

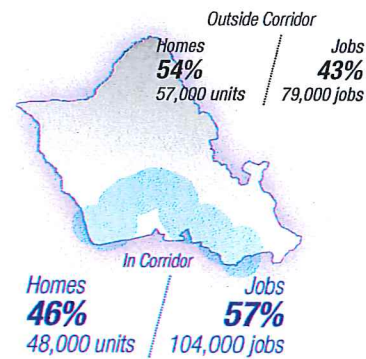
Honolulu TOD Study Scenarios Overview

Each of the scenarios represents a different way of accommodating projected housing and job growth on Oahu to approximately the year 2050. Each includes the same total number of people, homes, and jobs, but varies in where and how they are located on the island. The scenarios also vary in terms of the types of homes that will be built in the coming decades, and the extent to which their mix of housing types meet the demands of Oahu's current and future residents.

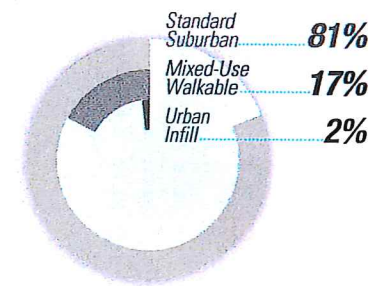
Business as Usual

This scenario extends the land development and transportation investment choices of the past decades forward to 2050. It accommodates about 46% of projected housing growth—about 48,000 homes—within the one-mile transit corridor area, but does not include the planned Honolulu Rail Transit line. Most new growth (81%) tends toward suburban, auto-oriented development, and more than 80% of growth occurs on previously undeveloped land, much of that outside of the rail corridor. The majority of new housing is single family detached; about 30% of new housing is multifamily.

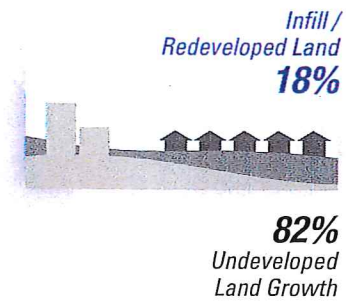
Percent of New Growth in Rail Corridor



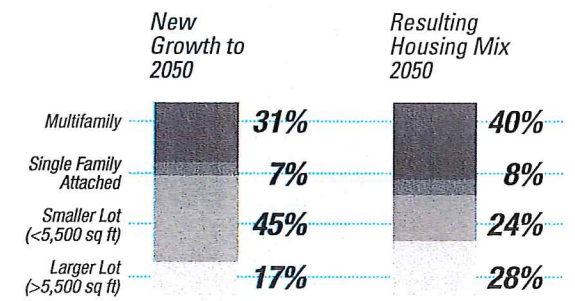
Land Development Category Proportions



Infill / Redeveloped Land vs. Undeveloped Land

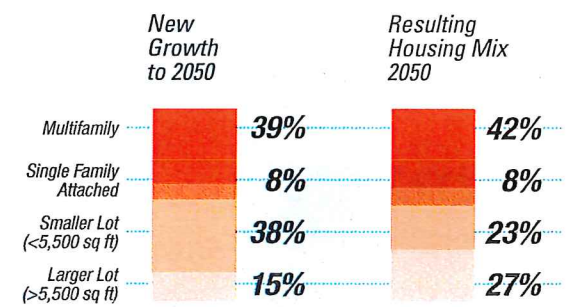
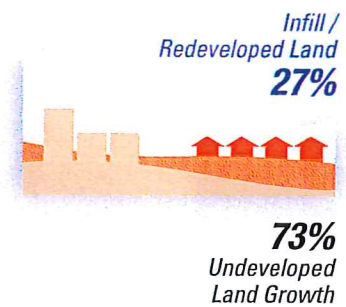
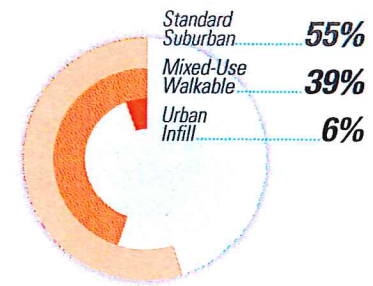
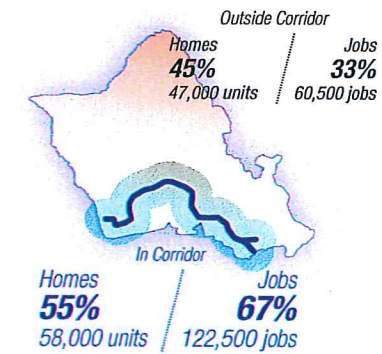


Housing Unit Mix



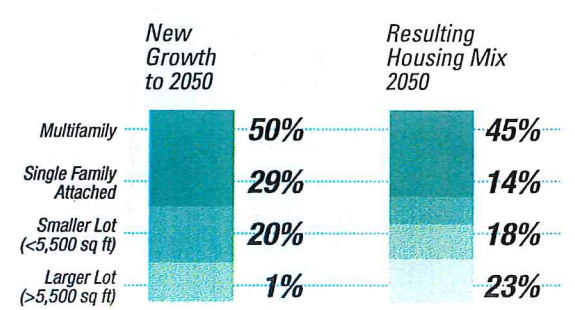
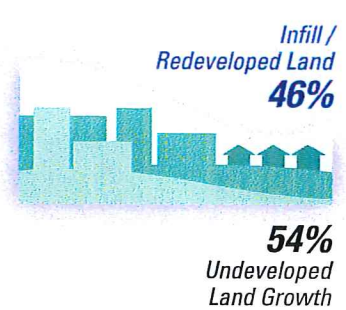
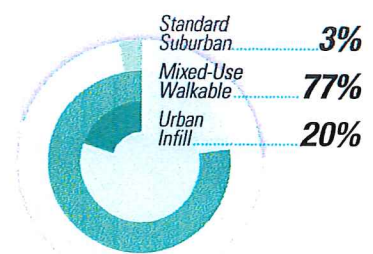
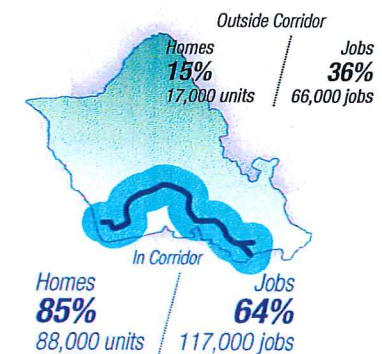
Forecast Future

This scenario represents the housing and job distribution forecast in official state and city/county projections. It is very close to the distribution used in the rail ridership forecasting for the federally required environmental impact statement. The Forecast Future sees about 55% of new growth occur on the corridor, accounting for about 58,000 new homes. While the majority of new growth occurs in auto-centric patterns and locations, there is somewhat more Mixed-Use Walkable and Urban Infill development in this scenario. Nearly 75% of growth occurs on undeveloped land, and most new housing remains single family detached in this scenario; there is more multifamily development than in Business as Usual.



Corridor Focus

This scenario takes greatest advantage of the planned rail investment, while also seeking to meet projected housing demand by type. It accommodates about 85% of new homes, about 88,000 units, along the rail corridor, with another 17,000 homes located outside of the corridor. Growth along the corridor is focused in compact, walkable communities that include a range of single and multi-family types, and more than 25% of growth occurs through urban infill and redevelopment. Only about 3% of growth occurs in suburban, auto-oriented patterns. Growth in this scenario is split equally between infill and undeveloped locations. The housing mix in this scenario aligns with projected housing demand by type of housing, with new housing construction focused on single-family attached and townhome products, multi-family housing, and smaller-lot single family homes.



Honolulu Transit Oriented Development Study Scenarios Results

Scenario Metrics Summary

The comparative scenario metrics summarized here are described in detail in the following sections. For clarity, values are rounded. All costs are expressed in 2011 dollars.

This scenario extends the land development and transportation investment choices of the past decades out to 2050.

Business as Usual

This scenario represents the housing and job distribution forecast in official state and city/county projections.

Forecast Future

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Corridor Focus



Land Consumption

Includes all previously undeveloped land that will be urbanized in a scenario.



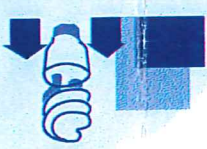
Vehicle Miles Traveled (VMT)

Miles driven in passenger vehicles on Oahu.



Highway and Arterial Roadway Costs

Capital and ongoing operations and maintenance costs of additional roadway capacity needed to accommodate VMT increases.



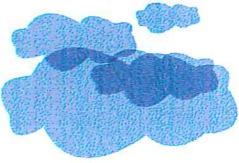
Building Energy Use

Energy (electricity and gas) consumed by new and existing residential and commercial buildings.



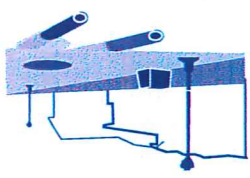
Water Consumption

Water used to serve and maintain new and existing homes.



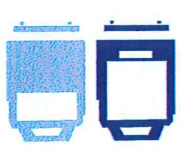
GHG Emissions

CO₂e emissions from passenger vehicles, and residential and commercial buildings.



Fiscal Impacts of Development

Capital and ongoing operations and maintenance costs for new local roads, sewer, water, and wastewater infrastructure.



Rail Transit Ridership

Daily transit boardings on the proposed Honolulu Rail Transit line.



Household Costs

Automobile transportation (fuel, insurance, maintenance) and home energy and water costs.

21.8 square miles (cumulative to 2050)

16.8 square miles (cumulative to 2050)

7.1 square miles (cumulative to 2050)

6.2 billion miles (annual in 2050)

5.8 billion miles (annual in 2050)

4.8 billion miles (annual in 2050)

12,720 miles / year (per new household, 2050)

10,650 miles / year (per new household, 2050)

5,350 miles / year (per new household, 2050)

\$ 10.2 billion (cumulative to 2050)

\$ 9.4 billion (cumulative to 2050)

\$ 0 billion (cumulative to 2050)

230 lane miles (to 2050)

155 lane miles (to 2050)

0 lane miles (to 2050) [No add'l miles because VMT is held close to current rates]

22.2 trillion Btu (annual in 2050)

21.7 trillion Btu (annual in 2050)

20.8 trillion Btu (annual in 2050)

5,800 kWh / year (per new household, 2050)

5,450 kWh / year (per new household, 2050)

4,950 kWh / year (per new household, 2050)

1,515 billion gallons (cumulative to 2050)

1,500 billion gallons (cumulative to 2050)

1,455 billion gallons (cumulative to 2050)

105,700 gallons / year (per new household, 2050)

101,850 gallons / year (per new household, 2050)

84,200 gallons / year (per new household, 2050)

4.58 MMT / year (annual in 2050)

4.39 MMT / year (annual in 2050)

4.03 MMT / year (annual in 2050)

1.65 2.93 Buildings

1.53 2.86 Buildings

1.28 2.75 Buildings

\$ 8.6 billion (cumulative to 2050)

\$ 8.0 billion (cumulative to 2050)

\$ 7.1 billion (cumulative to 2050)

\$ 81,900 (per new household, 2050)

\$ 76,300 (per new household, 2050)

\$ 68,000 (per new household, 2050)

\$ 16,950 (per new household, 2050)

\$ 14,750 (per new household, 2050)

\$ 9,300 (per new household, 2050)

Phase I Extensions (does not include rail)

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