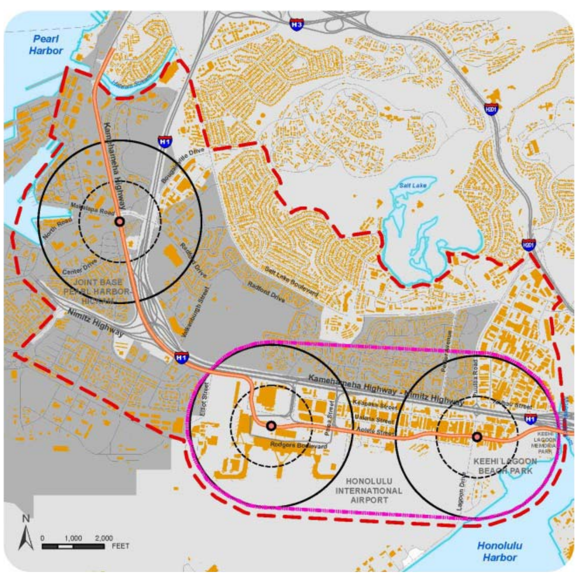
# APPENDIX – ECONOMIC AND MARKET ANALYSIS

## 1.1 INTRODUCTION

The purpose of this analysis is to establish an economic outlook for the Pearl Harbor, Honolulu Airport, and Lagoon Drive station areas, in order to identify potential long range TOD opportunities. The analysis reviews planning forecasts and prevailing real estate conditions for the region and the Trade Area (see Figure 1) to arrive at demand projections for housing, commercial, and accommodation uses for the Planning Area by year 2035 (20 years). For purposes of this analysis, "Station Areas" are defined as the area within a half mile of one of the stations. "The Planning Area" is referred to in this analysis as the sum of the three Station Areas. As shown in Figure 1, the "Trade Area" (also referred to as the "Region of Influence") represents the larger Region of Influence as described in Section 1.3 the Existing Conditions Report. It is shown in Figure 1 as the area within the dashed red line.

**Figure 1: Trade Area, Planning Area and Station Areas**




*Source:* City and County of Honolulu, AECOM- 2014

The analysis proposes development program recommendations for the three Station Areas based on a comparison of their development potential. The analysis closes with preliminary recommendations for the types of users that could occupy new commercial development within the Station Areas.

## 1.2 REGIONAL AND STATION AREA PLANNING FORECASTS

As part of the process for estimating residential and commercial demand within the Planning Area, the project team considered regional employment and population forecasts prepared as part of the Oahu Regional Transportation Plan (ORTP) – 2035. Finalized in 2011, the ORTP projects growth regionally and within specified transportation analysis areas (TAAs) from 2007 to 2035 (Table 1). It is projected that Oahu will gain nearly 100,000 households during the study period, reflecting an average annual growth rate of less than 1% per year. The three TAAs partially contained by the Trade Area (Iwilei-Mapunapuna-Airport, Hickman-Pearl Harbor, Moanalua-Halawa) are forecast to grow at a slower rate than the region overall. Of these TAAs, Iwilei-Mapunapuna-Airport is projected to experience the highest growth in households, with an annual growth rate of 0.74%, which is still behind the region overall. Employment within the Trade Area is expected to grow at an even slower pace, with growth rates for the TAAs all assumed to be below 0.25% per year. This is likely a reflection of the lack of available undeveloped land rather than potential demand. It is possible that given available zoned capacity for additional housing combined with construction of enhanced transit service, the Trade Area could grow at the same pace as Oahu overall (i.e. 1% per year).

In this scenario, housing demand would be considerably higher than those estimated by ORTP. As such, this market analysis considers both scenarios to understand the consequence of station area planning that may further intensify uses around the airport stations.

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**Table 1: Growth Projections for Trade Area and Oahu Overall (2007-2035)**

| | 2007 | 2035 | CAGR (1) |
|---|---|---|---|
| *Population* | | | |
| Iwilei-Mapunapuna-Airport | 16,300 | 19,800 | 0.70% |
| Hickam-Pearl Harbor | 18,500 | 18,600 | 0.02% |
| Moanalua-Halawa | 54,000 | 54,400 | 0.03% |
| Trade Area Subtotal | 88,800 | 92,800 | 0.16% |
| Oahu Total | 905,600 | 1,113,600 | 0.74% |
| *Households* | | | |
| Iwilei-Mapunapuna-Airport | 4,800 | 5,900 | 0.74% |
| Hickam-Pearl Harbor | 5,500 | 5,700 | 0.13% |
| Moanalua-Halawa | 17,600 | 18,300 | 0.14% |
| Trade Area Subtotal | 27,900 | 29,900 | 0.25% |
| **Oahu Total** | **311,000** | **405,900** | **0.96%** |
| *Employment* | | | |
| Iwilei-Mapunapuna-Airport | 76,900 | 81,700 | 0.22% |
| Hickam-Pearl Harbor | 26,800 | 27,700 | 0.12% |
| Moanalua-Halawa | 16,500 | 17,700 | 0.25% |
| Trade Area Subtotal | 120,200 | 127,100 | 0.20% |
| **Oahu Total** | **556,900** | **693,300** | **0.79%** |
| *Visitor Units (Hotel/Vacation Units)* | | | |
| Iwilei-Mapunapuna-Airport | 660 | 1,030 | 1.6% |
| Hickam-Pearl Harbor | n/a | n/a | n/a |
| Moanalua-Halawa | n/a | n/a | n/a |
| Trade Area Subtotal | 660 | 1,030 | 1.6% |
| **Oahu Total** | **33,770** | **39,620** | **.4%** |

*Source*: ORTP 2011
*Note:* [1] Compound Annual Growth Rate

Notwithstanding the potential change in allowed development, the Trade Area's existing industrial uses show strong market fundamentals that require substantial shifts in the real estate market to justify their redevelopment.

The Honolulu TOD Scenario Study Results Report (2013) forecasts slower household and employment growth at the regional scale than the ORTP projections summarized in Table 1 but uses a longer study period, through 2050 (Table 2). Forecasts by TAAs were not provided. Long-term projections are typically more conservative and are generally less reliable than mid-term projections since they introduce greater uncertainty regarding major shifts in market dynamics.

**Table 2: Oahu Growth Estimates (2010-2050)**

| | 2010 | 2050 | CAGR[1] |
|---|---|---|---|
| Population | 955,790 | 1,145,450 | 0.5% |
| Jobs | 561,680 | 744,430 | 0.7% |
| Housing Units | 340,910 | 445,450 | 0.7% |
| Multifamily | 146,100 | 196,850 | 0.7% |
| Single Family | 194,810 | 248,600 | 0.6% |

*Source*: Honolulu TOD Scenarios Study Results Report 2013
*Note:* [1] Compound Annual Growth Rate

## 1.3 PREVAILING REAL ESTATE CONDITIONS

Prevailing real estate conditions help frame the development potential within the Trade Area.

**Residential** home and condominium prices in the Trade Area have not kept pace with the region overall (Table 3). Asking rent and home sale prices both remain below regional averages. Multifamily rental housing makes up the bulk of the supply within the Planning Area. Despite lower rents than the region, the area has low vacancy rates and is poised to experience rent escalation due to the lack of available new supply. In Honolulu's overall apartment market in the fourth quarter of 2013 (i.e. multifamily rental housing market), apartments were at approximately 4%

vacancy with a year over year growth of approximately 6%. According to Colliers International, the 6% rent growth ranked 10th among 105 U.S. Metropolitan Areas (Colliers International 2014).

**Table 3: Prevailing Residential Real Estate Conditions in Trade Area Compared to Region**

| | Trade Area | Oahu |
|---|---|---|
| Residential Sales Conditions | | |
| Single-Family | $613,000 | $700,000 |
| % change over prior 12 month period | -3.1% | 3.2% |
| Condominium | $307,000 | $360,000 |
| % change over prior 12 month period | 4.6% | 9.6% |
| Rental Conditions | | |
| 1 BR asking rent | $1,820 | $2,030 |
| Rental Households As Share of Total Households | 61% (planning area) | 42% |

*Source:* Colliers International 2014, Claritas 2014, Honolulu Board of Realtors 2014.
*Note:* Trade Area data includes broader Salt Lake/Moanalua area. Asking prices reflect 2014 averages through the second quarter of the year.

**Industrial real estate** market conditions are tight in the Trade Area, reflective of low vacancy rates across the region (Table 4). Industrial flex space is the predominant product type in the Trade Area. The sound fundamentals of industrial real estate, with land prices ranging from $90 to $125 per square foot and vacancy rates below 3%, pose significant constraints to industrial conversion. From 2003 to 2014, industrial annual average vacancy rates have never exceeded 2%, which was only realized in 2009 during the peak of the recession. In other words, industrial real estate market conditions have been relatively resilient to economic fluctuations. Colliers International projects increasing lease terms for industrial properties within the study area due to the limited inventory of industrial space and limited availability of additional industrial land to accommodate the growing demand for industrial warehouse space. Based on a basic static Pro Forma Analysis, apartment rents would need to exceed $3.40 per square foot or $2,500 for a 1 bedroom—a nearly 40% increase over current asking rents—to make redevelopment of industrial feasible. Similarly, condominium prices would also need to rise roughly 30% to over $500 per square foot in order to incentivize redevelopment.

The **Airport office market** (including the Trade Area) is one of the smaller submarkets in Oahu, comprised of roughly 700,000 square feet of office buildings, with roughly 250,000 square feet of office space within a half mile from one of the three Station Areas. Department of Defense and other government contractors are the major occupiers of existing space. While vacancy rates are on par with Honolulu overall, asking lease rates for office are roughly half of Honolulu's average, and are well below levels that would justify significant speculative construction.

The **retail offering** within the Trade Area shows healthy lease rates (roughly $40 per square foot/triple net per year) and virtually zero vacancy. Much of the existing retail supply is concentrated in car-oriented commercial strip malls and shopping centers, rather than in mixed use, transit-oriented settings. As a result, new retail development along the Station Areas is anticipated to be constructed in a very different format than surrounding retail buildings with more focus placed on impulse, restaurant, and neighborhood-serving goods.

**Table 4: Prevailing Office, Retail and Industrial Real Estate Conditions in Trade Area Compared to Region**

| | Lease rates | Vacancy rates | Inventory |
|---|---|---|---|
| *Office* | | | |
| Planning Area | $15.42 | 6% | 248,700 sf |
| Honolulu Overall | $30.88 | 6% | 24,133,100 sf |
| *Retail* | | | |
| Planning Area | n/a | 0% | 816,600 sf |
| Honolulu Overall | $39.84 | 2% | 23,064,200 sf |
| *Industrial* | | | |
| Planning Area | $13.54 | 3% | 4,760,700 sf |
| Honolulu Overall | $13.49 | 2% | 22,967,500 sf |

sf= square feet
*Source:* Costar 2014.
*Note:* Retail lease terms are expressed as triple-net (NNN), office is expressed as gross rent, industrial is mixed. Inventory figures rounded

## 1.4 MARKET DEMAND ASSESSMENT

### *Overview of Findings*

In consideration of projected employment and population growth in the Trade Area and prevailing real estate conditions, we forecast that by 2035, approximately 830 net new housing units, 58,000 net new square feet of retail, 51,000 net new square feet of office, and 150 net new hotel rooms within the Planning Area will be required to satisfy local demand (Table 5).

Assuming the higher annual growth rate of 11% per year, Planning Area demand would increase to approximately 1,230 housing units, approximately 64,000 square feet in retail demand, and approximately 90,000 square feet in office demand, assuming a single large employer locates within one of the Station Areas.

**Table 5: Market Demand Projections for Residential, Commercial and Accommodation Uses in Planning Area under Low and High Growth Scenarios (2013 – 2035)**

| | Net New – 2035 (Low) | Net New – 2035 (High) |
|---|---|---|
| Multifamily Housing | 830 units | 1,230 units |
| Rental (mostly military housing) | 600 units | 730 units |
| For Sale (condominium) | 230 units | 470 units |
| Retail Space | 58,000 sf | 64,000 units |
| Office Space | 51,000 sf | 90,000 sf |
| Hotel | 150 rooms | 250 rooms |

sf= square feet
*Source:* Colliers International and AECOM 2014.
*Note:* Totals may not sum due to rounding.

### *Analysis*

Projections of new development are based on unique demand drivers for each land use. Retail development is driven by the spending potential of transit riders, residents, workers, and visitors. Office development is driven by growth in office employment. Residential development will respond to household growth near the Planning Area. Finally, hotel development will respond to growth in tourist and business visitors. The process for projecting market demand and corresponding supply for each land use is summarized below.

*Retail*

Growth in the resident and workforce population within a half mile of the three Station Areas is estimated utilizing ORTP transit area forecasts customized to the Planning Area. Projected retail demand by 2035 is then estimated according to consumer expenditure data for households and workers. In addition to measuring resident and worker expenditures, the final estimate of retail demand also considers growth in rail passengers and airport travelers (also based on ORTP forecasts), who will generate additional retail spending in the Planning Area. The implied need for retail space is derived according to typical sales per square foot ratios for inline shopping center spaces on Oahu. Finally, net needed retail supply is derived by subtracting the projected need from the current retail supply to arrive at nearly 60,000 square feet of net new retail development in the Planning Area over the next 20 years.

Housing development will inform the future share of retail demand. If the Station Areas are able to grow by 1% per year, then another 5,200 square feet of neighborhood-serving retail demand will be required. Spending by rail passengers is expected to drive most of the need for retail space within a half mile of the Station Areas (Table 6). As such, the nature of the retail demand will be smaller impulse and neighborhood serving items, such as coffee, bakery, restaurant, dry cleaning, drug store, small grocery, and other items that can be readily purchased on the way from or to the passenger's final destination. Retail types not amenable to the transit customers are home repair and houseware goods, large general merchandise stores, big box electronic stores, and auto retail.

**Table 6: Net New Retail Need by Source of Demand**

| Demand Segment | Net New Retail Demand (Square Feet) |
|---|---|
| Rail Passenger Estimated Demand | 40,500 |
| Resident Demand (conservative – aggressive) | 3,600-8,800 |
| Air Passenger Arrival Demand (2035) | 4,100 |
| Employee Demand (2035) | 10,200 |
| **Total Retail Demand** | **58,000 - 64,000** |

*Source*: Colliers International and AECOM 2014.
*Note:* Totals rounded to the nearest thousand.

*Office*

Net new demand for office space is based on projected growth in office employment for the Planning Area. Baseline office employment is estimated in relation to countywide office employment, as reported by the State of Hawaii Department of Business, Economic Development and Tourism. It is assumed that the Planning Area's share of countywide office employment is equivalent to its share of occupied office inventory, which implies 4,400 office jobs in the Planning Area. Office employment is projected to increase at an average annual growth rate of 0.35%, which is slightly above the ORTP's forecasts for total employment growth within the Trade Area. The corresponding need for office space is calculated as 140 square feet per office worker to arrive at the estimate of 51,000 square feet of net new office space. While this density ratio could be considered conservative by historical standards, it reflects current ratios in the Oahu market as well as the overall trend toward reduced office space requirements.

This demand does not account for the *potential* for a single office user that might consider proximity to the Honolulu Airport an important location amenity. In a review of major employers within the Planning Area, there are approximately four businesses that employ over 150 people. There is the possibility that another major employer in Honolulu may choose to locate their commercial offices at either the Airport or Lagoon Stations. As such, it is recommended the TOD plan accommodate the capacity for a single user office building of up to 40,000 square feet. This would allow a single office user with approximately 200-250 employees to relocate their offices within the two Station Areas.

*Residential*

Net new demand for residential units in the Planning Area is based on household growth and trends in household income composition, as well as existing lease/sale preferences. As illustrated above, by 2035, ORTP forecasts the addition of 2,000 households to the three TAAs that are partially contained by the Trade Area. Approximately half of this growth is assigned to the Planning Area based on its approximate share of the existing housing stock in the three TAAs, resulting in an estimate of approximately 1,000 new households to the Planning Area. Based on current demographic patterns in household income and homeownership, it is assumed that approximately 800, or 80%, of households will demand multifamily rental or condominium units. New single family homes are not considered further in this analysis since low-density housing does not conform to the City's TOD principles.

By applying the ORTP regional Oahu forecast of 1.1% growth per year to the Trade Area, housing demand jumps considerably to approximately 3,000 new housing units, of which 1,500 could be accommodated within the three Station Areas. Apportioning the demand from rental and condominium, based on Honolulu area income distribution, would provide a total demand estimate of approximately 730 condominiums and 470 rental housing units. These demand estimates assume available zoned capacity and associated infrastructure needs are available to accommodate the regional housing demand. As stated earlier, industrial real estate market conditions are strong, and conversion to residential will require significant shifts in underlying real estate conditions to justify redevelopment.

Considering the prevailing rents for residential development, it is anticipated that new residential product in the Planning Area is most likely to take the form of mid-rise residential (i.e., 4 to 6 stories with interior structured parking that is not part of the residential structure).[1] Sites with sufficient depth and width (i.e., normally corner parcels with over 60 feet of frontage and 120 feet of depth) will present the best near-term opportunity considering the need to limit complex and more expensive parking configurations. Also, it is recommended that one parking space per unit would be sufficient given the proximity to the transit stations.

*Hotel*

According to ORTP forecasts, Oahu is projected to add approximately 5,900 visitor units (including hotel rooms and vacation rentals) by 2035 to accommodate growth in visitor stays. Waikiki's hotel market in 2014 demonstrated strong market conditions with an overall occupancy of approximately 88% compared to 80% occupancy for all other areas in Oahu. Revenue per room has increased from approximately $177 to $187 since 2013. Hawaii's overall hotel market is relatively strong as of June 2014, ranking second among the top 25 U.S. hotel markets in averaged daily rate and revenue per room (Hospitality Advisors 2014). Current occupancy rates in Oahu, above 85%, indicate an undersupply of hotel rooms. The Planning Area is projected to support demand for an additional 370 visitor units, according to the same ORTP forecast. With the potential project under consideration for a 250-room Courtyard by Marriott close to the Honolulu Airport, the net hotel demand would be reduced to 120 rooms based on the ORTP forecast. However, due to the undersupply in the wider market, the project team considers it fair to assume that the Planning Area can support an additional 150 to 250 rooms for business or leisure travel over the long term, which is generally a single mid-sized hotel or two smaller hotels.

[1] In explanation, the 4 to 6 story format with separated parking allows for lower cost wood over concrete podium construction and is therefore more feasible at lower rent levels. Residential towers require more expensive construction and thus need higher rents to justify development.

## 1.5 STATION AREA DEVELOPMENT PROGRAM

### *Station Area Development Potential*

The development potential of the three station areas was assessed to determine each Station Area's capture of Planning Area demand and ultimately arrive at the development program for the Planning Area.

Table 7 presents a demographic profile of the Station Areas. In general, residents of the three Station Areas are significantly younger than Honolulu overall and live in predominately renter-occupied housing. Station areas also serve as employment centers, primarily for the armed forces (at the Pearl Harbor and Airport Stations) and the transportation and warehousing sectors (at the Airport and Lagoon Stations). At the Airport and Lagoon Stations, households earn above the Honolulu median income. But for all three stations, per capita incomes lag behind the regional average due to larger household sizes.

While the Station Areas share some demographic similarities, each has a different market orientation and potential for capturing new development, discussed below.

**Table 7: Station Area Overview**

| | ½ mile radius | | | Regional Comparison | |
|---|---|---|---|---|---|
| | Pearl Harbor | Airport Station | Lagoon Station | Trade Area* | Honolulu** |
| Population | 3,042 | 1,915 | 2,750 | 58,263 | 341,903 |
| Households | 627 | 527 | 686 | 17,437 | 131,622 |
| Household with Children | NA | 383 | 587 | 8,147 | 32,770 |
| Average Household Size | 4.0 | 3.5 | 3.9 | 3.2 | 2.5 |
| Household Income | $45,989 | $60,040 | $68,930 | $67,736 | $55,179 |
| Per Capita Income | $17,783 | $18,038 | $17,926 | $23,275 | $30,077 |
| Median Age | 23 | 25 | 23 | 33 | 42 |
| Projected Daily Boardings (2035) | 5,400 | 6,300 | 3,100 | 14,800 | 116,300 |
| Place of Work Employment ([1]) | 17,434 | 8,322 | 7,618 | 33,374 | 283,990 |

*The Trade Area is shown in Figure 1 (also referred to as the Region of Influence) and represents the area of influence as described in Section 1.3 of the Existing Conditions Report. This extended area has few transit-related destinations, but with a high quantity of residential units has significant potential to act as a ridership origin.

** Honolulu is the City boundaries as of 2013.

*Source:* Claritas 2014. Census Transportation Planning Products 2010.
*Note:* [1] Place of work employment is based on data for Traffic Analysis Zones, which intersect station areas but may extend beyond a half-mile radius.

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**Photo 1: Existing Conditions of the area mauka of the Pearl Harbor Station**

***Pearl Harbor***

The Pearl Harbor Station is located outside the entrance to the State's largest military operation and employing a sizeable civilian and military workforce.

Several shopping centers are located within the Trade Area serving military families and nearby residents. Popular retail centers in the area include Target, the Mall at Pearl Harbor, and Moanalua Shopping Center (a Public Private Partnership of the Navy and MacNaughton Group). With a resident population that is comprised of military families from throughout the United States, successful retailers include a number of national chains and fast food operators. Retail brokers indicated that "local" eateries that cater to residents (plate lunch and unique Asian ethnic foods) have not been as successful as those that serve an "American" fare. Demographics indicate a younger resident population with more Caucasian and African American ethnicities. See Pearl Harbor Station Area Fact Sheet in Attachment A.

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**Photo 2: Airport Station Area Existing Conditions**

***Airport***

The Airport Station, surrounded by State lands, has very few civilian residents in the area. See Airport Station Area Fact Sheet in Attachment B. Retail is limited to on-site retail operations at the airport and small retail eateries at the Airport Industrial Park. Few properties would be available for redevelopment unless supported by the State of Hawaii. The airport's new consolidated rental car facility will consolidate the rental car operations, which will allow for expansion of additional airport uses closer to the airport.

The Loyalty Group, a major landowner near the Airport has a mid-term interim plan to upgrade their industrial properties and integrate more car dealerships to the area. Car dealerships are generally not considered transit-friendly and the City will need to balance the economic contribution of additional car dealerships with more transit friendly uses that increase ridership. This site also has a long-term opportunity to accommodate a single use office building at the station or near the Lagoon Drive station. Finally, intensification of the industrial uses should be considered with reduced importance placed on accommodating parking and set-backs.

**Photo 3: Lagoon Drive Station Area Existing Conditions**

***Lagoon Drive***

The Lagoon Drive Station has the greatest potential for redevelopment considering the other Station Areas have limited privately held land. The area is comprised of primarily industrial zoned properties that are principally occupied by warehouse users. The area also includes Keehi Lagoon Park, which has ocean front views of Keehi Lagoon, Honolulu Harbor, and Diamond Head in the distance. This station area could be considered an opportunity for mid-rise residential development (condominium or rental), but within context to the flight height restriction of the Honolulu International Airport. High demand for warehouse properties and elevated rental rates may make redevelopment difficult for existing landlords. Retail will grow in tandem with intensification of the Station Area as housing and commuter traffic increases in the area. The demand for retail is expected to be relatively small in scale with the majority of format of less than 10,000 square feet to accommodate convenience and impulse item retail. See Lagoon Drive Area Fact Sheet in Attachment C.

## 1.6 Station Area Program Recommendations

Tables 8 and 9 present the program recommendations for the three station areas. The lower growth scenario (Table 8) is based on the projected planning area growth rate; the higher growth scenario (Table 9) assumes the regional 1% annual growth rate.

Due to its proximity to hotels and the airport workforce, the Airport Station is assigned the largest share of retail growth. With excellent views and proximity to recreation, the Lagoon Drive Station is well positioned to accommodate the largest share of new private housing development in the Planning Area; the remainder of housing units are assumed to be developed by government agencies and located close to Joint Base Pearl Harbor Hickam. Due to the constraints to private development at Pearl Harbor, Pearl Harbor is not assigned a share of private residential units, or new office development.

Office development is assumed to be split between the Lagoon and Airport Stations. Understanding that office development will respond to a regional market and attracted by the proximity to the airport, a specific split is not proposed in needed supply between the two stations. Rather, the potential for office can be considered "up to" 90,000 square feet for both stations and up to 250 hotel rooms.

Note that the demand estimates are allocated to the Station Areas but the real estate markets do not vary dramatically across each station, especially for the Lagoon and Airport stations. As such, Station Area planning can consider consolidating housing, hotel, office, and retail demand to one station, should it create more of a livable transit-oriented neighborhood than thinly spreading demand across multiple station areas.

**Table 8: Program Recommendations for Each Station (2035) (Low Growth Scenario)**

| | Airport | Lagoon | Pearl Harbor | Total |
|---|---|---|---|---|
| Housing Units | 0 | 230 | 600 | 830 |
| Private Units | 0 | 230 | 0 | 230 |
| Military Units | 0 | 0 | 600 | 600 |
| Retail | 24,000 sf | 14,000 sf | 20,000 sf | 58,000 sf |
| Office | ** | ** | 0 | 51.000 sf |
| Hotel Rooms | ** | ** | 0 | 150 |

*Source:* Colliers International and AECOM 2014. Numbers may not add due to rounding.

** *Note*: Total demand can be applied to either station area as the Lagoon and Airport Stations are essentially a single real estate market for office and hotel uses. It also assumes no new office or hotel demand would be accommodated at the Pearl Harbor Station.

**Table 9: Program Recommendations for Each Station (2035) (Higher Growth Scenario)**

| | Airport | Lagoon | Pearl Harbor | Total |
|---|---|---|---|---|
| Housing Units | 0 | 630 | 600 | 1,230 |
| Private Units | 0 | 630 | 0 | 630 |
| Military Units | 0 | 0 | 600 | 600 |
| Retail | 24,000 sf | 19,000 sf | 20,000 sf | 64,000 sf |
| Office | ** | ** | 0 | 90,000 sf |
| Hotel Rooms | ** | ** | 0 | 250 rooms |

*Source:* Colliers International and AECOM 2014. Numbers may not add due to rounding.

** *Note*: Total demand can be applied to either station area as the Lagoon and Airport Stations are essentially a single real estate market for office and hotel uses. It also assumes no new office or hotel demand would be accommodated at the Pearl Harbor Station.

## 1.7 MARKET OPPORTUNITIES

The project team considered market opportunities that could accelerate absorption in the Planning Area, starting with the users.

### *Near-Term Development Opportunities*

Data from Claritas, a demographic analysis firm, shows that existing residents of the Planning Area are spending approximately $35 million on drug and health stores and $52 million on groceries and other foods outside the Trade Area (Table 10). This presents an opportunity to locate a small pharmacy or convenience store close to the Lagoon Drive or Airport Station Area.

Other near-term opportunities could include the development of a specialty sporting goods (canoes, paddle, surfboard) store, arcade, or family entertainment uses, which could complement recreation visitors to nearby Keehi Lagoon Park. As stated above, the challenge to these uses will be the financial feasibility of industrial reuse in the Planning Area.

**Table 10: Retail Gaps in the Planning Area**

| Retail Category | Retail Gap |
|---|---|
| Drug and Health Stores | $35 million |
| Groceries and Other Foods | $52 million |
| Clothing Stores | $43 million |

*Source*: Claritas 2014

### *Other Development Recommendations*

The predominant existing uses around the station areas are not traditional transit-oriented uses with high proportion of industrial warehouse space, fenced off military housing and office uses, and airport facilities. This observation is especially the case within the ¼ mile radius of the Station Areas. As such, the Station Areas would require significant enhancements to the existing public realm and pedestrian amenities in order to promote a more walkable, high-density community. Examples of these types of enhancements would include improvements to the on-street environment to improve pedestrian and bicycle connections, as well as highly amenitized public open space to attract and accommodate more residents. Other TOD-supportive changes would include larger, aggregated parcels that could accommodate multi-family housing products.

Therefore, focusing vertically and horizontally mixed-use development within a single Station Area or sub-area is likely to create more successful TOD than introducing smaller amounts of isolated mixed-use development across the entire Planning Area.

### *Parking Standards*

Generally, developments become more feasible by reducing parking standards, as long as tenants are willing to accept less parking. Parking standards near transit stations can be significantly lower, with ratios averaging below one space per unit and 1.5 spaces per 1,000 for non-residential uses. For the Airport Area, a standard of 1 space per residential unit and 2 spaces per 1,000 square feet is recommended to accommodate demand. A parking standard is not typically recommended as developers will independently consider the demand for parking and build accordingly.

### *Intensifying Industrial Uses*

Considering the overall health of the industrial real estate market and the need to supply affordable warehouse and manufacturing space to support Oahu’s economy, it is not recommended to require additional parking for the intensification of industrially zoned uses within the ½-mile radius of the Station Areas. Further expansion would encourage higher intensity employment. On-street parking and public transit could accommodate the growth in the local workforce. Relaxed development standards would allow industrial property owners to further intensify their building footprint without considering expensive parking solutions.

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### 1.8 REFERENCES


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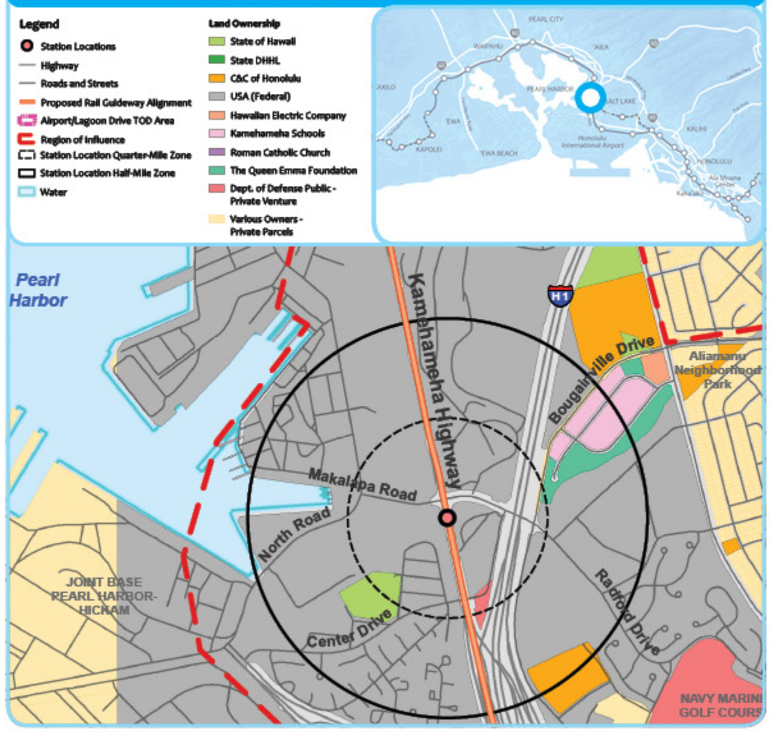
# Attachment A
# Pearl Harbor Station Area Fact Sheet

# PEARL HARBOR STATION

## STATION AREA LAND USE MAP




## 0.5 MILE STATION AREA DEMOGRAPHICS

| STATION AREA | | HONOLULU COMPARISON |
|---|---|---|
| 3,042 | POPULATION | 341,903 |
| 627 | HOUSEHOLDS | 131,622 |
| N/A | HOUSEHOLDS WITH CHILDREN | 32,770 |
| 3.96 | AVERAGE HOUSEHOLD SIZE | 2.5 |

### AGE

| STATION AREA | | HONOLULU COMPARISON |
|---|---|---|
| 1,035 (35%) | 0-19 YEARS | 66,453 (19%) |
| 1,914 (64%) | 20-64 YEARS | 211,869 (62%) |
| 19 (1%) | 65+ YEARS | 63,585 (19%) |
| 23.4 | MEDIAN AGE | 41.7 |

## HOUSING

| STATION AREA | | | | HONOLULU COMPARISON |
|---|---|---|---|---|
| 14 | (2%) | OWNER OCCUPIED | (58%) | 55,615 |
| 612 | (98%) | RENTER OCCUPIED | (42%) | 76,006 |

## INCOME

| HOUSEHOLD INCOME | PER CAPITA INCOME |
|---|---|
| $45,989 (STATION AREA) | $17,783 (STATION AREA) |
| $55,179 (HONOLULU) | $30,077 (HONOLULU) |

## EMPLOYMENT

| STATION AREA | | PRIMARY EMPLOYMENT SECTORS | | HONOLULU COMPARISON |
|---|---|---|---|---|
| 17,434 | | TOTAL EMPLOYMENT | | 283,990 |
| 3,875 | 22% | PUBLIC ADMINISTRATION | 8% | 23,465 |
| 2,795 | 16% | MANUFACTURING | 3% | 8,210 |
| 5,310 | 30% | ARMED FORCES | 3% | 7,615 |

## RETAIL OPPORTUNITIES

HEALTH & PERSONAL CARE STORES | GROCERIES AND OTHER FOODS | CLOTHING STORES

## STATION OVERVIEW

Pearl Harbor Station is located northwest of Honolulu on the south shore of Oahu proximate to the Queen Liliuokalani Freeway and Joint Base Pearl Harbor-Hickam. Pearl Harbor Station is projected to average 5,400 weekday boardings by 2030.

Approximately 3,000 residents belonging to 630 households live within a half mile of the station. Residents of the trade area are significantly younger than Honolulu overall and live in predominately renter-occupied housing.

The station area also serves as a major regional employment center supporting approximately 17,000 jobs within a half mile radius, including 5,000 members of the armed forces. Several shopping centers are located within the trade area serving military families and nearby residents. Commercial lease rates are higher than the city and vacancy rates reflect Honolulu's tight commercial real estate conditions.

Over the next 20 years, the population within the station area is projected to increase by more than 2,300; another 400 jobs will be added. Population and employment growth will create demand for an additional 17,000 square feet of retail space.

## PROJECTED 20 YEAR GROWTH (TO 2035)

| POPULATION | HOUSEHOLDS | RETAIL |
|---|---|---|
| 2,300 | 730 | 17,000 sf |

## PROJECTED DAILY BOARDINGS (2030)

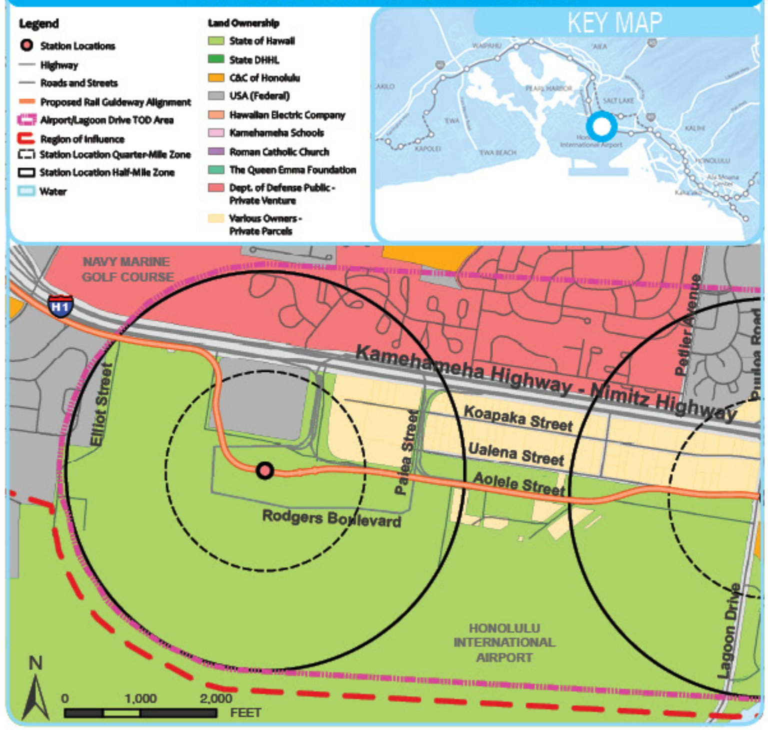
| STATION AREA | SYSTEMWIDE |
|---|---|
| 5,400 | 116,300 |

SOURCES: CLARITAS 2014 / COLLIERS 2014 / CENSUS TRANSPORTATION PLANNING PRODUCTS (CTPP) 2006-2010

# Attachment B
# Airport Station Area Fact Sheet

# AIRPORT STATION


## STATION AREA LAND USE MAP




## 0.5 MILE STATION AREA DEMOGRAPHICS

| STATION AREA | | HONOLULU COMPARISON |
|---|---|---|
| 1,915 | POPULATION | 341,903 |
| 527 | HOUSEHOLDS | 131,622 |
| 383 | HOUSEHOLDS WITH CHILDREN | 32,770 |
| 3.5 | AVERAGE HOUSEHOLD SIZE | 2.5 |

### AGE

| STATION AREA | | HONOLULU COMPARISON |
|---|---|---|
| 751 (39%) | 0-19 YEARS | 66,453 (19%) |
| 1,136 (59%) | 20-64 YEARS | 211,869 (62%) |
| 28 (1%) | 65+ YEARS | 63,585 (19%) |
| 24.5 | MEDIAN AGE | 41.7 |

## HOUSING

| STATION AREA | | | | HONOLULU COMPARISON |
|---|---|---|---|---|
| 3 | (1%) | OWNER OCCUPIED | (58%) | 55,615 |
| 525 | (99%) | RENTER OCCUPIED | (42%) | 76,006 |

## INCOME

| HOUSEHOLD INCOME | PER CAPITA INCOME |
|---|---|
| $60,040 (STATION AREA) | $18,038 (STATION AREA) |
| (HONOLULU) $55,179 | (HONOLULU) $30,077 |

## EMPLOYMENT

| STATION AREA | | PRIMARY EMPLOYMENT SECTORS | | HONOLULU COMPARISON |
|---|---|---|---|---|
| 8,322 | | TOTAL EMPLOYMENT | | 283,990 |
| 834 | 10% | PUBLIC ADMINISTRATION | 8% | 23,465 |
| 1,671 | 20% | TRANSPORTATION | 8% | 21,370 |
| 1,830 | 22% | ARMED FORCES | 3% | 7,615 |

## RETAIL OPPORTUNITIES

HEALTH & PERSONAL CARE STORES

GROCERIES AND OTHER FOODS

CLOTHING STORES

## STATION OVERVIEW

Airport Station is located northwest of Honolulu on the south shore of Oahu close to the Queen Liliuokalani Freeway and the Honolulu International Airport. Airport Station is projected to average 6,320 boardings by 2030.

Approximately 1,900 residents belonging to 530 households live within a half mile of the station. Households in the trade area are primarily families with children who live in rental housing. Most households earn above the Honolulu median income but larger household sizes result in a per capita income below the Honolulu average.

The airport, transportation and warehousing establishments and other nearby industries support approximately 8,000 jobs within a half mile of the Airport Station. Members of the armed forces also make up a significant share of workers within the station area. Lease terms and vacancy rates for industrial and retail space are on par with the region overall, reflecting Honolulu's tight commercial real estate conditions.

Over the next 20 years, another 300 jobs will also be added in the station area. Ridership and employment growth will create demand for an additional 20,000 square feet of retail space and up to 50,000 square feet of office space.

## PROJECTED 20 YEAR GROWTH (TO 2035)

| POPULATION | HOUSEHOLDS | RETAIL |
|---|---|---|
| N/A | N/A | 20,000 sf |

## PROJECTED DAILY BOARDINGS (2030)

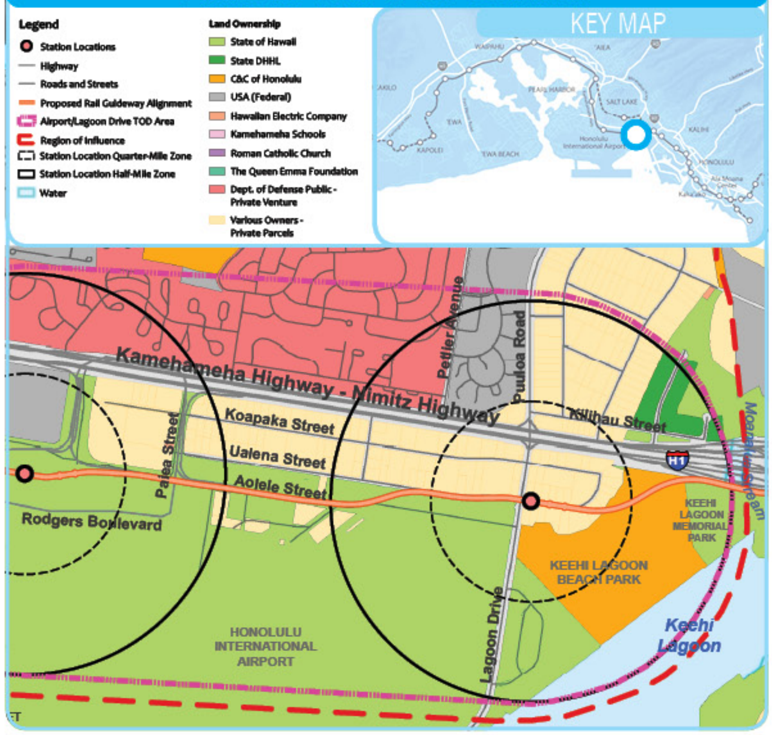
| STATION AREA | SYSTEMWIDE |
|---|---|
| 6,300 | 116,300 |

SOURCES: CLARITAS 2014 / COLLIERS 2014 / CENSUS TRANSPORTATION PLANNING PRODUCTS (CTPP) 2006-2010

# Attachment C
# Lagoon Drive Station Area Fact Sheet

# LAGOON DRIVE STATION

## STATION AREA LAND USE MAP




## 0.5 MILE STATION AREA DEMOGRAPHICS

| STATION AREA | | HONOLULU COMPARISON |
|---|---|---|
| 2,750 | POPULATION | 341,903 |
| 686 | HOUSEHOLDS | 131,622 |
| 587 | HOUSEHOLDS WITH CHILDREN | 32,770 |
| 3.9 | AVERAGE HOUSEHOLD SIZE | 2.5 |

### AGE

| STATION AREA | | HONOLULU COMPARISON |
|---|---|---|
| 1,245 (45%) | 0-19 YEARS | 66,453 (19%) |
| 1,459 (53%) | 20-64 YEARS | 211,869 (62%) |
| 46 (2%) | 65+ YEARS | 63,585 (19%) |
| 23.1 | MEDIAN AGE | 41.7 |

## HOUSING

| STATION AREA | | | | HONOLULU COMPARISON |
|---|---|---|---|---|
| 4 | (1%) | OWNER OCCUPIED | (58%) | 55,615 |
| 682 | (99%) | RENTER OCCUPIED | (42%) | 76,006 |

## INCOME

| HOUSEHOLD INCOME | PER CAPITA INCOME |
|---|---|
| $68,930 (STATION AREA) | $17,926 (STATION AREA) |
| $55,179 (HONOLULU) | $30,077 (HONOLULU) |

## EMPLOYMENT

| STATION AREA | | PRIMARY EMPLOYMENT SECTORS | | HONOLULU COMPARISON |
|---|---|---|---|---|
| 7,618 | | TOTAL EMPLOYMENT | | 283,990 |
| 765 | 10% | TRANSPORTATION | 8% | 21,370 |
| 1,038 | 14% | RETAIL TRADE | 10% | 28,595 |
| 1,420 | 19% | CONSTRUCTION | 6% | 16,795 |

## RETAIL OPPORTUNITIES

HEALTH & PERSONAL CARE STORES — GROCERIES AND OTHER FOODS — CLOTHING STORES

## STATION OVERVIEW

Lagoon Drive Station is located northwest of Honolulu on the south shore of Oahu between the Ke'ehi Lagoon Beach Park and the Honolulu International Airport. Lagoon Drive Station is projected to average 3,100 boardings by 2030.

Approximately 2,800 residents belonging to 690 households live within a half mile of the station. Households in the trade area are primarily families with children who live in rental housing. Most households earn above the Honolulu median income but larger household sizes result in a per capita income below the Honolulu average.

The airport, nearby transportation and warehousing establishments, as well as retail, construction and nearby other industries together support approximately 7,600 jobs within a half mile of Lagoon Drive Station. Commercial real estate conditions are extremely tight with vacancy rates for commercial space below Honolulu overall.

Over the next 20 years, the population within the station area is projected to increase by nearly 900 residents; another 600 jobs will be added. Population, employment and ridership growth will create demand for an additional 11,000 square feet of retail space and up to 50,000 square feet of office space.

## PROJECTED 20 YEAR GROWTH (TO 2035)

| 900 | 270 | 11,000 SF |
|---|---|---|
| POPULATION | HOUSEHOLDS | RETAIL |

## PROJECTED DAILY BOARDINGS (2030)

| 3,100 | 116,300 |
|---|---|
| STATION AREA | SYSTEMWIDE |

SOURCES: CLARITAS 2014 / COLLIERS 2014 / CENSUS TRANSPORTATION PLANNING PRODUCTS (CTPP) 2006-2010