

## **CHAPTER 17.**

# **SOCIOECONOMICS AND GENERAL SERVICES**

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### **17.1 INTRODUCTION**

This chapter discusses the potential environmental consequences associated with implementation of the alternatives within the region of influence for each resource. For a description of the affected environment for all resources, refer to the respective chapter of Volume 2 (Marine Corps Relocation – Guam). The locations described in that Volume include the region of influence for the utilities and roadway projects, and the chapters are presented in the same order as the resource areas contained in this volume.

Socioeconomic impacts would be islandwide in nature with little difference in effects among the various alternatives. Therefore, the summary of impacts presented below covers all of the alternatives except the no-action alternative, which is treated separately in Section 17.2.2.6.

### **17.2 ENVIRONMENTAL CONSEQUENCES**

#### **17.2.1 Methodology**

Refer to corresponding section of Volume 2.

Analysis of impacts for Volume 6 is limited to the construction component, due to insufficient information about operational configurations.

No distinction is made among alternatives, as the critical input variable – construction cost – is not available for different alternatives. All calculations in this Chapter are based on single construction cost estimates for each Related Action provided by Joint Guam Program Office as of May 2009.

##### **17.2.1.1 Determination of Significance**

Refer to corresponding section of Volume 2.

The federal Council on Environmental Quality’s guidelines for determining significance states, “significance cannot be avoided by terming an action temporary or by breaking it down into small component parts” (Code of Federal Regulations Title 40 Sec 1508.27(b)(7)). Compared to the Marine Relocation action discussed in Volume 2, the individual utility and roadway proposals discussed in this Volume are relatively “small component parts.” However, because Volume 7 provides an assessment of significance for all the combined parts of the military buildup (the “aggregate action”), any finding in this chapter that the power, water, wastewater, solid waste, or roadways alone would have no impact (or a less than significant impact) does not avoid the possibility that the larger impact from the aggregate action would be significant.

##### **17.2.1.2 Issues Identified During Scoping**

Refer to corresponding section of Volume 2 for general discussion.

Most scoping comments focused on the specifics of utility ownership and operation (whether there would be joint use or independent Department of Defense [DoD] facilities), choice of technology, resistance to storms, and other logistical questions that have been previously addressed in the description and justification for the various alternatives.

There was also attention to the question of impacts on civilian ratepayers from the various utility

alternatives, especially the rate differences dependent on whether the utilities would be strictly for DoD operations or provide any benefit to the civilian population. Also, several comments predicted adverse social reactions if certain roads and facilities “outside the fence” are designated military-only.

## 17.2.2 Utilities

### 17.2.2.1 Population Impacts

Refer to the corresponding section of Volume 2 for introductory statements.

#### Project Related Population

##### *Approach to Analysis*

Table 17.2-1 provides assumptions made in conducting analysis for the construction phase, as well as the source of or rationale for those assumptions.

**Table 17.2-1. Construction Component Assumptions for Project Related Population Impacts**

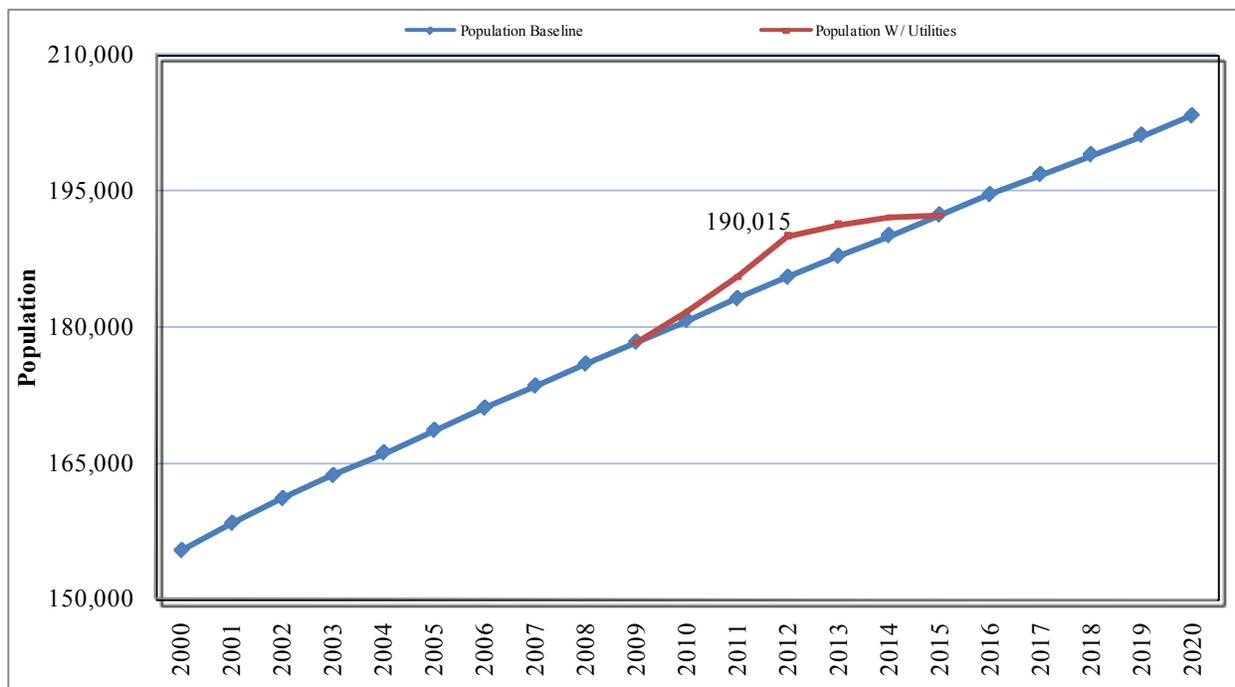
<i>Assumption</i>	<i>Assumed Value</i>	<i>Source/Rationale</i>
Average number of dependents for in-migrating direct, on-site, construction jobs	0.20 - 0.35	Estimate based on contractor interviews (Appendix F SIAS).
Average number of dependents for in-migrating direct from purchases jobs	0.95 - 1.0	U.S. Census national data on persons per jobs (U.S. Census 2000) and Guam DoL interviews (Appendix F SIAS).
Average number of dependents for in-migrating indirect/induced jobs	0.95 - 1.0	U.S. Census national data on persons per jobs (U.S. Census 2000) and Guam DoL interviews (Appendix F SIAS).

Table 17.2-2 indicates a 2012 peak-year impact of about 4,580 additional people.

**Table 17.2-2. Population Increase related to Utilities**

	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>
Total Impact	993	2,463	4,580	3,525	2,066

Figure 17.2-1 shows the projected total population for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the population rising to about 190,000 in 2012. The 2012 figure represents a 2.5% increase over the baseline trend. This meets the criteria used in this analysis for a significant impact, although population increases are considered to be inherently mixed (both beneficial and adverse), because population growth fuels economic expansion but sudden growth also strains government services and the social fabric.



**Figure 17.2-1. Population With and Without Utilities**

Demographic Characteristics

Refer to the corresponding section of Volume 2.

Household Characteristics

Refer to the corresponding section of Volume 2.

17.2.2.2 Economic Impacts

Employment and Income

Refer to the corresponding section of Volume 2 for introductory statements, approach to analysis (including data sources), and impact analysis.

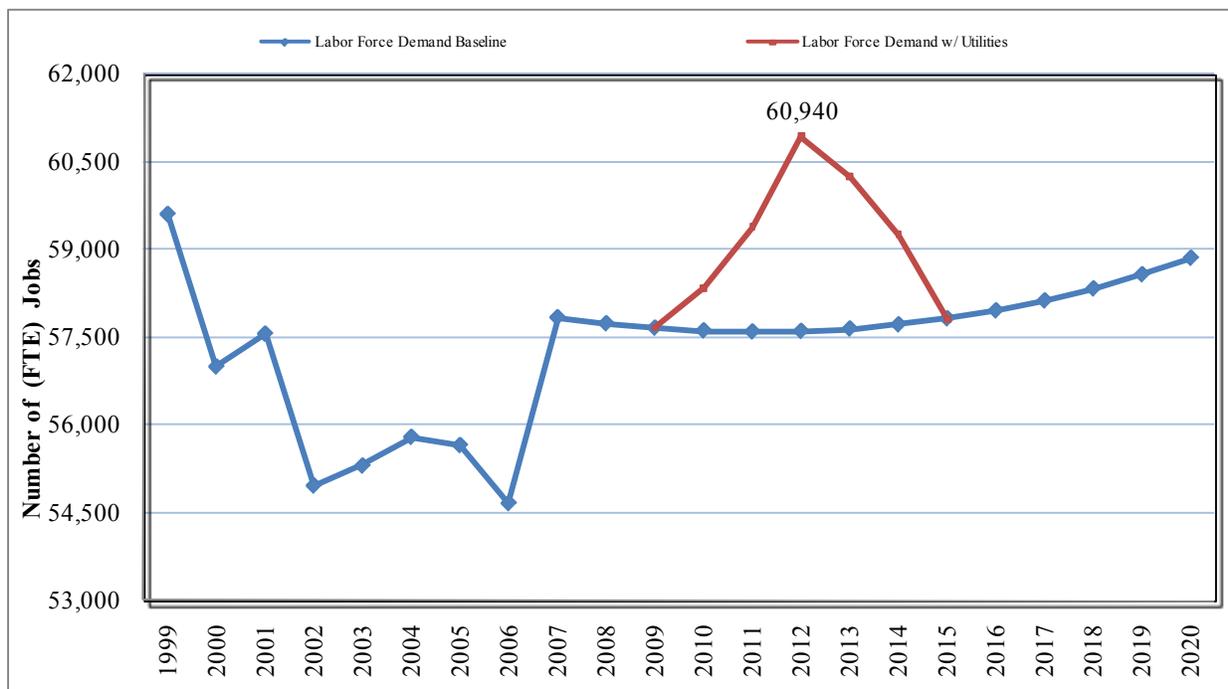
*Civilian Labor Force Demand*

Table 17.2-3 shows a civilian labor force demand for 3,333 workers in the peak year of 2012.

**Table 17.2-3. Civilian Labor Force Demand (Full-Time Equivalent Jobs), Utilities**

	2010	2011	2012	2013	2014
Total Impact	732	1,794	3,333	2,599	1,539

The figure below shows the projected total labor force demand for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the labor force demand rising to 60,940 in 2012, a 5.8% increase over the baseline trend. By the criteria used for this analysis, the impact is considered significant and beneficial.



**Figure 17.2-2. Civilian Labor Force Demand (Full-Time Equivalent Jobs) With and Without Utilities**

*Labor Source Supply*

Table 17.2-4 shows the probable labor source supply for direct onsite military construction jobs.

**Table 17.2-4. Estimated Origin of Workers Connected to Utilities Construction**

	2010	2011	2012	2013	2014
<b>TOTAL</b>	<b>413</b>	<b>1,013</b>	<b>1,884</b>	<b>1,471</b>	<b>871</b>
<b>GUAM</b>	<b>73</b>	<b>163</b>	<b>272</b>	<b>188</b>	<b>111</b>
<b>OFF-ISLAND</b>	<b>339</b>	<b>849</b>	<b>1,611</b>	<b>1,283</b>	<b>760</b>
H-2B Workers	289	726	1,381	1,103	653
<i>Philippines</i>	245	617	1,174	938	555
<i>Other</i>	26	65	124	99	59
CONUS/Hi/Japan	5	13	24	19	11
<i>Supervisor (U.S., Japan)</i>	2	5	10	8	5
<i>Labor</i>	3	8	14	11	6
Other U.S. Pacific Islands	45	111	206	161	95

Table 17.2-5 estimates the share of non-military construction direct and indirect jobs, going to Guam residents versus off-island workers.

**Table 17.2-5. Estimated Numbers of On-Island Workers for Various Job Categories Other Than Direct On-Site Construction, Utilities**

	2010	2011	2012	2013	2014
Guam Workers	50	99	166	140	92
Off-Island Workers	269	682	1,284	988	576

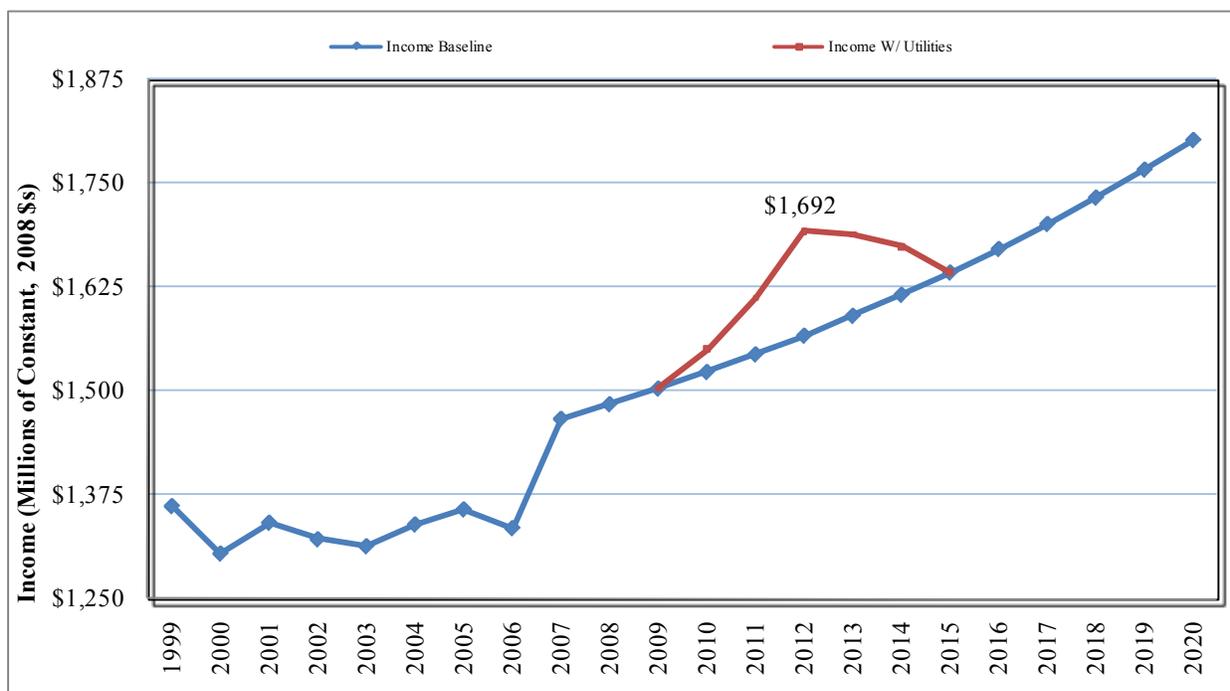
*Civilian Labor Force Income*

Table 17.2-6 below shows that labor force income from the proposed action increases by \$125 million at the 2012 peak.

**Table 17.2-6. Impact on Civilian Labor Force Income (Millions of 2008 \$s), Utilities**

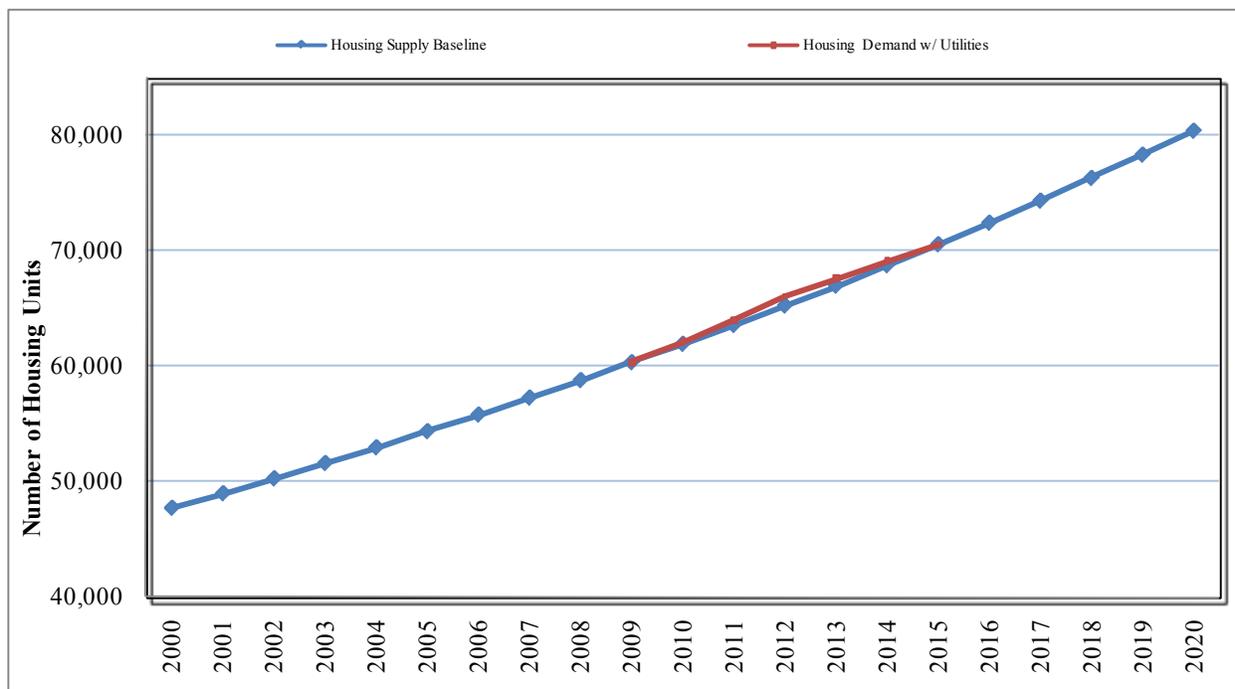
	2010	2011	2012	2013	2014
Total Impact	\$28	\$68	\$125	\$98	\$58

Figure 17.2-3 shows the projected total labor force income for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the labor force income rising to about \$1.69 billion in 2012. The 2012 figure represents an 8% increase over the baseline trend. This meets the criteria used in this analysis for a beneficial significant impact.



**Figure 17.2-3. Civilian Labor Force Income (Millions of 2008 \$s) With and Without Utilities**

Figure 17.2-4 shows the projected total housing demand for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the housing demand rising to 66,088 in 2012. By the criteria used for this analysis, this is a less than significant impact for the utilities alone, except in conjunction with the aggregate action effects summarized in Volume 7.



**Figure 17.2-4. Housing Demand With and Without Utilities**

*Standard of Living*

Refer to the corresponding section of Volume 2.

*Unemployment*

Refer to the corresponding section of Volume 2.

Housing

Refer to the corresponding section of Volume 2 for introductory statements and approach to analysis (including data sources).

*Civilian Housing Demand*

Table 17.2-7 indicates the impact of the proposed action would result in a demand for 822 new units in the peak year of 2012.

**Table 17.2-7. Demand for New Civilian Housing Units, Utilities**

	2010	2011	2012	2013	2014
Total Impact	181	446	822	622	363

*Housing Supply*

The housing market would be able to accommodate the demand if it did not occur simultaneously with other and larger aspects of the aggregate action.

Utility Rates - Power

Potential effects on ratepayers are unknown at this time and would depend in large part on agreements reached between the Department of Navy (Navy) and Guam Power Authority (GPA). The current

Customer Agreement was originally adopted in 1992, has since been updated, and is scheduled to end in 2012.

This agreement would likely need to be renegotiated. The outcome of the negotiations would determine, among other factors, the rates DoD will pay for the interim demand provided by the reconditioned generating systems owned by Guam Power Authority (GPA). Those systems are expected to be more expensive to operate than the average of the current GPA generating systems that are currently used. There will be additional capital expenses to upgrade transmission and distribution systems and installing some of those upgrades underground for improved reliability. Some of those capital expenses will have to be amortized over a short time period should the long-term solutions to power be constructed in the near future (currently assumed at 2015).

#### Utility Rates - Water

New DoD water facilities are likely to be operated separately from the system operated by Guam Water Authority (GWA) and hence, no impacts to Guam rate payers are expected from use by DoD facilities. However, current water customers, civilian military workers, and other direct and indirect workers related to the proposed action would be impacted as GWA embarks on a major capital improvement project that it is financing, partly through rate increases.

#### Utility Rates – Wastewater

GWA has been working under two federal waivers to the Clean Water Act; the waivers have relieved GWA of the requirement to conduct secondary sewage treatment. As of October 2009, the federal Environmental Protection Agency (EPA) has denied the renewal of these waivers (GWA may appeal the ruling). Without the waivers GWA would be required to upgrade existing facilities to conduct secondary treatment. Upgrading the facilities would be costly and drive wastewater rates higher. In the future, if the waiver denial is not revised, Guam ratepayers should expect higher wastewater rates. The proposed action would upgrade the North District Wastewater Treatment Plant (NDWWTP) primary treatment capacity in the near term and provide for secondary treatment in the medium term. The financing arrangements would need to be determined, but it is expected that the DoD would pay for their fair share of the upgrades to the NDWWTP through hook up and other user fees. There would also be the potential of a special purpose entity arrangement to facilitate the secondary capability for this plant. Under this scenario, the expected rate increases would be expected to be similar with or without the proposed action and could be less due to an expanded customer base over which to spread the impact.

#### Utility Rates – Solid Waste

Population increases as a result of the proposed action would increase the level of solid waste service that would need to be provided along with the total cost of providing services. The increased costs, though, would be spread over a larger group of ratepayers. It is possible that, as the level of service increases the services would become more efficiently operated and rates for individuals would decline. It is more likely; however, that rates would have little changes as a result of the proposed action.

#### Local Government Revenues

Refer to the corresponding section of Volume 2 for introductory statements and approach to analysis (including data sources).

Table 17.2-8, Table 17.2-9, and Table 17.2-10, show the impact of the proposed action would add \$12.27 million to the Gross Receipts Tax (GRT), \$3.1 million to the corporate income tax revenue, and \$15 million to the personal income tax revenue in the 2012 peak.

**Table 17.2-8. Impact on Gross Receipts Tax Revenue (1,000s of 2008 \$s), Utilities**

	2010	2011	2012	2013	2014
GRT	\$2,692	\$6,604	\$12,278	\$9,583	\$5,674

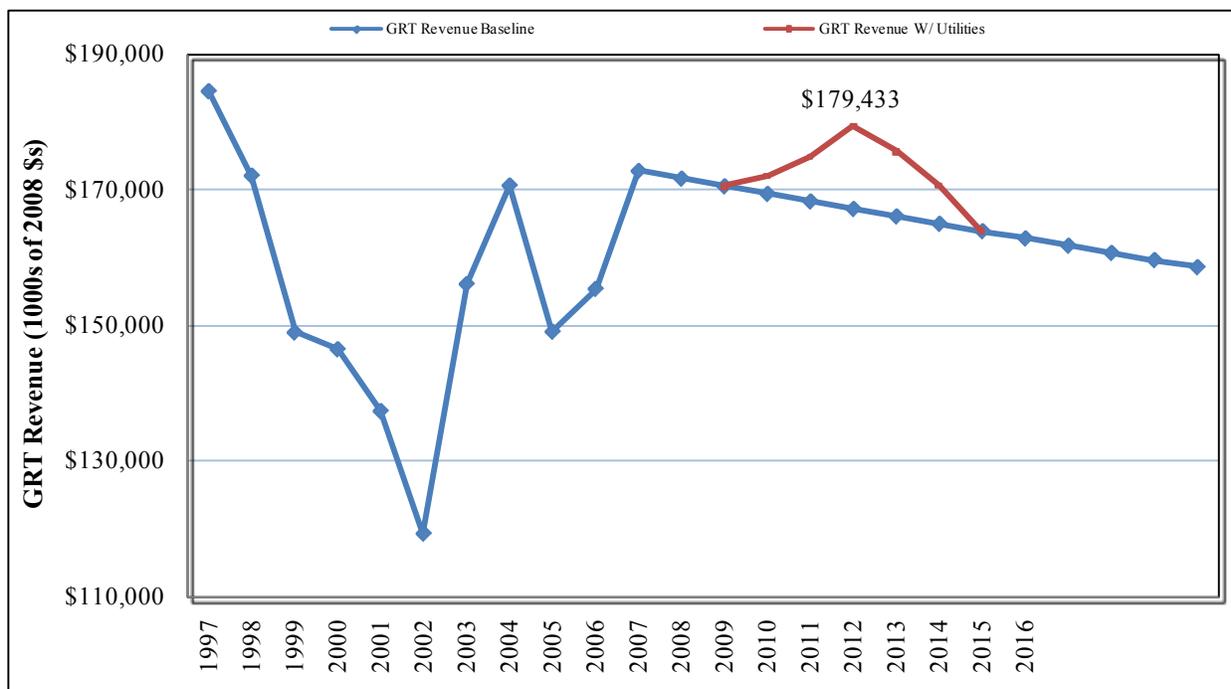
**Table 17.2-9. Impact on Corporate Income Taxes Revenue (1,000s of 2008 \$s), Utilities**

	2010	2011	2012	2013	2014
Corporate Income	\$686	\$1,684	\$3,131	\$2,444	\$1,447

**Table 17.2-10. Impact on Personal Income Taxes Revenue (1,000s of 2008 \$s), Utilities**

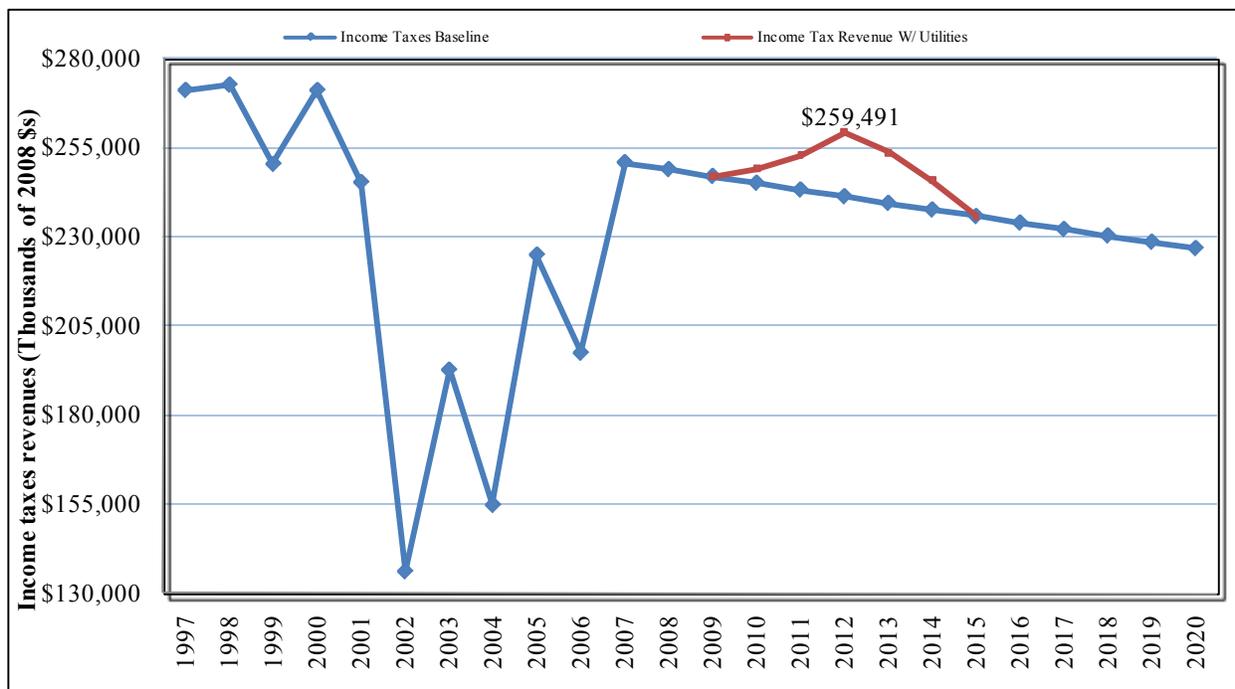
	2010	2011	2012	2013	2014
Personal Income	\$3,306	\$8,103	\$15,049	\$11,734	\$6,948

Figure 17.2-5 shows the projected total GRT for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the gross receipts tax rising to \$179 million at the 2012 construction peak, a 7% increase over the baseline trend. This meets the criteria used in this analysis for a beneficial significant impact.



**Figure 17.2-5. Gross Receipts Tax Revenue With and Without Utilities**

Figure 17.2-6 shows the projected total income tax revenue – corporate and personal income taxes – for the baseline trend plus the total combined impact of the proposed action. The chart shows the income tax revenue rising to \$259 million in 2012, an 8% increase over the baseline trend. This meets the criteria used in this analysis for a beneficial significant impact.



**Figure 17.2-6. Income Taxes Revenue (Combined) With and Without Utilities**

Gross Island Product

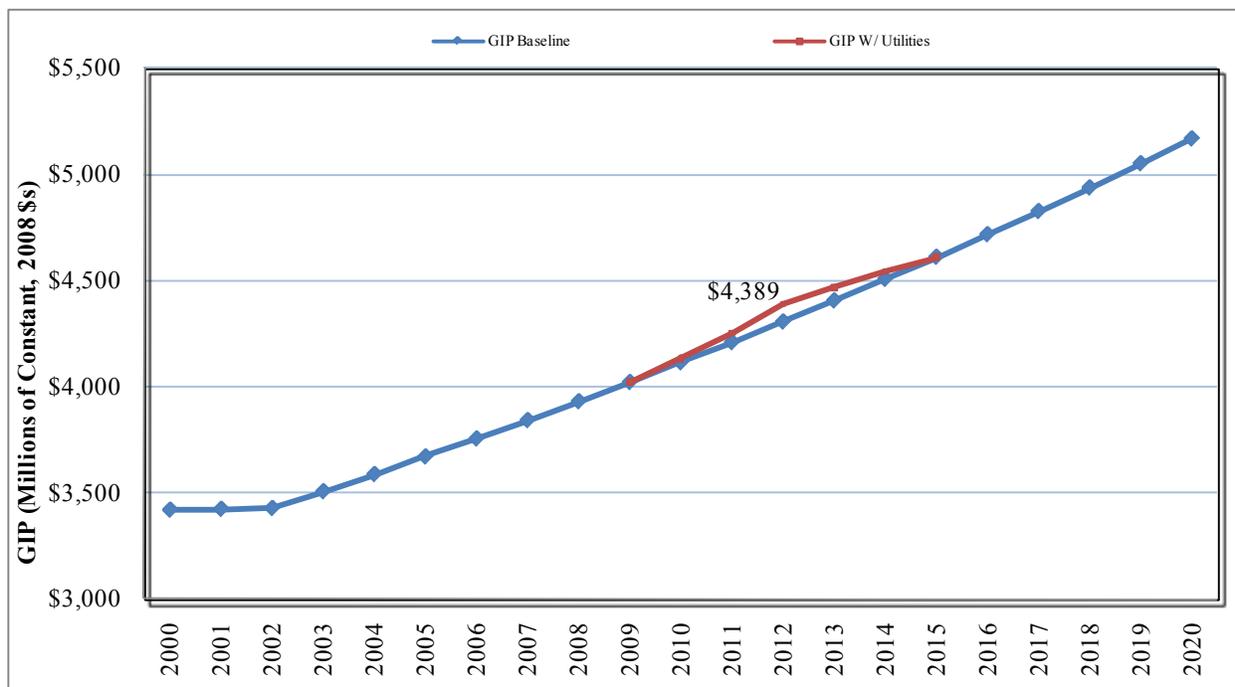
Refer to the corresponding section of Volume 2 for introductory statements and approach to analysis (including data sources).

Table 17.2-11 shows the impact would add a peak amount of \$83 million to the Gross Island Product (GIP) in 2012.

**Table 17.2-11. Impact on Gross Island Product (Millions of 2008 \$), Utilities**

	2010	2011	2012	2013	2014
Total Impact	\$18	\$45	\$83	\$65	\$38

Figure 17.2-7 shows the projected total GIP for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the GIP rising to \$4.39 billion in 2012. The 2012 figure represents a 2% increase over the baseline trend. This is a significant beneficial impact.



**Figure 17.2-7. Gross Island Product (Millions of 2008 \$) With and Without Utilities**

17.2.2.3 Public Service Impacts

Refer to the corresponding section of Volume 2 for introductory statements, approach to analysis (including data sources), and qualitative impact analysis. Some public service impacts associated with utilities alternatives are expected to be significant..

Public Education

Table 17.2-12 shows the estimated number of key full time equivalent professional staff required due to utilities projects. The peak requirement in 2012, stemming from construction direct and indirect impacts, is about 2% greater than baseline staffing levels for all the agencies listed below. By the criteria used for this analysis, this would be considered a significant (adverse) impact.

**Table 17.2-12. Additional Public Education Key Professionals Required, Utilities**

	2010	2011	2012	2013	2014
GPSS Elementary Schools	4.5	11	20	15	9
GPSS Middle Schools	2	5	9	7	4
GPSS High Schools	2	5	8	6	4
GCC	0	1	2	2	1
UoG	1	2	4	3	2

Public Health and Human Services

Further discussion on public health implications can be found in Chapter 19 of this volume, “Public Health and Safety.”

Table 17.2-13 shows the estimated number of key FTE professional staff required due to the action. The peak requirement in 2012 is about 3% greater than reported baseline staffing levels for each agency listed below. By the criteria used for this analysis, this would be considered a significant (adverse) impact.

**Table 17.2-13. Additional Public Health and Human Service Key Professionals Required, Utilities**

	2010	2011	2012	2013	2014
GMHA Physicians	0.4	1	2	1	1
GMHA Nurses, Allied Health Professionals	2	5	10	8	5
GDPHSS Bureau of Primary Care Medical Providers and Nursing Staff	0.2	1	1	1	1
GDPHSS CDC Prevention Specialists	0.2	0.5	0.9	0.7	0.4
GDPHSS BFHNS Nursing Personnel	0.1	0.3	0.6	0.5	0.3
GDMHSA Mental Health Professionals	1	2	3	3	2
GDISID Social Workers and Counselors	0.1	0.2	0.4	0.3	0.2

### Public Safety Services

Further discussion on public safety implications can be found in Chapter 19 of this volume, “Public Health and Safety.”

Table 7.2-14 shows the estimated number of key FTE professional staff required due to the action. The peak requirement in 2014, when the full effects of the action are added to ongoing construction, is about 2% greater than reported baseline staffing levels. By the criteria used for this analysis, this would be considered a significant (adverse) impact.

**Table 17.2-14. Additional Public Safety Key Professionals Required, Utilities**

	2010	2011	2012	2013	2014
GPD Sworn Police Officers	2	4	8	6	4
GFD Uniformed Fire Personnel	1	3	6	5	3
GDoC Custody and Security Personnel	1	2	4	3	2
GDYA Youth Service Professionals	0.3	1	1	1	1

### Other Selected General Services

Table 17.2-15 shows the estimated number of key FTE professional staff required due to the proposed action. The peak requirement in 2012 is about 2% greater than reported baseline staffing levels for each agency listed below. By the criteria used for this analysis, this would be considered a significant (adverse) impact.

**Table 17.2-15. Additional Key Professionals Required for Selected Other General Services, Utilities**

	2010	2011	2012	2013	2014
GDPR Staffing	0.5	1.3	2.3	1.8	1.1
PLS Staffing	0.2	0.4	0.7	0.6	0.3
Judiciary Judges	0.0	0.1	0.2	0.1	0.1

### Growth Permitting and Regulatory Agencies

Table 17.2-16 shows the estimated number of key FTE professional staff required due to the action. The peak requirement for most agencies is only slightly above reported baseline staffing levels, but for a few agencies with very small baseline staff levels even the small numbers below represent a fairly high percentage increase. For example, the Alien Labor Processing and Certification Division (ALPCD) peak value of 2.3 is 46% greater than the baseline level (just five positions), and the peak Guam Department of Parks and Recreation (GDPR) - Historic Preservation Office (HPO), number of 1.3 is 19% greater than baseline. Although the percentages vary by agency, the overall assessment would be one of less than significant impacts for the utilities alone, except in conjunction with other aspects of the aggregate action.

**Table 17.2-16. Additional Growth Permitting Staff Required, Utilities**

	2010	2011	2012	2013	2014
Guam DPW Permitting Staff	0.0	0.0	0.0	0.0	0.0
GDLM Permitting Staff	3.5	3.4	3.4	3.3	3.3
GEPA Permitting Staff	1.1	1.2	7.2	6.4	5.6
CMP Permitting Staff	1.4	1.4	1.7	1.3	1.1
GPA Permitting Staff	0.3	0.6	0.8	0.6	0.3
GWA Permitting Staff	0.6	2.8	2.1	1.4	0.3
GFD Permitting Staff	0.0	0.1	0.1	0.1	0.0
GDPHSS – DEH Permitting Staff	0.1	0.2	0.3	0.2	0.1
GDPR – HPO Permitting Staff	1.6	1.3	1.0	0.7	0.5
GdoL – ALPCD Permitting Staff	1.0	1.5	2.3	0.0	0.0

#### 17.2.2.4 Sociocultural Impacts

The sociocultural impacts associated with utilities alternatives are not expected to be significant, except as they contribute to significant aggregate effects discussed in Volume 7.

#### 17.2.2.5 Summary of Utilities Impacts

The economic activity from the proposed action would add about 4,580 residents to Guam's population at the 2012 construction peak for utilities work.

Including all the spin-off activity, the proposed action would provide jobs for about 3,330 civilian workers in 2012. Guam residents are estimated to capture about 270 of the direct on-site construction jobs for utilities at the 2012 peak, as well as approximately 170 spin-off jobs that year.

Civilian housing unit demand driven by the utilities work would peak at about 820 units in 2012.

Although a more detailed fiscal impact assessment would be done by GovGuam using output from this EIS, preliminary estimates in this chapter suggest revenues from the three most important tax sources – gross receipts, corporate income, and personal income – would exceed \$30.4 million in 2012.

Guam's GIP, the total market value of all final goods and services produced in a given year, would increase by \$83 million (2008 dollars) at the 2012 construction peak due to utilities.

GovGuam's public service agencies would need to make small but significant staffing increases to service new population associated with roadways construction. Most of these agencies would need to expand their services and staff by more than 2%.

Sociocultural impacts of utility construction would be negligible.

Table 17.2-17 summarizes the potential impacts and bullets with the rationale.

**Table 17.2-17. Summary of Potential Socioeconomic Impacts-Utilities**

<i>Impact Area</i>	<i>Utilities</i>
Population	BI <ul style="list-style-type: none"> <li>Significant beneficial impact due to economic expansion fueled by increased population (See Economic impacts below)</li> </ul> SI-M <ul style="list-style-type: none"> <li>Significant adverse impacts due to strains placed upon government services and the social fabric (See Public Service and Sociocultural impacts below)</li> </ul>
Civilian Labor Force Demand	BI <ul style="list-style-type: none"> <li>Significant beneficial impacts due to provision of permanent jobs on Guam</li> </ul>
Civilian Labor Force Income	BI <ul style="list-style-type: none"> <li>Significant beneficial impacts due to permanent infusion of income into the Guam economy</li> </ul>
Standard of Living	NI <ul style="list-style-type: none"> <li>No significant impact from the proposed action construction or operation.</li> </ul>
Selected Local Government Revenues	BI <ul style="list-style-type: none"> <li>Significant beneficial impacts due to increase in local government revenue</li> </ul>
Civilian Housing Demand	LSI <ul style="list-style-type: none"> <li>Civilian Housing Demand: Less than significant direct and indirect impact demand for civilian (private-market, excluding temporary construction workforce housing) housing units peaking at 822 units in 2012</li> </ul>
Effects on Ratepayers	LSI <ul style="list-style-type: none"> <li>In some cases rate increases are expected however, these rate increases are already planned and not related to the proposed action. It is also possible that rates for some utilities could decline due to the increased customer base.</li> </ul>
Gross Island Product	BI <ul style="list-style-type: none"> <li>Significant operational phase beneficial impacts due to permanent increased GIP strengthening the Guam economy</li> </ul>
Local Business Opportunities	BI <ul style="list-style-type: none"> <li>Beneficial impacts due to increased military service contract opportunities for local Guam businesses</li> </ul>
Tourism	NI <ul style="list-style-type: none"> <li>No significant impact from the proposed action construction or operation.</li> </ul>
Public Service Agencies Influenced by Population Increases	SI-M <ul style="list-style-type: none"> <li>Significant adverse impacts due to difficulty in meeting fluctuating staffing requirements during and following the construction phase with an existing environment of staffing and budget shortfalls and recruitment complications</li> </ul> SI <ul style="list-style-type: none"> <li>Significant adverse impact due to difficulty in recruiting and funding adequate staffing during operational phase</li> </ul> BI <ul style="list-style-type: none"> <li>Significant beneficial impact due to provision of additional jobs on Guam, if labor supply and funding is available during operational phase</li> </ul>
Growth Permitting and Regulatory Agencies	LSI <ul style="list-style-type: none"> <li>Less than significant construction-related adverse impacts due to difficulty in meeting fluctuating staffing requirements with an existing environment of staffing and budget shortfalls and recruitment complications</li> </ul>
Crime and Social Order	NI <ul style="list-style-type: none"> <li>No impacts from the proposed project alone.</li> </ul>
Chamorro Issues	NI <ul style="list-style-type: none"> <li>No impacts from the proposed project alone.</li> </ul>

<i>Impact Area</i>	<i>Utilities</i>
Community Cohesion	NI <ul style="list-style-type: none"> <li>• No impacts from the proposed project alone.</li> </ul>

*Legend:* SI = Significant Impact, BI = Beneficial Impact, SI-M = Significant Impact- Mitigable, LSI = Less than Significant Impact, NI = No impact.

#### 17.2.2.6 No-Action Alternative

The assumed no-action alternative is that all parts of the aggregate action, not just the proposed action covered in this volume, but also other components addressed in other volumes do not occur. Therefore, the no-action conclusions given below are identical to those in Volume 2 for the Marine Corps relocation and/or Volume 7 for the aggregate action. The references below to substantial impacts with the proposed action would in fact apply more to those volumes than to this Volume 6 covering the Utilities action, as Utilities impacts alone sometimes would not attain significance.

Unlike physical resources, socioeconomic systems do not tend to remain completely at baseline conditions if a proposed action is not implemented. Economies and population levels change due to other reasons as well. The various foregoing exhibits showing baseline trends for economic and demographic variables indicate long-term trends expected to continue without the proposed action, and Volume 7 will list a number of specific socioeconomic changes expected to occur independent of the proposed action. Furthermore, the announcement of the proposed action has already had socioeconomic consequences, such that a 2010 decision not to follow through on the military buildup would have short-term effects associated with a reversal of those existing consequences.

#### Population/Economic Impacts

In the short term, a decision not to implement the proposed action would deflate any current speculative activity attributable the proposed action. Real estate values in particular would likely drop, hurting investors but increasing the affordability of housing. The contrast between the business community's expectations and a negative Record of Decision would likely produce a period of pessimism about Guam's economic future, especially if the current national and international economic crisis has not yet abated. These effects, though, would be attributable an unstable world economic landscape and poor decision making by investors – not to the proposed action.

Long term, the island's prospects would remain linked to international economic conditions and the health of its tourism industry. Conceivably, a smaller military profile might remove some barriers to growing the potential Chinese tourism market. Growth would resume, though probably with the same volatility experienced in recent decades.

#### Public Service Impacts

In the case of the no-action alternative, the specific agencies discussed earlier in this chapter would not face the listed pressures to expand professional staffing, and agencies involved in planning and regulating growth would not experience such a sharp increase in workload. Although this was not specifically covered in the foregoing analysis, it may also be noted that agencies that are required to implement major infrastructure developments, such as the ports and highways, would have substantially more time to implement long-term plans rather than having to achieve much of their objectives over the next few years.

However, at the broader level, the no-action alternative and the elimination of prospective long-term revenues expected from the proposed action still would leave GovGuam agencies in the difficult financial condition described in Volume 2, Section 16.22.11. At least for the foreseeable future, this would negatively impact the various service agencies because of budget cuts, and would probably represent the

most important overall consequence for GovGuam.

**Sociocultural Impacts**

To the extent that Guam experiences job losses crime rates may rise in the short term. The political importance of some Chamorro issues would likely recede as the militarization of Guam is stabilized at something close to present levels. Military-civilian relations would likely remain at the current generally positive level.

The incentive for increased in-migration from the Freely Associated States of Micronesia (FAS) would decrease, reducing sociocultural issues associated with assimilating that population. However, the current incentives for providing those populations, both on Guam and the Micronesian states themselves, would also be lessened, with detrimental implications for those populations.

**17.2.2.7 Utilities Potential Mitigation Measures**

A review of the above impacts show that the proposed action has the potential to have primarily either beneficial or no impacts on Guam with the exception of population and public service agencies where the proposed action could significant adverse impacts. Therefore, the mitigation measures identified below provide avenues to mitigate these adverse impacts while taking into account Guam’s unique position as an isolated island economy.

Table 17.2-18 shows potential power utilities mitigation measures.

**Table 17.2-18. Potential Utilities Mitigation Measures**

<i>Impact Area</i>	<i>Adverse Impacts</i>	<i>Mitigation Measures</i>
Population	<ul style="list-style-type: none"> <li>Significant adverse impacts due to strains placed upon government services and the social fabric (See Public Service and Sociocultural impacts below)</li> </ul>	<ul style="list-style-type: none"> <li>DoD can modify the construction tempo in order to smooth out the adverse impacts of a large jump in population on Guam – reducing the boom and bust effect identified in the analysis.</li> <li>DoD can decrease the rapid population increase associated with the operations phase by delaying the date that Marine dependents would move to Guam.</li> </ul>
Public Service Agencies Influenced by Population Increases	<ul style="list-style-type: none"> <li>Significant adverse impacts due to difficulty in meeting fluctuating staffing requirements during and following the construction phase with an existing environment of staffing and budget shortfalls and recruitment complications</li> <li>Significant adverse impact due to difficulty in recruiting and funding adequate staffing during operational phase</li> </ul>	<p>DoD can implement:</p> <ul style="list-style-type: none"> <li>incentive programs for military spouses and dependents that apply for and are hired into GovGuam public service agency employment.</li> <li>volunteer programs for military, their spouses and dependents, linking them to long-term GovGuam public service agency volunteer positions.</li> <li>Collaborative efforts with the federal government and GovGuam to identify and provide grant writing assistance to Guam public service organizations and agencies that have existing AmeriCorps program, or have the potential to host an AmeriCorps program, to facilitate an increase in AmeriCorps service on Guam.</li> </ul> <p>DoD can assist GovGuam in seeking federal funding for:</p> <ul style="list-style-type: none"> <li>the necessary permanent number professional staff identified, as well as the number of administrative and supporting staff needed for these professions to perform their positions adequately.</li> </ul>

Impact Area	Adverse Impacts	Mitigation Measures
		<ul style="list-style-type: none"> <li>• an increase in the number of private staffing and service contractors currently working for service agencies, to match staffing requirements.</li> <li>• a one-time hiring bonus of 20% of base pay for all GovGuam agency positions, to increase interest in GovGuam agency employment and compete with wages offered by private offices.</li> </ul> <p>DoD can assist GovGuam with technical assistance, development and implementation of comprehensive data collection systems focused on:</p> <ul style="list-style-type: none"> <li>• public services provided to FAS citizens in order to facilitate GovGuam access of Compact Impact and other related funding.</li> <li>• public services provided to military individuals, in order to facility GovGuam access of TRICARE and other related funding.</li> <li>• patient information, records, and services accessed, in order to facilitate appropriate care administered in a timely manner.</li> </ul> <p>DoD can assist GovGuam in seeking federal funding for technical assistance, development, and implementation of a system of interpreters and translators available for the interpreting and translating needs of GovGuam public service agencies, to facilitate timely and appropriate provision of services for the English as a Second Language service population.</p>

**17.2.3 Off Base Roadways**

**17.2.3.1 Population Impacts**

Refer to the corresponding section of Volume 2 for introductory statements.

Project Related Population

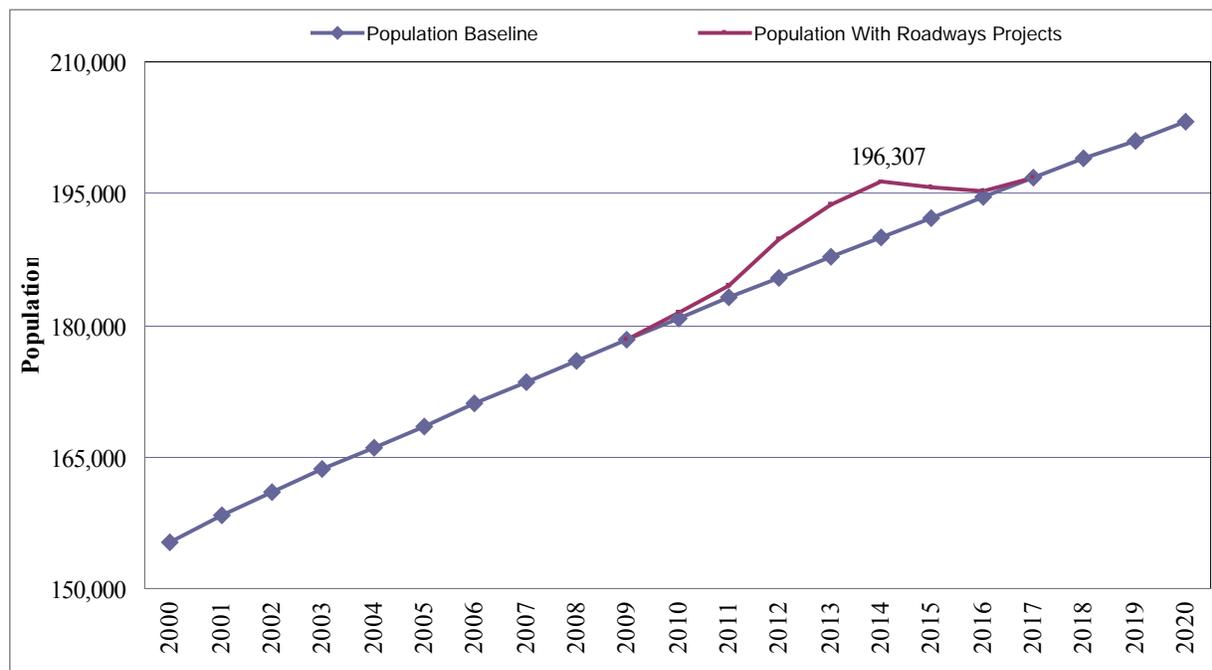
Please refer to the Utilities Population Impacts section for information on the assumptions used in the analysis.

Table 17.2-19 indicates a 2014 peak-year impact of 6,265 additional people.

**Table 17.2-19. Impact on Population, Roadways**

	2010	2011	2012	2013	2014	2015	2016
Total Construction Impact	806	1,508	4,238	6,042	6,265	3,471	770

Figure 17.2-8 shows the projected total population for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the population rising to 196,307 in 2014. The 2014 figure represents a 3.3% increase over the baseline trend. This figure meets the criteria used in this analysis for a significant impact, although population increases are considered to be inherently mixed (both beneficial and adverse), because population growth fuels economic expansion but sudden growth also strains government services and the social fabric.



**Figure 17.2-8. Population With and Without Roadways**

#### Demographic Characteristics

Refer to the corresponding section of Volume 2.

#### Household Characteristics

Refer to the corresponding section of Volume 2.

#### 17.2.3.2 Economic Impacts

#### Employment and Income

Refer to the corresponding section of Volume 2 for introductory statements and approach to analysis (including data sources).

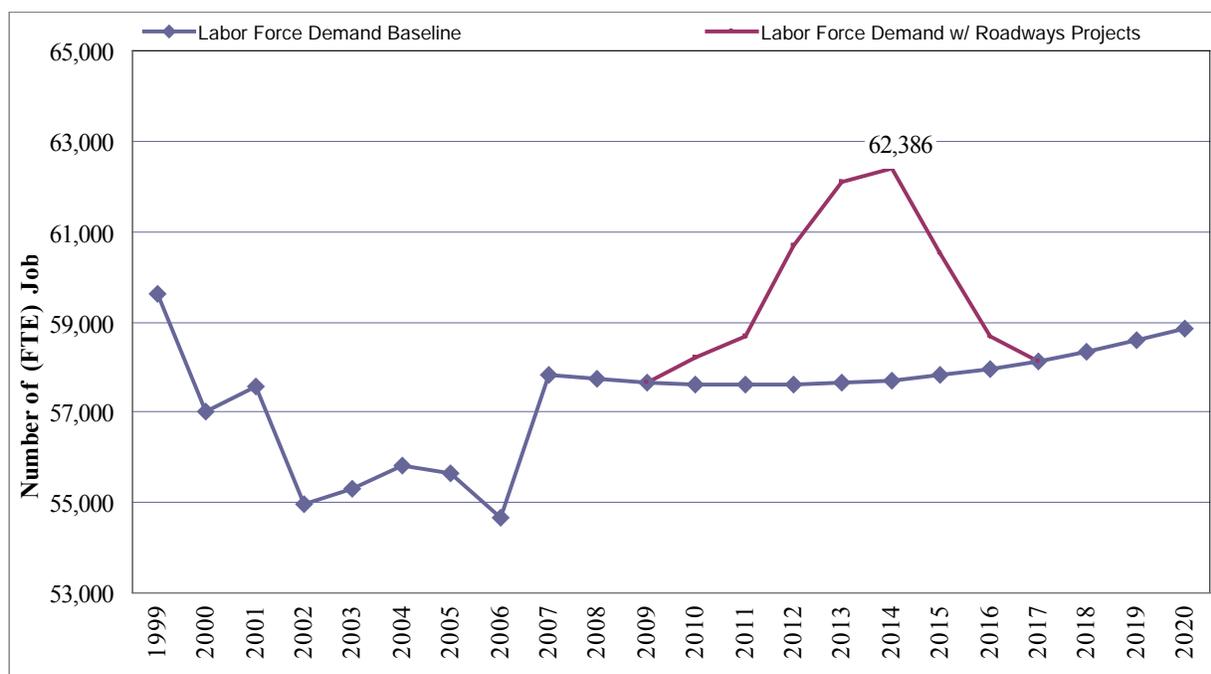
#### *Civilian Labor Force Demand*

Table 17.2-20 shows a civilian labor force demand for 4,667 workers in the peak year of 2014.

**Table 17.2-20. Impact on Civilian Labor Force Demand (Full-Time Equivalent Jobs), Roadways**

	2010	2011	2012	2013	2014	2015	2016
Total Construction Impact	594	1,099	3,084	4,455	4,667	2,682	716

Figure 17.2-9 shows the projected total labor force demand for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the labor force demand rising to 62,386 in 2014. The 2014 figure represents an 8% increase over the baseline trend. By the criteria used for this analysis, the impact is considered significant and beneficial.



**Figure 17.2-9. Civilian Labor Force Demand With and Without Roadways**

*Labor Force Supply*

Table 17.2-21 shows the probable labor source supply for direct onsite roadway construction jobs.

**Table 17.2-21. Estimated Origin of Workers Constructing Roadways**

	2010	2011	2012	2013	2014	2015	2016
<b>TOTAL</b>	<b>335</b>	<b>620</b>	<b>1,743</b>	<b>2,521</b>	<b>2,641</b>	<b>1,518</b>	<b>405</b>
<b>GUAM</b>	<b>60</b>	<b>100</b>	<b>252</b>	<b>322</b>	<b>337</b>	<b>194</b>	<b>52</b>
<b>OFF-ISLAND</b>	<b>275</b>	<b>520</b>	<b>1,491</b>	<b>2,199</b>	<b>2,304</b>	<b>1,324</b>	<b>353</b>
H-2B Workers	235	444	1,278	1,891	1,981	1,139	304
<i>Philippines</i>	199	378	1,087	1,607	1,684	968	258
<i>Other</i>	21	40	115	170	178	102	27
CONUS/HI/Japan	4	8	22	32	34	19	5
<i>Supervisor (U.S., Japan)</i>	2	3	9	13	14	8	2
<i>Labor</i>	2	5	13	19	20	11	3
Other U.S. Pacific Islands	37	68	191	276	289	166	44

Table 17.2-22 estimates the share of non-military construction direct and indirect jobs, going to Guam residents versus off-island workers.

**Table 17.2-22. Estimated Numbers of On-Island Workers for Various Job Categories Other Than Direct On-Site Construction (Roadways)**

	2010	2011	2012	2013	2014	2015	2016
Guam Workers	41	61	153	240	278	223	139
Off-Island Workers	219	418	1,188	1,693	1,748	942	172

Note: Demand is in terms of FTE jobs, and assumes one worker per FTE job.

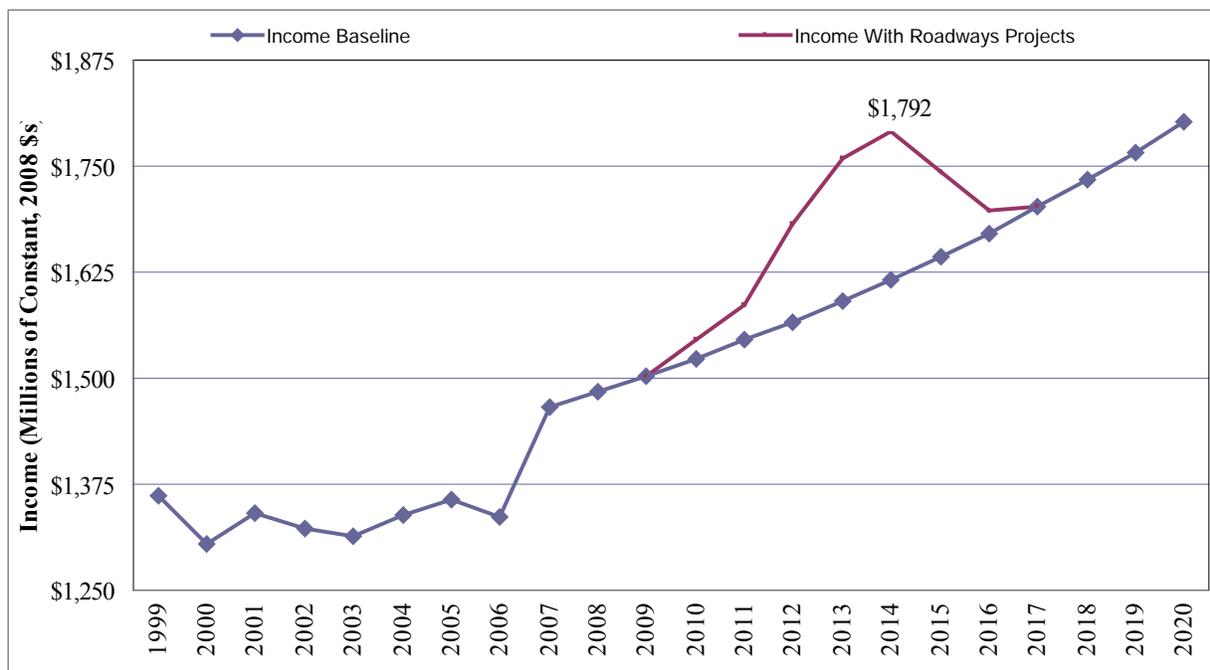
*Civilian Labor Force Income*

Table 17.2-23 below shows that labor force income from the proposed action increases by about \$176 million at the 2014 peak.

**Table 17.2-23. Impact on Civilian Labor Force Income (Millions of 2008 \$s), Roadways**

	2010	2011	2012	2013	2014	2015	2016
Total Construction Impact	\$22	\$41	\$116	\$168	\$176	\$101	\$27

Figure 17.2-10 shows the projected total labor force income for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the labor force income rising to \$1.792 billion in 2014. The 2014 figure represents an 11% increase over the baseline trend. By the criteria used for this analysis, the impact is considered significant and beneficial.



**Figure 17.2-10. Civilian Labor Force Income (Millions of 2008 \$s) With and Without Roadways**

*Standard of Living*

Refer to the corresponding section of Volume 2 for general discussion. The proposed action, in and of itself, would be sufficiently small and would be unlikely to have significant impacts on costs or standards of living, either in construction or operational components, except in conjunction with the aggregate action.

*Unemployment*

Refer to the corresponding section of Volume 2.

Housing

Refer to the corresponding section of Volume 2 for introductory statements and approach to analysis (including data sources).

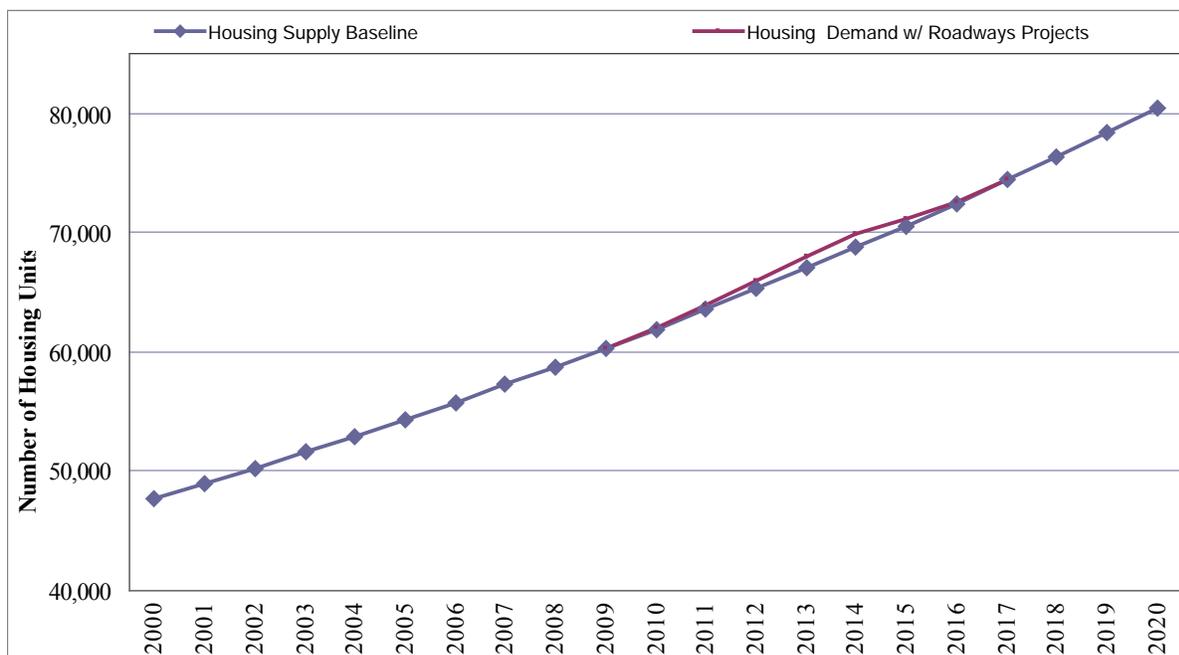
*Civilian Housing Demand*

Table 17.2-24 indicates the impact of the proposed action would result in a demand for 1,100 new units in the peak year of 2014.

**Table 17.2-24. Demand for New Civilian Housing Units, Roadways**

	2010	2011	2012	2013	2014	2015	2016
Total Construction Impact	147	273	760	1,066	1,100	599	120

Figure 17.2-11 shows the projected total housing demand for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the housing demand rising to about 69,874 in 2014. The 2014 figure represents only a 1.6% increase over the baseline trend. This does not meet the 2% threshold for “significance” being used for this analysis. However, it adds to the significant impact for civilian housing from the overall aggregate action discussed in Volume 7.



**Figure 17.2-11. Housing Demand With and Without Roadways**

*Housing Supply*

The housing market would be able to accommodate the relatively minor demand – at least theoretically, if it did not occur simultaneously with other and larger aspects of the aggregate action.

Potential Effects on Ratepayers

As it is not expected that new roadways would be toll roads, there would be no effects on ratepayers.

Estimated Local Government Revenues

Refer to the corresponding section of Volume 2 for introductory statements and approach to analysis (including data sources).

Table 17.2-25, Table 17.2-26 and Table 17.2-27 show the impact of the proposed roadways would add \$17 million to the GRT, \$4.4 million to the corporate income tax revenue, and \$21 million to the personal income tax revenue in the 2014 peak.

**Table 17.2-25. Impact on Gross Receipts Tax Revenue (1,000s of 2008 \$s), Roadways**

	2010	2011	2012	2013	2014	2015	2016
Total Construction Impact	\$2,186	\$4,044	\$11,363	\$16,425	\$17,207	\$9,889	\$2,638

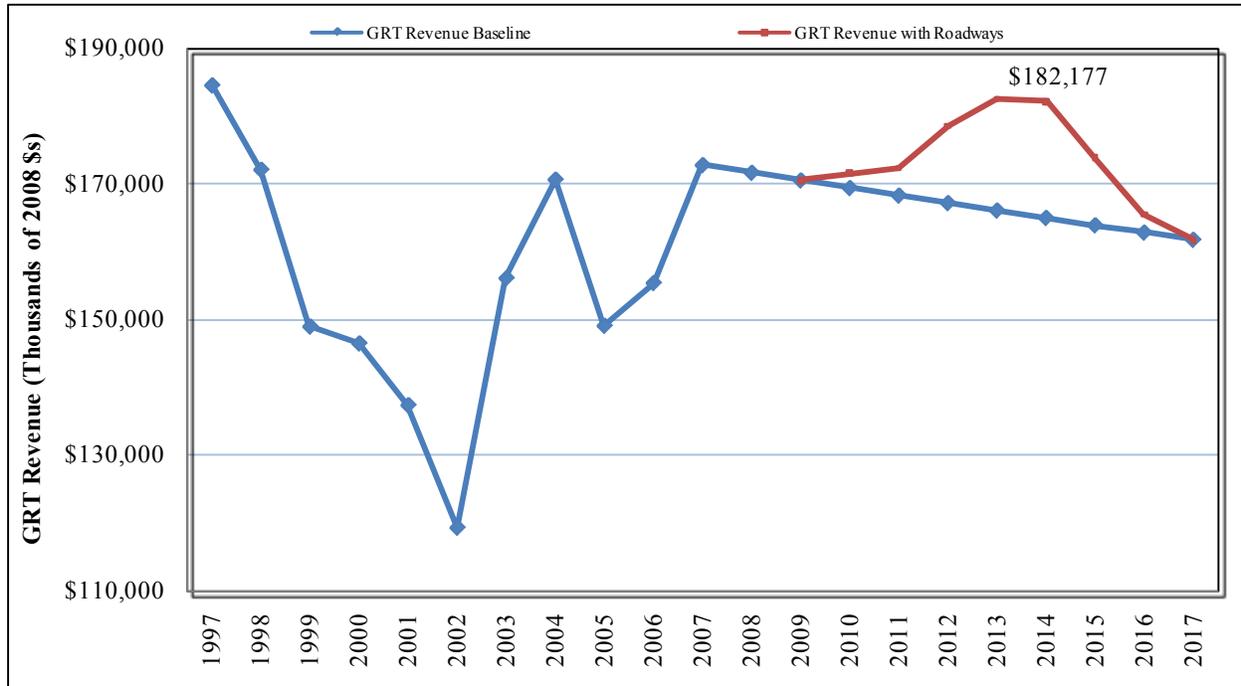
**Table 17.2-26. Impact on Corporate Income Taxes Revenue (1,000s of 2008 \$s), Roadways**

	2010	2011	2012	2013	2014	2015	2016
Total Construction Impact	\$557	\$1,031	\$2,898	\$4,188	\$4,388	\$2,522	\$673

**Table 17.2-27. Impact on Personal Income Taxes Revenue (1,000s of 2008 \$s), Roadways**

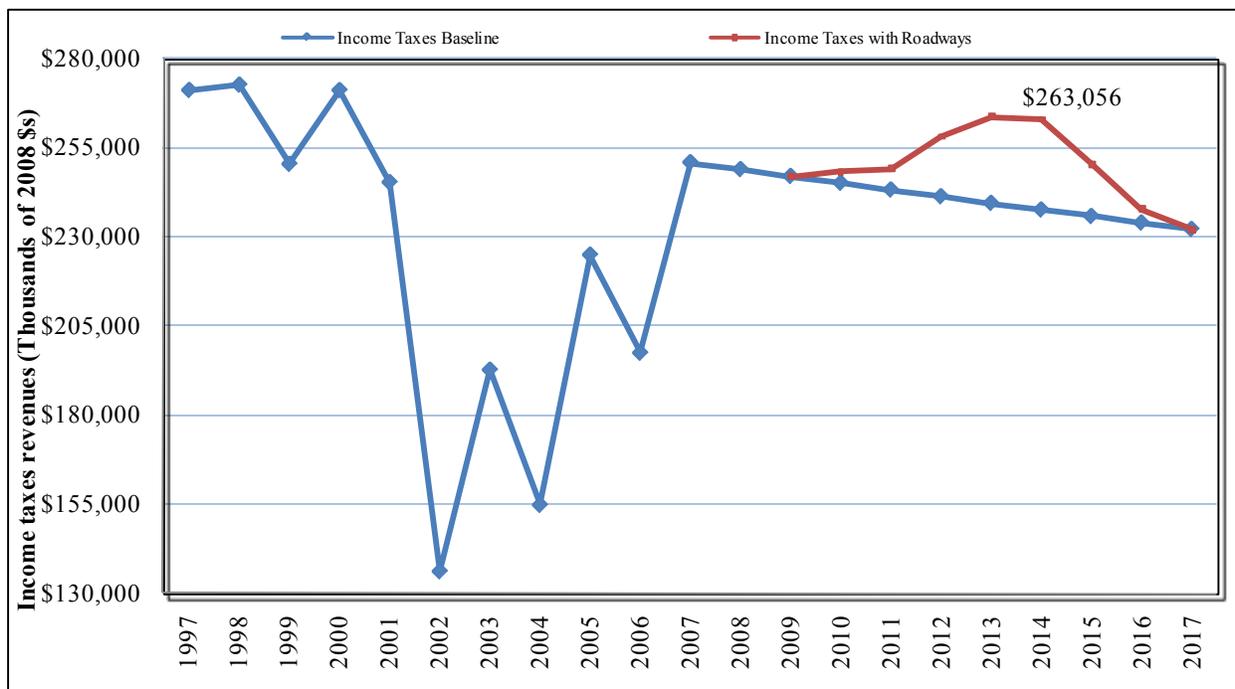
	2010	2011	2012	2013	2014	2015	2016
Total Construction Impact	\$2,685	\$4,962	\$13,928	\$20,112	\$21,069	\$12,109	\$3,231

Figure 17.2-12 shows the projected total gross receipts tax for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the gross receipts tax rising to \$182.2 million at the 2014 construction peak, a 10.4% increase over the baseline trend. By the criteria used for this analysis, the impact is considered significant and beneficial.



**Figure 17.2-12. Gross Receipts Tax Revenue With and Without Roadways**

Figure 17.2-13 shows the projected total income tax revenue – summing corporate and personal income taxes, because historical data are available only for the summed figures – for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the income tax revenue rising to \$263.1 million in 2012, a 10.7% increase over the baseline trend. By the criteria used for this analysis, the impact is considered significant and beneficial.



**Figure 17.2-13. Income Taxes Revenue (Combined) With and Without Roadways**

Gross Island Product

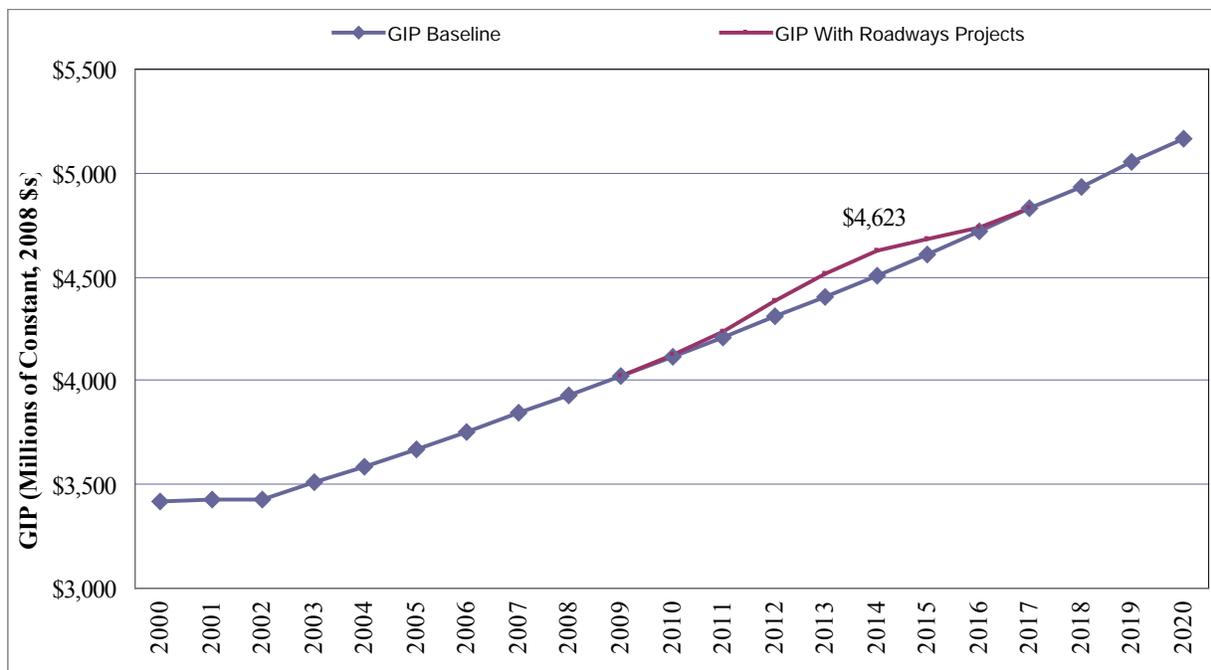
Refer to the corresponding section of Volume 2 for introductory statements and approach to analysis (including data sources).

Table 17.2-28 shows the impact would add a peak amount of \$116 million to the GIP in 2014.

**Table 17.2-28. Impact on Gross Island Product (Millions of 2008 \$), Roadways**

	2010	2011	2012	2013	2014	2015	2016
Total Construction Impact	\$15	\$27	\$77	\$111	\$116	\$67	\$18

Figure 17.2-14 shows the projected total GIP for the baseline trend (projected future without the proposed action) plus the total combined impact of the proposed action. The chart shows the GIP rising to \$4.623 billion in 2014. The 2014 figure represents a 2.6% increase over the baseline trend. By the criteria used for this analysis, the impact is considered significant and beneficial.



**Figure 17.2-14. Gross Island Product (Millions of 2008 \$) With and Without Roadways**

17.2.3.3 Public Service Impacts

Refer to the corresponding section of Volume 2 for introductory statements, approach to analysis (including data sources), and qualitative impact analysis.

Public Education

Table 17.2-29 shows the estimated number of key FTE professional staff required due to roadways construction. Because the staffing increase numbers for roadways are greater than for the utility projects discussed above, the numbers in the tables are presented as rounded whole numbers. The peak requirement in 2014, stemming from construction direct and indirect impacts, is about 2.2% (for GPSS High Schools) to 2.7% (for GCC and UoG) greater than reported baseline staffing levels. By the criteria used for this analysis, these would be considered significant (adverse) impacts.

**Table 17.2-29. Additional Public Education Key Professionals Required, Roadways**

	2010	2011	2012	2013	2014	2015	2016
GPSS Elementary Schools	4	7	19	26	27	15	3
GPSS Middle Schools	2	3	8	11	12	6	1
GPSS High Schools	1	3	8	11	11	6	1
GCC	0	1	2	3	3	1	0
UoG	1	1	3	5	5	3	1

Note: Numbers include teachers for GPSS and non-adjunct faculty for GCC and UoG.

Public Health and Human Services

Further discussion on public health implications can be found in Chapter 19 of this volume, “Public Health and Safety.”

Table 17.2-30 shows the estimated number of key FTE professional staff required due to the proposed roadways. The peak requirement in 2014 is about 3.6% to 3.9% greater than reported baseline staffing levels for each agency listed below. By the criteria used for this analysis, these would be considered significant (adverse) impacts.

**Table 17.2-30. Additional Public Health and Human Service Key Professionals Required, Roadways**

	2010	2011	2012	2013	2014	2015	2016
GMHA Physicians	0	1	2	2	2	1	0
GMHA Nurses, Allied Health Professionals	2	3	9	13	14	8	2
GDPHSS Bureau of Primary Care Medical Providers and Nursing Staff	0	0	1	2	2	1	0
GDPHSS CDC Prevention Specialists	0	0	1	1	1	1	0
GDPHSS BFHNS Nursing Personnel	0	0	1	1	1	0	0
GDMHSA Mental Health Professionals	1	1	3	4	5	3	1
GDISID Social Workers and Counselors	0	0	0	0	1	0	0

### Public Safety Services

Further discussion on public safety implications can be found in Chapter 19 of this volume, “Public Health and Safety.”

Table 17.2-31 shows the estimated number of key FTE professional staff required due to the proposed roadways. The peak requirement is about 2.3% (for the GDYA) to 4.5% (for the GFD) greater than reported baseline staffing levels. By the criteria used for this analysis, these would be considered significant (adverse) impacts.

**Table 17.2-31. Additional Public Safety Key Professionals Required, Roadways**

	2010	2011	2012	2013	2014	2015	2016
GPD Sworn Police Officers	1	1	4	6	6	3	1
GFD Uniformed Fire Personnel	1	2	6	8	9	5	1
GDoC Custody and Security Personnel	1	1	3	5	5	3	1
GDYA Youth Service Professionals	0	1	1	2	2	1	0

### Other Selected General Services

Refer to the corresponding section of Volume 2 for introductory statements, assumptions used in analysis, and qualitative analysis of impacts.

Table 17.2-32 shows the estimated number of key FTE professional staff required due to the proposed roadways. The peak requirement in 2014 is about 3.6% greater than reported baseline staffing levels for each agency listed below. By the criteria used for this analysis, these would be considered significant (adverse) impacts.

**Table 17.2-32. Additional Key Professionals Required for Selected Other General Services, Roadways**

	2010	2011	2012	2013	2014	2015	2016
GDPR Staffing	0.4	0.8	2.2	3.1	3.2	1.8	0.4
PLS Staffing	0.1	0.2	0.7	1.0	1.0	0.6	0.1
Judiciary Judges	0.0	0.1	0.1	0.2	0.2	0.1	0.0

### Growth Permitting and Regulatory Agencies

Table 17.2-33 shows the estimated number of key FTE professional staff required due to the proposed roadways. The peak requirements for most agencies listed below are from 0% to 4% greater than reported baseline staffing levels, though agencies with small baseline staffing levels experience larger peak-year percentage increases (e.g., 8% for GDPR-HPO or 29% for CMP, associated with monitoring/enforcement). The small ALPCD staff would experience a 131% increase in required staff over baseline levels due to the large number of H-2B workers likely to require processing for the roadways construction proposed action. In this case, the number of permitting agencies exceeding the 2% criteria used in this analysis is larger, and so the overall assessment would be one of significant adverse impacts.

**Table 17.2-33. Additional Growth Permitting Staff Required, Roadways**

	2010	2011	2012	2013	2014	2015	2016
Guam DPW Permitting Staff	1.3	1.7	2.9	2.4	1.9	1.7	1.3
GDLM Permitting Staff	0.1	0.0	0.0	0.0	0.0	0.0	0.0
GEPA Permitting Staff	0.3	0.7	3.0	2.0	1.9	1.0	0.4
CMP Permitting Staff	0.7	0.7	2.1	2.7	2.0	1.6	0.5
GPA Permitting Staff	0.0	0.1	0.3	0.1	0.0	0.0	0.0
GWA Permitting Staff	0.0	0.3	1.2	0.2	0.1	0.1	0.1
GFD Permitting Staff	0.0	0.0	0.1	0.1	0.1	0.1	0.0
GDPHSS - DEH Permitting Staff	0.1	0.1	0.3	0.4	0.4	0.2	0.1
GDPR - HPO Permitting Staff	0.6	0.6	0.6	0.3	0.3	0.3	0.2
GDOL - ALPCD Permitting Staff	0.8	0.7	2.9	2.1	0.3	0.0	0.0

#### 17.2.3.4 Sociocultural Impacts

The sociocultural impacts associated with roadway alternatives are not expected to be significant, except as they contribute to significant aggregate effects discussed in Volume 7.

#### 17.2.3.5 Summary of Roadways Impacts

The economic activity from the proposed roadways would add about 6,260 residents to Guam's population at the 2014 construction peak.

Including all the spin-off activity, the proposed roadways would provide jobs for almost 4,460 civilian workers in 2014. Guam residents are estimated to capture about 340 of the direct on-site construction jobs for roadways projects at the 2014 peak, as well as about 280 spin-off jobs that year.

Civilian housing unit demand would peak at about 1,100 units in 2014.

Although a more detailed fiscal impact assessment would be done by GovGuam using output from this EIS/OEIS, preliminary estimates in this chapter suggest revenues from the three most important tax sources – gross receipts, corporate income, and personal income – would exceed \$42 million in 2014.

Guam's GIP, the total market value of all final goods and services produced in a given year, would increase by \$116 million (2008 dollars) at the 2014 construction peak.

GovGuam's public service agencies would need to make small but significant staffing increases to service new population associated with roadways construction. Most of these agencies would need to expand their services and staff by more than 2%.

Sociocultural impacts of roadways project construction would be negligible, and there would be no effects on ratepayers as roads are not expected to be tollways.

Table 17.2-34 summarizes the potential impacts from roadways.

**Table 17.2-34. Summary of Potential Socioeconomic Impacts-Roadways**

<i>Impact Area</i>	<i>Roadways</i>
Population	BI <ul style="list-style-type: none"> <li>Significant beneficial impact due to economic expansion fueled by increased population (See Economic impacts below)</li> </ul> SI-M <ul style="list-style-type: none"> <li>Significant adverse impacts due to strains placed upon government services and the social fabric (See Public Service and Sociocultural impacts below)</li> </ul>
Civilian Labor Force Demand	BI <ul style="list-style-type: none"> <li>Significant beneficial impacts due to provision of permanent jobs on Guam</li> </ul>
Civilian Labor Force Income	BI <ul style="list-style-type: none"> <li>Significant beneficial impacts due to permanent infusion of income into the Guam economy</li> </ul>
Standard of Living	NI <ul style="list-style-type: none"> <li>No significant impact from the proposed action construction or operation.</li> </ul>
Selected Local Government Revenues	BI <ul style="list-style-type: none"> <li>Significant beneficial impacts due to increase in local government revenue</li> </ul>
Civilian Housing Demand	LSI <ul style="list-style-type: none"> <li>Civilian Housing Demand: Less than significant direct and indirect impact demand for civilian (private-market, excluding temporary construction workforce housing) housing units peaking at 822 units in 2012</li> </ul>
Gross Island Product	BI <ul style="list-style-type: none"> <li>Significant operational phase beneficial impacts due to permanent increased GIP strengthening the Guam economy</li> </ul>
Effects on Ratepayers	NI <ul style="list-style-type: none"> <li>No impact, as roads are not expected to be tollways</li> </ul>
Local Business Opportunities	BI <ul style="list-style-type: none"> <li>Beneficial impacts due to increased military service contract opportunities for local Guam businesses</li> </ul>
Tourism	NI <ul style="list-style-type: none"> <li>No significant impact from the proposed action construction or operation.</li> </ul>
Public Service Agencies Influenced by Population Increases	SI-M <ul style="list-style-type: none"> <li>Significant adverse impacts due to difficulty in meeting fluctuating staffing requirements during and following the construction phase with an existing environment of staffing and budget shortfalls and recruitment complications</li> </ul> SI <ul style="list-style-type: none"> <li>Significant adverse impact due to difficulty in recruiting and funding adequate staffing during operational phase</li> </ul> BI <ul style="list-style-type: none"> <li>Significant beneficial impact due to provision of additional jobs on Guam, if labor supply and funding is available during operational phase</li> </ul>
Growth Permitting and Regulatory Agencies	LSI <ul style="list-style-type: none"> <li>Less than significant construction-related adverse impacts due to difficulty in meeting fluctuating staffing requirements with an existing environment of staffing and budget shortfalls and recruitment complications</li> </ul>
Crime and Social Order	NI <ul style="list-style-type: none"> <li>No impacts from the proposed alone.</li> </ul>
Chamorro Issues	NI <ul style="list-style-type: none"> <li>No impacts from the proposed alone.</li> </ul>

<i>Impact Area</i>	<i>Roadways</i>
Community Cohesion	NI <ul style="list-style-type: none"> <li>• No impacts from the proposed alone.</li> </ul>

*Legend:* SI = Significant (adverse) impact, SI-M = Significant impact-mitigable, LSI = Less than significant impact, BI = Beneficial impact, NI = No impact.

#### 17.2.3.6 No-Action Alternative

The assumed no-action alternative is that all parts of the aggregate action, not just the proposed action covered in this volume, but also other components addressed in other volumes do not occur. Therefore, the no-action conclusions given below are identical to those in Volume 2 for the Marine Corps relocation and/or Volume 7 for the aggregate action. The references below to substantial impacts with the proposed action would in fact apply more to those volumes than to this Volume 6 covering the roadways action, as Roadways impacts alone sometimes would not attain significance.

Unlike physical resources, socioeconomic systems do not tend to remain completely at baseline conditions if a proposed action is not implemented. Economies and population levels change due to other reasons as well. The various foregoing exhibits showing baseline trends for economic and demographic variables indicate long-term trends expected to continue without the proposed action, and Volume 7 will list a number of specific socioeconomic changes expected to occur independent of the proposed action. Furthermore, the announcement of the proposed action has already had socioeconomic consequences, such that a 2010 decision not to follow through on the military buildup would have short-term effects associated with a reversal of those existing consequences.

#### Population/Economic Impacts

In the short term, a decision not to implement the proposed action would deflate any current speculative activity attributable the proposed action. Real estate values in particular would likely drop, hurting investors but increasing the affordability of housing. The contrast between the business community's expectations and a negative Record of Decision would likely produce a period of pessimism about Guam's economic future, especially if the current national and international economic crisis has not yet abated. These effects, though, would be attributable an unstable world economic landscape and poor decision making by investors – not to the proposed action.

Long term, the island's prospects would remain linked to international economic conditions and the health of its tourism industry. Conceivably, a smaller military profile might remove some barriers to growing the potential Chinese tourism market. Growth would resume, though probably with the same volatility experienced in recent decades.

#### Public Service Impacts

In the case of the no-action alternative, the specific agencies discussed earlier in this chapter would not face the listed pressures to expand professional staffing, and agencies involved in planning and regulating growth would not experience such a sharp increase in workload. Although this was not specifically covered in the foregoing analysis, it may also be noted that agencies that are required to implement major infrastructure developments, such as the ports and highways, would have substantially more time to implement long-term plans rather than having to achieve much of their objectives over the next few years.

However, at the broader level, the no-action alternative and the elimination of prospective long-term revenues expected from the proposed action still would leave GovGuam agencies in the difficult financial condition described in Volume 2, Section 16.22.11. At least for the foreseeable future, this would

negatively impact the various service agencies because of budget cuts, and would probably represent the most important overall consequence for GovGuam.

Sociocultural Impacts

To the extent that Guam experiences job losses crime rates may rise in the short term. The political importance of some Chamorro issues would likely recede as the militarization of Guam is stabilized at something close to present levels. Military-civilian relations would likely remain at the current generally positive level.

The incentive for increased in-migration from the Freely Associated States of Micronesia (FAS) would decrease, reducing sociocultural issues associated with assimilating that population. However, the current incentives for providing those populations, both on Guam and the Micronesian states themselves, would also be lessened, with detrimental implications for those populations.

17.2.3.7 Roadways Potential Mitigation Measures

A review of the above impacts show that the proposed action has the potential to have primarily either beneficial or no impacts on Guam with the exception of population and public service agencies where the proposed action could significant adverse impacts. Therefore the mitigation measures identified below provide avenues to mitigate these adverse impacts while taking into account Guam’s unique position as an isolated island economy.

Table 17.2-35 below shows potential roadway mitigation measures.

**Table 17.2-35. Potential Roadways Mitigation Measures**

<i>Impact Area</i>	<i>Adverse Impacts</i>	<i>Mitigation Measures</i>
Population	<ul style="list-style-type: none"> <li>Significant adverse impacts due to strains placed upon government services and the social fabric (See Public Service and Sociocultural impacts below)</li> </ul>	<ul style="list-style-type: none"> <li>DoD can relax the construction and operations timeline in order to smooth out the adverse impacts of a large jump in population on Guam – eliminating the boom and bust effect identified in the analysis.</li> <li>DoD can decrease the rapid population increase associated with the operations phase by not allowing dependents to accompany Marines until the construction phase has ended.</li> </ul>
Public Service Agencies Influenced by Population Increases	<ul style="list-style-type: none"> <li>Significant adverse impacts due to difficulty in meeting fluctuating staffing requirements during and following the construction phase with an existing environment of staffing and budget shortfalls and recruitment complications</li> <li>Significant adverse impact due to difficulty in recruiting and funding adequate staffing during operational phase</li> </ul>	<p>DoD can implement:</p> <ul style="list-style-type: none"> <li>incentive programs for military spouses and dependents that apply for and are hired into GovGuam public service agency employment.</li> <li>volunteer programs for military, their spouses and dependents, linking them to long-term GovGuam public service agency volunteer positions.</li> <li>Collaborative efforts with the federal government and GovGuam to identify and provide grant writing assistance to Guam public service organizations and agencies that have existing AmeriCorps program, or have the potential to host an AmeriCorps program, to facilitate an increase in AmeriCorps service on Guam.</li> </ul> <p>DoD can assist GovGuam in seeking federal funding for:</p> <ul style="list-style-type: none"> <li>the necessary permanent number professional staff identified, as well as the number of administrative and supporting staff needed for these professions to perform their positions adequately.</li> </ul>

<i>Impact Area</i>	<i>Adverse Impacts</i>	<i>Mitigation Measures</i>
		<ul style="list-style-type: none"> <li>• an increase in the number of private staffing and service contractors currently working for service agencies, to match staffing requirements.</li> <li>• a one-time hiring bonus of 20% of base pay for all GovGuam agency positions, to increase interest in GovGuam agency employment and compete with wages offered by private offices.</li> </ul> <p>DoD can assist GovGuam with technical assistance, development and implementation of comprehensive data collection systems focused on:</p> <ul style="list-style-type: none"> <li>• public services provided to FAS citizens in order to facilitate GovGuam access of Compact Impact and other related funding.</li> <li>• public services provided to military individuals, in order to facility GovGuam access of TRICARE and other related funding.</li> <li>• patient information, records, and services accessed, in order to facilitate appropriate care administered in a timely manner.</li> </ul> <p>DoD can assist GovGuam in seeking federal funding for technical assistance, development, and implementation of a system of interpreters and translators available for the interpreting and translating needs of GovGuam public service agencies, to facilitate timely and appropriate provision of services for the English as a Second Language service population.</p>