

Military Ocean Terminal Sunny Point

Joint Land Use Study

EXECUTIVE SUMMARY

JULY 2019

BENCHMARK

STUDY FUNDING

This study was prepared under contract with the Cape Fear Council of Governments with financial support from the Office of Economic Adjustment, Department of Defense. The content reflects the views of the entities partnering in the study and does not necessarily reflect the views of the Office of Economic Adjustment.

ACKNOWLEDGMENTS

JLUS POLICY COMMITTEE

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Commissioner Joseph Whitley, Vice-Chair (Town of Kure Beach)
Commissioner Woody White, (New Hanover County)
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PROJECT SPONSOR - CAPE FEAR COUNCIL OF GOVERNMENTS

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DATE PREPARED

July 15, 2019

EXECUTIVE SUMMARY

OVERVIEW AND STUDY PURPOSE

Across the country, as communities surrounding military installations experience population growth and urban development, the military's ability to maintain its testing, training, and operational missions can be impacted. In an effort to encourage military installations and communities to plan for the future collaboratively, the U.S. Department of Defense created the Joint Land Use Study (JLUS) program, which is administered by the Office of Economic Adjustment. The JLUS process brings together business leaders, citizens, local, state and federal officials, property owners, military officials, and others to identify opportunities for growth that is compatible, helping to preserve the military's ability to test, train, and operate, while also supporting the community's ability to expand its economic opportunities.

Although a Joint Land Use Study (JLUS) is primarily funded by the Office of Economic Adjustment, the communities that receive JLUS funding are responsible for developing and implementing the JLUS. Through their participation, the local government partners are working toward the betterment of the entire region by identifying potential areas of compatibility concern and developing recommendations that each community may choose to implement at its own discretion.

The Cape Fear Council of Governments served as the region's sponsor for the Military Ocean Terminal Sunny Point (MOTSU) JLUS, managing the grant process and the completion of the study. The study partners included Brunswick County, New Hanover County, and the municipalities of Boiling Spring Lakes, Leland, Carolina Beach, Kure Beach, Southport, the Cape Fear Council of Governments, Military Ocean Terminal Sunny Point, as well as a wide range of regional stakeholders and partner organizations.

Military Ocean Terminal Sunny Point (MOTSU) is the largest military munitions terminal in the world, the key ammunition shipping point on the Atlantic Coast, the Army's primary east coast deep-water port, and one of a handful of Department of Defense terminals equipped to handle containerized ammunition. MOTSU serves as a transfer point between rail, trucks, and ships for the export (and limited import) of ammunition, explosives and military equipment for the Department of Defense. The installation is operated by the Army's 596th Transportation Brigade, which is subordinate to the Military Surface Deployment and Distribution Command (SDDC).

The overarching purpose of conducting the MOTSU JLUS was to identify ways (1) to protect and preserve the military and defense-related operational capabilities of MOTSU; (2) to support continued and safe growth and economic development of MOTSU's neighboring communities; (3) to enhance communication and collaboration between military commanders and local officials; and (4) to establish policies and procedures for managing compatible land uses adjacent to and encroaching on MOTSU.

PROJECT TEAM AND OVERSIGHT

The Cape Fear Council of Governments selected a consulting team to prepare the MOTSU Joint Land Use Study. The consulting team, led by Benchmark Planning, also included White & Smith (planning and legal specialists), Dial-Cordy (environmental specialists), and Marstel-Day (military encroachment policy specialists). The COG's Local Government Services Director served as the Project Manager; providing direct engagement with the consulting team, OEA, as well as two oversight bodies appointed to provide guidance through the study process.

The oversight boards were appointed with members representing each of the local governments participating in the JLUS. The JLUS Advisory Committee was comprised of senior staff leaders from each community, including managers and planning representatives. This committee provided direct technical input into the study and worked closely with the consulting team. A second committee, comprised of elected officials from each jurisdiction, served in the role of the JLUS Policy Committee. This committee provided high level leadership and oversight of the process, and was responsible for serving as liaisons to each of the governing boards of the participating jurisdictions. The Policy Committee also accepted the final report at the conclusion of the study process.



MOTSU Joint Land Use Study Committee Kickoff and Installation Tour - April 2018

STUDY PROCESS & PUBLIC ENGAGEMENT

The initial step in preparing the MOTSU JLUS involved several project meetings with the JLUS Project Manager during the first three months of 2018. During these initial meetings, key dates were discussed for the project schedule, initial stakeholders were identified, and the basic study process was discussed in more detail. The consulting team and Project Manager developed a Public Participation Plan that was designed to encourage participation in the process by key stakeholders and the general public. In addition, the consulting team and Project Manager held weekly phone conference calls to help keep the project moving forward in an efficient manner.

PROJECT TIMELINE

Since this project involved multiple groups and individuals in the planning process, a schedule of events was established, which included meeting dates for the project kickoff and installation tour, stakeholder interviews, public meetings, advisory review meetings, policy committee meetings, and final presentations. The key milestones and meeting dates are displayed in the table below:

Dates	Meeting
2018	
February 23	Project Team Meeting
April 11	Project Kickoff, Installation Tour, and Committee Meetings
May 21-24	Stakeholder Interviews
June 26	Advisory Committee Meeting – Review Draft Background Research
July 30	Public Kickoff Meeting – Study Overview & Background Research (Southport and Carolina Beach)
August 28	Advisory Committee Meeting – Review Compatibility Analysis
October 16	Advisory Committee Meeting - Review Conflict Resolution Strategies
November 19	Policy Committee Meeting – Review Conflict Resolution Strategies
December 4	Advisory Committee Meeting – Draft Recommendations
December 4	Public Meetings – Interim Findings (Boiling Spring Lakes and Carolina Beach)
2019	
January 29	Policy Committee Meeting – Draft Recommendations
February 25	Advisory Committee Meeting – Present Draft Study Documents
March 25	Advisory Committee Meeting – Finalize Study Documents
April 30	Advisory Committee Meeting – Finalize Study Documents
May 14	Policy Committee Meeting – Finalize Study Documents
June 24-25	Public Meetings – Final Presentation (Kure Beach and Southport)
July 15	Policy Committee Acceptance of Final JLUS

STAKEHOLDER ENGAGEMENT

Engagement with the broader set of MOTSU stakeholders required extensive coordination by the project team. The CFCOG staff assisted the consultant team in communicating with stakeholders to schedule interviews. A key component of the project team's background research was information obtained from individuals directly involved with the various governmental and private entities influencing land use in the region. The project team gathered information related to planning, economic development, utilities, transportation, and environmental issues through interviews with a wide range of entities in the region. The stakeholders interviewed during the initial phase of the project included principal staff and officials from:

- Military Ocean Terminal Sunny Point
- Brunswick County
- City of Boiling Spring Lakes
- Town of Leland
- City of Southport
- New Hanover County
- Town of Carolina Beach
- Town of Kure Beach
- Cape Fear Council of Governments
- NC State Port Authority
- NCDOT Division 3
- Wilmington MPO
- Cape Fear RPO
- H2GO
- Cape Fear Regional Jetport
- NCDEQ (Coastal Management)
- NCDNCR (Natural & Cultural Resources)
- Military Surface Deployment & Distribution Command
- Orton Plantation Preserve
- Wilmington District USACE
- Atlantic Commercial Properties

PUBLIC ENGAGEMENT

The project team used a variety of methods to keep the public informed during the study process and provide opportunities for input and feedback from the community. Throughout the process, the Cape Fear Council of Governments maintained a website that hosted presentations, contact information, draft and final study documents, meeting notices, and other information. The project team also held three rounds of public meetings to directly engage the community. These occurred at the beginning (July 2018), middle (December 2018), and end of the process (June 2019). During each round, meetings were held on both sides of the Cape Fear River in order to provide more convenient options for residents and other interested parties to participate. In total, attendance at the public meetings was over 200 individuals throughout the process. Prior to each meeting, the project team and CFCOG prepared press releases for distribution to local media outlets and prepared meeting notices for distribution by the COG and the JLUS study partners. When the final draft of the plan was prepared, it was placed on the CFCOG website for a 30 day public comment period prior to its final approval by the Policy Committee.

STUDY AREA

The study area (see Figure 1) includes a 3-mile area around MOTSU's main terminal in Brunswick County and the Pleasure Island explosives safety clear zone (ESCZ) (which is also known colloquially as the "buffer zone") across the Cape Fear River in New Hanover County. The study area also includes a 3/4-mile area along either side of the MOTSU rail corridor and around the Leland interchange yard. The study area covers portions of unincorporated Brunswick and New Hanover Counties, as well as all or portions of the City of Boiling Spring Lakes, the Town of Carolina Beach, the Town of Kure Beach, the Town of Leland, and the City of Southport. MOTSU is located in one of the fastest growing regions in North Carolina. MOTSU's main terminal operations are located in Brunswick County, which is the fastest growing county in the state. MOTSU's boundaries cross the county line into New Hanover County where the ESCZ abuts growing oceanfront communities as

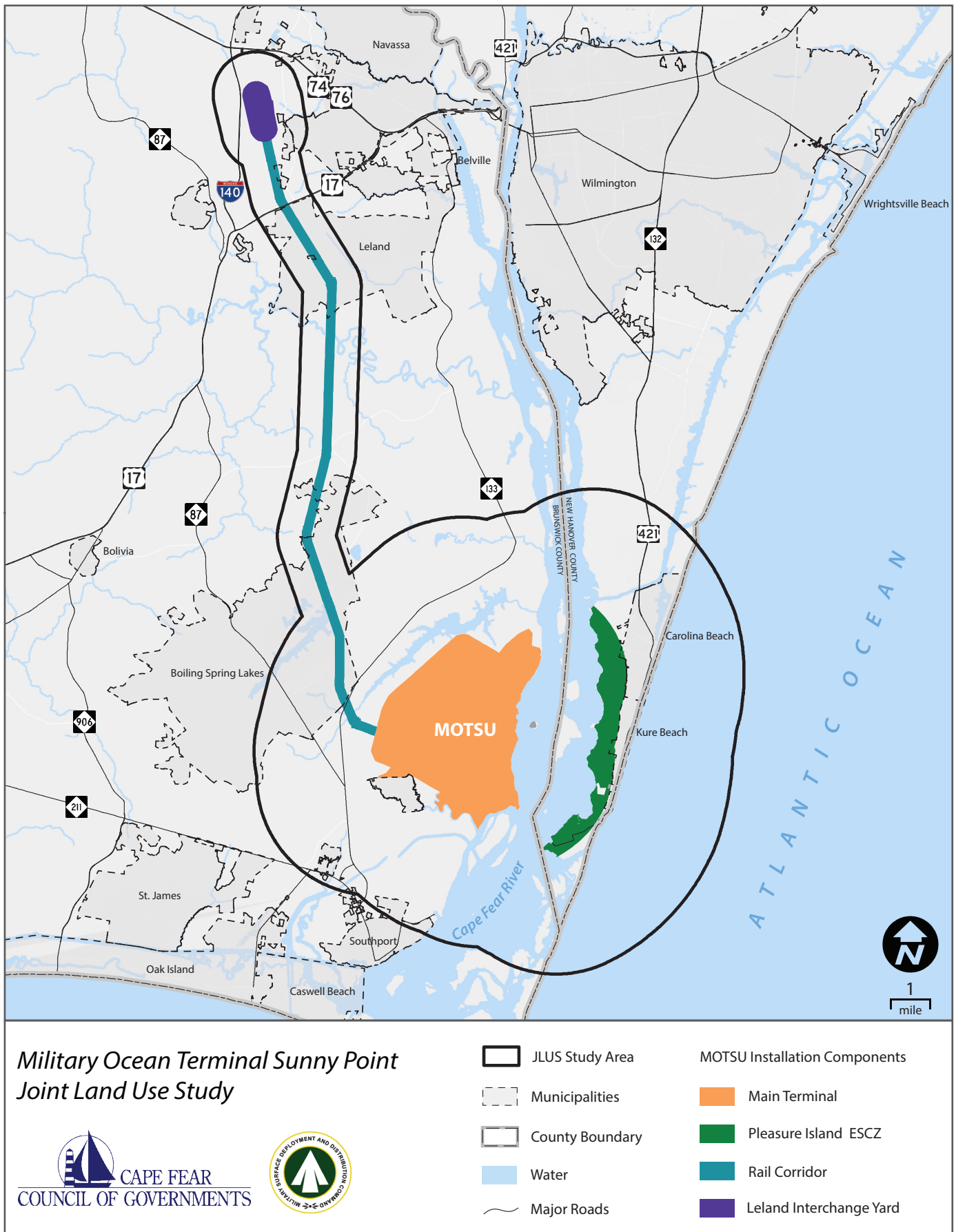


Figure 1: JLUS Study Area Map

well as significant tourist attractions like Carolina Beach State Park, Ft. Fisher Aquarium, Ft. Fisher State Historic Site, Ft. Fisher State Recreation Area, and the Ft. Fisher-Southport Ferry. Additionally, the US Air Force Ft. Fisher Recreation Area is located partially within the MOTSU ESCZ, as are a number of municipal parks and utility infrastructure, while Dow Road, an alternative to US 421 and major bicycling route on Pleasure Island, crosses through the clear zone on MOTSU property. As a result, the project study area contains a rapidly growing population and a significant seasonal tourist population. The project's intent was to open lines of communication between MOTSU, local governments, and other key stakeholders, who have worked collaboratively to achieve the project's goals. The State of North Carolina has made it a priority to protect the continued operation of its military facilities and this study was undertaken with the goal of supporting that effort while also accommodating the growth in population and tourism in the region.

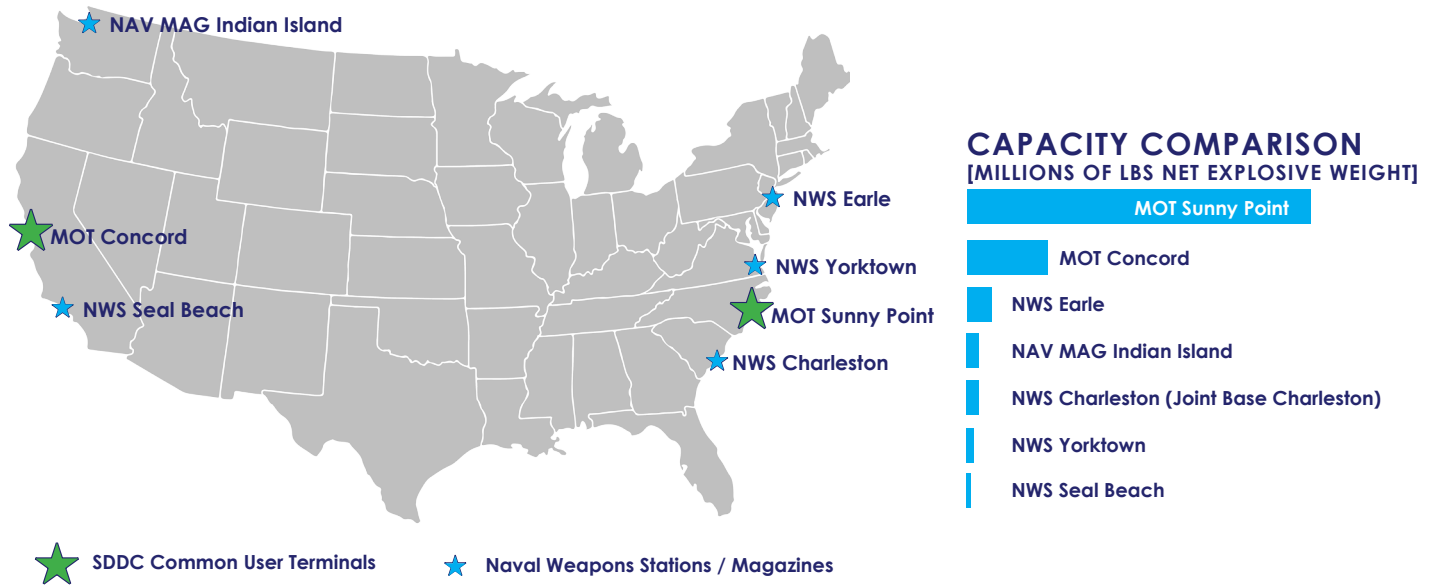
SUNNY POINT

Military Ocean Terminal Sunny Point (MOTSU) was established by Congress in 1951, with land acquisition and construction of the terminal completed in 1955. The installation was conceived as a purpose-built ammunition transshipment terminal in response to safety concerns that had emerged during World War II, in particular the Port Chicago disaster, which claimed the lives of 320 servicemen, wounded 390 and caused significant damage in the urban area surrounding the port when an accidental detonation destroyed the port during ammunition loading operations in 1944.

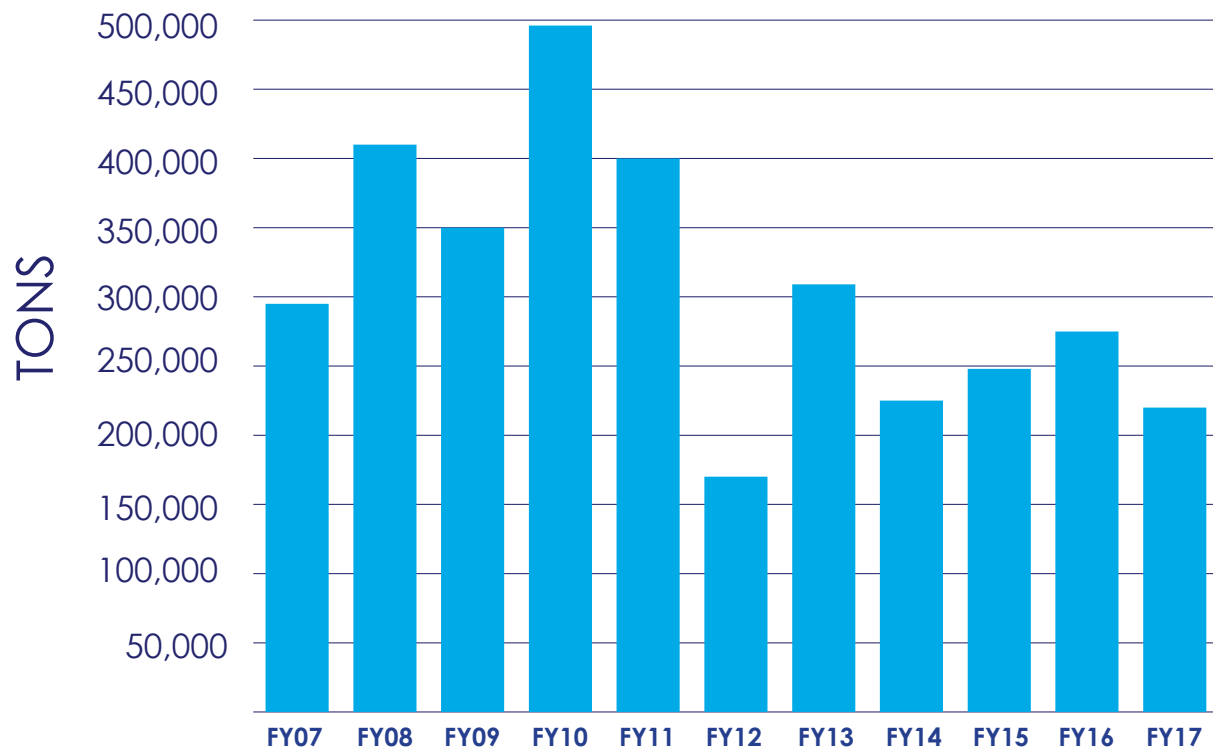
Designed around the concept of providing the safest operational environment possible for handling hazardous cargoes, the Army acquired over 8,600 acres of land for the main terminal on the Cape Fear River in what was then a very rural area in southeastern Brunswick County. The Army also acquired over 2,000 acres of land on the eastern shore of the Cape Fear River to serve as the Explosives Safety Clear Zone, and another 600+ acres in the area that is now Leland, 16 miles from the main terminal, for a rail interchange yard. To facilitate movement to and from the interchange yard, the Army acquired land (primarily as easements) and constructed a rail corridor connecting the main terminal to the interchange yard. Rounding out the land acquisition were additional purchases of easements around the main terminal, totaling nearly 5,000 acres, which remain in private ownership, but have compatible use restrictions on them to ensure public safety in the area immediately around the main terminal.

From the point of its activation, MOTSU has served as an indispensable component of the Department of Defense's surface transportation network. It has a greater ammunition handling capability (measured in tons of net explosive weight) than all other Department of Defense munitions terminals combined, and the terminal provides munitions transshipment capabilities for all branches of the US Armed Forces, as well as allied nations through the DoD's Foreign Military Sales program. Over the last decade, the installation has been responsible for transshipping up to 500,000 tons of cargo during a single fiscal year, with an average annual workload in the range of 250,000 to 300,000 tons.

SERVICE SURFACE AMMO CAPABILITY



MOTSU EXPORT WORKLOAD



MISSION COMPATIBILITY FACTORS

Threats to the long term sustainability of MOTSU's operational mission are directly tied to the nature of the operations that are conducted on the terminal. The primary potential threat to the mission is from incompatible urban growth / incompatible uses in areas that fall within its explosive hazards safety zones, which are known by the acronym ESQD - explosive safety quantity-distance - a measurement of the hazard potential of explosives related to their net explosive weight (NEW). The second primary compatibility factor is related to the installation's mission as a transportation dependent hub for munitions transshipment, with requirements for access to the installation via rail, the local highway network, and marine access via the Cape Fear River. A third primary factor in sustaining MOTSU's mission is ensuring that environmental constraints, such as habitat protection for endangered species, do not impede its operational capacity. This final primary compatibility factor is the relationship that is maintained between MOTSU, its host communities, other regional partners, and the public at large. Strong relationships help to mitigate potential threats to the mission by ensuring a collaborative environment in which problems can be identified and solved before they impact the mission.

REGIONAL GROWTH TRENDS

The location for Military Ocean Terminal Sunny Point was originally chosen based on its rural character, generally inhospitable natural environment, and most importantly, the lack of a large concentration of residents within the area needed for its explosives safety zones. Since MOTSU's construction in the early 1950s, population growth has boomed in both counties, with New Hanover now boasting an estimated 227,000 residents, while Brunswick County has grown to nearly seven times its size in 1950, with a population now estimated to exceed 130,000. As both counties have grown, new municipalities such as Boiling Spring Lakes and Leland, have grown along either end of the MOTSU rail corridor, with current estimated populations of 6,000 and nearly 20,000 residents, respectively,

As a general trend, we can expect both Brunswick and New Hanover Counties to continue a steady upward growth trajectory into the foreseeable future. The NC Demographer's Office currently estimates that Brunswick County will grow to over 200,000 residents by 2038, while New Hanover County is estimated to reach 315,000 residents by 2038. In the face of such fast growth, it can be expected that development pressure will increase in areas near MOTSU's main terminal, which could present new challenges to maintaining a compatible environment for the installation's operational mission.

Changes in urban development patterns between 2010 and 2017, as shown in Figure 2. show that while growth has not been occurring around the main terminal, there has been significant growth along the MOTSU - Leland rail corridor, particularly related to the development of Brunswick Forest.

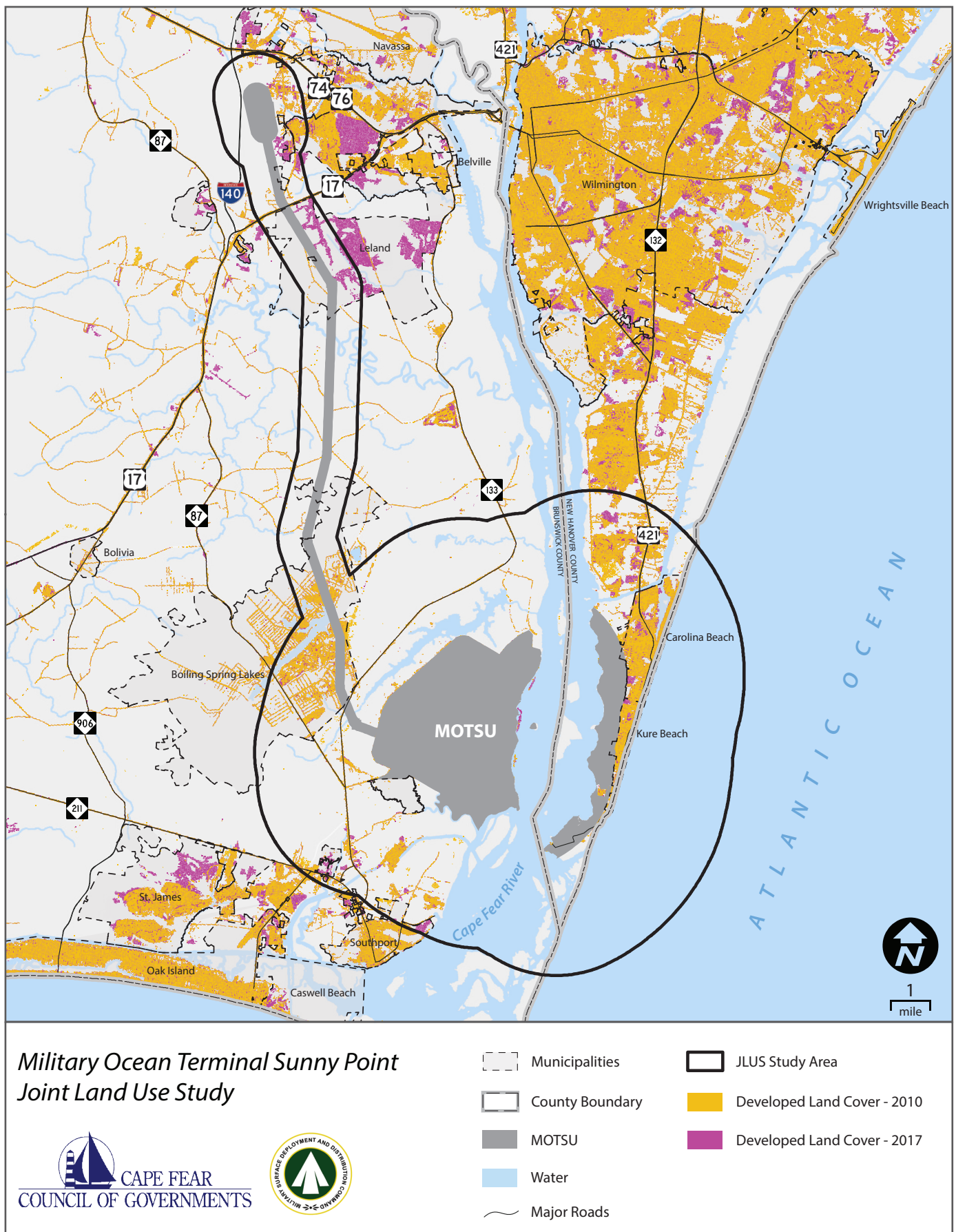


Figure 2: Developed Land Cover Change 2010-17

EXPLOSIVES SAFETY

Maintaining compatibility with MOTSU's explosive safety needs, as required by its operating license from the Department of Defense Explosives Safety Board (DDESB) is the most critical component of ensuring the long term sustainability of its operational mission. The installation's operating license is conditioned on preventing incompatible land use encroachment, as well as other activities, within its defined explosives safety quantity distance (ESQD) arcs.

At MOTSU, there are two primary ESQD arcs - the inhabited building distance (IBD) and public traffic route distance (PTRD) that fall at least partially outside of the installation boundaries. Within each of these ESQDs, there are limitations as to the uses, structures, and activities that can be established or take place in order to maintain compliance with the DDESB operating license. Given the dense nature of development on Pleasure Island, a secondary ESQD, which is not included in the DDESB license, is included as part of this study. The K88 ESQD represents an area where there are enhanced glass breakage concerns, which would be particularly applicable in an urban area with tall structures that may be more susceptible to unimpeded blast waves due to the lack of intervening obstruction. All three of these ESQD arcs are shown in detail in Figure 3.

A unique aspect of explosives safety is that when explosive cargoes are "in transport" there are not any applicable ESQD arcs, but rather the cargo falls under separate USDOT safety guidelines. An incident along the MOTSU rail corridor involving a train carrying an explosive cargo, however, could be reasonably presumed to create a hazard similar to if the explosive cargo was being temporarily staged on the terminal and no longer "in transit." Among the guidance that does exist for such events are identical requirements for initial emergency withdrawal (evacuation) distances for non-essential personnel, which is found in both DESR 6055.09 and DA PAM 385-64.

The map shown in Figure 4 demonstrates the combined potential emergency withdrawal areas along the MOTSU rail corridor (typically a 5,000 foot initial evacuation area). Of course, an incident occurring in a single, discreet location would not require evacuation along the entire corridor, but rather just in the area around the incident location. An example of a discrete, localized evacuation area for an incident on the rail corridor is shown shaded in red on the map. Similar evacuation distances apply for incidents involving explosive cargo being shipped by truck as well. Once explosive cargo is no longer in transit, then a larger "facility" emergency evacuation distance would apply. The map in Figure X also provides examples of the recommended evacuation distances for incidents involving the maximum licensed capacity at each of the three wharves at MOTSU.

For many years, MOTSU has granted approvals via leases, licenses and easements for the compatible use of installation property for essential public facilities, particularly on Pleasure Island. As Carolina Beach and Kure Beach have continued to grow, their needs for public facilities and infrastructure

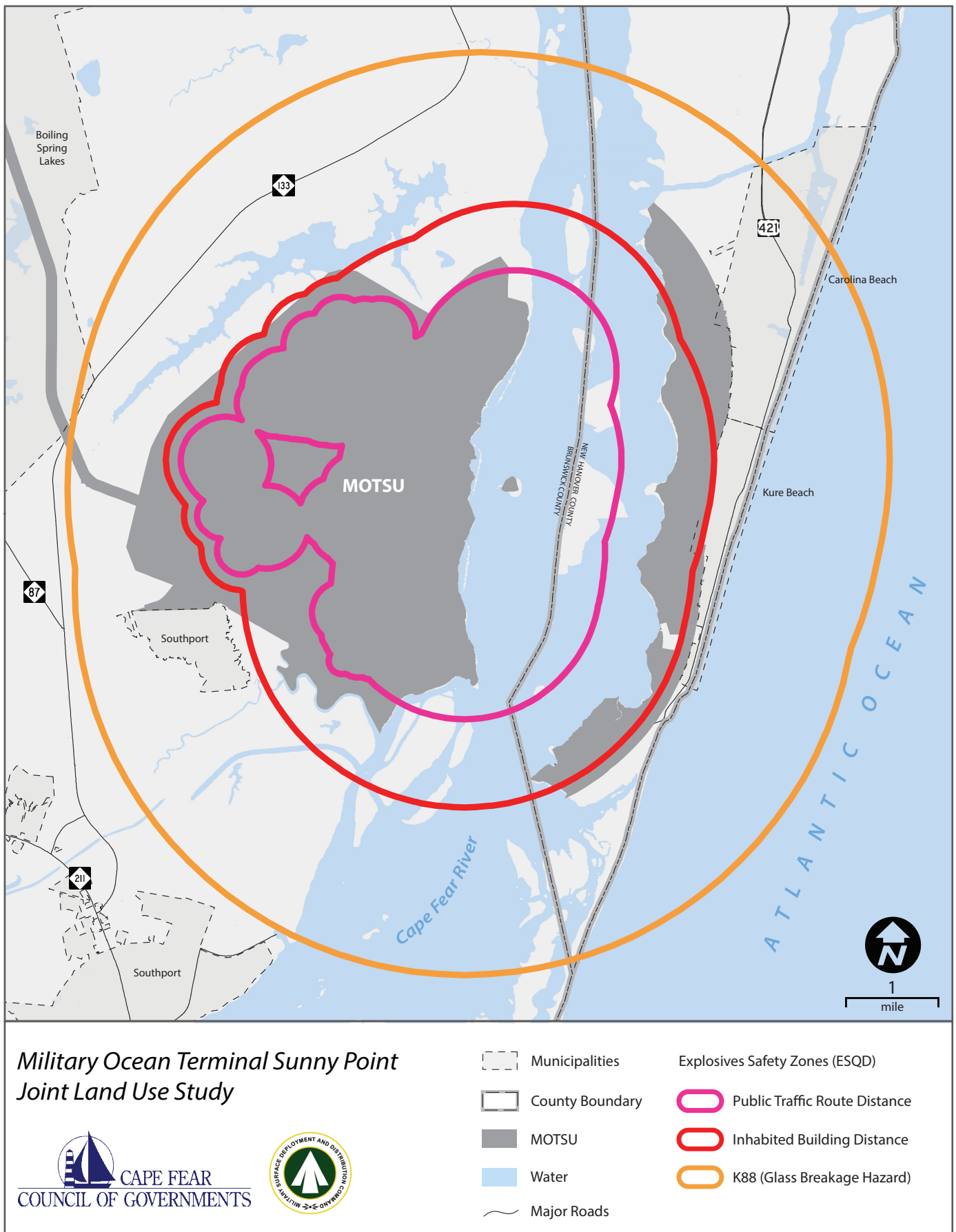


Figure 3: MOTSU Explosives Safety Quantity Distance Arcs

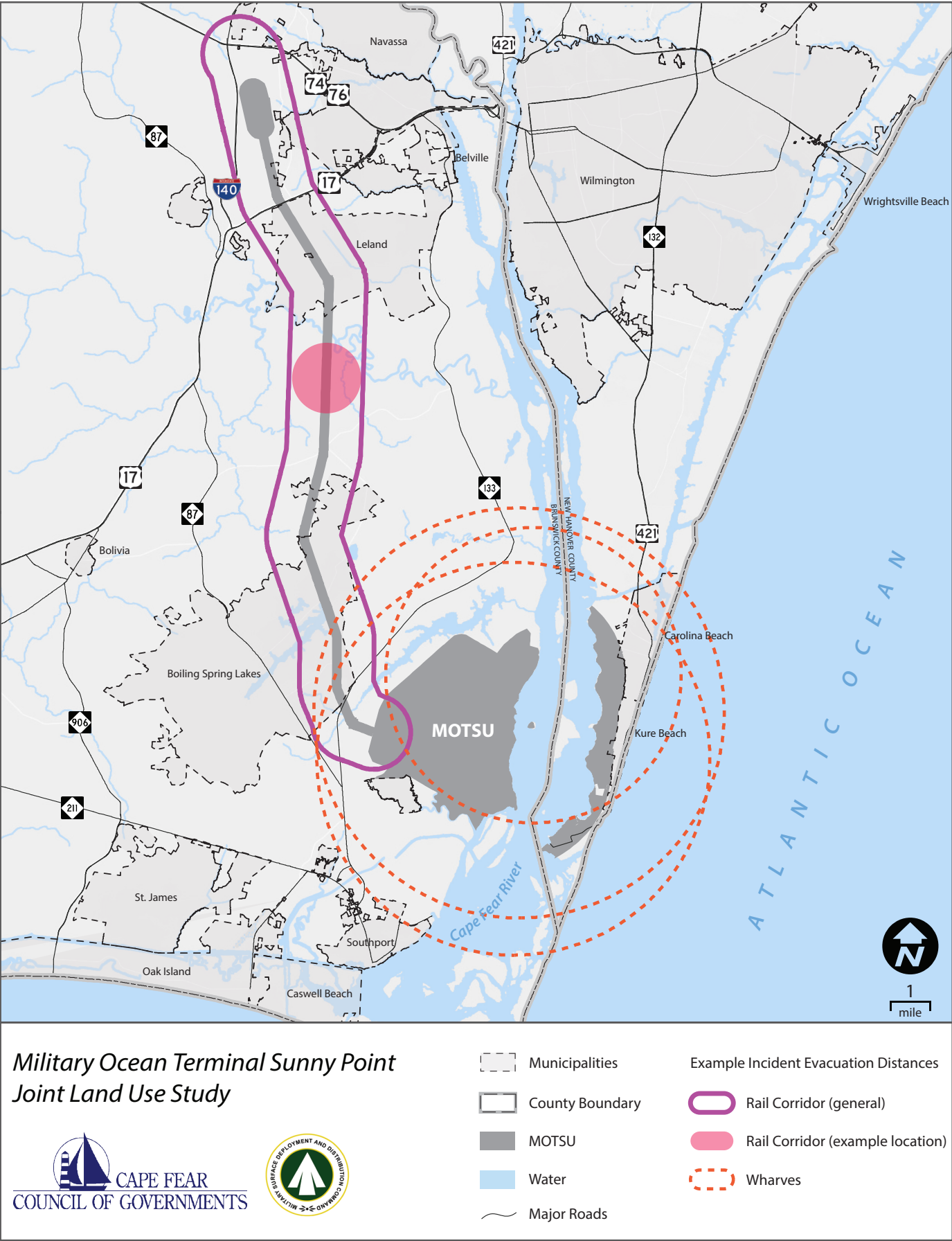


Figure 4: Example Emergency Evacuation Areas

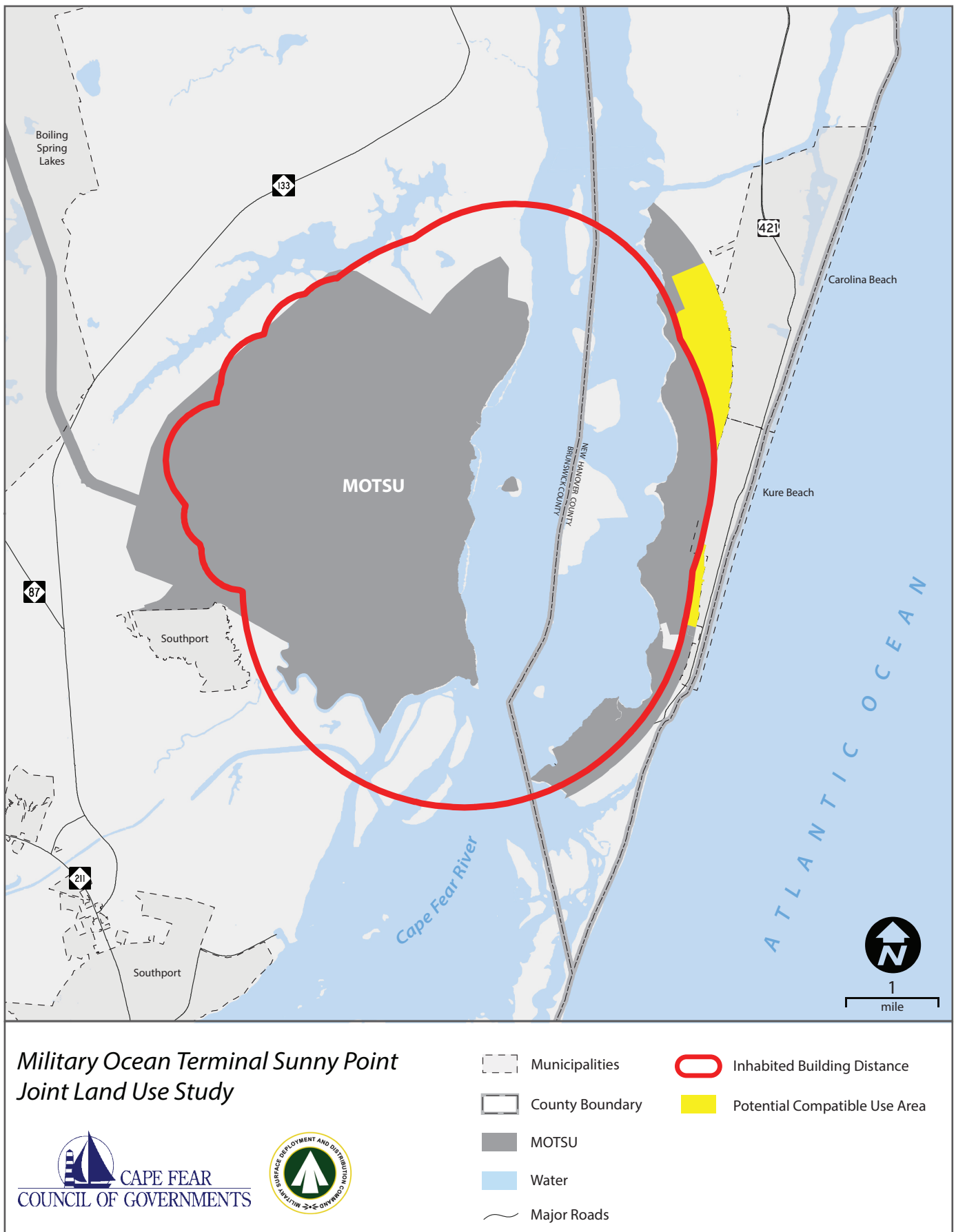


Figure 5: MOTSU Property on Pleasure Island Outside of the IBD

have grown with them. As the communities have now reached a point where they are essentially built-out, MOTSU owned property has become one of the few potential alternatives for maintaining existing services and expanding public services and infrastructure to meet community needs.

While the majority of the installation property on Pleasure Island is within the IBD, and thus subject to significant restriction on the types of uses or infrastructure that might be considered for development under a compatible use easement / license, there is a good deal of land owned that is part of MOTSU that is outside of the IBD, as shown on the map in Figure 5. Of the many compatibility issues examined in the JLUS, the issue of cooperative planning for the compatible use of military property for the benefit of the community was perhaps the most important topic. The identification of areas of potential compatible use opportunity, such as this, are an example of how the JLUS and its recommendations can help to strengthen the relationship between MOTSU and its host communities. This in turn, can help the Army and its civilian partners work collaboratively on a wide range of issues and challenges to identify mutually-beneficial solutions to compatible growth issues.

RECOMMENDATIONS AND IMPLEMENTATION

In order to achieve the goals established at the beginning of the Joint Land Use Study process, a comprehensive list of recommendations was prepared for the consideration of, and voluntary implementation by, local governments in the region. Each community will determine how it will move forward with the study's recommendations based on their particular needs and local compatibility factors. In support of the recommendations, A broad range of recommendations were developed for consideration by local governments in the region. The recommendations were organized into five categories as outlined below, and as shown in the tables on the following pages:

- Coordination (C)
- Land Use/Zoning (LU)
- Public Safety (PS)
- Transportation (T)
- Pleasure Island ESCZ (PIE)

Following the conclusion of the JLUS process, the study partners will likely want to undertake the implementation of some number of the recommendations presented in the study. It should be noted that the adoption or implementation of any of the recommendations in the JLUS are purely at the discretion of the entities that are the subject of the recommendation. The intent of the JLUS process is to identify ways that a region can grow compatibly with the military and ultimately find ways to implement those ideas to support the mission. In addition to the implementation of the study recommendation, it will be critical for the region to revisit this study on a regular basis to incorporate new information, measure success with implementation, and recharge the strong relationships that are growing between MOTSU and its local government partners.

COORDINATION RECOMMENDATIONS					
C-1	The local governments and MOTSU should establish an enduring regional organization to serve as a forum and advocacy group for joint civil-military relations between MOTSU and its host communities.				
	Applicability	Responsibility	Action	Resources	Time Frame
	CFCOG Local Governments MOTSU	Staff + Governing Boards	Establish Organization + Assign Representatives	Staff Time + Ongoing Funding	Short (1-2 years) / Ongoing
C-2	MOTSU should establish a clear and consistent point of contact (defined staff position) to receive, distribute, and respond to land use notices. Responses should be provided for all notices that are received.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU	MOTSU Commander	Assign Staff	Staff Time	Short (1-2 years) / Ongoing
C-3	Local governments should adopt policies through their land use ordinances to require notification of statutorily required actions (as well as any local modifications) within 5 miles of the MOTSU rail corridor, in addition to the main terminal, interchange yard, and pleasure island ESCZ.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Local Governments	Planning Staff + Governing Boards	Amend Land Use Ordinances	Staff Time	Short (1-2 years)
C-4	Local governments should Consider adopting policies to expand the types of actions / decisions that are covered by notice to MOTSU within the 5 mile notification areas due to lack of clarity / relevance in the military land use notification statutes.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Local Governments	Planning Staff + Governing Boards	Amend Land Use Ordinances	Staff Time	Short (1-2 years)

COORDINATION RECOMMENDATIONS					
C-5	The Wilmington MPO should expand the membership of its technical coordinating committee (TCC) to include a representative from MOTSU, who should attend all WMPO meetings.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Wilmington MPO MOTSU	MPO Board + MOTSU Commander	Amend Bylaws + Assign Representative	Staff Time	Short (1-2 years)
C-6	Local governments should invite MOTSU representatives to participate on steering / advisory committees for local comprehensive / land use planning projects, and MOTSU staff should participate in meetings of those committees.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Local Governments MOTSU	Governing Boards + MOTSU Commander	Establish Policy + Invite MOTSU to Participate	Staff Time	Short (1-2 years) / Ongoing
C-7	MOTSU should make subject matter experts available, as requested and as available, for local governments to use as a resource on matters of mutual relevance.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU	MOTSU Commander	Assign Staff	Staff Time	Ongoing
C-8	MOTSU and its local government partners should jointly develop public outreach materials (digital, print, etc.) That explain the MOTSU mission and the various land use, public safety, and other concerns and rules (e.g. ESCZ trespassing, Cape Fear River restricted area), and make these materials available through a web portal and in local government offices.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Coordinating Committee	Committee + Staff	Develop, Publish and Update Materials	Staff + Printing + Website	Short (1-2 years) / Ongoing

COORDINATION RECOMMENDATIONS					
C-9	MOTSU and the region as a whole should participate in, and seek representation on, statewide military advocacy organizations such as the Military commanders council and the military affairs commission.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Coordinating Committee	MOTSU Commander + Committee	Join, Seek Appointment, and Participate in Committees	Time + Travel Expenses	Short (1-2 years) / Ongoing
C-10	Once established, MOTSU should communicate the new procedure for requesting real estate agreements / outgrants on installation property to the Standing Coordinating Committee (see recommendation C-1).				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Coordinating Committee	MOTSU Commander	Finalize Outgrant Approval Procedure and Provide the Procedure to the Coordinating Committee	Staff Time	Short (1-2 years)

LAND USE RECOMMENDATIONS					
LU-1	Local governments should Consider implementing zoning regulations along the MOTSU – Leland rail corridor and around the interchange yard to limit the density and intensity of residential development and restrict uses that are incompatible with the potential need to evacuate in case of an emergency situation.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Brunswick County Boiling Spring Lakes Leland	Planning Staff + Governing Boards	Amend Land Use Ordinances	Staff Time	Short (1-2 years)
LU-2	Local governments having jurisdiction within the K88 glass breakage hazard area should adopt regulations as part of an overlay district that either prohibit the construction of habitable structures taller than 5 stories (50 feet) or require the issuance of a special use permit for such structures so that their proposed siting, orientation, and construction can be evaluated for public safety concerns.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Brunswick County Southport New Hanover County Carolina Beach	Planning Staff + Governing Boards	Amend Land Use Ordinances	Staff Time	Short (1-2 years)
LU-3	Local governments, with assistance from technical experts from MOTSU, should develop voluntary construction standards to make available to developers / contractors in the area between the IBD and K88 for all types of construction to mitigate potential safety issues from glass breakage and other hazards.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Local Governments MOTSU	Planning / Inspections Staff + MOTSU Commander	Develop and Distribute Construction Standards	Staff + Publication Costs	Medium (3-5 years)
LU-4	Local government comprehensive plans should be updated to include relevant information, policies, and land use guidance related to MOTSU and the Joint Land Use Study.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Local Governments	Planning Staff + Governing Boards	Amend Comprehensive Plans	Staff Time	Short (1-2 years)

LAND USE RECOMMENDATIONS					
LU-5	Local government land use ordinances should be updated to explicitly reference the statutory military land use notification requirements (as well as any locally adopted expansions of notice requirements).				
	Applicability	Responsibility	Action	Resources	Time Frame
	Local Governments	Planning Staff + Governing Boards	Amend Land Use Ordinances	Staff Time	Short (1-2 years)
LU-6	Local governments should ensure that CAMA plans are consistent with MOTSU's mission with regard to its ongoing activities in areas of environmental concern.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Local Governments	Planning Staff + Governing Boards	Amend CAMA Plans	Staff Time	Medium (3-5 years)
LU-7	Local governments should consider the adoption of policies requiring that any response or analysis provided by MOTSU regarding the compatibility of a proposed land use action be provided to the governing board as part of the staff report for that item.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Local Governments	Planning Staff + Governing Boards	Update Policies	Staff Time	Short (1-2 years)
LU-8	Local governments should jointly develop additional zoning / subdivision standards to provide for enhanced safety and security in areas immediately adjacent to the rail corridor. Examples could include requirements for establishing berms, fencing, or similar development standards in areas of potential public safety concern.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Brunswick County Boiling Spring Lakes Leland	Planning Staff + Governing Boards	Amend Land Use Ordinances	Staff Time	Short (1-2 years)

LAND USE RECOMMENDATIONS					
LU-9	MOTSU should work with NCDOT to ensure that safety and security are taken into account when it is considering granting permits / encroachment agreements for the establishment of wireless telecom towers in state ROW.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU NCDOT	MOTSU Commander + District Engineer	Coordinate with NCDOT	Staff Time	Short (1-2 years)
LU-10	MOTSU and the local governments should monitor planning efforts for the NC State Port property south of MOTSU and seek to work collaboratively with the NCSPA on its plans for the future of the site.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Local Governments	MOTSU Commander + Planning Staff	Coordinate with NCSPA	Staff Time	Ongoing
LU-11	Local governments should invite MOTSU staff to participate in Technical Review Committee meetings where items of potential concern to the installation will be discussed.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Local Governments MOTSU	Planning Staff + MOTSU Commander	Invite MOTSU to Participate in TRC	Staff Time	Ongoing
LU-12	MOTSU should seek funding from sources such as the REPI and ACUB programs, and work with local governments and regional land conservation organizations to secure supplemental funding from programs such as the Clean Water Management Trust Fund, to acquire conservation easements and/or purchase undeveloped land along the MOTSU rail corridor to enhance future Mission Compatibility and achieve conservation goals.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU	MOTSU Commander	Seek Compatible Use Easement Funding	Staff / Program + Grant Funding	Medium (3-5 years) / Ongoing

LAND USE RECOMMENDATIONS					
LU-13	Local governments should consider adopting regulations in their subdivision ordinances to require plat notations indicating proximity to MOTSU, its rail corridor and interchange yard, as well as require preliminary subdivision plats and site plans to indicate their distance to those facilities when submitted for review to ensure that developers (and future purchasers) are aware of the potential hazards and associated risk.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Brunswick County Boiling Spring Lakes Leland	Planning Staff + Governing Boards	Amend Land Use Ordinances	Staff Time	Short (1-2 years)

PUBLIC SAFETY RECOMMENDATIONS					
PS-1	MOTSU and the local governments should continue participation in mutual aid agreements and joint exercises with law enforcement, fire, and other emergency response agencies.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Local Governments Public Safety Agencies	MOTSU Commander + Public Safety Chiefs + Governing Boards	Adopt and Renew Mutual Aid Agreements + Conduct Joint Exercises	Staff Time + Training Funding	Ongoing
PS-2	MOTSU and local emergency response / management agencies should develop, and regularly review and update, contingency plans for evacuation measures for rail, truck, and facility related incidents.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Local Governments Public Safety Agencies	MOTSU Commander + Public Safety Chiefs	Develop and Update Contingency Plans	Staff Time + Planning Funds	Short (1-2 years) / Ongoing
PS-3	MOTSU should consider prepositioning woodland firefighting equipment on Pleasure Island to enhance responses to incidents in the ESCZ.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Carolina Beach Kure Beach New Hanover County	MOTSU Commander + Fire Chiefs	Acquire and Preposition Equipment	Equipment Acquisition Funding	Long (5-10 years)
PS-4	MOTSU should consider permanently expanding the restricted area (or explore options for temporary expansions) in the Cape Fear River to better match operational, safety, and security requirements of its mission.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU	MOTSU Commander	Pursue Amendment of 33 CFR 334.450	Staff Time	Medium (3-5 years)

PUBLIC SAFETY RECOMMENDATIONS					
PS-5	MOTSU should continue to seek the designation of the Cape Fear River as a “no-fly” area for UAS by the FAA and seek expansion of the width of the “no-fly” area along the rail corridor and around the Leland interchange yard.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU	MOTSU Commander	Pursue Amendment of UAS Flight Restrictions	Staff Time	Short (1-2 years)
PS-6	MOTSU should work with local governments to grant the authority to emergency response agencies to fly UAS in restricted areas (particularly the ESCZ) with prior notice to MOTSU security officials.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Local Governments	MOTSU Commander + Public Safety Chiefs	Develop MOUs and Procedures for UAS Overflight	Staff Time	Short (1-2 years)
PS-7	MOTSU, NCDOT, NCDNCR, and Brunswick County should explore options for restricting public access to the portion of Plantation Road south of St. Phillips Road, while ensuring ongoing access to Brunswick Town / Fort Anderson and Orton Plantation.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU NCDOT NCDNCR Brunswick County	MOTSU Commander + NCDOT District Engineer + County Commissioners	Abandon Plantation Road ROW and Transfer to MOTSU (with access to Orton and Brunswick Town)	Staff Time + Maintenance Funds	Medium (3-5 years)
PS-8	MOTSU should enhance public notices / no trespassing signage along the ESCZ boundary on Pleasure Island and along the rail corridor.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU	MOTSU Commander	Acquire and Install Additional Boundary Signage	Sign Acquisition and Installation Funding	Short (1-2 years)

PUBLIC SAFETY RECOMMENDATIONS					
PS-9	MOTSU, the local governments, and independent emergency response agencies should continue to provide opportunities for local fire agency personnel to receive enhanced training in explosives safety / fire response, shipboard, and woodland firefighting to enhance their capabilities to support MOTSU.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Public Safety Agencies	Public Safety Agency Chiefs	Continue Joint Training Exercises	Staff Time + Training Funding	Ongoing
PS-10	MOTSU, the local governments, and independent emergency response agencies should explore opportunities for local fire agencies to obtain specialized equipment that enhances their capabilities and capacity to support MOTSU.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Public Safety Agencies	Public Safety Agency Chiefs	Seek Funding for Acquisition of Specialized Equipment	Staff Time + Equipment Acquisition Funds	Medium (3-5 years)
PS-11	MOTSU, Brunswick County, Boiling Spring Lakes, and Leland should continue to work towards agreements on concurrent law enforcement jurisdiction on the rail corridor as the Army continues to pursue efforts to acquire fee simple ownership of the corridor.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Brunswick County Boiling Spring Lakes Leland	MOTSU Commander + Law Enforcement Chiefs	Seek Concurrent Law Enforcement Jurisdiction for the Rail Corridor	Staff Time	Short (1-2 years)

TRANSPORTATION RECOMMENDATIONS					
T-1	MOTSU and the USACE should continue to explore opportunities to acquire fee simple ownership of the rail corridor				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU	MOTSU Commander	Seek Fee Simple ROW Acquisition	Staff Time + Land Acquisition Funding	Long (5-10 years)
T-2	MOTSU, NCDOT, Cape Fear RPO, Wilmington MPO and the local governments should explore opportunities for the elimination of at-grade road crossings of the MOTSU rail line and work toward sealing the rail corridor between MOTSU and Leland (to the extent practical).				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU NCDOT WMPO+CFRPO Brunswick County Leland Boiling Spring Lakes	MOTSU Commander + District Engineer + TPO Boards + Governing Boards	Develop and Implement Plans to Eliminate Railroad Grade Crossings	Planning and Construction Funding	Long (5-10 years)
T-3	MOTSU and the local governments should continue working with NCDOT to mitigate and eliminate flooding issues along the highway access routes to MOTSU to ensure continuous access to the installation.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU NCDOT Brunswick County Leland Boiling Spring Lakes	MOTSU Commander + District Engineer + Governing Boards	Develop and Implement a Plan to Mitigate Highway Flooding Hazards	Planning and Construction Funding	Short (1-2 years)
T-4	MOTSU, NCDOT, and the Wilmington MPO should support the completion of I-140 (to the Cape Fear Crossing) to provide more direct truck access to MOTSU.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU NCDOT WMPO	MOTSU Commander + MPO Board	Support Funding and Construction of the Cape Fear Crossing	N/A	Short (1-2 years)

TRANSPORTATION RECOMMENDATIONS					
T-5	MOTSU, NCDOT, the Cape Fear RPO, and Wilmington MPO should analyze the impact of the completion of I-140 on highway access / intersection functionality for MOTSU truck traffic and develop mitigation strategies for inclusion in transportation plans if issues are identified.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU NCDOT CFRPO WMPO	MOTSU Commander + District Engineer + TPO Staff	Prepare Traffic Impact Models and Mitigation Plans for Preferred CFC Route	Planning Funds	Medium (3-5 years)
T-6	NCDOT and the Cape Fear RPO should explore opportunities for constructing a grade separation of NC-133 over the MOTSU rail line.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU NCDOT CFRPO	MOTSU Commander + District Engineer + CFRPO Board	Conduct and Engineering Study and Seek Funding for Construction	Planning and Construction Funding	Long (5-10 years)
T-7	MOTSU, the Cape Fear RPO, and the Wilmington MPO should explore opportunities for providing redundant rail access to the Leland interchange in conjunction with the possible reopening of the Whiteville – Malmo and Castle Hayne – Wallace rail corridors.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU WMPO CFRPO NCDOT	MOTSU Commander + TPO Boards + NCDOT Rail Division	Conduct MOTSU Rail Needs Assessment and Advocate for Redundant Rail Access	Planning Funds	Long (5-10 years)
T-8	MOTSU should coordinate with NCDOT Ferry Division on the planned expansion of the frequency of ferry service between Fort Fisher and Southport to identify and mitigate any potential operational impacts (on either party).				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU NCDOT Ferry Division	MOTSU Commander + NCDOT Ferry Division	Coordinate on Ferry Service Expansion	Staff Time	Short (1-2 years)

TRANSPORTATION RECOMMENDATIONS					
T-9	MOTSU, the Cape Fear RPO, and Wilmington MPO should ensure that MOTSU's rail, highway, and maritime transportation needs are reflected in regional transportation plans.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU WMPO CFRPO	MOTSU Commander + TPO Boards + TPO Staff	Include MOTSU Transportation Needs in Regional Transportation Plans	Staff Time	Short (1-2 years) / Ongoing
T-10	The Pleasure Island Communities, New Hanover County, and the WMPO should conduct a feasibility study to examine the potential for expanding / replacing the existing snows cut bridge with a wider cross section (Inbound and outbound) that could accommodate bicycle / pedestrian traffic in outside lanes that could also be utilized for vehicle traffic to improve traffic throughput during a potential evacuation.				
	Applicability	Responsibility	Action	Resources	Time Frame
	WMPO NCDOT Carolina Beach Kure Beach New Hanover County	WMPO Board + Planning Staff + Governing Boards	Conduct Feasibility Study and Seek STIP Prioritization and Funding	Staff Time + Study Funding + Construction Funding	Long (5-10 years)

PLEASURE ISLAND ESCZ RECOMMENDATIONS					
PIE-1	MOTSU should clearly delineate the necessary safety zone, based on mission requirements, where joint use opportunities will not be feasible (IBD – current and future). In the remainder of the ESCZ area, MOTSU should work with the Pleasure Island communities to identify the specific type, location, and nature of uses that may be considered for establishment in the ESCZ.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Carolina Beach Kure Beach New Hanover County	MOTSU Commander	Clearly Define Future Mission Requirement for ESQD on Pleasure Island	Staff Time + Planning Funding	Short (1-2 years)
PIE-2	MOTSU and the USACE should establish longer terms for real estate outgrants for local government uses in the ESCZ, where granted, to allow local governments to plan for the future and eliminate uncertainty in their capital / infrastructure plans and budgets.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU	MOTSU Commander	Extend the Length of Outgrants	Staff Time	Short (1-2 years) / Ongoing
PIE-3	Local governments should strictly abide by all terms and conditions imposed as part of real estate agreements granted for compatible uses in the ESCZ, and MOTSU should proactively work to enforce the terms of the agreements granted to local governments and other agencies for the use of its property.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Local Government Licensees	MOTSU Commander + Chief Executives	Actively Monitor Outgrant Activities and Sites for Compliance	Compliance and Monitoring Funding	Ongoing
PIE-4	The local governments on Pleasure Island (and New Hanover County) should jointly work to identify community needs that might be met through the use of MOTSU property and work together to implement plans for infrastructure that would serve both communities.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Carolina Beach Kure Beach New Hanover County	Governing Boards	Develop Joint Infrastructure and Program Plans	Planning Funding	Medium (3-5 years)

PLEASURE ISLAND ESCZ RECOMMENDATIONS					
PIE-5	Local governments on Pleasure Island should continue to explore options for the use of the former LORAN site in southern New Hanover County for infrastructure and public works uses which might be able to be relocated off of the island.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Carolina Beach Kure Beach New Hanover County	Governing Boards	Explore Opportunities for Lease / Acquisition of LORAN Property	Staff Time + Acquisition Funding	Short (1-2 years)
PIE-6	Local governments on pleasure island should work with MOTSU to identify opportunities to continue developing compatible recreational uses in the Pleasure Island ESCZ (such as the recently constructed greenway trail in Carolina Beach).				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Carolina Beach Kure Beach New Hanover County	MOTSU Commander + Governing Boards	Develop and Implement Compatible Recreation Plans	Staff Time + Planning Funding	Medium (3-5 years)
PIE-7	Local governments on Pleasure Island should work jointly to develop contingency plans for interconnection with the CFPUA as well as the relocation of other vital municipal service uses in the event that MOTSU is required to reclaim the full use of the ESCZ.				
	Applicability	Responsibility	Action	Resources	Time Frame
	Carolina Beach Kure Beach	Governing Boards	Prepare Utility Contingency Plans	Planning Funding	Long (5-10 years)
PIE-8	Local governments on pleasure island and MOTSU should work together to identify and resolve storm drainage issues related to channels that pass through the ESCZ, and develop a long term plan to ensure adequate drainage.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Carolina Beach Kure Beach	MOTSU Commander + Governing Boards	Prepare and Implement Drainage Plans	Planning and Maintenance Funding	Short (1-2 years) / Ongoing

PLEASURE ISLAND ESCZ RECOMMENDATIONS					
PIE-9	MOTSU should work collaboratively with local governments on Pleasure Island to develop and implement a plan to manage the size and health of the deer population and to manage potential nuisance wildlife (such as coyotes) that inhabit the ESCZ.				
	Applicability	Responsibility	Action	Resources	Time Frame
	MOTSU Carolina Beach Kure Beach New Hanover County	MOTSU Commander + Governing Boards	Prepare and Implement Wildlife Management Plans	Planning and Management Funding	Medium (3-5 years) / Ongoing