

PAUL BREWBAKER DIRECT TESTIMONY

Q Please state your name, place of employment, and position.

A Paul Brewbaker, Economist and Principal, TZ Economics.

Q What types of services does TZ Economics provide?

A TZ Economics is a Hawaii economics consultancy doing corporate work, financial risk analytics, development impact analysis, and litigation support.

Q Please describe your educational background and experience.

A Please see my resume, attached as **Exhibit M-1**. Along with university lecturing in economics my background is in research on the Hawaii economy and financial risk analysis from a 25-year affiliation with Bank of Hawaii. Upon retiring in 2009, I began consulting. I am a graduate of Stanford University, and I received my PhD from the University of Hawaii, both in economics.

Q How have you been involved in this Project?

A Originally I was retained by the Howard Hughes Corporation to undertake an analysis of the full scope of the Ward Village redevelopment in Kakaako with respect to the housing market on Oahu and in the context of the contemporaneous residential investment cycle. Subsequently I have been intermittently engaged to extend that economic analysis, and in the current engagement have updated my estimates of Ward Village Block I economic impacts in an accompanying report.

Q Please describe your analysis and conclusions.

- A
1. The Block I project generates total development impacts on Hawaii GDP of \$954 million over two years, \$551 million beginning in 2018 and \$403 million in 2019. Block I development generates \$302 million in earnings, \$57 million in State tax revenues, and 4,112 jobs over two years, 2,394 jobs beginning in 2018 and 1,718 jobs in 2019.
 2. Permanent, incremental retail trade impacts of the Block I replacement of existing Ward Village commercial space are annual values of \$17.6 million GDP, \$5.2 million in annual earnings, \$1 million in State taxes, all in present values of

streams of future income in 2017 dollars, along with 122 permanent jobs. Permanent maintenance and operations impacts in present values include \$190.9 million in GDP, \$64.1 million in earnings, \$11.6 million in State taxes, and 35 permanent jobs.

3. Longer-term real present values of City & County of Honolulu property tax revenues are \$34.2 million, discounted at 6 percent over 30 years (\$44 million over 60 years), ignoring Residential A property tax surcharges, assuming 4.5 percent house price appreciation.
4. Oahu housing valuations in the 2010s are rising like an escalator, not a roller-coaster: there is no housing asset pricing bubble in the current economic expansion, and affordability has remained both stable and relatively good. Block I development delivers needed urban core housing at relative prices consistent with its preferred location and with a unit count nearly triple its originally planned configuration.
5. Block I and the Ward Village initiative are significant contributors to extending economic expansion at a time when tourism has not contributed to Oahu economic growth since 2012, when construction is at risk of receding, while helping fulfill state housing needs.

Q Why are the Project's economic contributions important?

A The key to sustaining the current economic expansion on Oahu, with the U.S. economic expansion marking its ninth anniversary in June 2018, exceeded in duration only once before in U.S. history (during the 1990s), is to maintain recent rates of homebuilding and investment generally. Capital formation is especially important because tourism on Oahu reached its lodging capacity constraint during the 2010s. What began in 2010 as a tourism-led economic recovery evolved during the 2010s into an investment-led economic expansion. Even though total visitor arrivals rose from 4.90 million to 5.67 million between 2012 and 2017, in constant 2017 dollars total tourism receipts on Oahu declined from \$8.37 billion to \$7.63 billion between 2012 and 2017. Durability of the current expansion requires fulfillment of expectations of continued investment: if Oahu tourism's economic benefits are not growing—and external costs associated with sheer numbers of tourists are not falling—then construction and investment are crucially important. Ward Village redevelopment was conceived *through* the business cycle into the next decade. Unlike other promising suburban residential developments like Ho'opili in Central Oahu and Koa Ridge in Central Oahu, just getting off the ground, Ward Village development continues apace. Oahu's construction outlook is dimming

and, as the economy moves into the latter phase of its expansion, risks will dampen expectations for future construction activity. The Block I Project represents a countercurrent, pushing upstream against incipient cyclical investment decline.

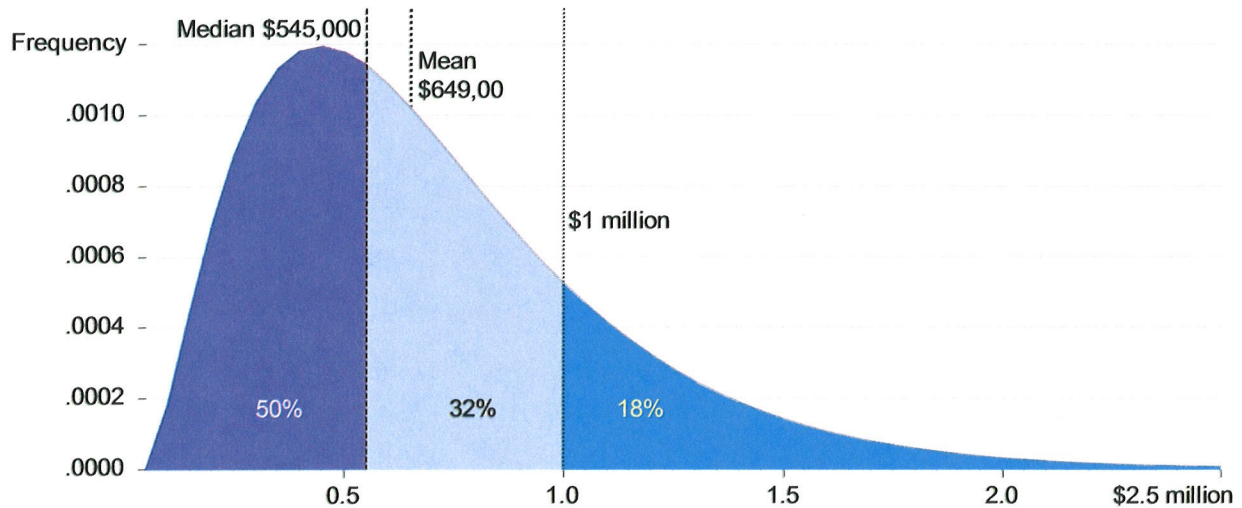
The Block I Project was reconceived to nearly triple its new housing unit counts partly as an adaptation to evolving housing market conditions in which absorption of smaller urban core housing units has demonstrated strength. Planned Block I units (570) comprise nearly the equivalent of one quarter's production flow of all new housing units on Oahu (588), based on building permit issuance, 2011-17. Occurring over two years, Block I development makes a significant contribution to Oahu homebuilding.

Q How will developing condos in the urban core impact home prices and affordability?

A My previous testimony on Ward Village to this Authority has emphasized its contributions to revitalizing Honolulu's urban core, which for decades had been bifurcated between agglomerations of economic activity in Waikiki and Downtown Honolulu. Ward Village redevelopment has begun a process by which urban continuity enhances the economic efficiency of the city. It exploits existing transportation, sewerage, and water delivery infrastructure while enhancing the value and user base upon which future infrastructure reinvestment can draw. It creates new nodes of urban density as attractors for economic activity while activating existing nodes: "density is proximity; proximity is mobility." The Block I Project, in particular, is the first step towards activation of an area of publicly-accessible open space in the core of Ward Village which, in conjunction with relocated commercial activities and the City's proposed transit station location and existing and other transportation options, constitute its heart. It creates a new community in a popular urban destination.

Existing home price data for 2017 imply that about half of Block I Project units will have intended price points in the middle and upper three of Oahu's five existing home price quintiles. Naturally, with price points in the lower half of the distribution of home prices mostly comprising suburban units in the periphery of Honolulu, the upper half of that distribution is located closest to the urban core. Households balance the negative external costs of congestion against the positive external benefits of urban agglomeration in making their housing location choices. Higher land values in the urban core partly reflect capitalized avoidance of the opportunity costs of longer commuting times. Block I has been scaled to satisfy a wide range of heterogeneous investor preferences under varying financial circumstances. The 2010s has been a period of comparatively stable housing affordability on Oahu, and Ward Village has consistently offered flows of new units at relative price points reflecting these spatial attributes.

**Estimated empirical gamma distribution approximation to
Oahu existing home prices (condominium and single-family) in 2017**



Source: Author's calculations from data provided by the Honolulu Board of REALTORS® (2017)

Existing residential condominium sales prices on Oahu appreciated at an average annual rate of 5.2 percent between June 2011 and April 2018. Existing single-family home sales prices on Oahu appreciated at an average annual rate of 4.4 percent between June 2011 and April 2018. Both price trajectories exhibited extremely narrow bandwidth: the pace of appreciation has been steady, not cyclical, not volatile. Adjusted for inflation (the 2.5 percent appreciation rate in the Honolulu Consumer Price Index that would be consistent with the U.S. monetary policy inflation goal of 2.0 percent, measured by the slightly different U.S. Personal Consumption Expenditure Deflator), rates of *nominal* existing home price appreciation on Oahu during the 2010s are consistent with the longer-term rates of *real* appreciation of 2.2 percent, 1978-2017, based on a broad index of Oahu housing valuations published by the Federal Housing Financial Administration. These include sales prices as well as mortgage collateral valuations in same-home comparisons over time. (A 20-teens range of 4.5-5.0 percent nominal price appreciation, minus 2.5 percent inflation, equals a range of 2.0-2.5 percent real appreciation consistent with Oahu's long-run 2.2 percent real appreciation rate.) Block I notional price points maintain Ward Village's relative position in this dynamic context of price appreciation during the decade to date within the middle and upper three quintiles of the distribution of Oahu home prices.