

The Impact of Housing Costs on Commuting and Transportation Choices in San Mateo County 2012-2022

A Data-Driven Analysis of Housing Affordability, Commute Duration, and Transit Use

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Introduction

Rising housing costs are pushing residents further from job centers, affecting commute times and transit reliance.

This study explores the link between housing costs, rent burden, and commuting behavior using American Community Survey (ACS) data.

Research Questions:

1. How have rising housing costs influenced residents' reliance on public transit and commute times?
2. To what extent are lower-income households experiencing longer commute times?
3. Is there a measurable relationship between commute duration and rent burden?

Understanding the relationship between housing costs and commuting behavior can help inform transportation and urban planning policies.

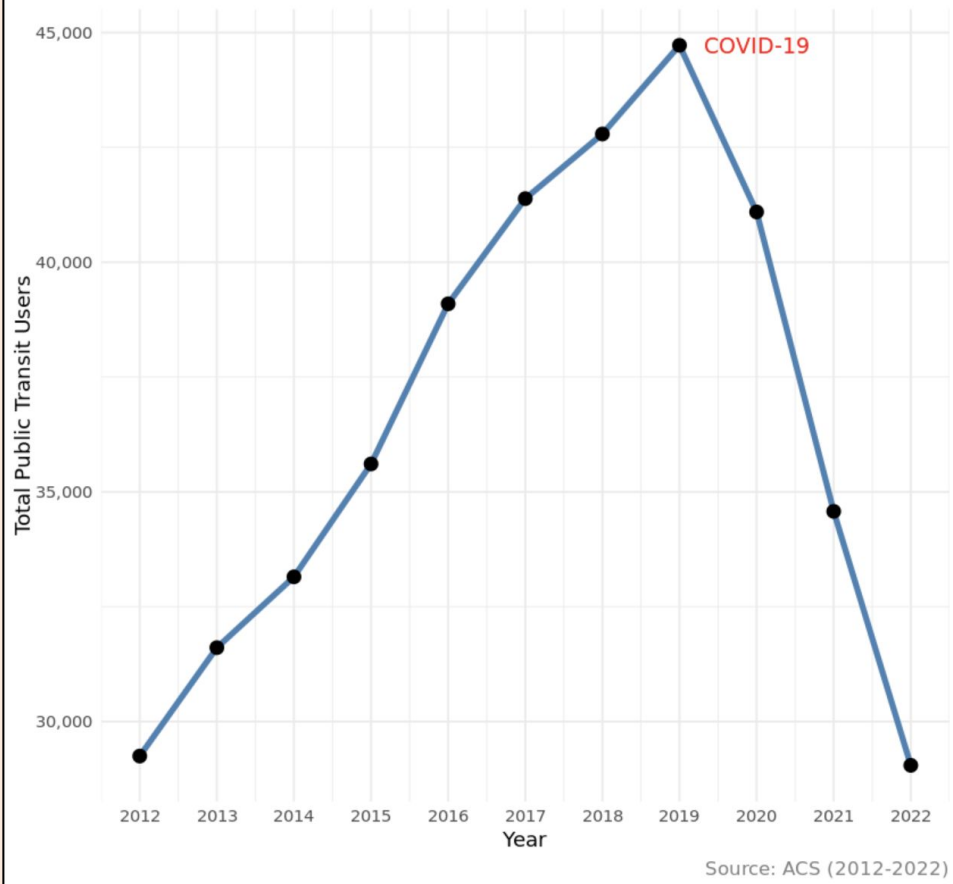


Public Transit Usage

- Steady increase (2012–2019): Public transit usage grew alongside rising housing costs, possibly due to affordability constraints pushing residents farther from job centers.
- Peak in 2019 (~45,000 users): Transit reliance reached its highest point before declining.
- Sharp decline post-2020: COVID-19 significantly reduced transit use, likely due to remote work adoption and mobility shifts.
- 2022 levels dropped below 2012: Transit use fell to its lowest point, suggesting lasting pandemic effects on commuting behavior.
- While transit reliance initially rose with housing costs, external factors like the pandemic disrupted this trend, emphasizing the complexity of commuting patterns.



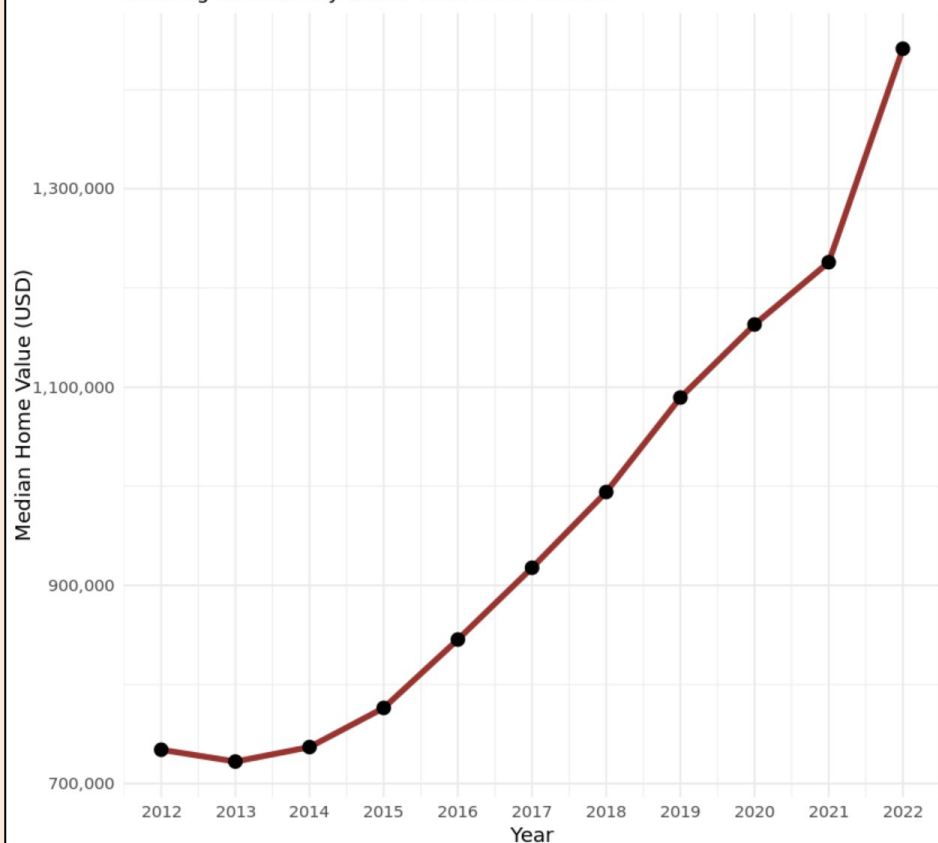
Public Transit Usage in San Mateo County Over Time
Does rising home cost impact transit reliance?



Median Home Value

- Significant increase in home values from ~\$700K in 2012 to over \$1.3M in 2022.
- Sharp acceleration in home prices after 2015, indicating rising demand and affordability challenges.
- Rapid growth post-2020, despite pandemic-related economic shifts, suggesting strong housing market resilience.
- Higher housing costs may push residents further from job centers, influencing commute times and transit reliance.

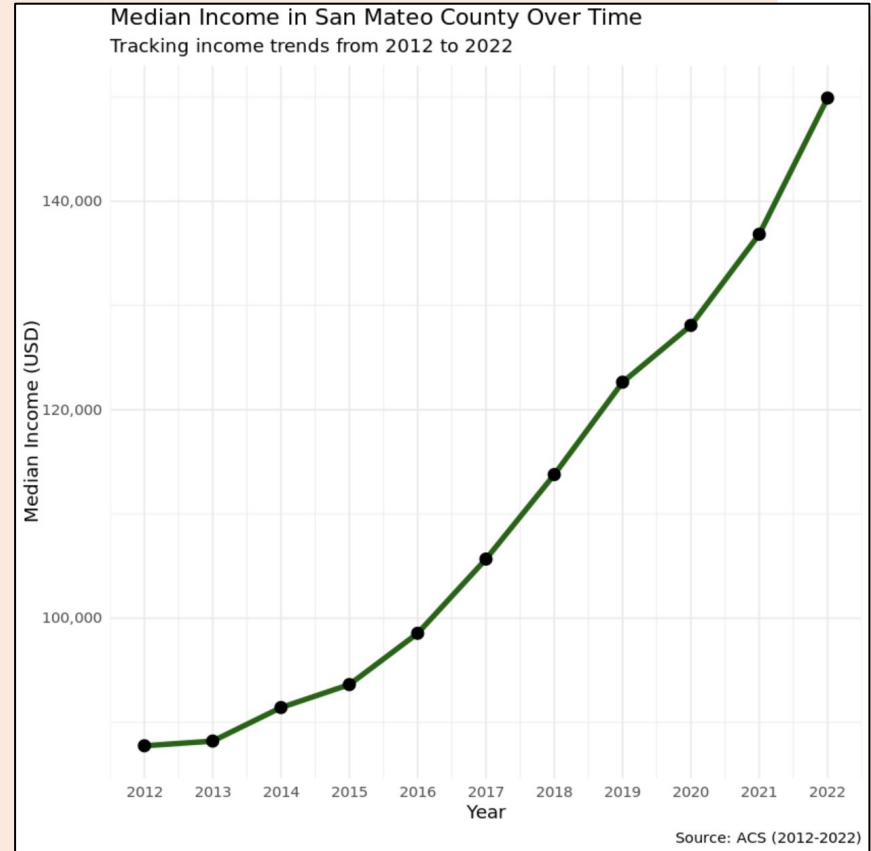
Median Home Value in San Mateo County Over Time
Housing affordability trends from 2012 to 2022



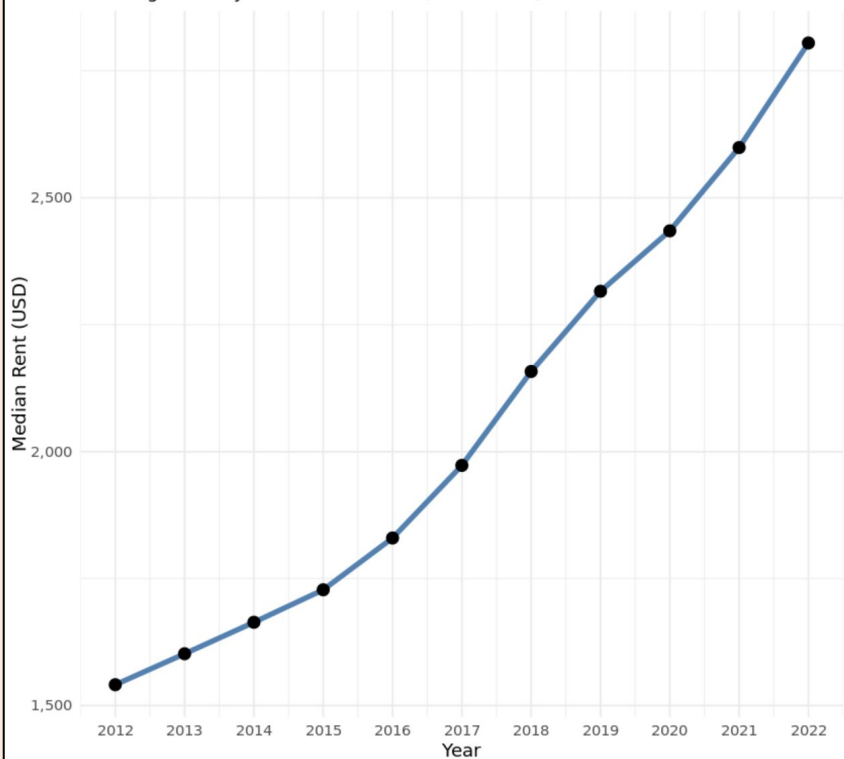
Source: ACS (2012-2022)

Median Income Trend

- Steady increase in median income, surpassing \$140,000 by 2022.
- Sharp acceleration post-2015, reflecting rising wages in high-cost areas.
- Income growth outpaced inflation, yet housing costs still created affordability challenges.
- Higher incomes may reduce commute burden, but displacement remains a concern.
- Rising incomes did not fully offset housing affordability issues, influencing commuting and relocation trends.



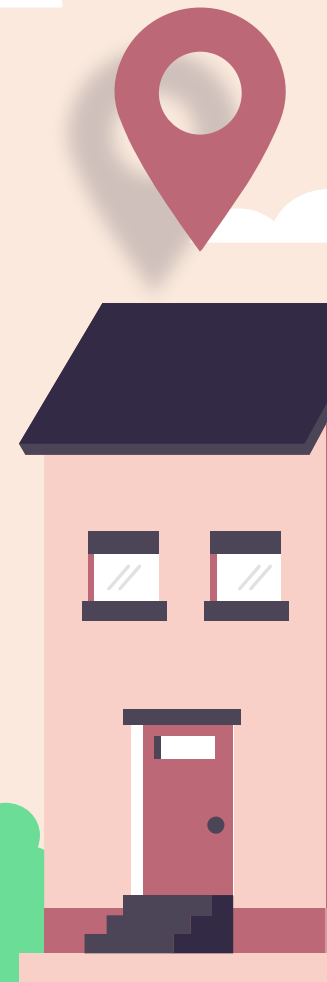
Median Rent in San Mateo County Over Time
Tracking a steady rise of rent trends (2012-2022)



Source: ACS (2012-2022)

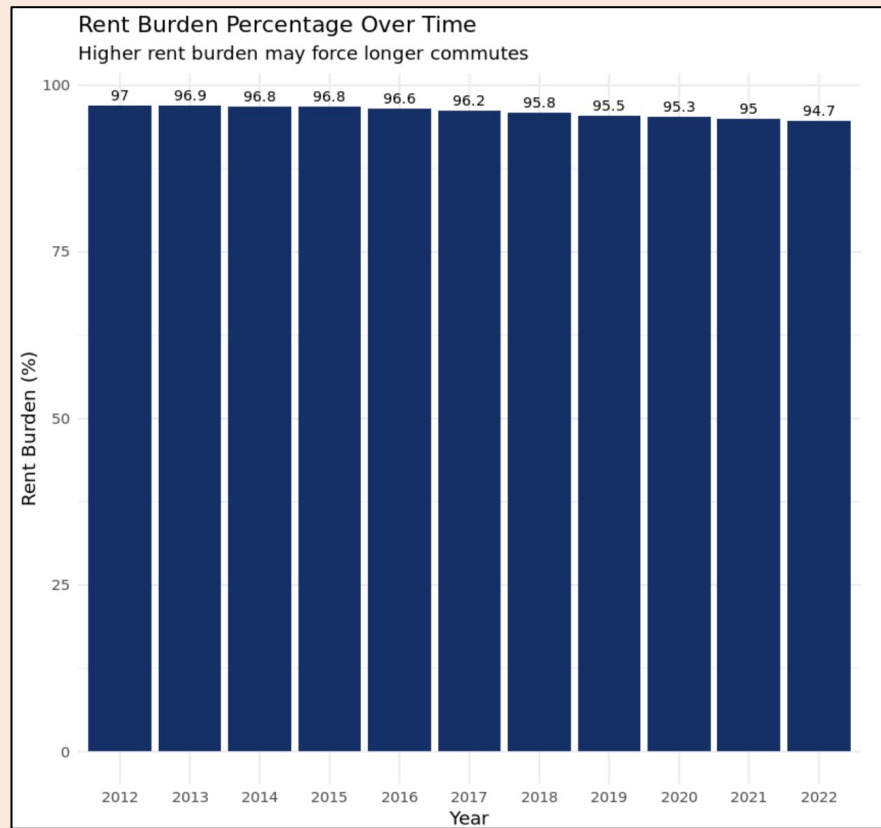
- Rent steadily increased from ~\$1,500 in 2012 to over \$2,700 in 2022.
- Sharp acceleration after 2016, indicating growing affordability pressures.
- Rent hikes outpaced income growth, increasing financial strain on lower-income households.
- Higher rents may push residents further from job centers, influencing commute times and transit reliance.
- Rising rental costs contribute to economic displacement, reinforcing the need for affordable housing policies.

Median Rent Trend



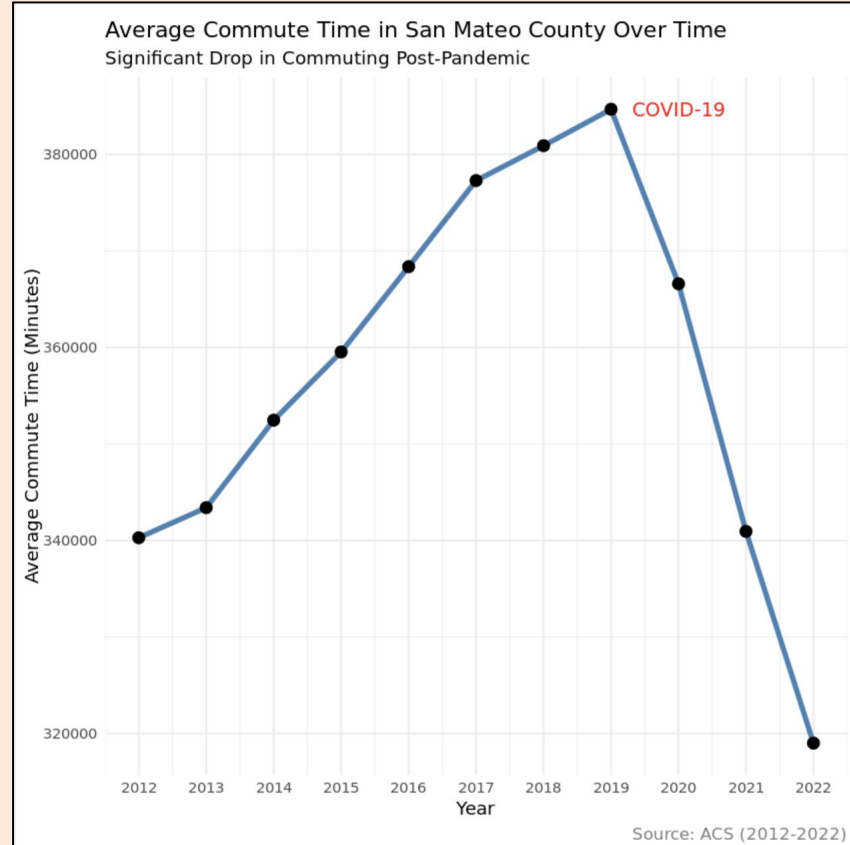
Rent Burden Trend

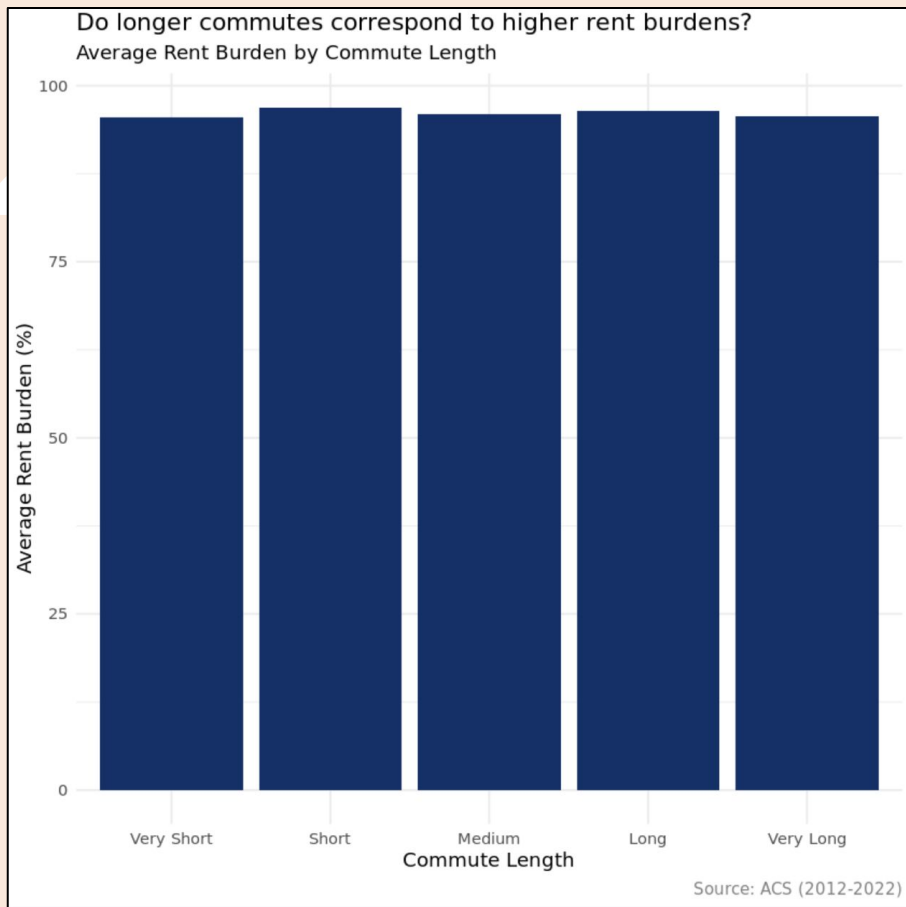
- High rent burden persists, with ~95-97% of households spending over 30% of income on rent.
- Slight decline after 2016, but burden remains extremely high.
- Even with rising incomes, rent affordability remains a major issue.
- High rent burden may force residents into longer commutes to find affordable housing.
- Persistent rent burden highlights the need for affordable housing solutions to reduce financial strain on households.



Commute Time

- Commute times steadily increased from 2012 to 2019, peaking just before the COVID-19 pandemic.
- Pandemic impact: Significant drop in commute times post-2020 due to remote work adoption.
- Sharpest decline from 2020 to 2022, reflecting lasting changes in commuting behavior.
- Pre-pandemic growth suggests affordability constraints pushed residents farther from job centers.
- The pandemic disrupted long-term commute trends, highlighting the need to reassess transportation planning and work flexibility.





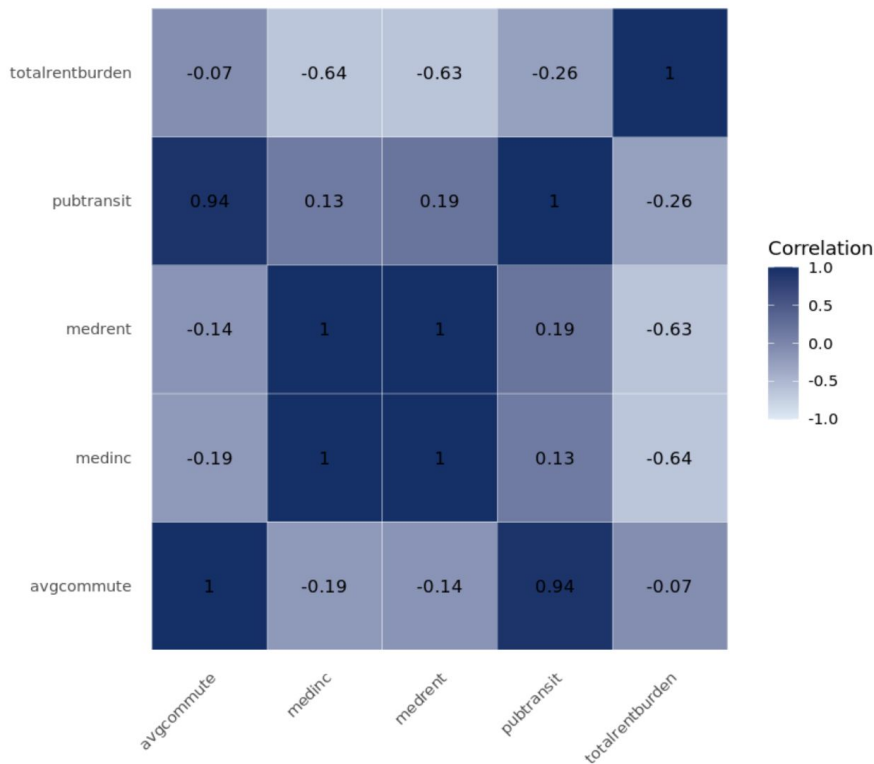
Commute + Rent Burden

Rent burden remains consistently high (~95-97%) across all commute lengths.

- No significant trend linking longer commutes to higher rent burdens.
- Suggests other factors (income, location, housing availability) influence rent burden more than commute time.
- Contradicts assumption that longer commutes mean higher financial strain on rent.
- Commute length does not strongly predict rent burden—housing costs and wages are more critical factors.

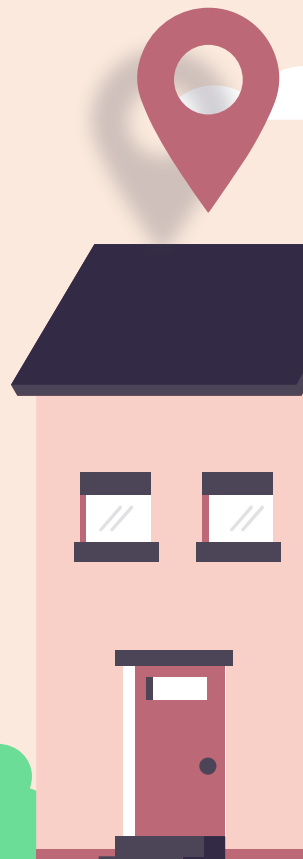


Correlation Heatmap of Housing & Commute Variables
San Mateo County | ACS (2012-2022)



- Strong correlation (+0.94) between public transit usage and average commute time.
- Weak correlation (-0.07) between commute time and total rent burden, suggesting no direct link.
- Median rent and median income are highly correlated (+1.00), reflecting rising costs alongside wages.
- Negative correlation (-0.64) between income and total rent burden, meaning higher-income households experience less financial strain.
- Commute time does not strongly predict rent burden, income and housing costs are the primary drivers.

Housing and Commute Heatmap



Conclusion

- Rising home values influenced public transit reliance until the pandemic disrupted commuting trends.
- Lower-income residents experience longer commutes, likely due to displacement to distant, affordable areas.
- Commute time does not directly predict rent burden, but income and rental costs do.
- A combined housing and transportation policy approach is essential for equitable urban planning.

