

## CHAPTER 14.

# ROADWAYS AND MARINE TRANSPORTATION

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### 14.1 AFFECTED ENVIRONMENT

#### 14.1.1 Definition of Resource

This section describes the existing transportation facilities, specifically roads, the Tinian International Airport, and the Tinian Harbor, in Tinian and the activities that occur there. The possible effects to these transportation facilities as a result of the proposed action are presented and these effects are compared to the conditions under the no-action alternative.

#### 14.1.2 Tinian

##### 14.1.2.1 Roads

Tinian has approximately 68.4 miles (mi) (110 kilometers [km]) of roads, most of which were constructed prior to and during World War II. Most roads were developed, graded, and paved for heavy truck traffic when the island's United States (U.S.) military population was about 150,000. Roads throughout Tinian are now in good to poor condition and traffic is extremely light. Roadways in the Military Lease Area (MLA) include former runways, taxiways, and parking aprons constructed to support B-24 and B-29 bombers (Belt Collins 1999).

Two primary roadways (Broadway and 8<sup>th</sup> Avenue) connect the San Jose Village to the MLA. Broadway is a two-lane divided highway with approximately 20-foot (ft) (6.10-meters [m]) wide lanes and a 32-ft (9.75-m) wide median. 8<sup>th</sup> Avenue has three distinct roadway sections: a 24-ft (7-m) unpaved roadway adjacent to the Tinian Airport, an 18-ft (5-m) to 22-ft (7-m) two-lane undivided highway immediately north and south of the Tinian Airport, and an 18-ft (5-m) two-lane undivided highway just south of 86<sup>th</sup> Street. This third section was previously a divided roadway with approximately 18-ft (5-m) wide lanes and a 36-ft (11-m) wide median. Lack of maintenance on Broadway and 8<sup>th</sup> Avenue within the MLA has resulted in the southbound lanes of these roads being unusable.

Other roadways on Tinian are typically two lanes, undivided, with no striped median and have a capacity of approximately 5,000 vehicles per day. The majority of the roadways on Tinian carry between 25 to 400 vehicles per day. Broadway and 8<sup>th</sup> Avenue carry up to 1,470 and 180 vehicles per day in certain segments, respectively. Route 201 and 202, two major routes that provide access in and out of the San Jose Village area, carry the highest traffic with approximately 1,520 and 2,240 vehicles per day, respectively. Based on the operational analysis conducted in the Draft Commonwealth of the Northern Mariana Islands (CNMI) Comprehensive Highway Master Plan, all roadways on Tinian are operating at excellent levels of service in their existing condition, as evidenced by free flowing traffic and no traffic delays.

##### 14.1.2.2 Airport

The Tinian International Airport is a Federal Aviation Administration (FAA) certified facility that currently accommodates single engine aircraft and Shorts 360 aircraft with capacity of up to 36 passengers. In 2002, the runway was extended to 8,600 ft (2,621.28 m) from 6,000 ft (1,828.80 m) in length capable of handling 767s. The apron is capable of handling two 767 in addition to one 767 at the gate. There is additional capacity for one C130 in the hard packed area at the west end of the taxiway.

### 14.1.2.3 Harbors

The affected environment discussed in this section is in the South region of Tinian. Tinian Harbor includes both the Inner Harbor near the town of Tinian and the Outer Harbor lying about 1.7 mi (2.8 km) off shore between Garguan Point and Carolinas Point. The Inner Harbor is entered via a channel that has a navigable width of 500 ft (152 m) and a minimum depth of 25 ft (7.6 m).

The Inner Harbor was constructed in 1944 to accommodate up to eight Liberty Ship cargo vessels (Belt Collins 1999). The main quay has a usable length of 2,200 ft (670 m) with depths varying between 25 and 29 ft (7.6 and 8.8 m) (Figure 14.2-1). There are two piers (pier 1 and pier 2) lying to the southwest of the main quay (Global Security 2008). Piers 1 and 2 are in a state of disrepair (Tinian Chamber of Commerce 2010). The Municipality of Tinian declared a state of emergency in October 2009 in order to repair these piers.

The Navy estimates that the main quay, or wharf, could handle up to 4,500 tons (4,082 metric tons) of cargo daily. The main quay is used to moor commercial barges operating between Tinian and Saipan and for hydrofoil ferry service for visitors from Saipan. Two stevedore companies service commercial shipping traffic. Gasoline and diesel fuel can be obtained at the Mobile Oil tank compound at the harbor. No tugboats operate in Tinian Harbor (Belt Collins 1999).

## 14.2 ENVIRONMENTAL CONSEQUENCES

### 14.2.1 Approach to Analysis

#### 14.2.1.1 Methodology

The need for the actions proposed on Tinian is to provide facilities to allow Marine Corps forces relocating to Guam to sustain their combat readiness that could not be accommodated on Guam. Construction and operation activities under the proposed action have been compared to the no-action alternative. There is no construction or modification of existing facilities at Tinian Harbor, Tinian International Airport, North Field or the roadways for training under the proposed action. Existing facilities would be used by existing modes of transportation.

#### 14.2.1.2 Determination of Significance

A determination of significant adverse effect is made where the projected increase in transportation would exceed the infrastructure for that mode of transportation, such that the infrastructure would not be able to service additional demands while maintaining the same level of service for existing users.

#### 14.2.1.3 Issues Identified during Public Scoping Process

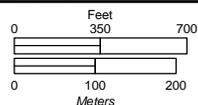
As part of the analysis, concerns related to marine transportation that were mentioned by the public, including regulatory stakeholders, during the public scoping meetings were addressed. This included concern for the impact of the proposed military relocation on harbor and navigable waters. Respondents expressed a desire for the military to invest in improving the present harbor infrastructure and for undertaking necessary repairs to the harbor facility. The public expressed a desire to be informed of how the military control would affect local small craft operators who presently use the harbor facility. Concerns were also expressed regarding restriction of public access and movement through the harbor and airport due to military control. Specific comments regarding road transportation were not raised.



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Aerial Source: QuickBird II 2004

**Figure 14.2-1**  
**Tinian Inner Harbor**



However, access to tourist and historical locations within military zone was identified as a concern by the public.

#### **14.2.2 Alternative 1 (Preferred Alternative)**

##### 14.2.2.1 Tinian

###### Construction

No new transportation infrastructure would be required for implementation of Alternative 1 at Tinian. There is no construction or modification of existing facilities at Tinian Harbor, Tinian International Airport, North Field or on the roadways for the training related to the relocation. There would be no impact to marine transportation.

###### Operation

###### *Roads*

Under the proposed training, 200 to 400 personnel would be transported between Andersen Air Force Base (AFB) North Field on Guam to Tinian International Airport (West Field) on Tinian, depending on the type of aircraft. Frequency of the training would be approximately one week per month. The various routes proposed to transport the personnel from the airport would be on foot or by contracted bus service with the exception of up to four humvees for ammunition and equipment.

The range area would not be accessible by non-participating personnel during training, including sufficient lead-time before training to ensure range area clearance. To facilitate range safety, ground access would be controlled by traffic control points on existing roads. This would maintain access to areas where training is not being conducted. Broadway would be closed during training. However, the public would be able to travel on 8<sup>th</sup> Avenue, check in with personnel manning the first traffic control point. Once cleared by range control, they would proceed on 8<sup>th</sup> Avenue, checking in with each successive traffic control point until clear of the training area. The additional traffic proposed by transporting personnel, equipment, and ammunition from the airport to the ranges would not exceed the existing capacity of the roadways; impacts to roadways would be less than significant.

###### *Airport*

There is no construction or modification proposed at the airport for training. As indicated above, air transport would be between Andersen AFB North Field on Guam to Tinian International Airport (West Field) on Tinian, depending on the type of aircraft. Only the C-17s need the use of the Tinian West Field Airport due to the runway requirements for these aircraft and there would be 2 airlifts to transport 200 Marines and 4 airlifts to transport 400 Marines per training event. No impacts to the Tinian International Airport are anticipated. In addition, public access to the Tinian International Airport would not be impacted.

###### *Harbors*

If equipment is moved by barge, one single barge would be able to carry the equipment necessary to support the estimated 200 to 400 Marine training evolution. The harbor currently accommodates this type of marine vessel activity on a regular basis. Therefore, the addition of one barge per month would result in no impact to marine transportation in Tinian Harbor.

### 14.2.2.2 Summary of Alternative 1 Impacts

Table 14.2-1 summarizes Alternative 1 impacts.

**Table 14.2-1. Summary of Alternative 1 Impacts**

<i>Area</i>	<i>Project Activities</i>	<i>Project Specific Impacts</i>
Tinian	Construction	Less than significant impact to roads; no impact to the airport or to marine transportation in Tinian Harbor.
	Operation	Less than significant impact to roads; no impact to the airport or to marine transportation in Tinian Harbor.

### 14.2.2.3 Alternative 1 Proposed Mitigation Measures

No mitigation measures are suggested for Alternative 1.

## 14.2.3 Alternative 2

### 14.2.3.1 Tinian

#### Construction

The impacts for Alternative 2 are the same as Alternative 1.

#### Operation

##### *Roads*

Under the proposed training, 200 to 400 personnel would be transported between Andersen AFB North Field on Guam to either the bivouac area, Tinian North Field, or Tinian International Airport (West Field) on Tinian, depending on the type of aircraft. Frequency of the training would be approximately one week per month. The various routes proposed to transport the personnel from the airport would be on foot or by contracted bus service with the exception of up to four humvees for ammunition and equipment. The range area would not be accessible by non-participating personnel during training, including sufficient lead-time before training to ensure range area clearance. To facilitate range safety, ground access would be controlled by traffic control points on existing roads. This would maintain access to areas where training is not being conducted. Broadway would be closed during training. However, the public would be able to travel on 8<sup>th</sup> Avenue, check in with personnel manning the first traffic control point. Once cleared by range control, they would proceed on 8<sup>th</sup> Avenue, checking in with each successive traffic control point until clear of the training area. The additional traffic proposed by transporting personnel, equipment, and ammunition from the airport to the ranges would not exceed the existing capacity of the roadways; impacts to roadways would be less than significant.

##### *Airport*

The impacts for Alternative 2 are the same as Alternative 1.

##### *Harbors*

The impacts for Alternative 2 are the same as Alternative 1.

### 14.2.3.2 Summary of Alternative 2 Impacts

Table 14.2-2 summarizes Alternative 2 impacts.

**Table 14.2-2. Summary of Alternative 2 Impacts**

<i>Area</i>	<i>Project Activities</i>	<i>Project Specific Impacts</i>
Tinian	Construction	Less than significant impact to roads; no impact to the airport or to marine transportation in Tinian Harbor.
	Operation	Less than significant impact to roads; no impact to the airport or to marine transportation in Tinian Harbor.

#### 14.2.3.3 Alternative 2 Proposed Mitigation Measures

No mitigation measures are suggested for Alternative 2.

### 14.2.4 Alternative 3

#### 14.2.4.1 Tinian

##### Construction

The impacts for Alternative 3 are the same as Alternative 1.

##### Operation

##### *Roads*

Under the proposed training, 200 to 400 personnel would be transported between Andersen AFB North Field on Guam to either the bivouac area, Tinian North Field, or Tinian International Airport (West Field) on Tinian, depending on the type of aircraft. Frequency of the training would be approximately one week per month. The various routes proposed to transport the personnel from the airport would be on foot or by contracted bus service with the exception of up to four humvees for ammunition and equipment. The range area would not be accessible by non-participating personnel during training, including sufficient lead-time before training to ensure range area clearance. To facilitate range safety, ground access would be controlled by traffic control points on existing roads. This would maintain access to areas where training is not being conducted. Broadway and 86<sup>th</sup> Street would be closed during training. However, the public would be able to travel on 8<sup>th</sup> Avenue through the unpaved section west of the Tinian Airport, check in with personnel manning the first traffic control point. Once cleared by range control, they would proceed on 8<sup>th</sup> Avenue, checking in with each successive traffic control point until clear of the training area. The additional traffic proposed by transporting personnel, equipment, and ammunition from the airport to the ranges would not exceed the existing capacity of the roadways; impacts to roadways would be less than significant.

##### *Airport*

The impacts for Alternative 3 are the same as Alternative 1.

##### *Harbors*

The impacts for Alternative 3 are would be the same as Alternative 1.

#### 14.2.4.2 Summary of Alternative 3 Impacts

Table 14.2-3 summarizes Alternative 3 impacts.

**Table 14.2-3. Summary of Alternative 3 Impacts**

<i>Area</i>	<i>Project Activities</i>	<i>Project Specific Impacts</i>
Tinian	Construction	Less than significant impact to roads; no impact to the airport or to marine transportation in Tinian Harbor.
	Operation	Less than significant impact to roads; no impact to the airport or to marine transportation in Tinian Harbor.

#### 14.2.4.3 Alternative 3 Proposed Mitigation Measures

No mitigation measures are suggested for Alternative 3.

#### 14.2.5 No-Action Alternative

Under the no-action, no new construction or new training activities associated with the Marine Corps relocation to Guam would occur in Tinian, and the Marine Corps would not meet training needs and requirements in support of the proposed action. The purpose and need for training in Tinian as described in Chapter 1 would not be met. Existing operations on Tinian would continue. Therefore, the no-action alternative would result in no impacts to roadways. Since there is no proposed construction or transportation of Marines or supplies by ship or barge, there would be no impact to marine transportation in Tinian Harbor.

#### 14.2.6 Summary of Impacts

Table 14.2-4 summarizes the potential impacts of each action alternative and the no-action alternative. A text summary is provided below.

**Table 14.2-4. Summary of Impacts**

<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>	<i>No-Action Alternative</i>
<b>Roads</b>			
• LSI	• LSI	• LSI	• NI
<b>Airport</b>			
• NI	• NI	• NI	• NI
<b>Tinian Harbor</b>			
• NI	• NI	• NI	• NI

*Legend:* LSI = Less than significant impact, NI = No impact.

#### 14.2.7 Summary of Proposed Mitigation Measures

Table 14.2-5 summarizes the proposed mitigation measures.

**Table 14.2-5. Summary of Proposed Mitigation Measures**

<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>
<b>Roads</b>		
• None	• None	• None
<b>Airport</b>		
• None	• None	• None
<b>Tinian Harbor</b>		
• None	• None	• None

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