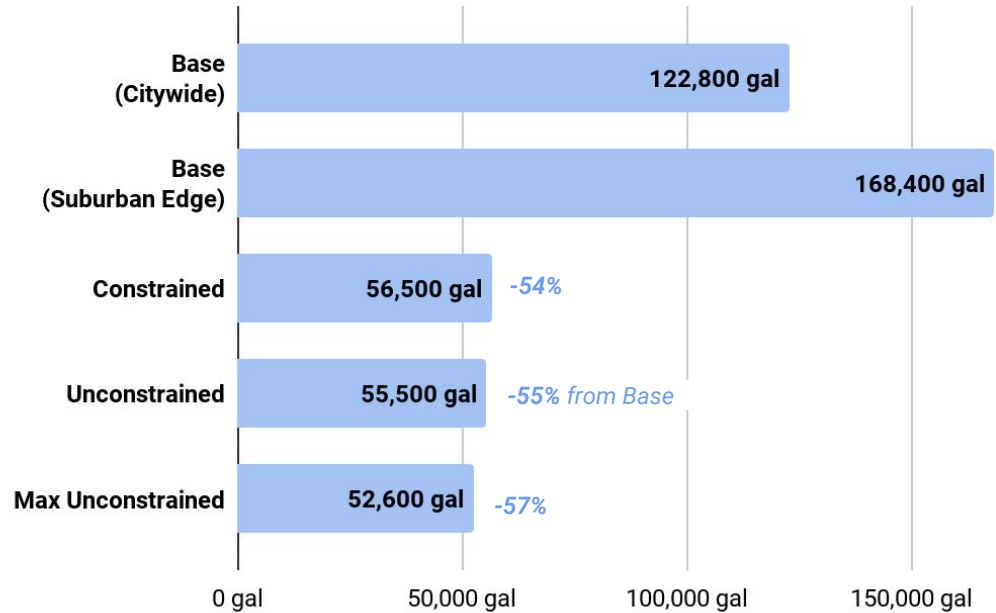




# Water Use per Household

In new Unconstrained development, households use **55%** less water than the Base citywide average.

Annual Water Use per Household, New BBDC Development

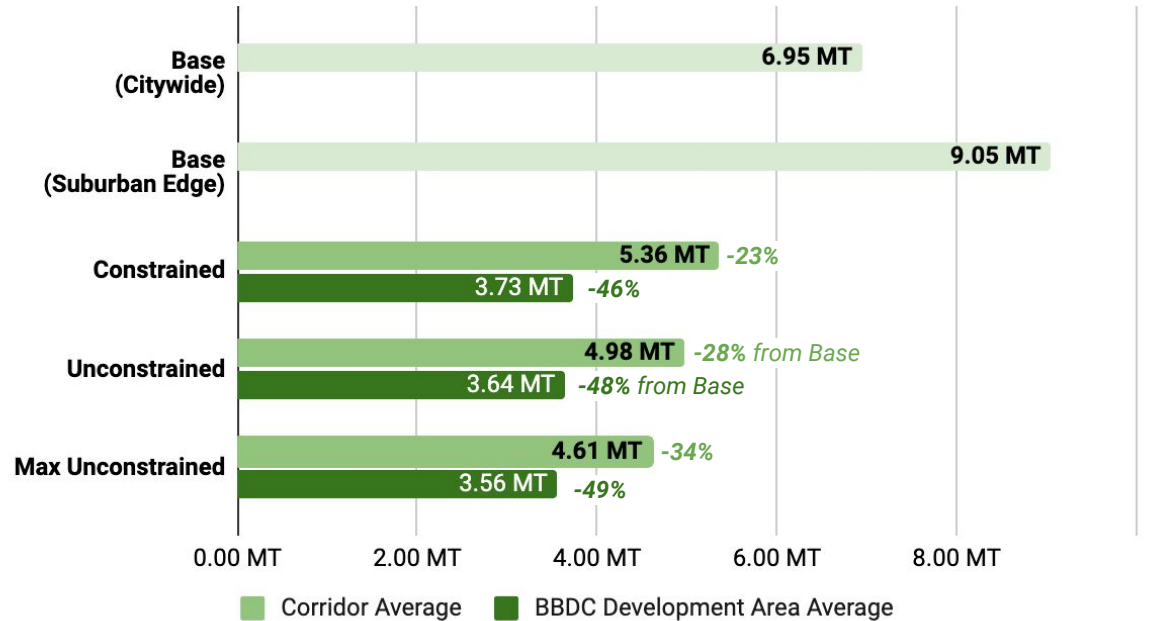


# GHG Emissions per Household from Transportation and Buildings

Within the Corridor Influence Area, GHG emissions per household in the Unconstrained scenario are **28%** lower than the Base citywide average.

For new Unconstrained development alone, GHG emissions per household are **48%** lower than the Base citywide average.

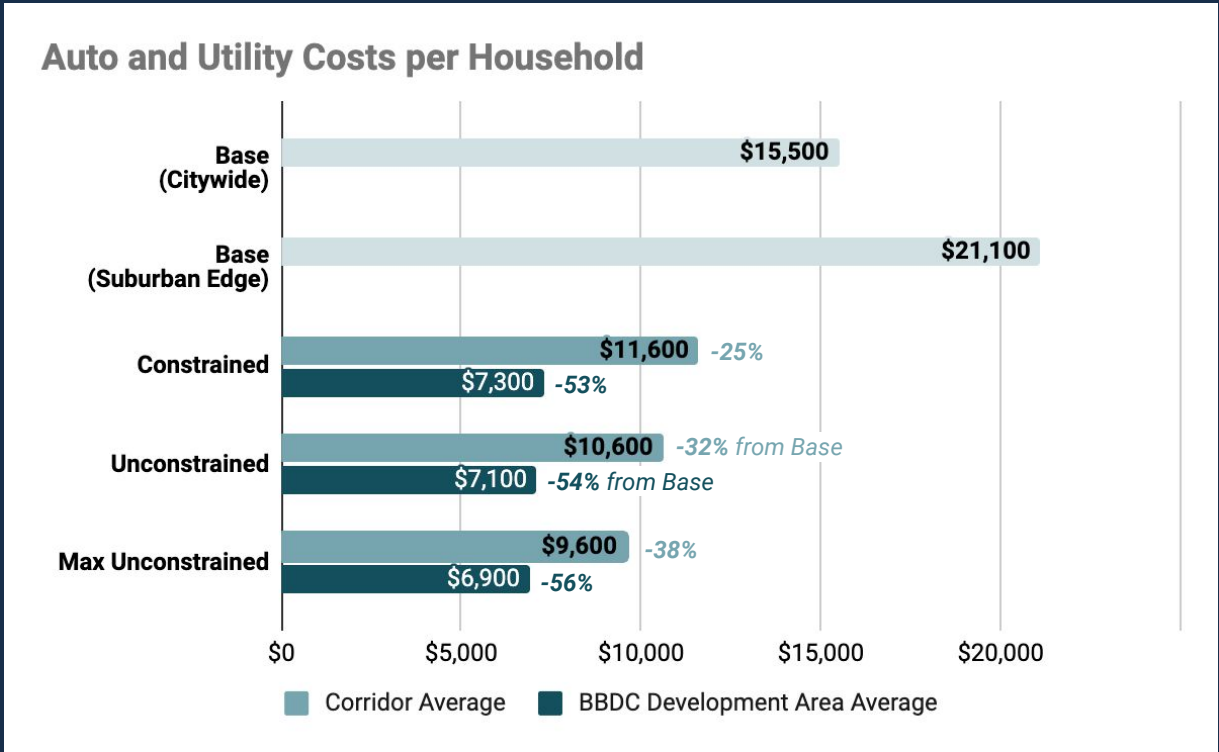
### Annual GHG Emissions per Household



# Household Auto and Utility Costs

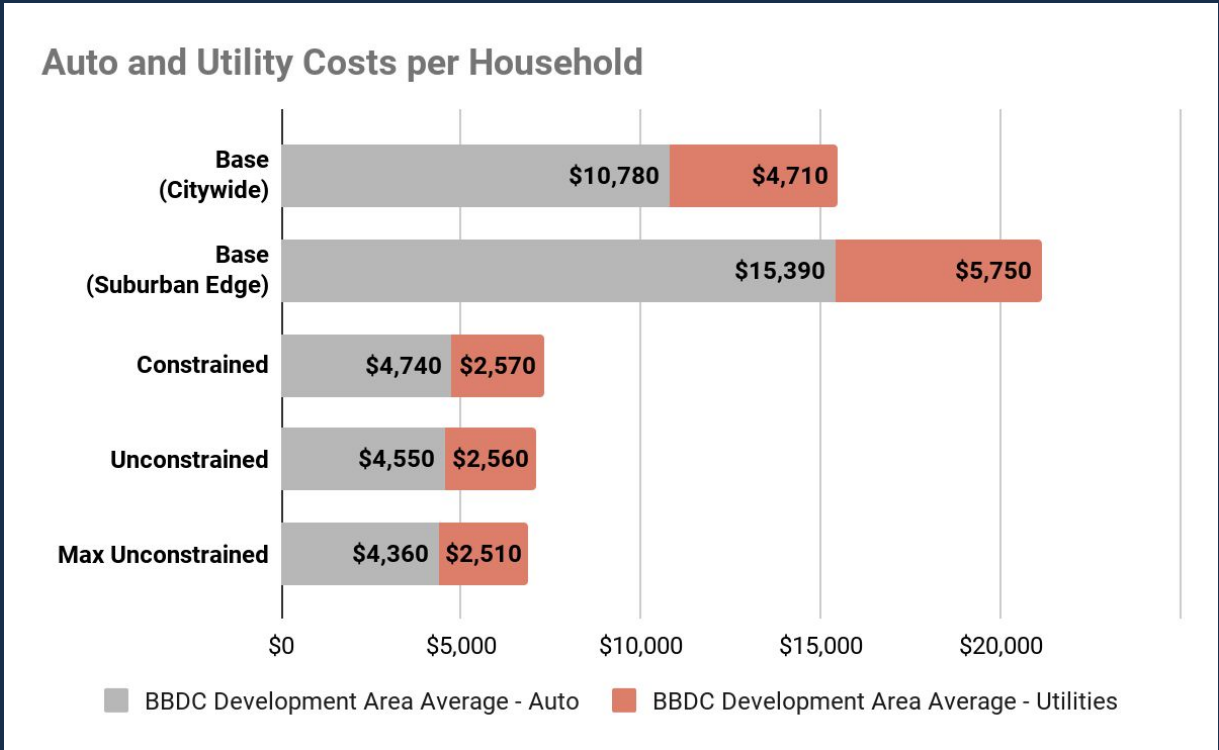
In the Unconstrained scenario, the average household in the Corridor Influence Area saves 32%, or **\$4,900**, on annual auto and utility costs compared to the Base citywide average.

For new Unconstrained development alone, households save 54%, or **\$8,400**.



# Household Auto and Utility Costs, New Development

Households along the corridor save money on auto costs due to reduced driving, and utility costs due to more energy- and water-efficient housing.



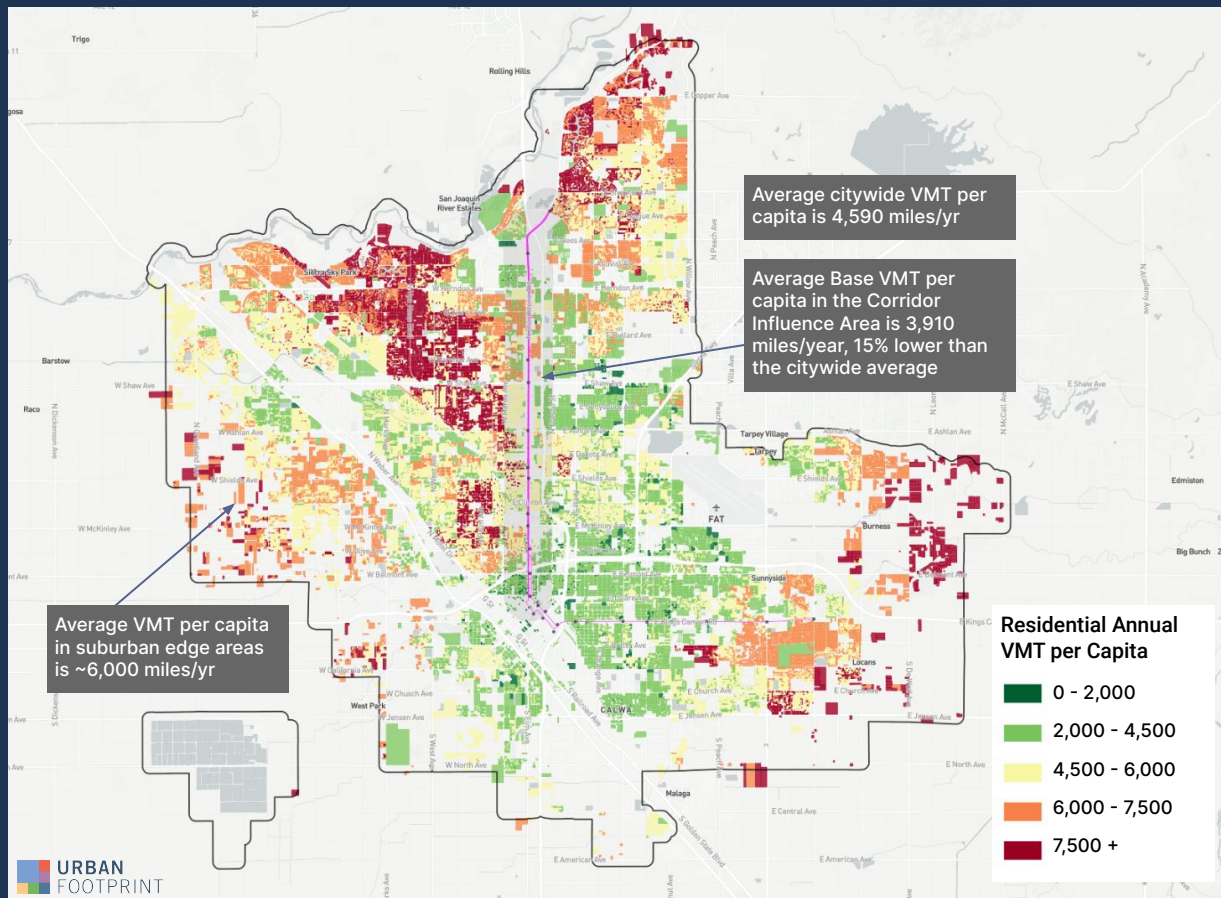
## Scenario Analysis

# Vehicle Miles Traveled

## Base Scenario

### Residential Annual VMT per Capita

Citywide:	4,590
Suburban edge:	6,000
Corridor Influence Area:	3,910

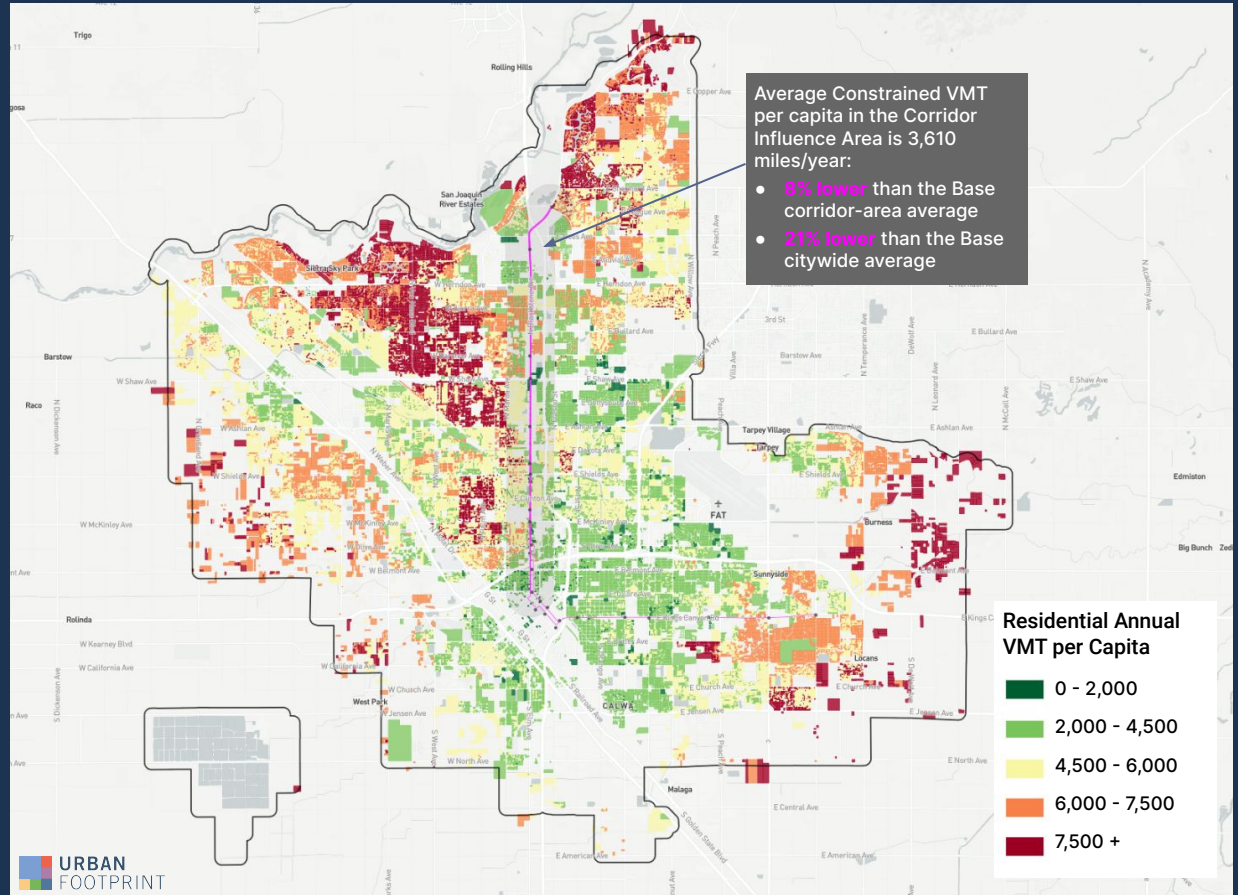


## Scenario Analysis

# Vehicle Miles Traveled Constrained Scenario

### Residential Annual VMT per Capita

Citywide: 4,450  
Corridor Influence Area: 3,610  
BBDC Development: 2,050

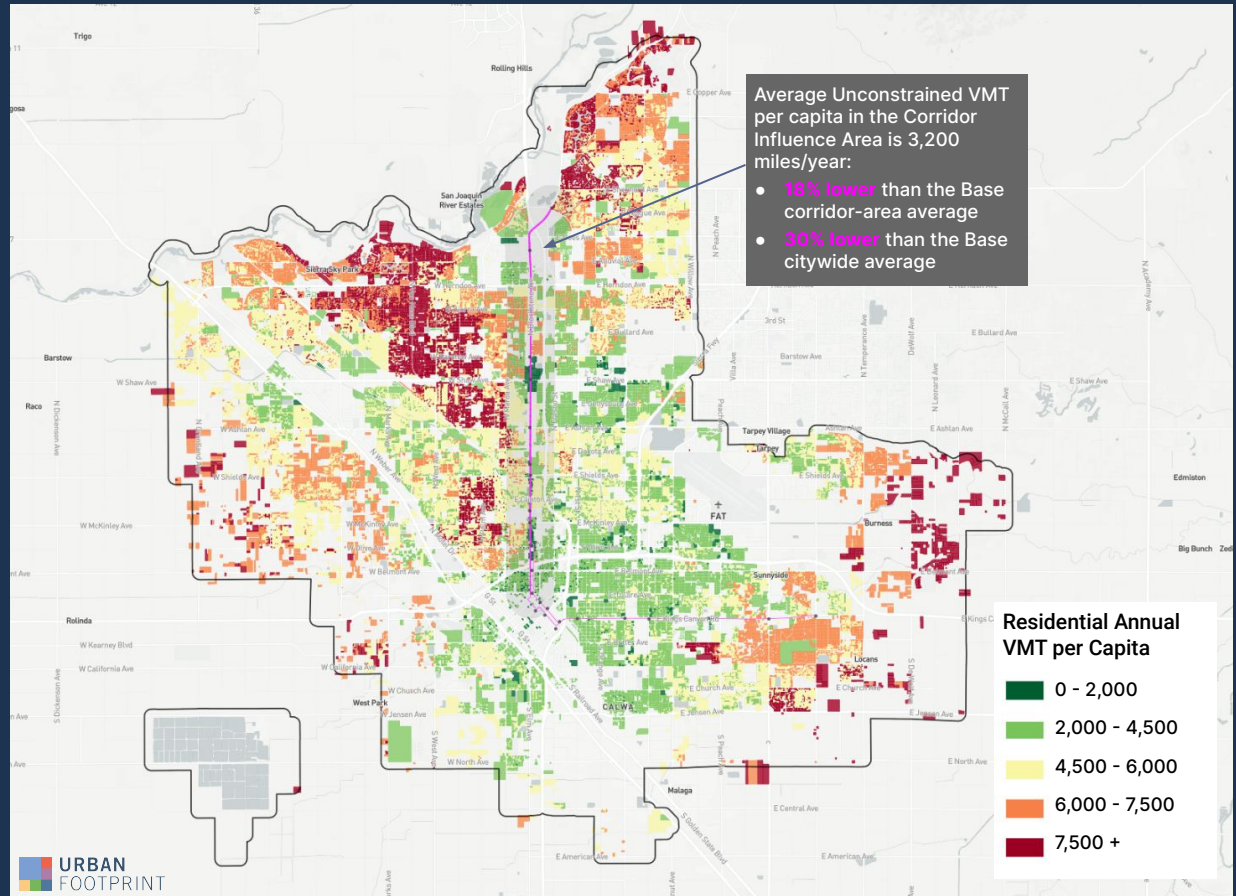


## Scenario Analysis

# Vehicle Miles Traveled Unconstrained Scenario

## Residential Annual VMT per Capita

Citywide:	4,490
Corridor Influence Area:	3,200
BBDC Development:	1,960

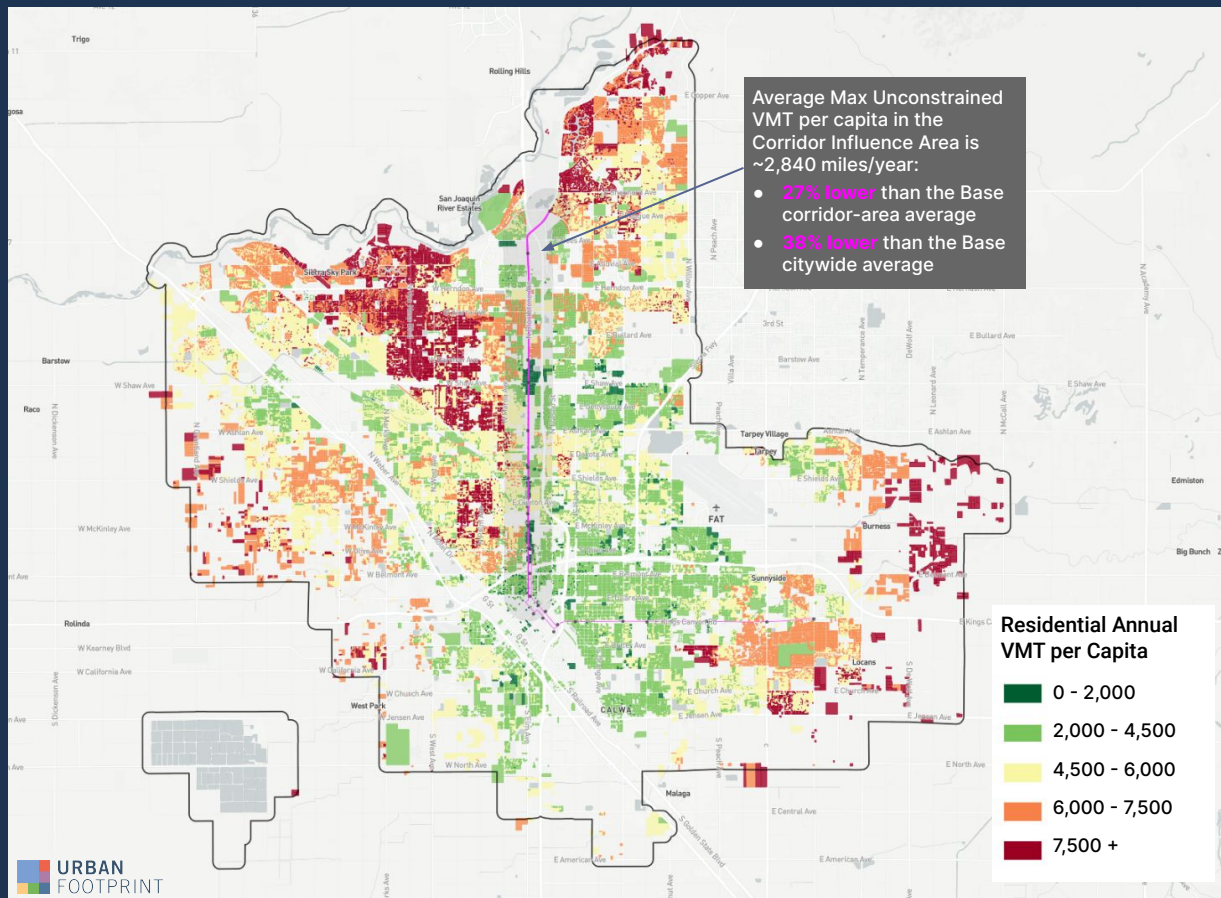


## Scenario Analysis

# Vehicle Miles Traveled Max Unconstrained Scenario

## Residential Annual VMT per Capita

Citywide: 4,390  
Corridor Influence Area: 2,840  
BBDC Development: 1,870



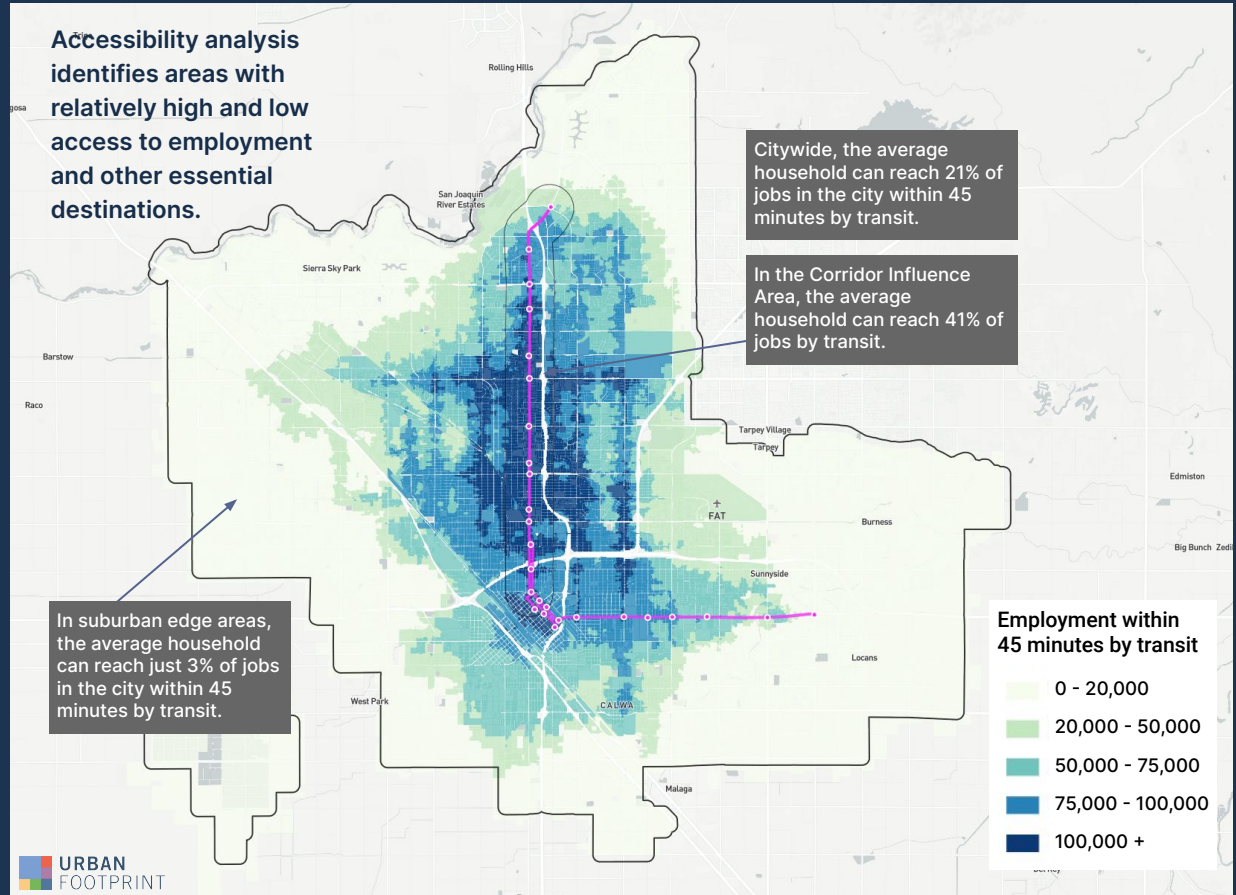


## Scenario Analysis

# Transit Access to Jobs Base Scenario

Dedicated transit service allows households on or near the corridor to access more jobs by transit than most places in Fresno – including new jobs in the Activity Centers. Households in proximity to transit on other corridors also have relatively high levels of access.

Currently, the average household in the city can reach **21%** of Fresno jobs within 45 minutes.

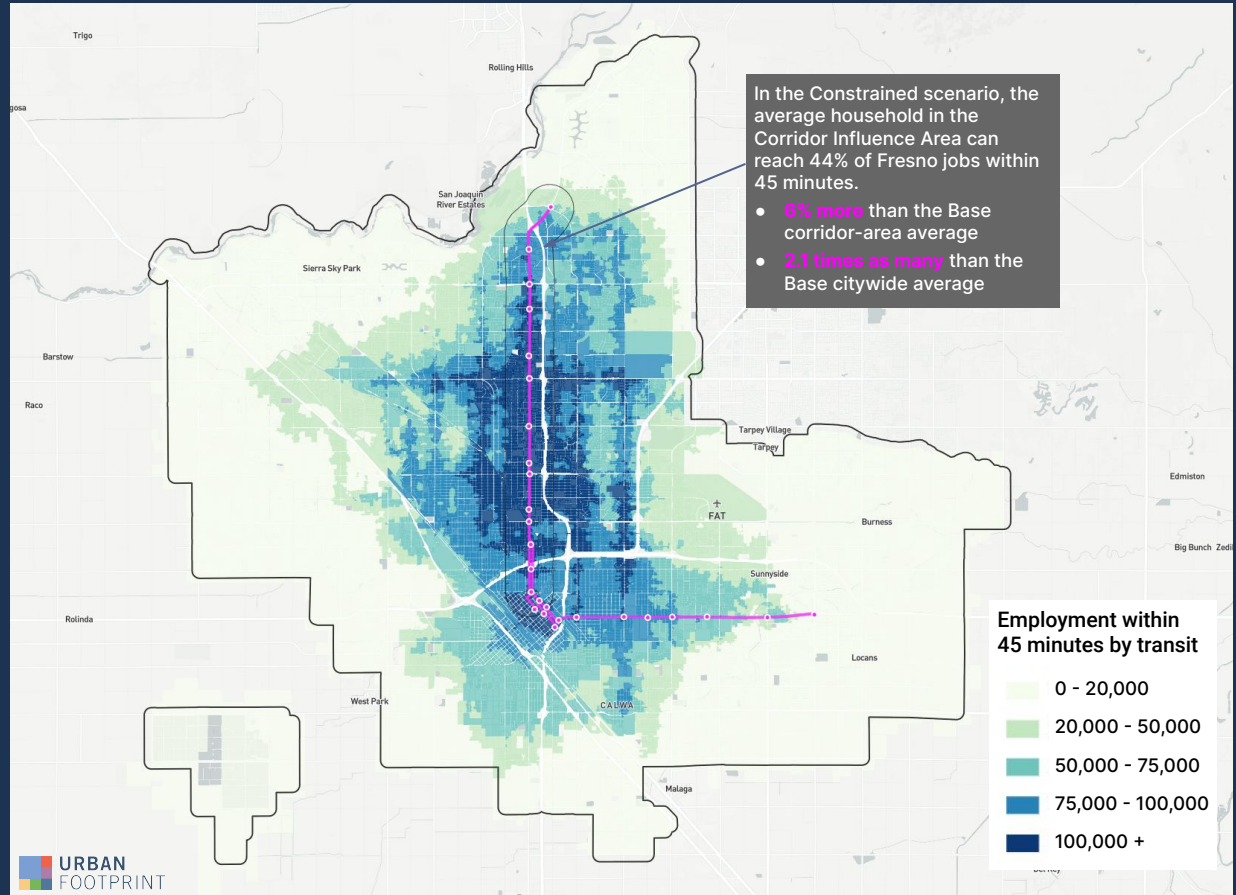


## Scenario Analysis

# Transit Access to Jobs Constrained Scenario

Dedicated transit service allows households on or near the corridor to access more jobs by transit than most places in Fresno – including new jobs in the Activity Centers. Households in proximity to transit on other corridors also have relatively high levels of access.

The average Constrained scenario household in the Corridor Influence Area can reach **44%** of Fresno jobs within 45 minutes.

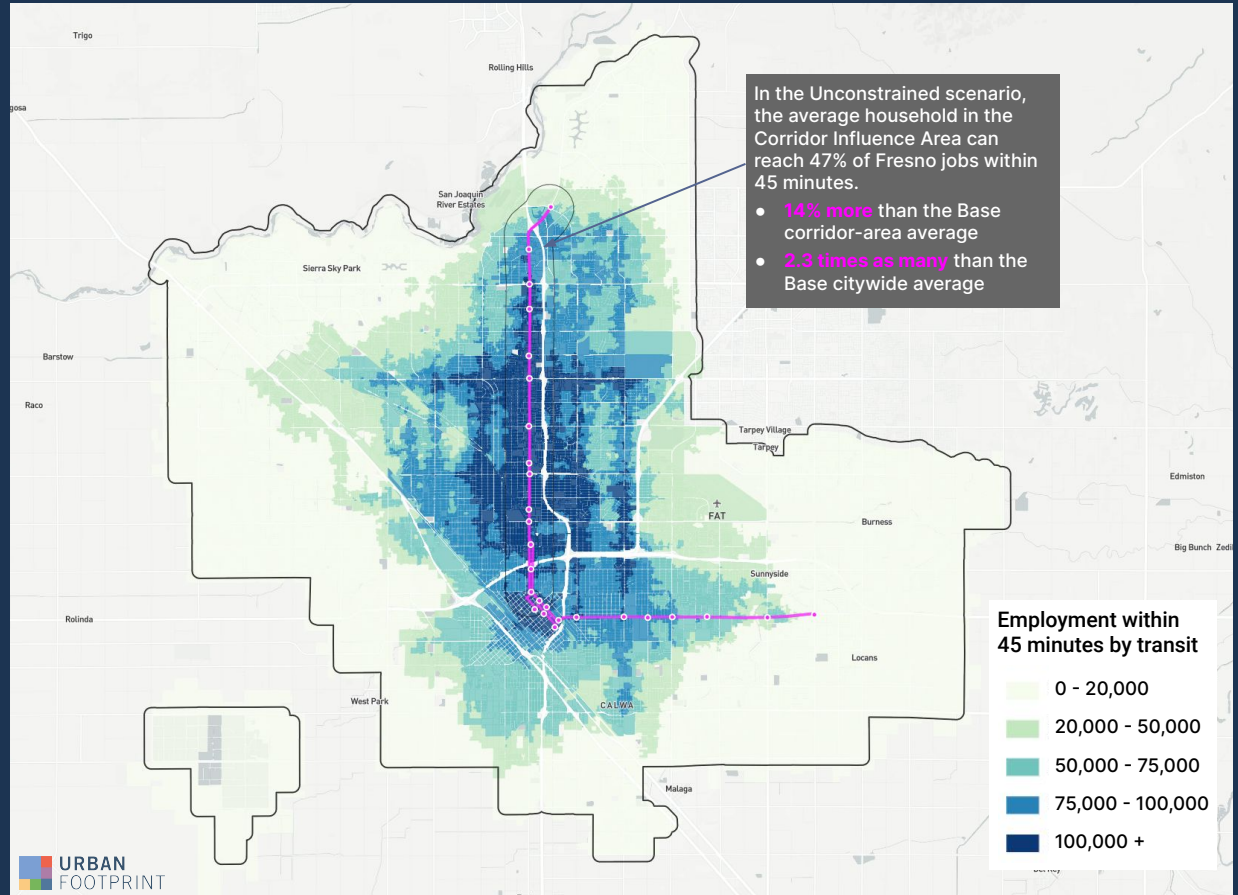


## Scenario Analysis

# Transit Access to Jobs Unconstrained Scenario

Dedicated transit service allows households on or near the corridor to access more jobs by transit than most places in Fresno – including new jobs in the Activity Centers. Households in proximity to transit on other corridors also have relatively high levels of access.

The average Unconstrained scenario household in the Corridor Influence Area can reach **47%** of Fresno jobs within 45 minutes.

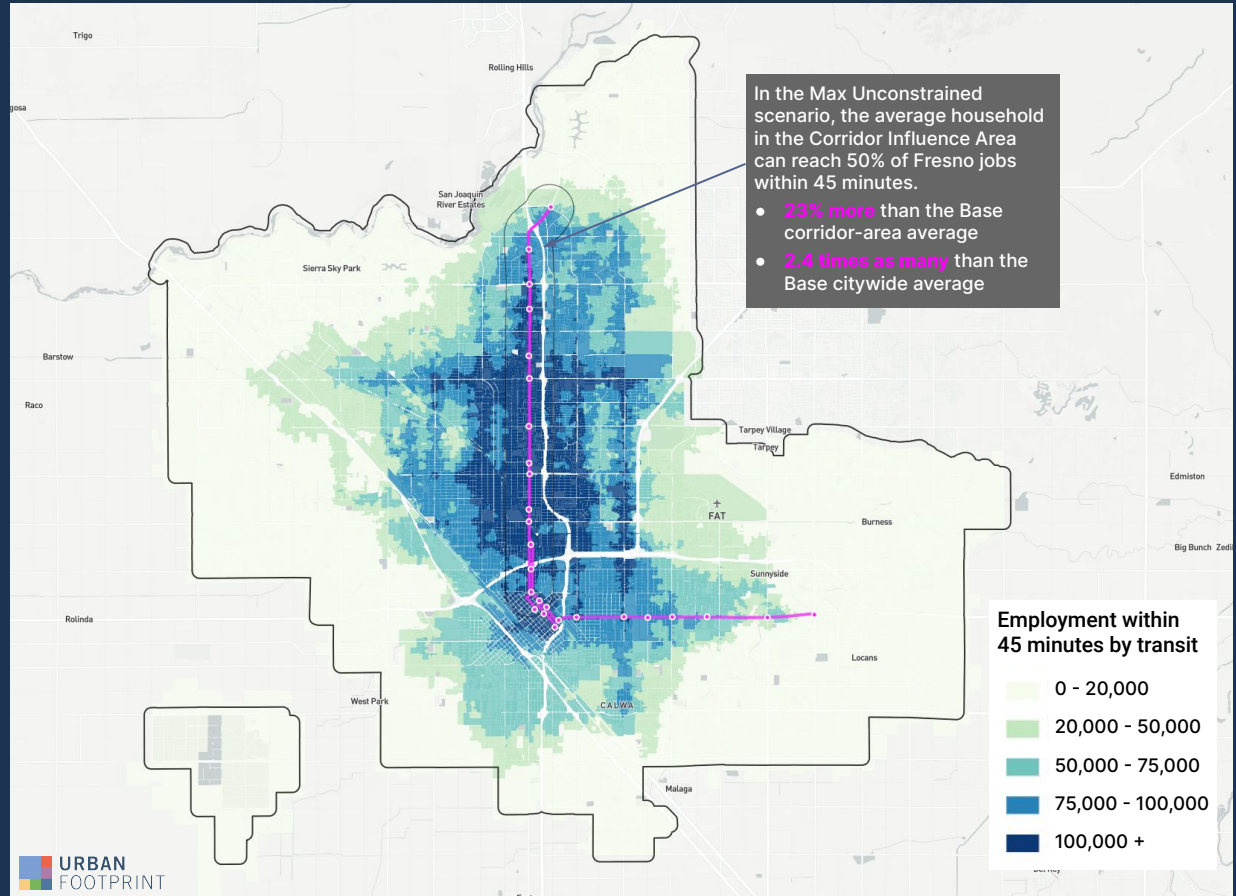


## Scenario Analysis

# Transit Access to Jobs Max Unconstrained Scenario

Dedicated transit service allows households on or near the corridor to access more jobs by transit than most places in Fresno – including new jobs in the Activity Centers. Households in proximity to transit on other corridors also have relatively high levels of access.

The average Max Unconstrained scenario household in the Corridor Influence Area can reach **50%** of Fresno jobs within 45 minutes.



## Scenario Analysis

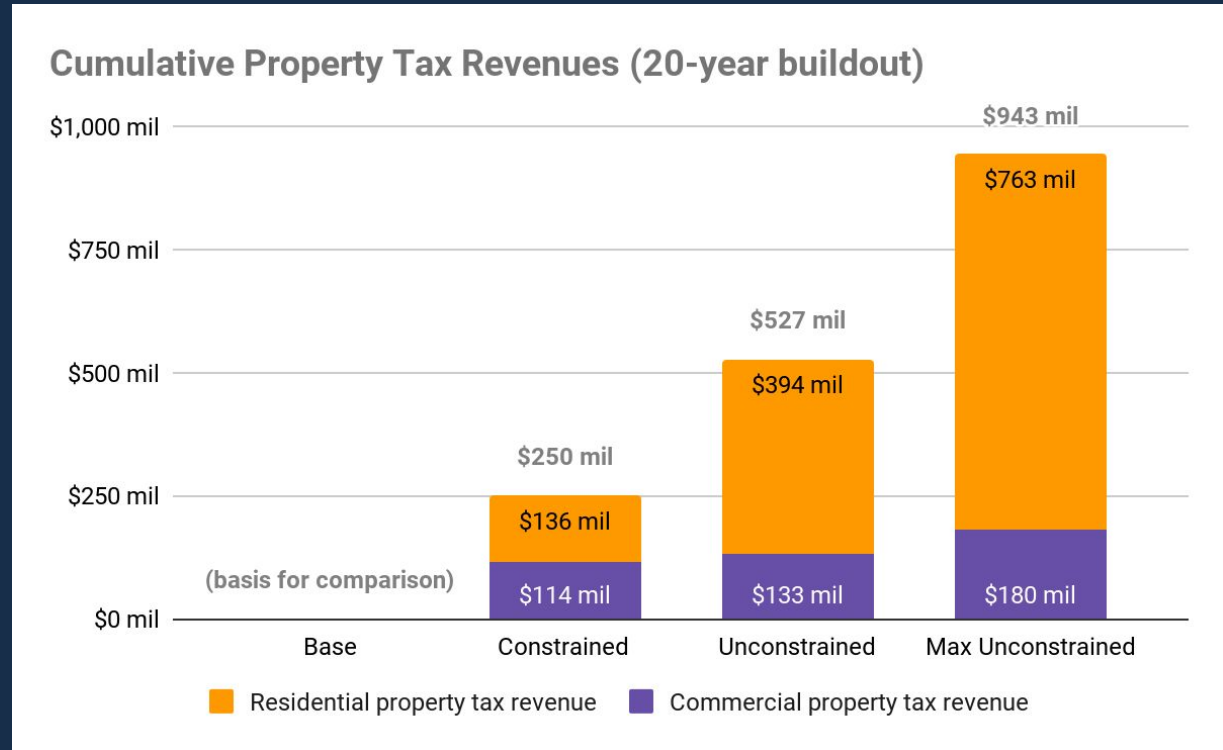
# Property Tax Revenues - Net Annual Growth

Property taxes from residential and commercial development in the Unconstrained scenario are estimated to bring in an additional **\$38 million** annually upon full buildout – **15 times** today's \$2.5 million, and \$25 million more than the Constrained scenario.



# Property Tax Revenues - Cumulative for New Development

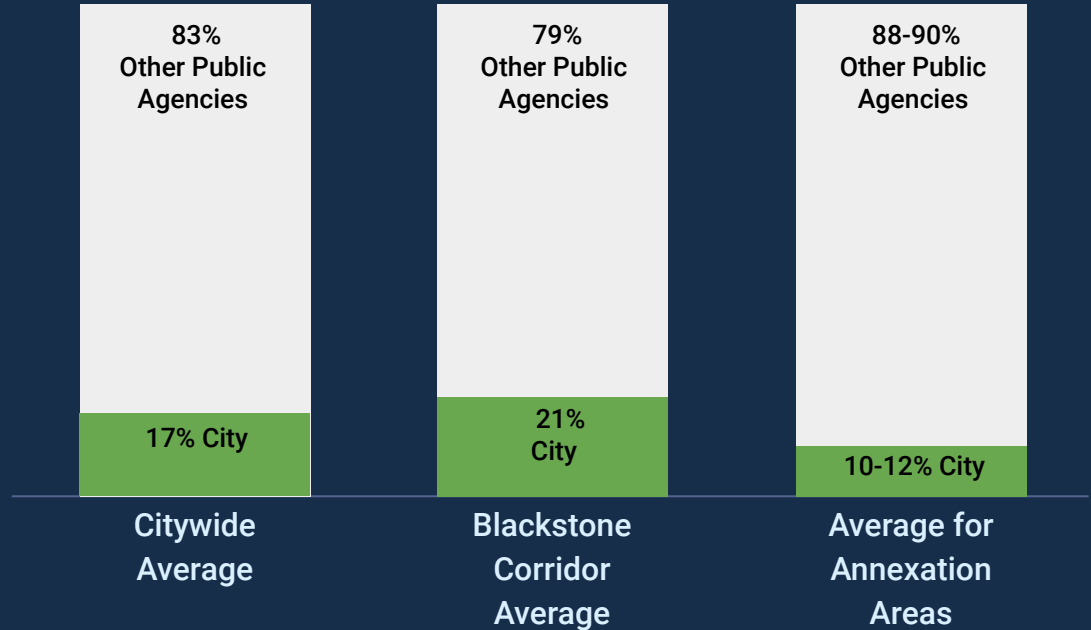
Property tax revenues from new BBDC development in the Unconstrained scenario are estimated to total **\$422 million** cumulatively over a 20-year buildout – \$262 million more than the Constrained scenario.



# Property Tax Revenues - City of Fresno Share

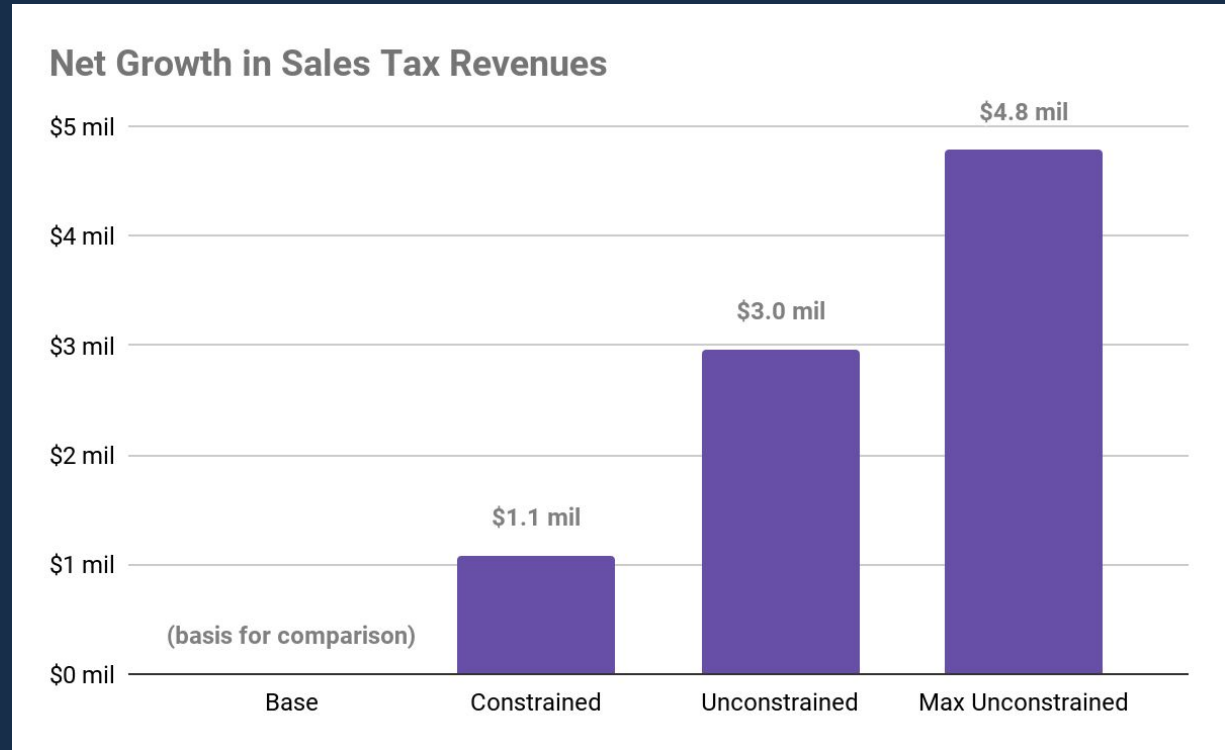
The City General Fund currently receives approximately **twice** the share of property tax revenues from new development on the Blackstone Corridor as compared to the average for development in annexation areas.

## Distribution of Property Tax Revenues to City and County, by Development Location



## Sales Tax Revenues - Net Annual Growth

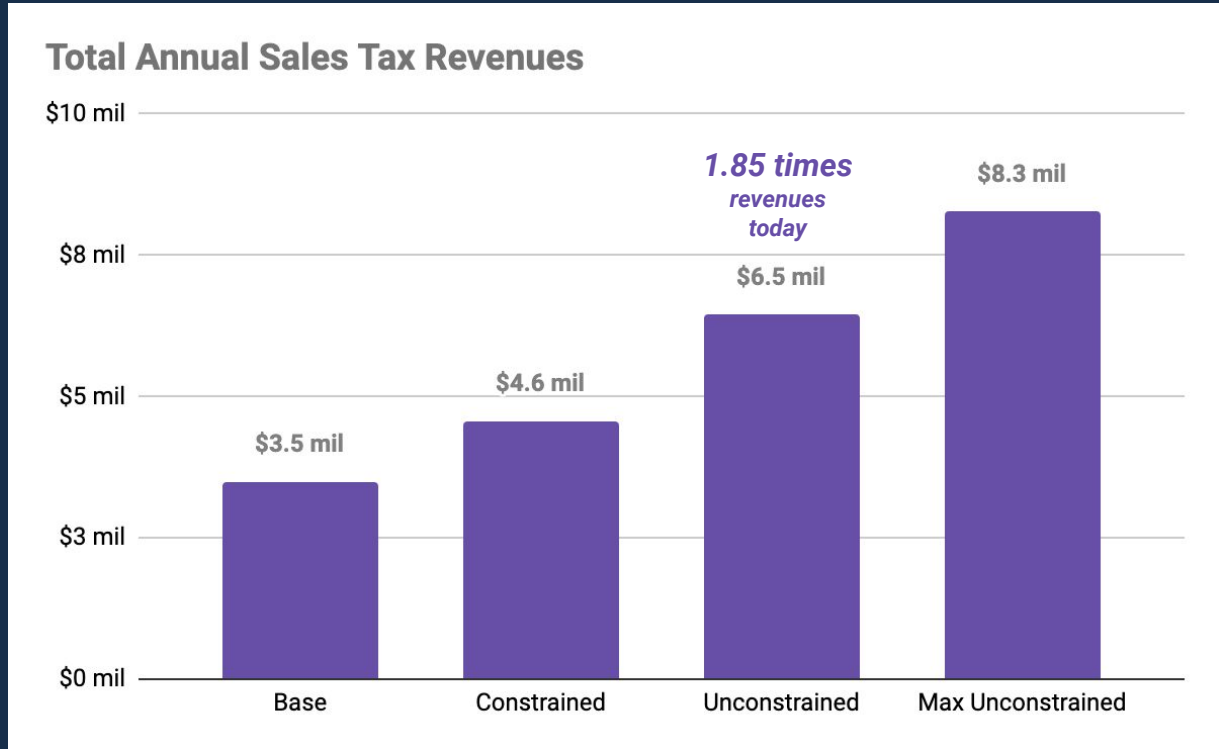
Sales taxes from new commercial development in the Unconstrained scenario are estimated to bring in an additional **\$3 million** annually upon full buildout – nearly **twice** today's \$3.5 million, and \$1.9 million more than the Constrained scenario.





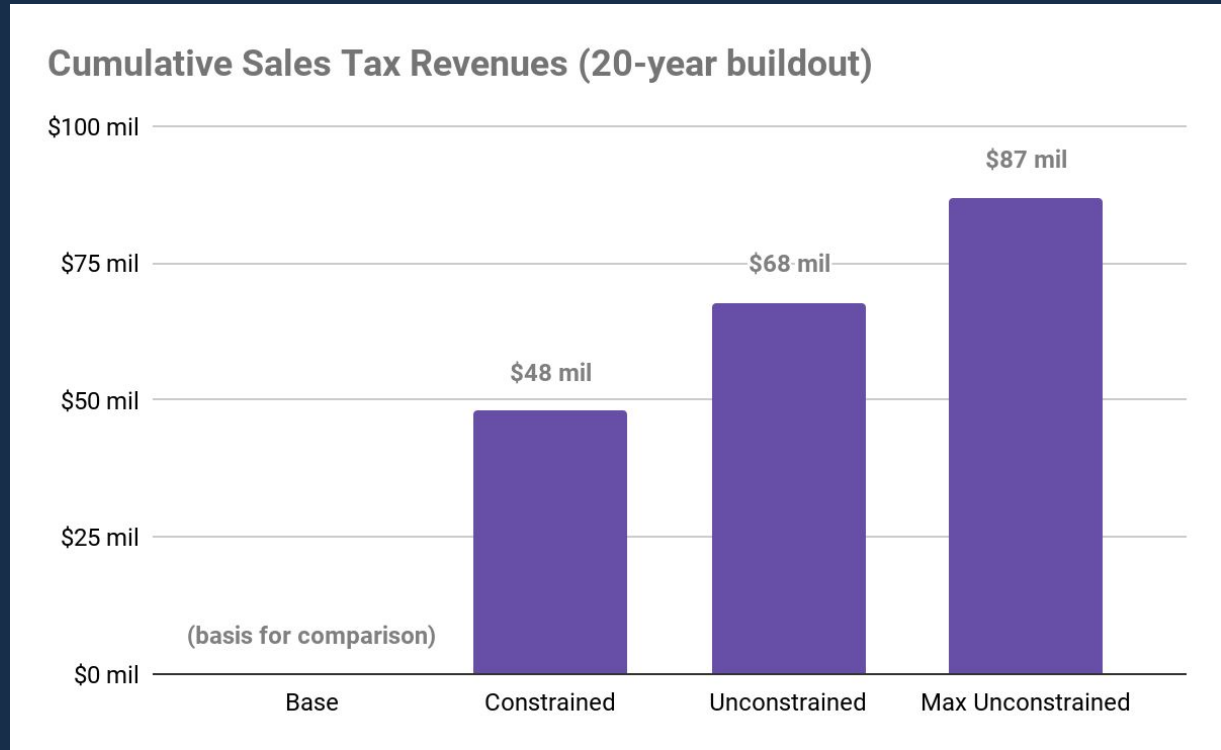
## Sales Tax Revenues - Net Annual Growth

Sales taxes from new commercial development in the Unconstrained scenario are estimated to bring in an additional **\$3 million** annually upon full buildout – nearly **twice** today's \$3.5 million, and \$1.9 million more than the Constrained scenario.



## Sales Tax Revenues - Cumulative for New Development

Sales tax revenues from new BBDC development in the Unconstrained scenario are estimated to total **\$68 million** cumulatively over a 20-year buildout – \$20 million more than the Constrained scenario.

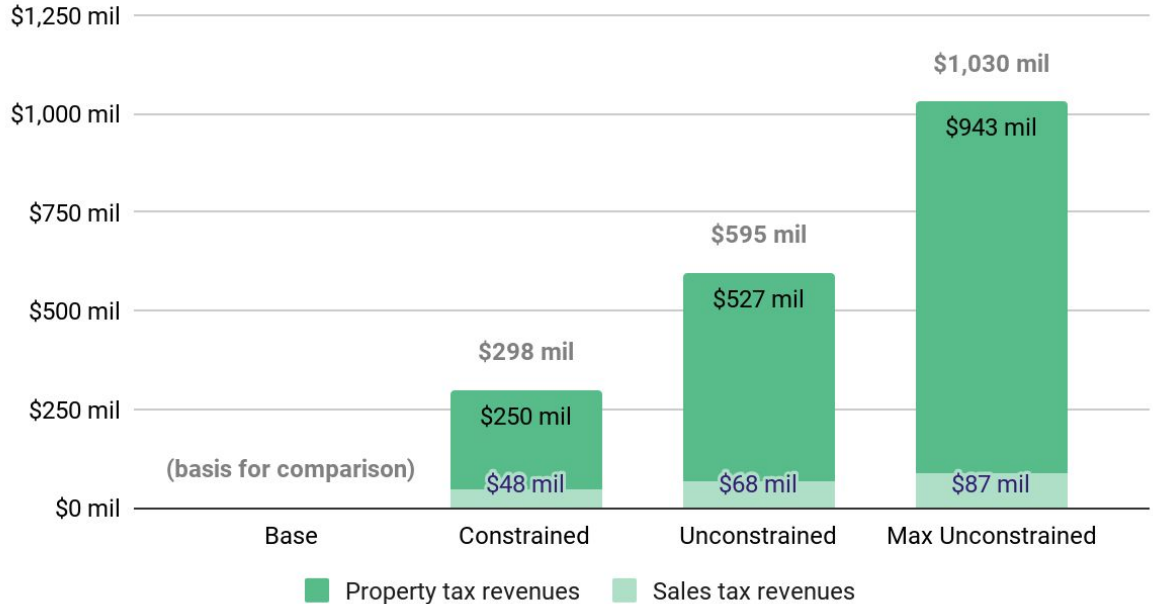


## Scenario Analysis

# Total Revenues - Cumulative for New Development

Property and sales tax revenues from new BBDC development in the Unconstrained scenario are estimated to total **\$489 million** cumulatively over a 20-year buildout – \$281 million more than the Constrained scenario.

### Cumulative Property and Sales Tax Revenues (20-year buildout)



## Scenario Analysis

# Analysis Assumptions

Category		Source
Fuel economy	26.6 mpg	California Emissions Factors Model (EMFAC2017) average for passenger vehicle classes (LDA, LDT1, LDT2, MDV), Fresno County, 2021
Fuel CO2e emission rate	19.22 lb/gal	California Emissions Factors Model (EMFAC2017) average for passenger vehicle classes (LDA, LDT1, LDT2, MDV) and all fuel types combined, Fresno County, 2021
Electricity CO2e emission rate	0.51 lb/MWh	Year-2020 estimated factor cited in the City of Fresno General Plan and Development Code Update Master Environmental Impact Report, <a href="#">Greenhouse Gas Emission Reduction and Modeling Results</a> .
Natural Gas CO2e emission rate	11.83 lb/therm	Static factor for natural gas emissions, assumes no biofuel component
Residential electricity price	\$0.22 \$/kWh	Energy Information Administration (EIA) average price for California
Residential natural gas price	\$1.76 \$/therm	Energy Information Administration (EIA) average price for California
Residential water price	\$16.00 \$/1000 gal	Price estimated from Circle of Blue average monthly water cost data for Fresno, 2018 ( <a href="https://www.circleofblue.org/waterpricing/">https://www.circleofblue.org/waterpricing/</a> )
Auto fuel	\$5.00 \$/gal	Current average price in Fresno, <a href="http://gasprices.aaa.com">gasprices.aaa.com</a>
Auto maintenance and ownership	\$0.52 \$/mile	<a href="#">AAA Your Driving Costs 2021</a> , assuming auto maintenance and ownership costs for vehicles traveling ~13,000 miles per year

*For more information about the scenario analysis assumptions and methodology, please refer to [...].*

## Scenario Analysis

# Fiscal Revenue Analysis Assumptions

All default fiscal revenue assumptions are derived from county assessor parcel data, 2019

### Property Tax Rates *(effective rates, including district assessments)*

Residential	1.246%
Commercial	1.258%

### Residential Property Values

Single family large lot (> 5,500 sf)	\$550,000 per DU
Single family small lot (< 5,500 sf)	\$500,000 per DU
Single family attached	\$500,000 per DU
Multifamily	\$450,000 per DU

### Commercial Property Values

Retail	\$400,000 per 1,000 ft <sup>2</sup>
Office	\$400,000 per 1,000 ft <sup>2</sup>
Industrial	\$150,000 per 1,000 ft <sup>2</sup>
Public	\$0 per 1,000 ft <sup>2</sup>
Warehouse & Wholesale	\$150,000 per 1,000 ft <sup>2</sup>
Other	\$200,000 per 1,000 ft <sup>2</sup>

### Sales Tax Rate

City of Fresno share <i>(1% base sales tax + 0.375% from Measure P)</i>	1.375%
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### Gross Revenues per sq ft

Retail, base average value from sales tax receipts data	\$189 per ft <sup>2</sup>
Retail, Constrained (base + 20%)	\$227 per ft <sup>2</sup>
Retail, Unconstrained (base + 40%)	\$265 per ft <sup>2</sup>

*For more information about the scenario analysis assumptions and methodology, please refer to [...].*

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## Thank you to our Funders



For more information about the Better Blackstone Design Challenge and/or the Blackstone Opportunity Corridor,  
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