

4.13 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

4.13.1 Impact Methodology

The installation ROI was defined to include Hawai'i and Honolulu Counties because the vast majority of people potentially affected by changes at the installations reside within these two counties. Each of the project alternatives (Proposed Action, Reduced Land Acquisition, and No Action) are reviewed and evaluated to identify potential impacts (positive or negative) on conditions in the ROI. Potential disproportionate effects to low-income or minority populations and the potential for increased adverse health effects to children were assessed to evaluate environmental justice effects. To reach out to minority and low-income communities, numerous organizations were contacted to provide information about Army transformation, such as neighborhood boards and other special interest groups, such as the Malu Aina Group and Waiki'i Ranch Homeowners, the Office of Hawaiian Affairs, the Royal Order of Kamehameha, and Hawaiian civic clubs (see Chapter 1, Section 1.8, Public Involvement).

Impacts on population, employment, income, and business volume were evaluated both qualitatively and quantitatively using the Economic Impact Forecast System (EIFS), a computer-based economic tool that calculates multipliers to estimate the direct and indirect effects resulting from a given action. For each economic indicator the model produces a standard range of values, or rational threshold value (RTV) that is calculated on the basis of yearly historical fluctuations in population, employment, income, and business volume within the ROI. The historical extremes for the ROI (the calculated RTVs) become the thresholds of significance for social and economic change. If the estimated effect of an action falls above the positive RTV or below the negative RTV, the impact could be considered to be significant. Appendix L contains complete RTV tables and EIFS model results for the Proposed Action.

In addition this section qualitatively assesses potential impacts on schools, based on the number of schools, student population, potential increase in student population, and capacity of the schools that could be affected. This analysis also includes an assessment of anticipated changes to housing, environmental justice, and the protection of children. To determine whether low-income and minority populations could be disproportionately affected by the alternatives, the proportion of low-income people and minorities in the areas surrounding the proposed project were identified. If high percentages of low-income and minority populations were identified, the potential for these populations to be displaced, for their income or employment to be lost, or for adverse effects to their health or environmental condition from construction or operational activities was assessed. To evaluate whether children could encounter disproportionate environmental health or safety effects, the population under the age of 18 surrounding the proposed project areas was computed. The potential environmental health and public safety risks identified for each alternative was then evaluated for proximity to populations of children.

4.13.2 Factors Considered for Impact Analysis

Factors considered in determining whether an alternative would have a significant impact on socioeconomics and environmental justice include the extent or degree to which its implementation would result in any of the following:

- Change the unemployment rate for Hawai'i and Honolulu Counties;
- Change total income;
- Change business volume;
- Change the local housing market and vacancy rates, particularly with respect to the availability of affordable housing;
- Change any social, economic, physical, environmental, or health conditions so as to disproportionately affect any particular low-income or minority group; and
- Disproportionately endanger children in areas on or near the installations.

In addition to these factors, public concerns expressed during the scoping process were also considered in the impact analysis. These concerns included the impact of the Proposed Action on the local economy, increased military spending, and the potential impacts on schools. The public was also concerned about potential impacts on environmental justice.

4.13.3 Summary of Impacts

The Proposed Action would have beneficial effects on population, employment, income and business volume, resulting from new construction, staff additions, and the resultant increased expenditures that would stimulate the economy within Honolulu County. These beneficial impacts would be less than significant because the changes to these factors would be within the capacity of society and the economy to absorb. There could also be a significant but mitigable impact on sales volume in Hawai'i County from construction activities at PTA. The Proposed Action might create a high demand for certain goods and services that could result in short-term shortages and price increases.

The Proposed Action also would have significant but mitigable impacts on SBMR schools because of the addition of approximately 760 school age children to the ROI population. The No Action Alternative would have no impacts on socioeconomic factors and no disproportionate effects on minority or low-income populations or on the protection of children.

The Proposed Action is not expected to adversely affect tourism in Hawai'i. No documented evidence has been found to indicate that military operations and training in Hawai'i have had any adverse impact on visitation levels. The military installations are generally not in high tourist areas and therefore are not expected to affect activities associated with the tourism industry.

Table 4-13 lists the types of socioeconomic and environmental justice impacts associated with the Proposed Action and No Action at the relevant installations. General descriptions of the impacts are also provided.

**Table 4-13
Summary of Potential Socioeconomic and Environmental Justice Impacts**

Impact Issues	SBMR			DMR			KTA			PTA			Project-wide Impacts		
	PA	RLA	NA	PA	RLA	NA	PA	RLA	NA	PA	RLA	NA	PA	RLA	NA
Population	⊕+	⊕+	○	○	○	○	○	○	○	○	○	○	⊕+	⊕+	○
Employment	⊕+	⊕+	○	⊕+	⊕+	○	⊕+	⊕+	○	⊕+	⊕+	○	⊕+	⊕+	○
Income	⊕+	⊕+	○	⊕+	⊕+	○	⊕+	⊕+	○	⊕+	⊕+	○	⊕+	⊕+	○
Economy (business volume)	⊕+	⊕+	○	⊕+	⊕+	○	⊕+	⊕+	○	⊕+	⊕+	○	⊕+	⊕+	○
Housing	⊕	⊕	○	○	○	○	○	○	○	○	○	○	⊕	⊕	○
Schools	⊖	⊖	○	N/A	⊖	⊖	○								
Environmental justice	⊕	⊕	○	⊕	⊕	○	⊕	⊕	○	○	○	○	⊕	⊕	○
Protection of children	⊕	⊕	○	⊕	⊕	○	⊕	⊕	○	○	○	○	⊕	⊕	○

This table summarizes project-wide impacts. For installation-specific impacts see Chapters 5 – 8. In cases when there would be both beneficial and adverse impacts, both are shown on this table. Mitigation measures would only apply to adverse impacts.

LEGEND:

- ⊕ = Significant
- ⊖ = Significant but mitigable to less than significant
- ⊕ = Less than significant
- = No impact
- + = Beneficial impact
- N/A = Not applicable
- PA = Proposed Action
- RLA = Reduced Land Acquisition
- NA = No Action

Proposed Action (Preferred Alternative)

Significant Impacts Mitigable to Less Than Significant

Impact 1: Schools. Long-term adverse effects on schools serving SBMR are expected as a result of the Proposed Action. SBMR is the only installation that would have a change in population, so only the schools servicing SBMR would be affected. The Proposed Action would result in 810 additional soldiers at SBMR, accompanied by 502 spouses and 1,053 children¹. Of the estimated 1,053 children, approximately 760 would be of school age (between 5 years and 18 years of age), assuming the age distribution of Soldier dependents is similar to that of the rest of the nation. Approximately half of this dependent population would attend elementary schools, while the remaining children would be split between middle school and high school. Accordingly, this would equate to about 380 additional elementary school students, and approximately 190 middle school students and 190 high school students. As described in Chapter 5, Section 5.13.1, two elementary schools on SBMR Hale Kula and Solomon, with a current enrollment of approximately 1,430 students (640 at Hale Kula and about 790 at Solomon); one elementary school on WAAF, Wheeler Elementary School, with approximately 750 students; one middle school on WAAF, Wheeler Intermediate School, with about 670 students; and two off-post high schools (Leilehua with approximately 1,780 students and Mililani with about 2,280 students), are the primary providers of public school education for dependents of SBMR soldiers. A small number of

¹ These numbers are based on Army and planning standards.

students attend private schools or schools outside the local district. Nonetheless, the potential addition of 380 elementary school students would represent a 17 percent increase over current enrollment. Enrollment in the local middle schools and high schools would increase by about 28 percent and 5 percent, respectively.

The impact of the additional students would vary with the school. Currently, the Wheeler Intermediate School has an enrollment of less than 700 but has a physical capacity of about 1,000 (Matsukawa 2003). Similarly, Hale Kula Elementary School has an enrollment of about 540, significantly down from its peak enrollment of 1,200 (Ferreira 2003). Solomon Elementary School is at near capacity with its current enrollment (Matsukawa 2003). Wheeler Elementary School's current enrollment is about 750, but capacity is 800 (Terry 2003). Leilehua High School's current enrollment is below capacity (Toyota 2003). Mililani High School, with an enrollment of about 2,280, is already operating beyond capacity (Tamongdon 2003). Temporary classroom space has been added, but that space is also full. Some type of accommodation would be needed to serve any additional students attending Mililani High School. Another alternative would be for the new high school students to attend Leilehua High School, since Leilehua is operating below capacity.

Regulatory and Administrative Mitigation 1. Federal aid will be made available to local schools to compensate for the increased burden through the Impact Aid Program. Such aid may take the form of basic support payments or grants for construction of new facilities to house new students who are dependents of Soldiers at SBMR. Additional teachers would need to be hired to maintain the current student-to-teacher ratios.

Additional Mitigation 1. The Army proposes to notify the school districts as soon as possible before personnel increases to give the schools time to secure funding and hire new teachers and to assist in providing facilities. Although the local school districts receive additional funding for each military dependent attending public school, it is likely that the school districts would bear some of the costs for additional teachers and physical space, if needed. The Residential Communities Initiative (RCI) Office, as the lead department for planning Army Family Housing, closely coordinates future student requirements with the State Department of Education. To this end, the RCI Project Manager has been working with DOE District Superintendents. On behalf of the Army, the RCI Project Manager works with the DOE to generate school enrollment projections with as much accuracy as possible. The Development Partnership plans its facilities work years in advance, coordinating with the DOE. Depending on future enrollments and funding levels, the Proposed Action could still adversely affect school budgets, but the impact would be less than significant.

Impact 2: Economy (Business volume) in Hawai'i County. An additional significant and mitigable impact under the Proposed Action is expected only at PTA in Hawai'i County, not at SBMR, DMR, or KTA in Honolulu County. The significant and mitigable impact is on sales volume in Hawai'i County from construction activities at PTA. The percent change in sales volume for Hawai'i County is slightly above the RTV historical high for sales (7.38 compared to the RTV of 7.18 percent) (see Table 4-15). This could indicate that the proposed action might create a high demand for certain goods and services that could result in short-term shortages and price increases.

Additional Mitigation 2. Because a substantial amount of construction is proposed over the next several years, the Army plans to conduct long-range procurement planning to lessen excessive supply and demand issues on local and outside suppliers.

The Proposed Action would also have a beneficial impact by increasing business volume in Honolulu County because of construction projects at SBMR, DMR, and KTA. However, unlike the economic impact of construction activity at PTA on Hawai'i County, the changes related to the Proposed Action would be within the historic RTV range for Honolulu County and would not be considered significant (see Table 4-14).

Less than Significant Impacts

Short- and long-term direct and indirect minor beneficial impacts are expected as a result of new construction, staff additions, and training associated with the Proposed Action. The EIFS model results for Honolulu County (see Table 4-14) indicate that the expenditures and employment associated with the construction of training ranges and associated facilities would increase sales volume, income, and employment in Honolulu County. The expenditures associated with these projects were spread out over a five-year period because the construction is scheduled for between 2004 and 2008, and possibly beyond. The economic benefits associated with the construction would last only for the duration of the construction period. These positive changes in sales, income, employment, and population would fall within historical fluctuations and would be considered minor.

Table 4-14
EIFS Construction Model Output for Honolulu County

Indicator Variable	Projected Change	Percentage Change	RTV Range
Direct sales volume	\$96,496,660		
Induced sales volume	\$164,044,300		
Total sales volume	\$260,541,000	1.87%	-3.17% to 5.33%
Direct income	\$39,197,690		
Induced income	\$26,286,210		
Total income	\$65,483,900	0.29%	-2.73% to 5.37%
Direct employment	1,506		
Induced income	1,183		
Total employment	2,690	0.47%	-2.02% to 3.28%
Local population	2,017	0.23%	-0.42% to 3.25%

Source: EIFS Model 2002

Long-term beneficial economic effects are associated with the addition of 810 military personnel and their families to SBMR. The additional population would generate a small increase in overall spending on goods and services, which in turn would stimulate further economic activity in the region (i.e., small additional increases in hiring by suppliers of these goods and services). Specifically, the added population would rent or purchase housing and spend money on food, clothing, and other types of goods and services in the ROI during the course of their residency. The overall impact of the additional population on the economy

would be minor given that the Proposed Action would add much less than 1 percent to the current ROI population.

In Hawai'i County short-term beneficial effects are expected. The expenditures and employment associated with the construction of training ranges and associated facilities would increase the sales volume, income, and employment in Hawai'i County, as determined from EIFS model results (see Table 4-15). The changes in income, employment, and population would fall within historical fluctuations, which is considered minor. However, the economic benefits would last only for the duration of the construction period.

Table 4-15
EIFS Construction Model Output for Hawai'i County

Indicator Variable	Projected Change	Percentage Change	RTV Range
Direct sales volume	\$42,905,770		
Induced sales volume	\$66,074,890		
Total sales volume	\$108,980,700	7.38%	-5.21% to 7.18%
Direct income	\$6,989,448		
Induced income	\$10,763,750		
Total income	\$17,753,200	0.73%	-10.91% to 16.43%
Direct employment	364		
Induced employment	561		
Total employment	924	1.31%	-3.14% to 5.82%
Local population	0	0.00%	-4.57% to 9.72%

Source: EIFS Model 2002

The Proposed Action would also involve the acquisition of up to 1,400 acres of land, of which approximately 600 acres are currently under cultivation for pineapples. Some portion of the land acquired would no longer be useable for pineapple production. The military would use this area as rangeland. Economic effects could include reducing crop production and decreasing taxes paid to local and state government entities by land owners. Some employment could be affected, but the impact would likely be minor, given the size of the parcel and the minimal role agricultural production plays in the ROI economy. For example, agriculture accounts for only 0.5 percent of employment and only 0.4 percent of earnings in Honolulu County, and 1.7 percent of employment and 0.8 percent of earnings statewide (BEA 2002a). Since World War II, the role of the pineapple industry in the state economy has declined in place of tourism and defense.

Population. Implementing the Proposed Action would result in a less than significant population impact. The proposed transformation would increase the Honolulu County population by 2,365 (810 soldiers, 502 spouses, and 1,053 children), a less than one percent change. This change would be within the historic RTV range for both Honolulu and Hawai'i Counties and is not considered significant. No mitigation would be required.

Employment. Implementing the Proposed Action would result in a less than significant impact on employment. Employment changes include both direct and indirect changes, as well as

short- and long-term changes. The direct long-term change in local employment is the increase in soldiers to be based at SBMR, and employment associated with the construction of training ranges and associated facilities would result in a temporary increase in employment. Subsequent indirect increases in employment are produced by the multiplier effect resulting from increased spending by the additional staff and construction employees. Increased military employment and construction employment both would be within the historic RTV ranges for both Honolulu and Hawai'i Counties and are not considered significant. No mitigation would be required.

Income. Implementing the Proposed Action would result in a less than significant impact on income. Changes in income represent the wage and salary payments made to construction workers and to the resident workforce. The Proposed Action would increase total income of Honolulu County by \$65,483,900 and Hawai'i County by \$17,753,200, a change of 0.29 percent in Honolulu County and 0.73 percent in Hawai'i County. This change would be within the historic RTV range and is not considered significant. No mitigation would be required.

Economy (business volume). Implementing the Proposed Action would result in a less than significant impact on business volume. Changes in local business activity include direct business volume and induced business volume. Direct business volume is the change in the dollar value of sales in the retail and wholesale trade sector and receipts in the service sector resulting from local purchases by civilian and military personnel, as well as construction and procurement expenditures. Induced business volume is the additional business activity generated as a result of the direct change in sales. Business volume related to the Proposed Action would be \$260,541,000 (a 1.87 percent change) for Honolulu County. This change would be within the historic RTV range for Honolulu County and is not considered significant; no mitigation would be required.

Housing. Implementing the Proposed Action would result in a less than significant impact on housing. The increased military population at SBMR would create a small increase in the demand for housing. The vacancy rate was approximately 9.3 percent (29,538 units) in Honolulu County, about 41.3 percent (12,203 units) were for rent and 8.7 percent (2,572 units) were for sale (US Census Bureau 1990a, 2000b). The Proposed Action would increase the military population of SBMR and the surrounding housing market, and the available housing stock would accommodate the demand for housing; no mitigation would be required.

Economic impacts on Environmental Justice. Short-term and long-term minor adverse indirect effects on environmental justice populations could occur. No minority or low-income residences would be displaced by training modifications, new construction, or land acquisition for expanded training areas or road construction, but noise from construction project sites or vehicle maneuver areas could have minor adverse noise impacts on nearby schools or private residences (see Section 4.6, Summary of Noise Impacts). Noise from construction would last only for the duration of the construction project. Construction would be limited to daytime hours. Noise impacts from vehicle maneuver training would be long-term, but this type of training is currently occurring at the installations. Air quality

impacts from fugitive dust emissions at SBMR could affect low-income and minority populations in Wahiawa and Mililani Town; however these impacts would be mitigated to a less than significant level by implementing a DuSMMoP and avoiding company-level training at SBER during extended dry spells.

Protection of Children. Short-term and long-term minor adverse indirect effects on the health and safety of children could occur. As described under environmental justice above, noise sources associated with proposed construction activities could result in less than significant adverse noise impacts on nearby schools or residences (see Section 4.6, Summary of Noise Impacts).

Note that construction would take place in areas that are off-limits to the general public. Restricted areas would continue to be posted with signs, enclosed by a fence, or stationed with guards. Strict adherence to applicable safety regulations and procedures would continue to protect the health and safety of children.

No Impacts

Economic impacts to Environmental Justice. There would be no significant Environmental Justice impacts on areas of traditional importance (ATIs) resulting from increased noise under the Proposed Action. Noise impacts described in Section 5.6 would not have an impact on potential ATIs at Mount Ka'ala and Kolekole Pass because the noise contour maps show no noise impacts in these areas, and public access to these locations would be limited to times when no ordnance would be firing. There would be no noise impacts on ATIs at Mauna Kea (adjacent to PTA) because the noise analysis shown in Section 8.6 indicates that noise contours relating to ordnance use and construction under SBCT would not extend much beyond the PTA boundaries.

Reduced Land Acquisition Alternative

Socioeconomic impacts from the RLA Alternative would be roughly the same as under the Proposed Action, except as described below. Reduced Land Acquisition would have beneficial effects on population, employment, income, and business volume, resulting from new construction, staff additions, and the resultant increased expenditures that would stimulate the economy within the ROI. Reduced Land Acquisition would have less than significant adverse effects on these resources and on housing.

Significant Impacts Mitigable to Less Than Significant

Impact 1: Economy (Business volume) in Hawai'i County. As described under the Proposed Action alternative, there would be one significant and mitigable impact on sales volume in Hawai'i County from construction activities at PTA under Reduced Land Acquisition. The increase in business volume and, thus, the level of impact would be slightly greater under Reduced Land Acquisition than under the Proposed Action due to the shift in construction and construction expenditures (of QTR2) from SBMR to PTA.

Additional Mitigation 1. Mitigation measures for this impact would be the same as those for the Proposed Action.

Impact 2: Schools. As described under the Proposed Action Alternative, the increase in population at SBMR could have a significant adverse long-term effect on schools in the surrounding area. Because the estimated increase in number of soldiers and school-age children associated with Reduced Land Acquisition would be the same as for the Proposed Action, the impact on schools serving the SBMR population would be the same.

Additional Mitigation 2. Mitigation measures for this impact would be the same as those for the Proposed Action.

Less Than Significant Impacts

Reduced Land Acquisition would involve converting fewer acres of land under cultivation for pineapples to military use than under the Proposed Action. This would represent a lower less than significant impact on the regional economy than the Proposed Action.

Employment. The shift in construction and construction expenditures from SBMR to PTA would likely result in slightly lower indirect employment increases in Honolulu County and slightly greater indirect income increases in Hawai'i County than under the Proposed Action. The effect on employment from Reduced Land Acquisition would be less than significant.

Income. The shift in construction and construction expenditures from SBMR to PTA would likely result in slightly lower indirect income increases in Honolulu County and slightly greater indirect income increases in Hawai'i County than under the Proposed Action. The effect of Reduced Land Acquisition on employment would be less than significant.

Economy (business volume). The shift in construction and construction expenditures from SBMR to PTA would likely result in slightly lower increases in business volume in Honolulu County and slightly greater indirect income increases in Hawai'i County than under the Proposed Action. The effect in Honolulu County of Reduced Land Acquisition on business volume would be less than significant.

No Action Alternative

Implementing No Action would not result in a change in the local economy or population, and no impacts on population, employment, income or the economy are anticipated. No effects on housing are expected because the number of people requiring housing on- or off-post would not change as a result of No Action. No effects on environmental justice are expected. No Action would not alter the existing health and safety, housing, or economic conditions of minority or low-income populations in Hawai'i or Honolulu Counties. No disproportionate effects on children are expected because No Action would not present any change in the public health or safety risk that could affect children. The Army would continue to provide measures to protect the safety of children, including the use of fencing, limitations on access to certain areas, and provision of adult supervision.