3.11 Transportation & Circulation

3.11 TRANSPORTATION AND CIRCULATION

3.11.1 Affected Environment

For purposes of this Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS), the Region of Influence (ROI) for transportation and circulation includes the Gulf of Alaska (GOA) Temporary Maritime Activities Area (TMAA). Areas inland from the coastline, including United States (U.S.) Air Force (Air Force) air ranges and U.S. Army (Army) training lands, are addressed in the *Alaska Military Operations Areas EIS* (USAF 1995), *Improvements to Military Training Routes in Alaska Environmental Assessment* (USAF 2007), *Alaska Army Lands Withdrawal Renewal Final Legislative EIS* (Army 1999), and the *Transformation of U.S. Army Alaska FEIS* (Army 2004).

3.11.1.1 Existing Conditions

Air Traffic

The offshore Special Use Airspace (SUA) of the TMAA overlies the surface and subsurface operating area. This overwater airspace supports aircraft training activities generally conducted by the Navy and Air Force aircraft. This SUA extends from the ocean surface to 60,000 feet (ft) (18,288 meters [m]) mean sea level, and encompasses 42,146 square nautical miles (nm^2) (145,482 square kilometers [km^2]) of airspace.

Additionally, a portion of Warning Area (W-612) lies within the northwestern quadrant of the TMAA over Blying Sound (Figure 3.11-1). The airspace provides 2,256 nm^2 (8,766 km^2) of SUA and extends from the ocean surface up to Flight Level (FL) 290. Military pilots travel under Instrument Flight Rules (IFR) flight plans from local air bases until they reach W-612 and proceed under Visual Flight Rules (VFR) while operating within it or the TMAA. When W-612 is active, aircraft on IFR clearances are precluded from entering the warning area by the FAA. However, since W-612 is located entirely over international waters, nonparticipating aircraft operating under VFR are not prohibited from entering the area. Examples of aircraft flights of this nature include light aircraft, fish spotters, and whale watchers.

When not included as part of the TMAA, W-612 is used by USAF aircraft to conduct training in Anti-Air Warfare (AAW) and by the United States Coast Guard (USCG) to fulfill some of its training requirements. Activation of the warning areas by the Federal Aviation Administration (FAA) is performed by notifying the controlling air traffic agency of the change in status. This allows the agency to issue an advanced warning via a Notice to Airmen (NOTAM) or provide real-time notices and deconfliction to pilots to alter their courses to avoid military activities.

Military Aviation

Military aircraft operating in the TMAA can originate from aircraft carriers offshore in the TMAA or from military airfields in Alaska. Aircraft taking off from aircraft carriers operating in the TMAA will launch under Visual Meteorological Conditions or Instrument Meteorological Conditions and proceed to their designated working area within the TMAA or W-612. When operating within the confines of the TMAA or W-612, military aircraft will operate using a "see-and-avoid" rule to remain clear of other air traffic. Aircraft taking off from military airfields will normally file for and receive an IFR clearance from FAA Air Traffic Control Center. This clearance will provide them with the routing to the inland SUA, either via the normal jet route structure, via special instructions as assigned by the FAA, or some combination of both. Once within the TMAA or W-612, flights proceed via VFR, using a "see-and-avoid" rule to remain clear of other air traffic. Subsequent to leaving the TMAA, these aircraft will have contacted and activated their return IFR clearance with the FAA.

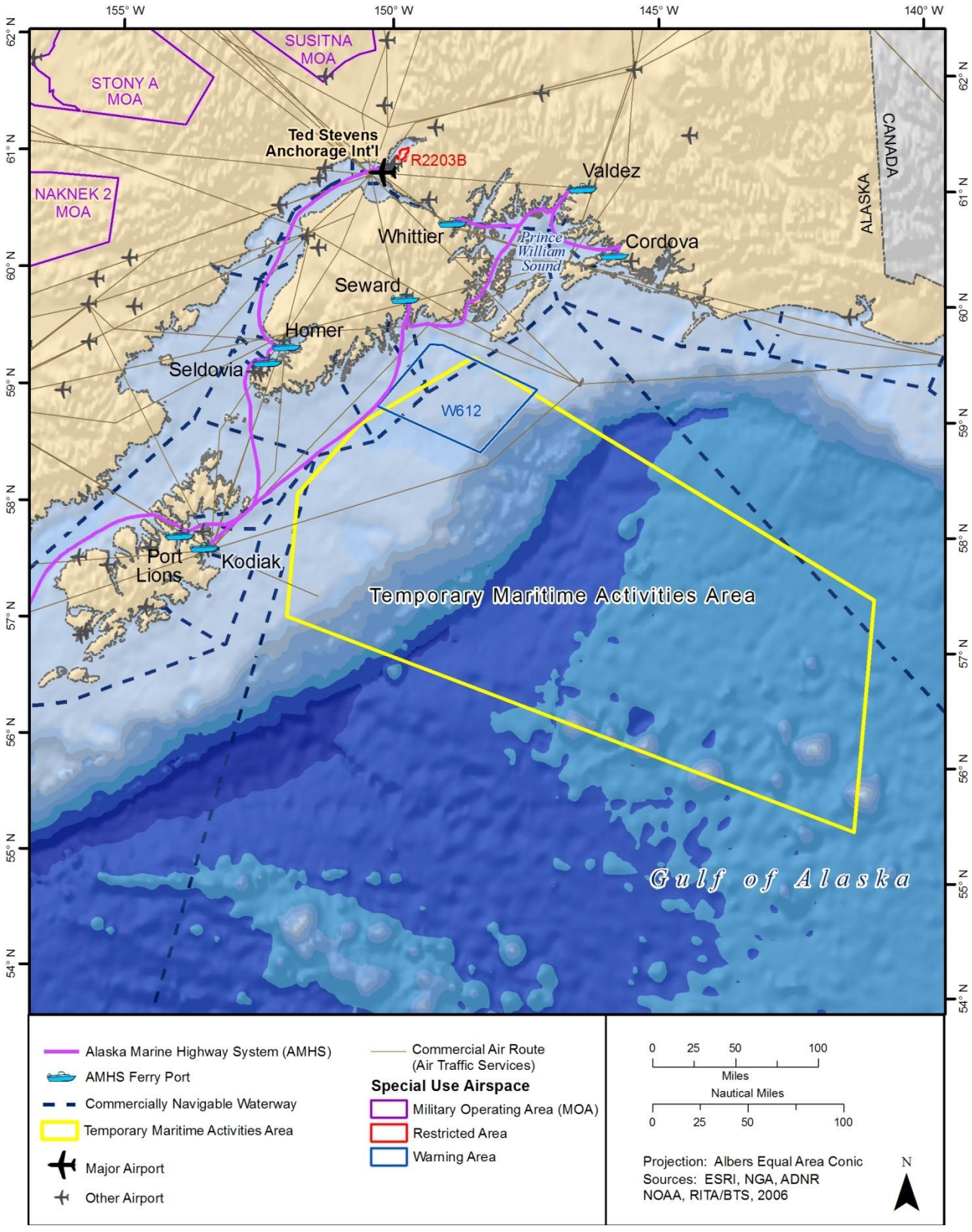

Figure 3.11-1: Air and Marine Traffic in Vicinity of the TMAA

Commercial and General Aviation

Aviation is an important and basic mode of transportation in Alaska because approximately 90 percent of Alaska is not served by roads. Alaska has six times as many pilots per capita and 16 times as many aircraft per capita compared to the rest of the United States. Aircraft operating under VFR can fly along the Alaska coast, largely unconstrained, except by safety requirements and mandated traffic flow requirements. Aircraft operating under IFR clearances, authorized by the FAA, normally fly on the airway route structures (see Figure 3.11-1). These routes include both high- and low-altitude routes. When W-612 is active, aircraft on IFR clearances are precluded from entering the warning area.

Marine Traffic

A significant amount of ocean traffic, consisting of both military, Coast Guard, commercial, and recreational vessels transit through the GOA. For commercial vessels, the major transoceanic routes enter the TMAA briefly to transit (see Figure 3.11-1). The approach and departure routes into the inland waters can be adjusted depending on Navy activities notification through Notices to Mariners (NOTMARs) found at http://www.navcen.uscg.gov/lnm/d17/.

Military

Military traffic consists of the transit of large military vessels at sea, including submarines. The TMAA surface/subsurface operating area is depicted in Figure 3.11-1. Total surface area of the TMAA is 42,146 nm^2 (145,482 km^2). The TMAA undersea training area lies beneath the surface and extends to the seafloor. Commander, Submarine Force, U.S. Pacific Fleet[1] manages this underwater space as transit lanes and operational areas for U.S. submarines.

Civilian

Marine vessels, large and small, transit the GOA to several commercial ports occurring near the TMAA. Vessel traffic approaching these ports is managed by the Vessel Traffic Service, which is operated jointly by the United States Coast Guard (USCG) and the Marine Exchange of Alaska (a nonprofit organization established to serve the Alaska Maritime Community by providing information, communications, and services to ensure safe, secure, efficient, and environmentally responsible maritime operations). The Vessel Traffic Center is located in Valdez at the north end of Prince William Sound (USCG Navigation Center n.d.). The ocean traffic flow in congested waters, especially near coastlines, is controlled by the use of directional shipping lanes for large vessels, including cargo, container ships, and tankers. Traffic flow controls are also implemented to ensure that harbors and ports-of-entry remain as uncongested as possible.

Two major ports close to the TMAA, Anchorage and Valdez, were ranked in the top 150 U.S. ports by tonnage in 2000 (U.S. Department of Transportation Research and Innovative Technology Administration/Bureau of Transportation Statistics 2001). Commercially navigable waterways traverse the TMAA, but are controlled by the use of directional shipping lanes for large vessels (cargo, container ships, and tankers) (see Figure 3.11-1). Ships traveling from major ports to the Lower 48 states and Hawaii as well as marine traffic between coastal ports enter the TMAA briefly, but Navy activities are communicated to all vessels and operators by use of NOTMARs found at http://www.navcen.uscg.gov/lnm/d17/.

[1] The Commander Submarine Force, U.S. Pacific Fleet is the principal advisor to the Commander in Chief, U.S. Pacific Fleet for submarine matters. The force provides anti-submarine warfare, anti-surface ship warfare, precision land strike, mine warfare, intelligence, surveillance, and early warning and special warfare capabilities to the U.S. Pacific Fleet and strategic deterrence capabilities to the U.S. Strategic Command.

In addition to large commercial vessels traversing the GOA, the Alaska Marine Highway System (AMHS) provides ferry service for passengers and vehicles between coastal communities (AMHS 2007). The Southwest Alaska route services Prince William Sound, Kodiak Island, the Alaska Peninsula, and the Aleutian Islands. The ferry route closest to the TMAA provides service to Chenega Bay in the Prince William Sound and the town of Kodiak on Kodiak Island (see Figure 3.11-1). The route is one of the least busy routes with only 12 sailings in 2007 (AMHS 2007).

3.11.1.2 Current Requirements and Practices

Safety and security factors dictate that use of airspace and control of air traffic be closely regulated. The Navy strives to ensure that it retains access to ocean training areas and SUA as necessary to accomplish its mission, while facilitating joint military-civilian use of such areas to the extent practicable and consistent with safety. The regulatory scheme for airspace and air traffic control varies from highly controlled to uncontrolled. Less controlled situations include flight under VFR or flight outside of U.S. controlled airspace, such as flight over international waters off the coast of Alaska. Examples of highly controlled air traffic situations are flights in the vicinity of airports, where aircraft are in a critical phase of flight, either takeoff or landing, and flight under IFR, particularly flight on high- or low-altitude airways.

Accordingly, regulations applicable to all aircraft are promulgated by the FAA to define permissible uses of designated airspace, and to control that use. These goals of military access, joint use, and safety are promoted through various coordination and outreach measures, including:

- NOTAMs advising of the status and nature of activities being conducted in W-612, and other components of SUA in the TMAA. NOTAMs are available via the internet at https://pilotweb.nas.faa.gov/.
- Return of SUA to civilian FAA control when not in use for military activities. According to FAA and Department of Defense policy, SUA, including warning areas, should be made available for use by nonparticipating aircraft when all or part of the airspace is not needed by the using agency. To accommodate the joint use of SUA, a Letter of Authorization (LOA) or a Letter of Procedure is drafted between the controlling agency and the using agency. The LOA establishes the activation/deactivation procedures for the SUA and may outline periods when the FAA, with the Navy's concurrence, may route IFR traffic through the active SUA. The LOA defines the conditions and procedures to ensure safe and efficient joint use of warning areas. The FAA does not prohibit aircraft operating under VFR from entering warning areas that overlie international waters.

The Navy provides publication of NOTMARs and other outreach information about potentially hazardous activities planned for the TMAA, for publication by the USCG in NOTMARs. To ensure the broadest dissemination of information about hazards to commercial and recreational vessels, the Navy provides schedule conflicts along with other Coast Guard concerns at: http://www.navcen.uscg.gov/lnm/d17/.

3.11.2 Environmental Consequences

As noted in Section 3.11.1, the ROI for transportation and circulation includes the TMAA and ocean areas in the vicinity used for Navy air and marine transportation. Navy training activities that occur within the Air Force inland SUA and the Army inland ranges were evaluated under previous National Environmental Policy Act (NEPA) documentation (USAF 1995, USAF 1997, Army 1999, Army 2004) These documents are incorporated by reference. Environmental effects in the open ocean beyond the U.S. territorial seas (outside of 12 nm [22 km]) are analyzed in this EIS/OEIS pursuant to EO 12114.

3.11.2.1 Previous Analyses

Impacts related to transportation and circulation were previously evaluated in Sections 3.2 and 4.2 of the *Alaska Military Operations Areas EIS* (USAF 1995), Sections 3.2.3 and 4.0 of the *Improvements to Military Training Routes in Alaska Environmental Assessment* (USAF 2007), Sections 3.16 and 4.16 of the *Alaska Army Lands Withdrawal Renewal Final Legislative EIS* (Army 1999); and Sections 3.19 and 4.19 of the *Transformation of U.S. Army Alaska FEIS* (Army 2004).

3.11.2.2 Approach to Analysis

The principal issue is the potential for existing or proposed military air or vessel traffic to affect existing transportation and circulation conditions. Impacts on traffic were assessed with respect to the potential for disruption of transportation pattern and systems, and changes in existing levels of transportation safety.

Factors used to assess the significance of impacts on air traffic include consideration of an alternative's potential to result in an increase in the number of flights such that they could not be accommodated within established operational procedures and flight patterns; a requirement for an airspace modification; or an increase in air traffic that might increase collision potential between military and nonparticipating civilian operations.

Factors used to assess the significance of impacts on ocean vessel traffic include the extent or degree to which an alternative would disrupt the flow of commercial surface shipping or recreational fishing or boating. A serious disruption occurs when a vessel is unable to proceed to its intended destination due to exclusion from areas in the TMAA.

3.11.2.3 No Action Alternative

Both military and non-military entities have been sharing the use of the airspace and ocean surface comprising the TMAA for decades. Military, commercial, and general aviation users have established an operational coexistence consistent with federal, state, and local plans and policies and compatible with each interest's varying objectives. Activities under the No Action Alternative include activities that are and have been routinely conducted in the area for decades.

Air Traffic

Navy aviation activities travelling from the TMAA to inland training areas have the potential to affect commercial and recreational air traffic. Section 2.1.2.1 of the Northern Edge Exercise Final EA-OEA (2008) describes the proposed Western Altitude Reservation (ALTRV). An ALTRV is a flight clearance corridor provided by the FAA, for a "block of airspace" used to conduct activities and/or allow aircraft to transit from one area to another. Such would be the case when military aircraft leave the TMAA enroute to the inland SUA of the Air Force. During training activities, aircraft operating within the ALTRV will be under positive control of the FAA and will comply with all FAA flight rules. Figure 3.11-2 is an example of an ALTRV that could be used to accommodate aircraft overflights between the TMAA and the inland training ranges. In coordination with the FAA, the ALTRV will be reassessed each exercise year for suitability and functionality and may change to accommodate the needs of the military and the FAA. Due to the coordination between the FAA and the military, no impacts are expected to occur from overflights to commercial and general aviation.

Warning areas such as W-612 have been established to coordinate offshore civilian and military uses. When military aircraft are conducting activities that are not compatible with civilian activity, military aircraft is confined to the designated SUA, which is specifically designed to coordinate incompatible activities. Limitations are communicated to commercial airlines and general aviation by NOTAMs, published by the FAA. Because of these precautions, there will be no adverse effects on commercial or general aviation activities as a result of the No Action Alternative.

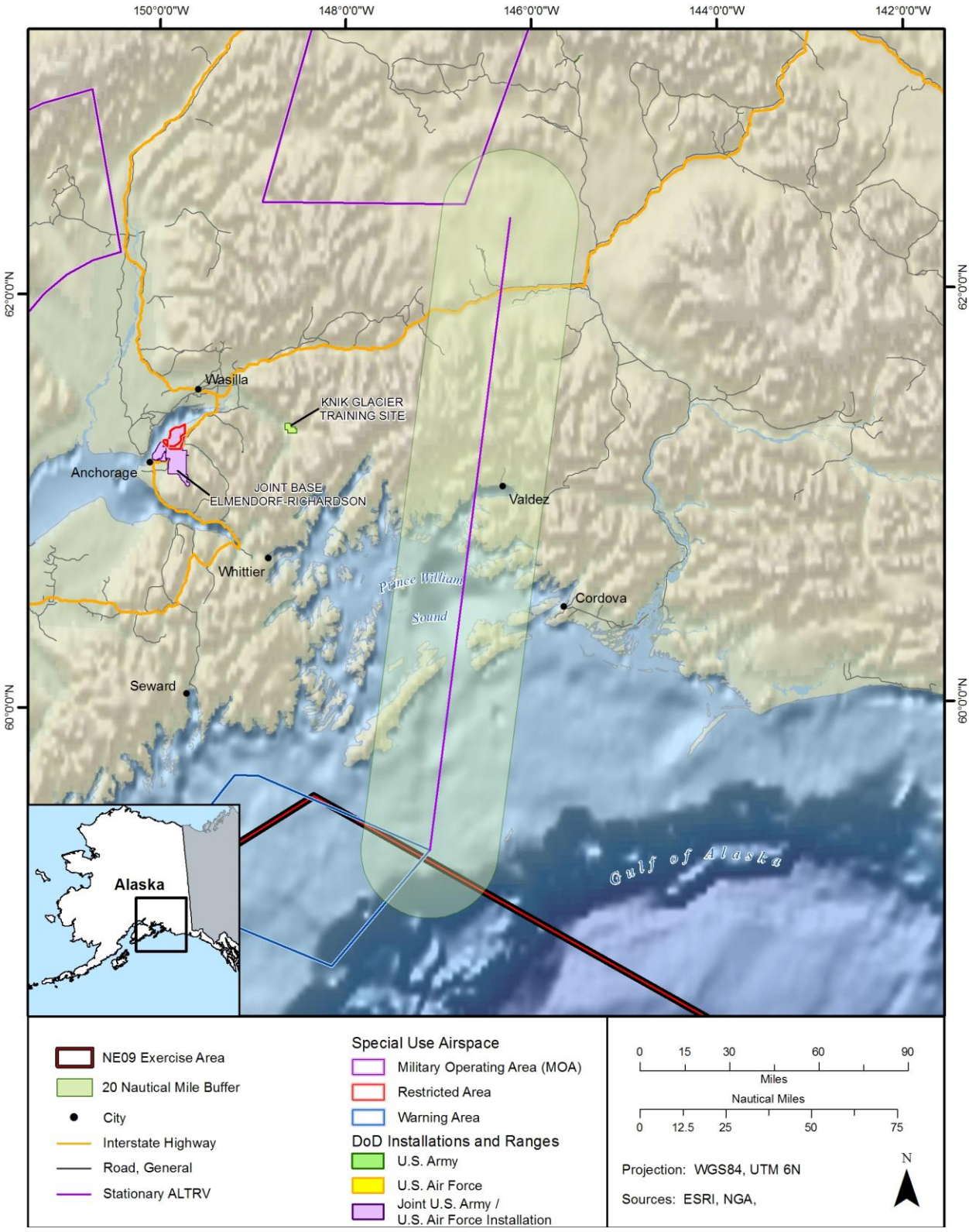

Figure 3.11-2: Example of a Temporary ALTRV between the TMAA and Inland Ranges

Marine Traffic

Military use of the TMAA is generally compatible with civilian use. Where naval vessels are conducting activities that are not compatible with other uses, they typically operate in areas away from shipping lanes to allow traffic to flow freely. If training activities occur within shipping or high traffic areas, these activity areas are communicated to all vessels and operators by NOTMARs, published by the USCG. Navy activities do not have an effect on recreational marine traffic because public activities are centered at local harbors and anchorages away from the TMAA and vessels are not precluded from entering the TMAA to transit to their desired locations. In the interest of safety, the Navy may temporarily exclude commercial and recreational marine traffic from small operational areas and require slight deviations from the intended course or the use of alternate routes. However, the use of alternative routes as a result of these temporary exclusions does not constitute a significant disruption to marine traffic. Based on the discussion above, there will be no adverse effects on commercial or recreational marine traffic under the No Action Alternative.

3.11.2.4 Alternative 1

Alternative 1 would have all the components of the No Action Alternative with the addition of one training instrumentation enhancement with the potential to impact marine traffic in the offshore area: a Portable Undersea Tracking Range (PUTR). The PUTR involves the temporary placement of seven electronics packages on the seafloor, each approximately 3 ft (0.9 m) long by 2 ft (0.6 m) in diameter. Although no specific locations have yet been identified, the electronic packages would be placed in water depths greater than 600 ft (182 m), at least 3 nm (5.5 km) from land. Because this is a temporary installation (to be recovered once training is complete), no formal restricted areas would be designated and no limitations would be placed on commercial or civilian use of the area, thus limiting impacts to marine traffic.

Air Traffic

The FAA has established warning areas for military operations, in this case, W-612. Offshore activities proposed under Alternative 1 would have all the components of the No Action Alternative, but the training tempo would increase, resulting in more air traffic. The traffic control procedures implemented under this alternative would be the same as those described above under the No Action Alternative. No additional impacts on the FAA's capabilities would be created. The remoteness of the offshore use areas, the use of LOAs and the ALTRV to better orchestrate traffic, and public notification procedures would substantially reduce possible congestion during these activities. Because of these precautions, there will be no adverse effects on commercial or general aviation activities as a result of Alternative 1.

Marine Traffic

Military use of the TMAA under Alternative 1 has all the components of the No Action Alternative, but the training tempo and number of assets would increase, resulting in more marine traffic. The same general procedures as described above under the No Action Alternative would be implemented for Alternative 1. Additionally, Alternative 1 would include the installation and use of the PUTR. Implementation of the PUTR would require the Navy to issue a NOTMAR to advise the public of the PUTRs existence and general location. Despite an increase in training tempo, marine traffic would not be affected by military operational increases. Increased Navy activities would not have an effect on marine traffic because public activities are centered at local harbors and anchorages away from the TMAA and vessels would not be precluded from entering the TMAA to transit to their desired locations.

As described above for the No Action Alternative, there will be no adverse effects on commercial or recreational marine traffic under Alternative 1. In addition, because the PUTR is a temporary installation (to be recovered once training is complete), no formal restricted areas would be designated and no formal

limitations would be placed on commercial or civilian use of the area, thus limiting impacts to marine traffic from the PUTR.

3.11.2.5 Alternative 2

Alternative 2 would have all the components of Alternative 1 (accommodating training activities currently conducted, increasing specific training activities to include the use of active sonar, and accommodating force structure changes). In addition, under Alternative 2 the following activities would occur:

- Conduct one additional separate summertime CSG exercise lasting up to 21 days within the ATA.
- Conduct a Sinking Exercise (SINKEX) in each summertime exercise (a maximum of two) in the TMAA.

Air Traffic

Effects on air traffic would be the same as those described under Alternative 1. Offshore activities proposed under Alternative 2 would have all the components of Alternative 1, but the training tempo would increase and the addition of a SINKEX would result in more air traffic. No additional impacts on the FAA's capabilities would be created. For safety purposes, the locations of SINKEX activities will be in areas that are not generally used by non-military aircraft. Prior to the commencement of a SINKEX, extensive range clearance procedures are conducted (Section 5.2.1.2) in conjunction with the defined operational parameters listed in the Letter of Instruction (LOI), which establishes precise ground rules for the safe and successful execution of the exercise.

The remoteness of the TMAA, the use of LOA's, NOTAMs, LOI, and the ALTRV to better orchestrate traffic, and public notification procedures would substantially reduce possible congestion during these activities. Because of these precautions, there will be no adverse effects on commercial or general aviation activities as a result of Alternative 2.

Marine Traffic

Effects on marine traffic would be the same as those described under Alternative 1. Despite an increase in training tempo and the inclusion of two SINKEXs, commercial and recreational interests would not be affected by military operational increases.

Navy clearance measures for live-fire training exercises would be implemented, and, therefore, marine traffic would not be affected during a SINKEX. For safety purposes, the locations of SINKEX activities will be in areas that are not generally used by non-military watercraft. Prior to the commencement of a SINKEX and following the issuance of a NOTMAR, extensive range clearance procedures are conducted (Section 5.2.1.2) in conjunction with the defined operational parameters listed in the Letter of Instruction (LOI), which establishes precise ground rules for the safe and successful execution of the exercise.

Increased Navy activities would not have an effect on marine traffic because public activities are centered at local harbors and anchorages away from the TMAA and vessels would not be precluded from entering the TMAA to transit to their desired locations. The use of NOTMARS and other public notification procedures would also be used to give the public advanced notification of Navy activities.

3.11.3 Mitigation

No adverse effects on air or marine traffic were identified. Therefore, no additional mitigation measures are necessary.

3.11.4 Summary of Effects

Current protective measures are described in Section 3.11.1.3; these procedures substantially lower the risk of Navy training activities on transportation and circulation. Table 3.11-1 summarizes the effects of the No Action Alternative, Alternative 1, and Alternative 2 on transportation and circulation under both NEPA and EO 12114.

Table 3.11-1: Summary of Effects by Alternative

Alternative	NEPA (U.S. Territorial Seas, 0 to 12 nm)	EO 12114 (Non-U.S. Territorial Seas, > 12 nm)
No Action Alternative	• Current Navy activities were considered and are consistent with those analyzed in the previous environmental documentation (USAF 1995, USAF 2007, Army 1999, Army 2004). These documents concluded that no significant impacts related to inland transportation and circulation would occur. • With the use of the ALTRV, overflights would have no adverse impact on non-military air or marine traffic.	• No adverse effects on commercial or general aviation would occur. Limitations are communicated to commercial airlines and general aviation by NOTAMs. • No adverse effects on marine traffic would occur. When training activities occur within shipping or high traffic areas, these activity areas are communicated to all vessels and operators by NOTMARs published by the USCG.
Alternative 1	• Under Alternative 1, Navy activities were considered and would be consistent with those analyzed in the previous environmental documentation (USAF 1995, USAF 2007, Army 1999, Army 2004). These documents concluded that no significant impacts related to inland transportation and circulation would occur. • With the use of the ALTRV, overflights would have no adverse impact on non-military air or marine traffic.	• Effects on air and marine traffic would be the same as described under the No Action Alternative. No additional impacts on the FAA's capabilities would be created as a result of proposed training increases under Alternative 1. • Marine traffic will not be affected by military operational increases. • Installation and use of the temporary PUTR will not affect air and marine traffic.
Alternative 2 (Preferred Alternative)	• Under Alternative 2, Navy activities were considered and would be consistent with those analyzed in the previous environmental documentation (USAF 1995, USAF 2007, Army 1999, Army 2004). These documents concluded that no significant impacts related to inland transportation and circulation would occur. • With the use of the ALTRV, overflights would have no adverse impact on non-military air or marine traffic.	• Effects on air and marine traffic would be the same as described under Alternative 1. There are no adverse effects to air or marine traffic as a result of implementation of Alternative 2. • Marine Traffic will not be affected by military operational increases. • Installation and use of the temporary PUTR will not affect air and marine traffic. • With implementation of LOI, range clearance procedures, and NOTMARs, SINKEX will not affect non-military transportation and circulation.

This page intentionally left blank.