MILITARY OCEAN TERMINAL SUNNY POINT JOINT LAND USE STUDY

POLICY COMMITTEE / ADVISORY COMMITTEE JOINT MEETING
MAY 14, 2019

MEETING AGENDA

- Review Final Draft of the Joint Land Use Study
- Finalize Recommendations + Address Comments
- Schedule Final Public Meetings

Joint Land Use Study Organization

TABLE OF CONTENTS

SECTION 1: INTRODUCTION

JLUS PURPOSE AND GOALS

- Identify and mitigate barriers to the long term sustainability of MOTSU's mission.
- Promote compatibility between civilian land use and military operational requirements.
- Strengthen coordination and communication between local governments and MOTSU.
- Raise public awareness and understanding of compatible growth issues.

PROJECT SCHEDULE

Date	Meeting
	2018
February 23	Project Team Meeting
April 11	Project Kickoff, Installation Tour & Committee Meetings
May 21-24	Stakeholder Interviews
June 26	Advisory Committee Meeting – Review Background Research
July 30	Public Meeting – Overview & 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
December 4	Public Meetings – Interim Findings – (Boiling Spring Lakes and Carolina Beach)
December 4	Advisory Committee Meeting – Draft Recommendations
	2019
January 29	Policy Committee Meeting – Review Draft Recommendations
February 25	Advisory Committee Meeting – Present Draft Study Documents
March/April	Advisory Committee Meetings – Finalize Study Documents
May 14	Joint Policy and Advisory Committee Meeting – Finalize JLUS
June 24/25	Public Meetings – Final Presentation – (Kure Beach and Southport)

JLUS STUDY AREA

Study Jurisdictions

Brunswick County

City of Boiling Spring Lakes

Town of Leland

City of Southport

New Hanover County

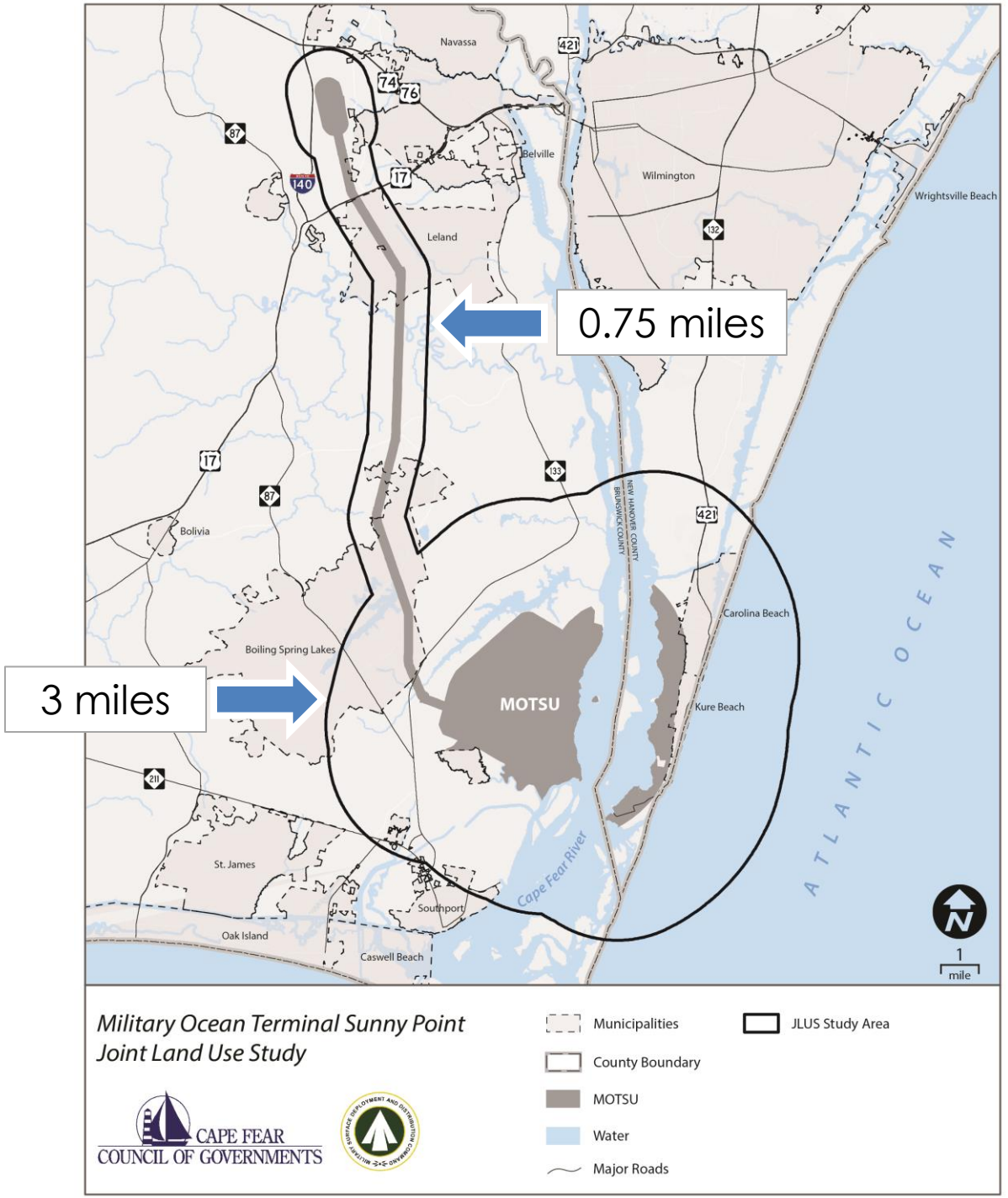
Town of Carolina Beach

Town of Kure Beach

Other Study Partners

Cape Fear COG (Sponsor)

MOTSU



SECTION 2: SUNNY POINT (MOTSU)

MOTSU

Purpose-built ammunition transshipment terminal.

Designed for SAFETY!

Munitions are staged *temporarily* on MOTSU – no storage.

Installation Components:

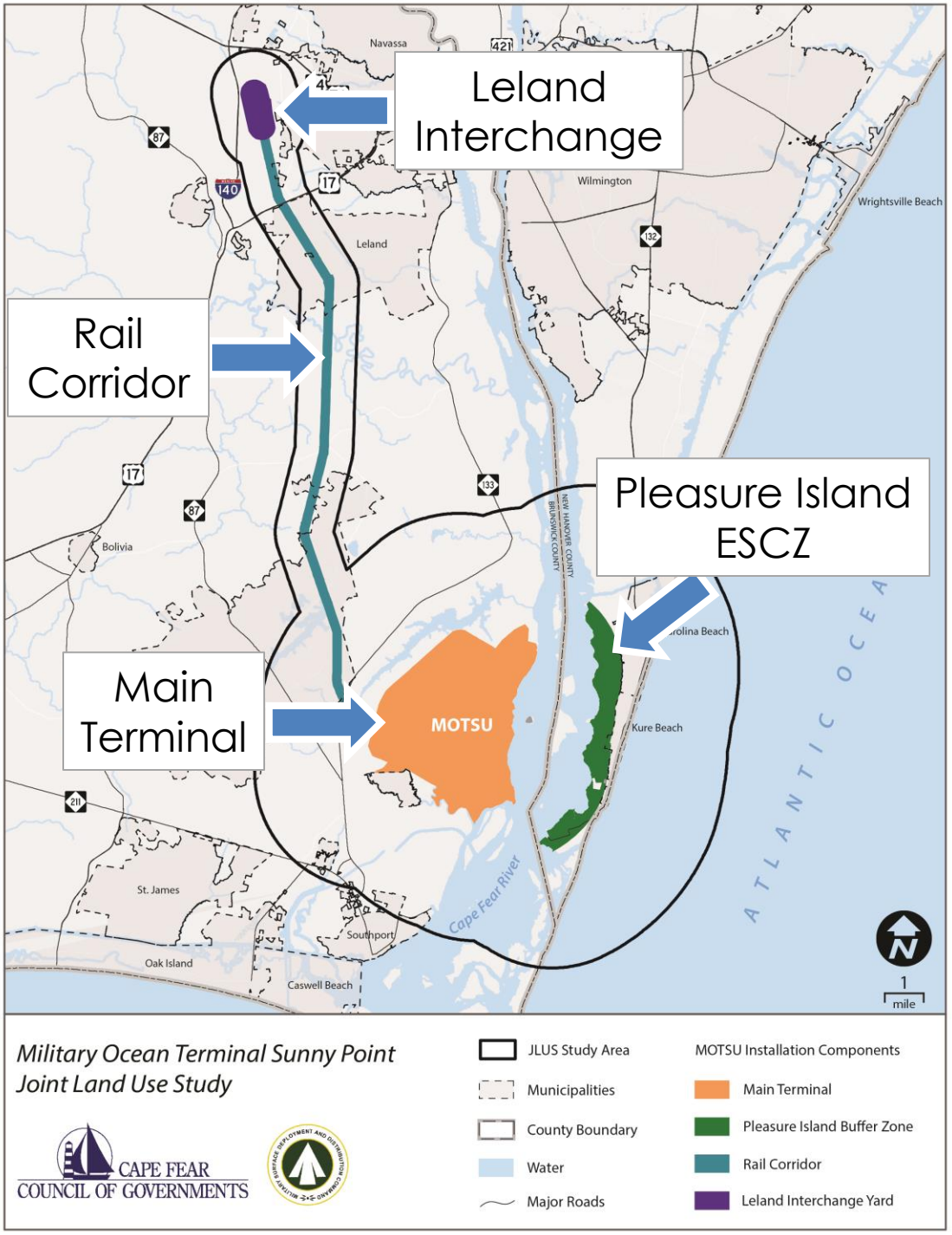
Main Terminal – 8,600 acres

ESCZ* – 2,200 acres

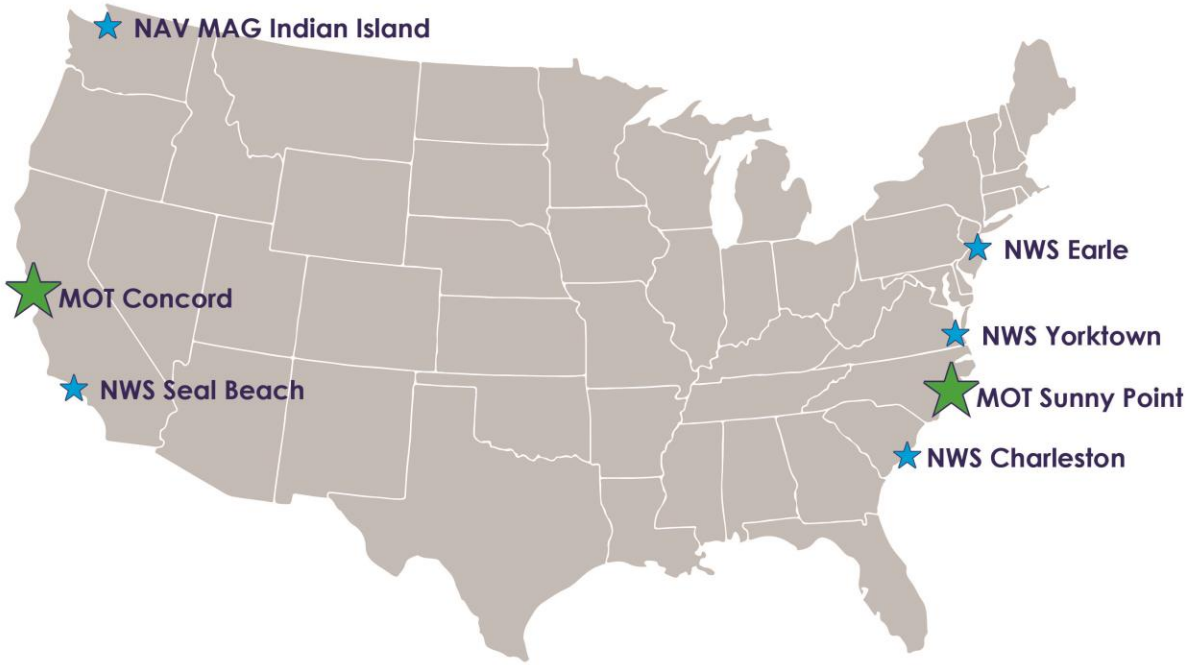
Interchange Yard – 650 acres

16 mile rail corridor to Leland

*Explosives Safety Clear Zone



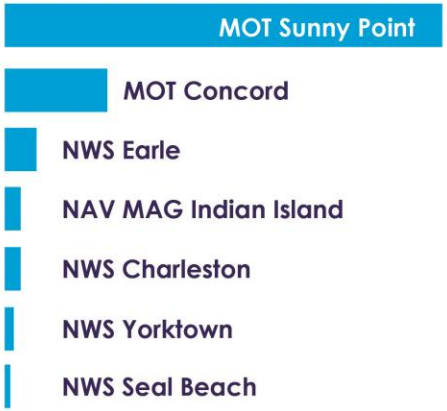
SERVICE SURFACE AMMO CAPABILITY



SDDC Common User Terminals

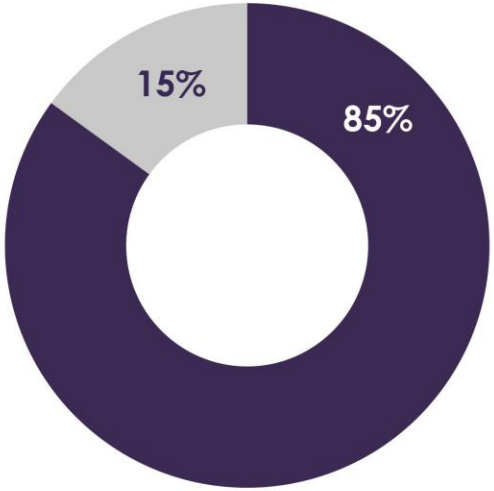
Naval Weapons Stations / Magazines

CAPACITY COMPARISON
[MILLIONS OF LBS NET EXPLOSIVE WEIGHT]

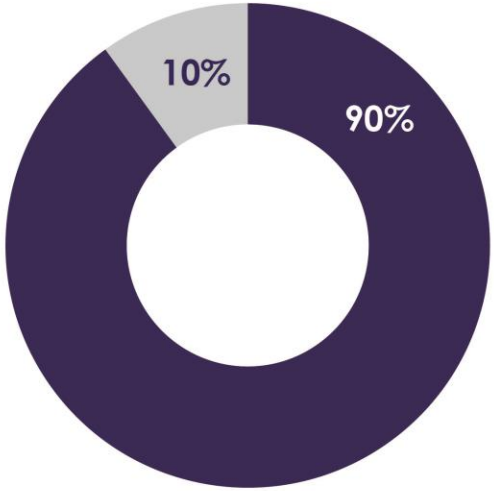


MOTSU CONTRIBUTIONS

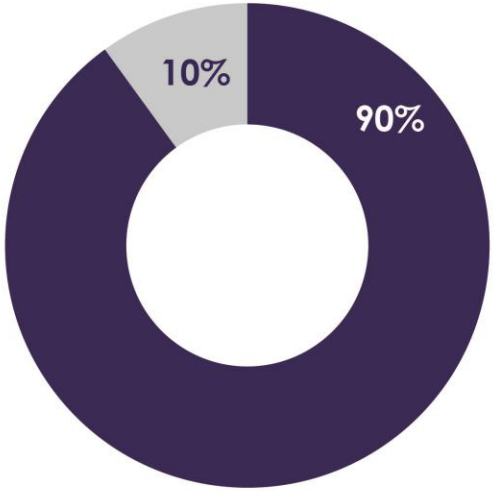
WARTIME RESUPPLY MUNITIONS



VIETNAM



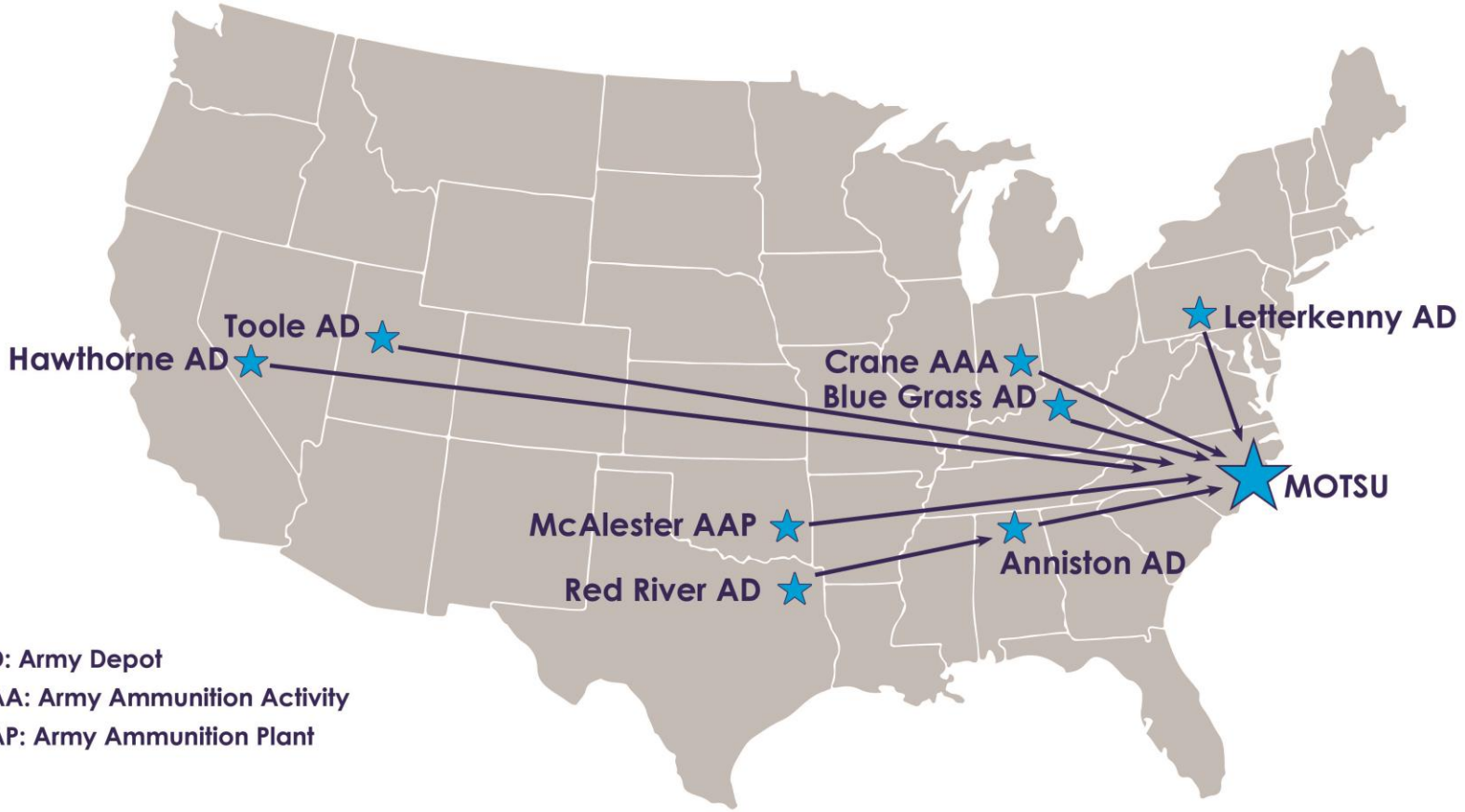
OPERATION DESERT SHIELD/
OPERATION DESERT STORM



OPERATION IRAQI FREEDOM /
OPERATION ENDURING FREEDOM

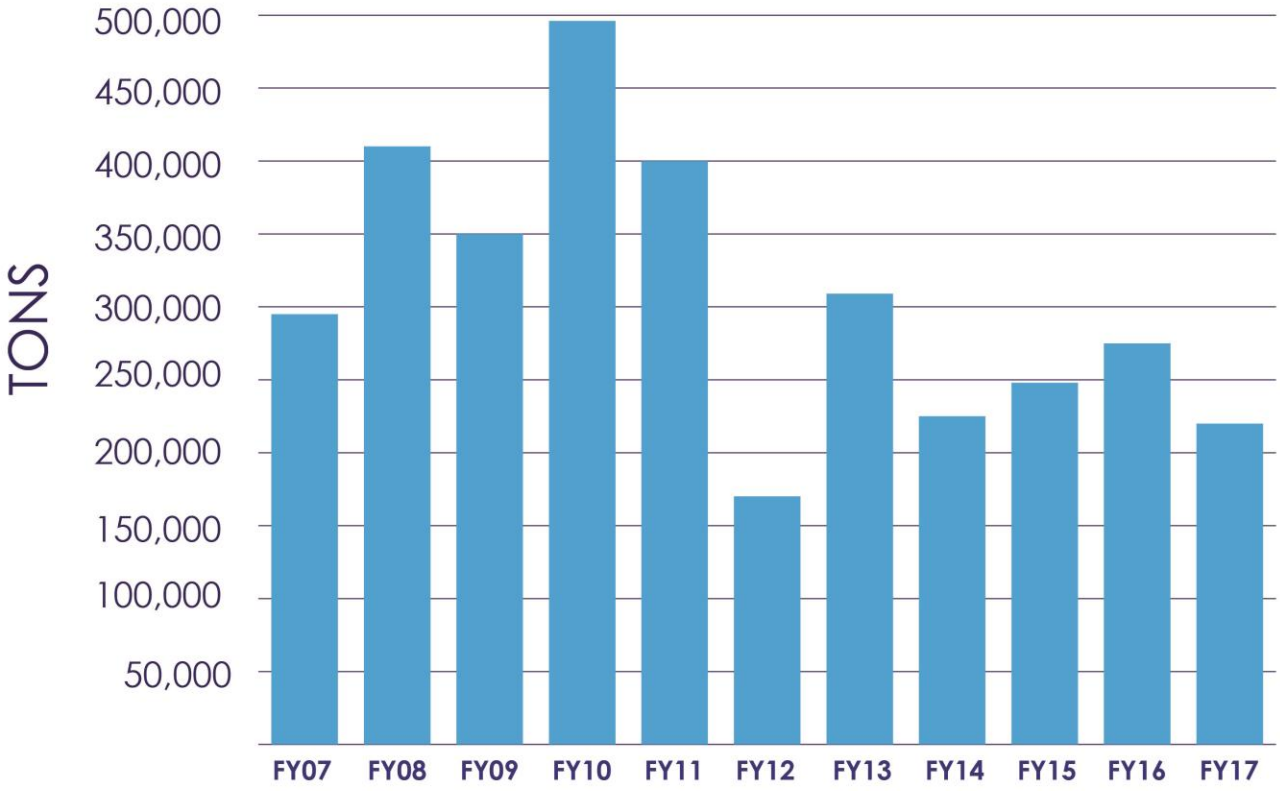
MOTSU OTHER SOURCES

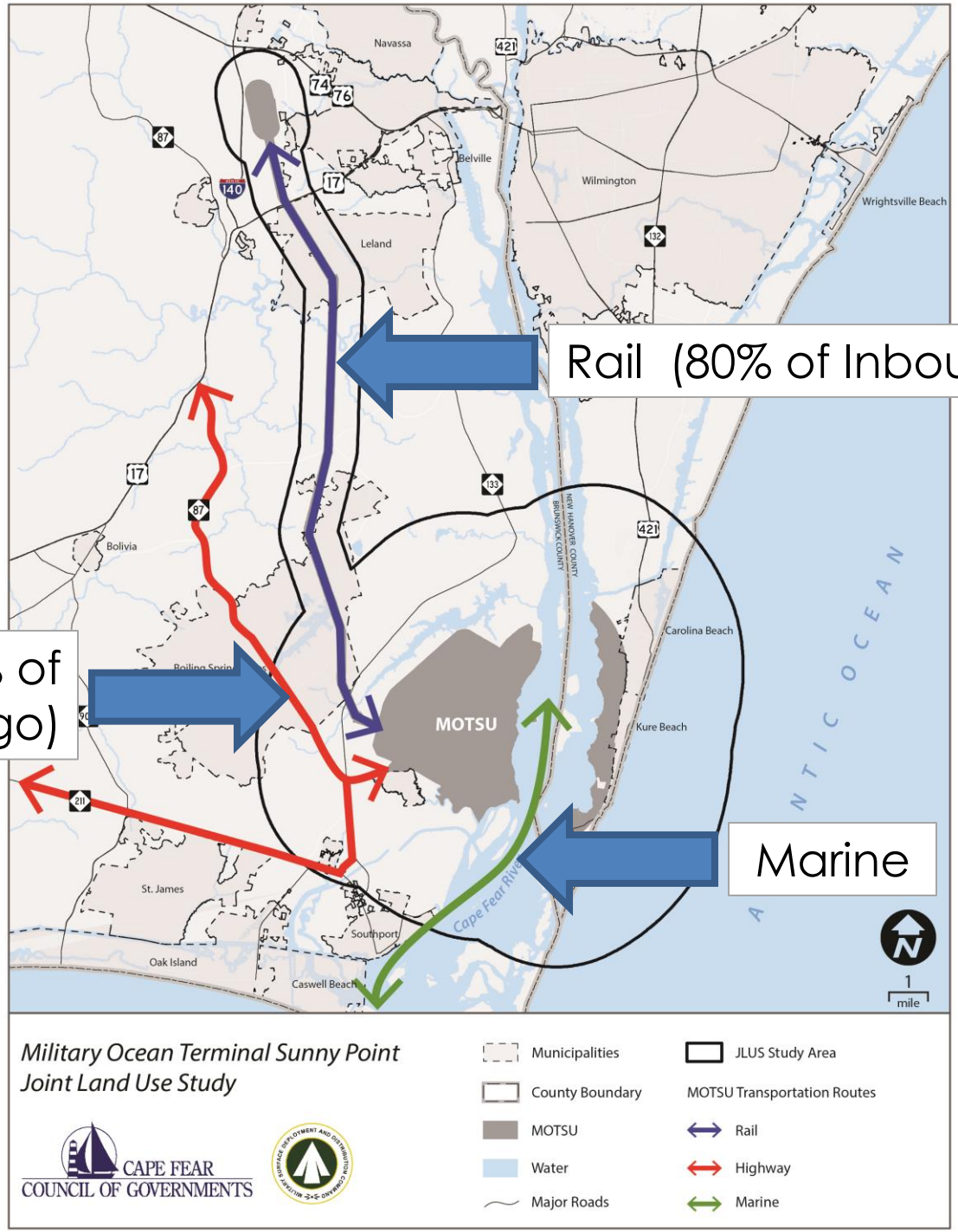
AMMO SHIPPERS



AD: Army Depot
AAA: Army Ammunition Activity
AAP: Army Ammunition Plant

MOTSU EXPORT WORKLOAD




Navassa
Belville
Wilmington
Wrightsville Beach
Leland
Bolivia
Carolina Beach
Kure Beach
MOTSU
St. James
Southport
Oak Island
Caswell Beach
Cape Fear River
NEW HANOVER COUNTY
BRUNSWICK COUNTY
ATLANTIC OCEAN
Rail (80% of Inbound Cargo)
Truck (20% of Inbound Cargo)
Marine
1 mile
Military Ocean Terminal Sunny Point
Joint Land Use Study
CAPE FEAR COUNCIL OF GOVERNMENTS
Municipalities
County Boundary
MOTSU
Water
Major Roads
JLUS Study Area
MOTSU Transportation Routes
Rail
Highway
Marine

MISSION COMPATIBILITY

Primary points of potential compatibility concern:

- Maintaining use of the full extent of required explosives safety zones for temporary staging, as well as loading and unloading vessels, during munitions transshipment operations.
- Maintaining safe and efficient transportation access.
- Maintaining minimal levels of environmental constraint.
- Maintaining strong relationships with host communities.

SECTION 3:
STUDY AREA CHARACTERISTICS

POPULATION TRENDS

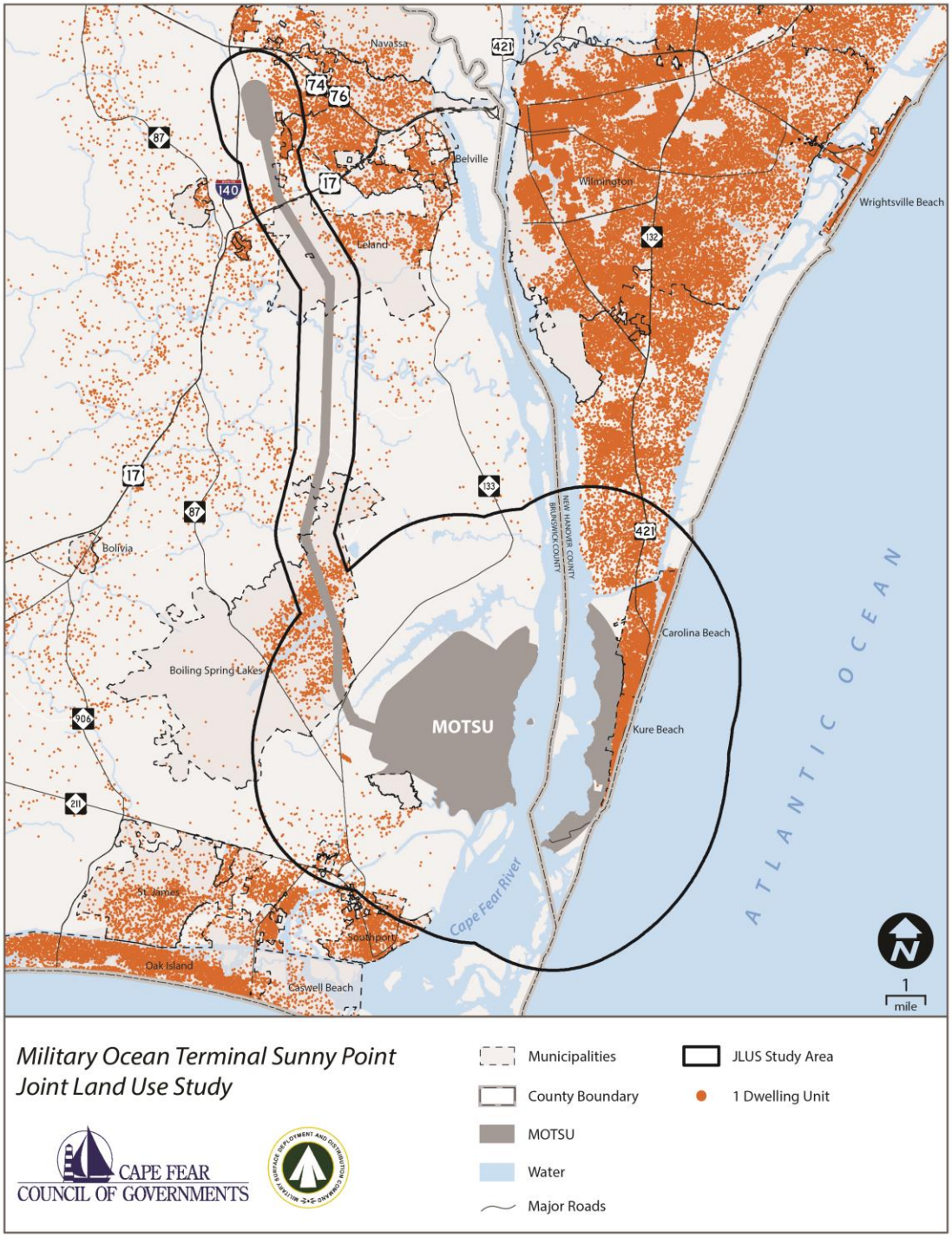
	BRUNSWICK COUNTY	NEW HANOVER COUNTY	BOILING SPRING LAKES	CAROLINA BEACH	KURE BEACH	LELAND	SOUTHPORT
TABLE 3.1 POPULATION GROWTH							
2000	73,143	160,307	2,972	4,701	1,507	1,938	2,351
2010	107,431	202,667	5,372	5,706	2,012	13,527	2,833
2017	130,897	227,198	6,028	6,270	2,105	19,976	3,725
CHANGE	57,754	66,891	3,056	1,569	598	18,038	1,374
TABLE 3.2 POPULATION GROWTH RATE							
2000 - 2010	46.9%	26.4%	80.8%	21.4%	33.5%	598.0%	20.5%
2010 - 2017	21.8%	12.1%	12.2%	9.9%	4.6%	47.7%	31.5%
2000 - 2017	79.0%	41.7%	102.8%	33.4%	39.7%	930.8%	58.4%

Population Density
2010 Census

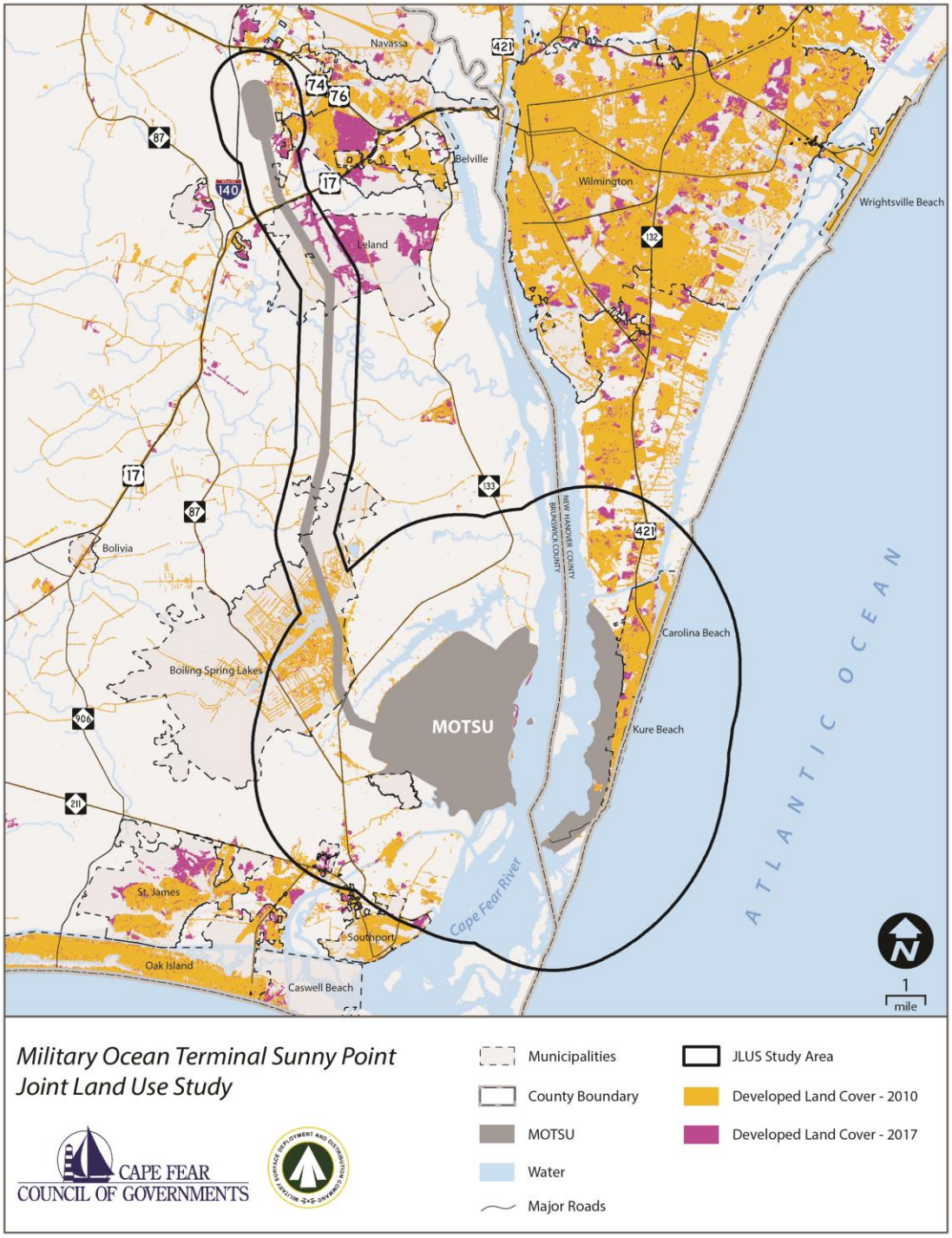
HOUSING TRENDS

	BRUNSWICK COUNTY	NEW HANOVER COUNTY	BOILING SPRING LAKES	CAROLINA BEACH	KURE BEACH	LELAND	SOUTHPORT
TABLE 3.3 HOUSING GROWTH (TOTAL DWELLING UNITS							
2000	51,431	79,616	1,409	4,086	1,560	919	1,292
2010	77,482	101,436	2,418	5,626	2,213	6,583	1,777
2017	84,702	107,369	2,632	5,744	2,185	8,041	1,907
TOTAL	33,271	27,753	1,223	1,658	625	7,122	615
TABLE 3.4 HOUSING GROWTH RATE							
2000 - 2010	50.7%	27.4%	71.6%	37.7%	41.9%	616.3%	37.5%
2010 - 2017	9.3%	5.8%	8.9%	2.1%	-1.3%	22.1%	7.3%
2000 - 2017	64.7%	34.9%	86.8%	40.6%	40.1%	775.0%	47.6%

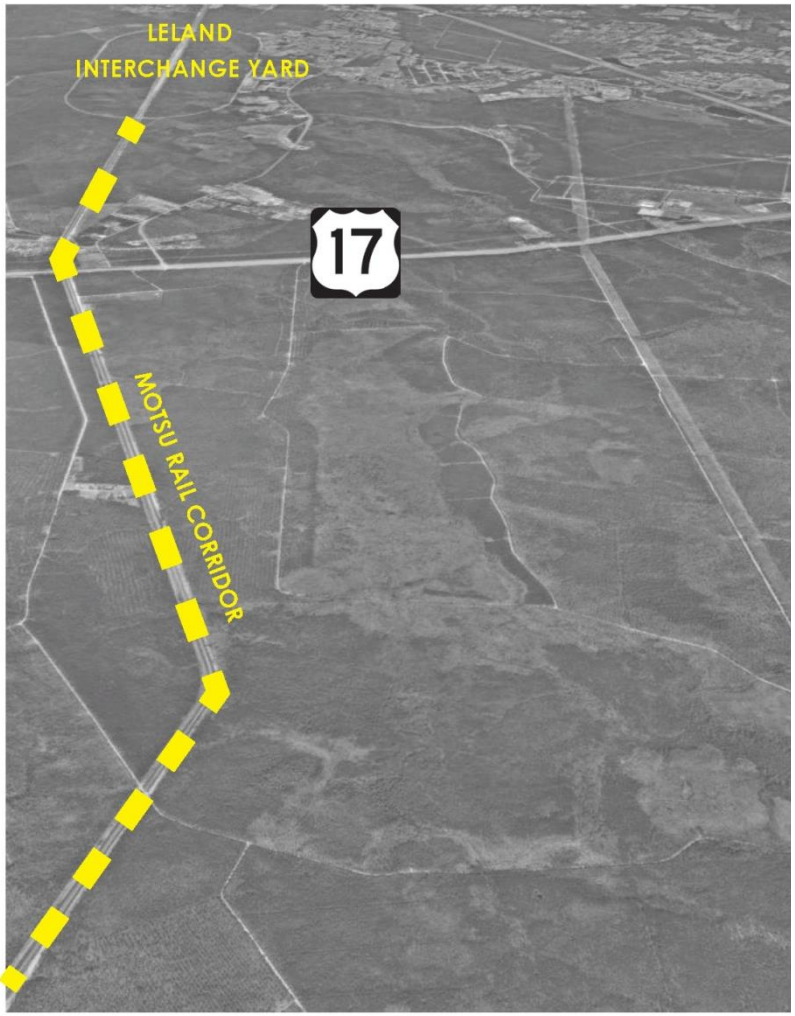
Housing Density
2010 Census



Developed Land Cover Change 2010-2017



Example of Development in Proximity to the MOTSU Rail Corridor



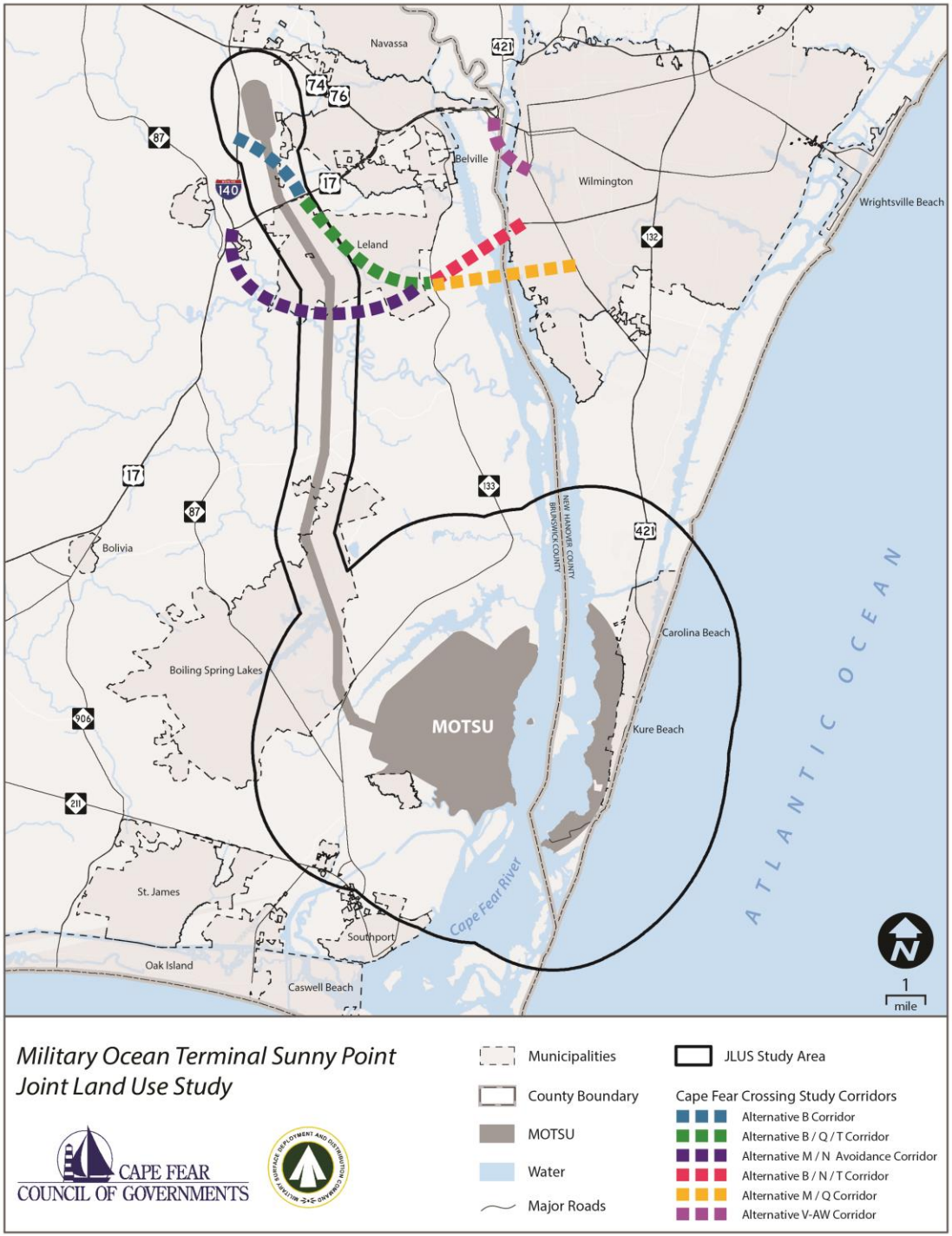
Northern MOTSU Rail Corridor -1983

Northern MOTSU Rail Corridor - 2016

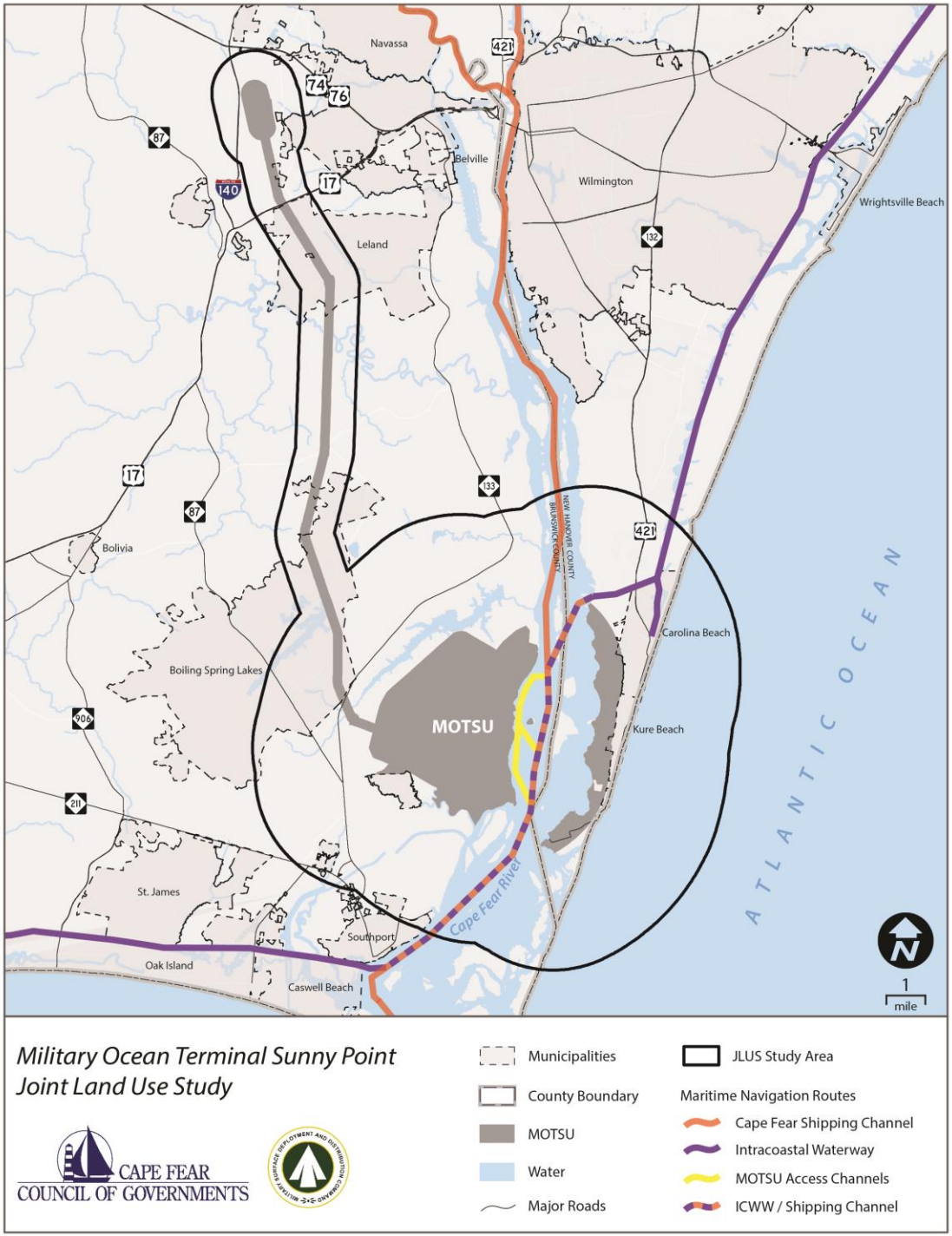
AADT Traffic Volume (2017)

AADT Traffic Volume (2017)

Cape Fear Crossing Study Routes

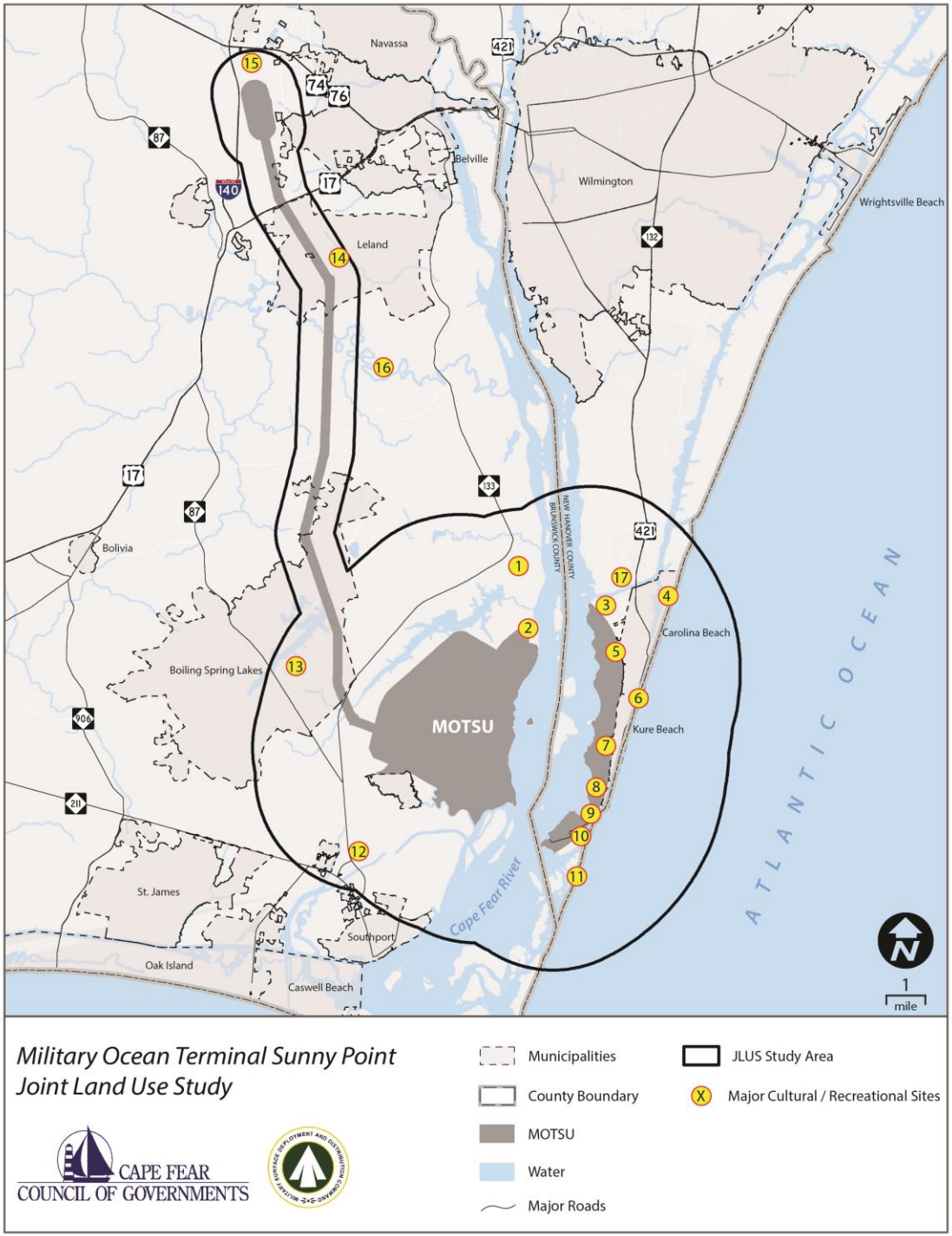


Cape Fear River Navigation



Cultural and Recreational Resources

MAJOR CULTURAL AND RECREATIONAL RESOURCES MAP KEY	
#	Description
1	Orton Plantation
2	Brunswick Town / Fort Anderson State Historic Site
3	Carolina Beach State Park
4	Freeman Park
5	Mike Chappell Park
6	Pleasure Island Beaches
7	US Air Force Recreation Area
8	Joe Eakes Park
9	Fort Fisher State Historic Site
10	North Carolina Aquarium - Fort Fisher
11	Fort Fisher State Recreation Area
12	Smithville Township District Park
13	Lakes Country Club Golf Course
14	Cape Fear National Golf Course
15	Northwest District Park
16	Brunswick Nature Park
17	Snows Cut Park



SECTION 4:
ENVIRONMENTAL RESOURCES

ENVIRONMENTAL RESOURCES

- Review and analysis of:
  - Flood Hazards
  - Wetlands
  - Biological Resources
  - Sea Level Rise
  - Storm Surge Innundation
  - Fish Habitat
  - Water Resources
  - Protected Lands (Conserved Lands)

Wetlands


Navassa
421
74
76
87
Belville
Wilmington
Wrightsville Beach
17
140
Leland
132
17
87
133
421
NEW HANOVER COUNTY
BRUNSWICK COUNTY
Bolivia
Carolina Beach
Boiling Spring Lakes
MOTSU
Kure Beach
406
211
St. James
Cape Fear River
Southport
Oak Island
Caswell Beach
ATLANTIC OCEAN
N
1
mile
Military Ocean Terminal Sunny Point
Joint Land Use Study
CAPE FEAR
COUNCIL OF GOVERNMENTS
Municipalities
County Boundary
MOTSU
Water
Major Roads
JLUS Study Area
Wetlands*
*Note: These are generalized, rather than specifically delineated wetlands, based on National Wetlands Inventory data.

Storm Surge Inundation Hazards

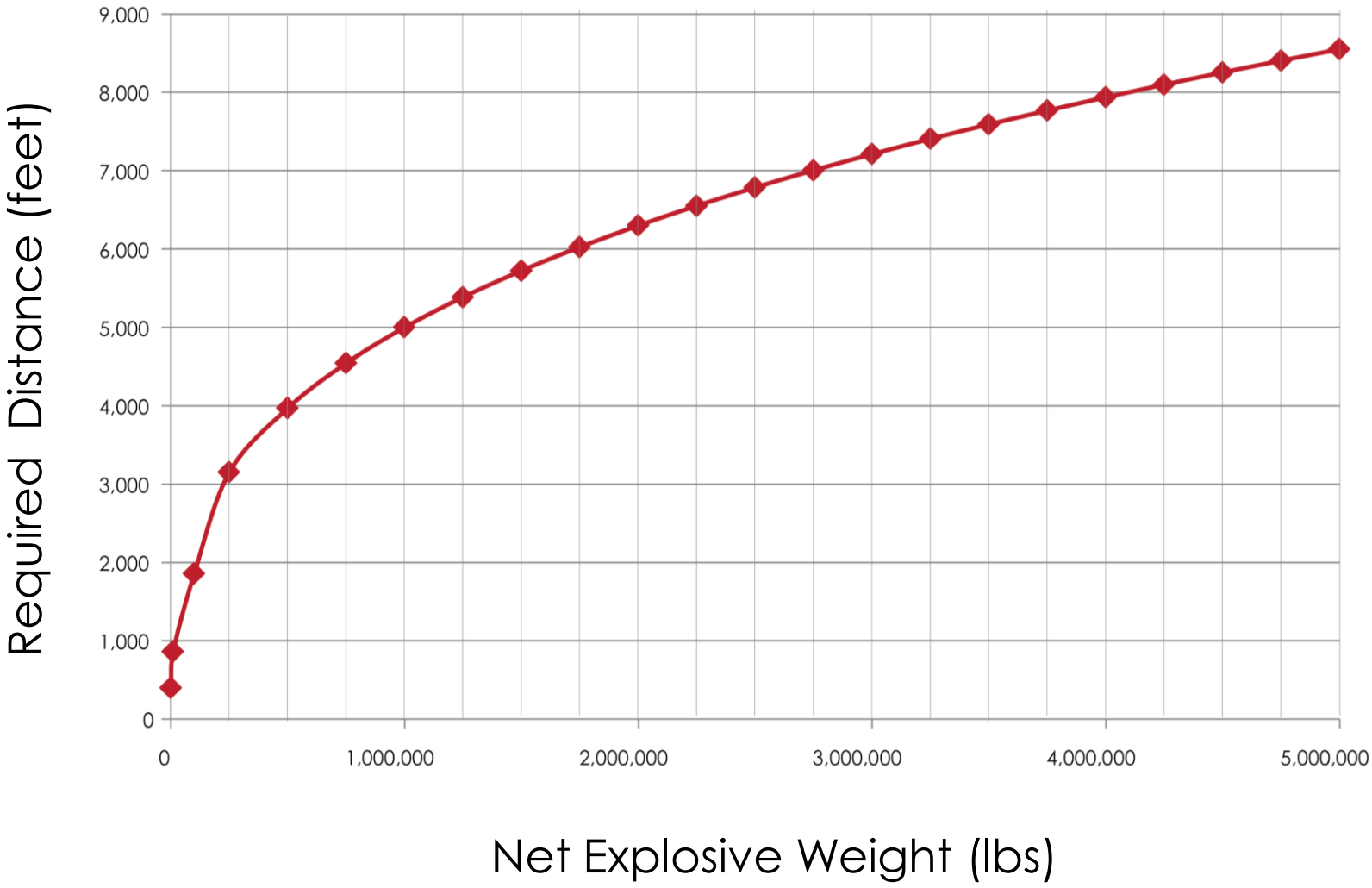
Protected Lands

SECTION 5:
COMPATIBILITY ANALYSIS

EXPLOSIVES SAFETY ZONES

- ESQD = Explosive Safety Quantity Distance
- K Factor = Assumed degree of risk used in calculating ESQD.
- Example ESQD Arcs:
  - Public Traffic Route (PTRD) = K30
  - Inhabited Building (IBD) = K50
  - K88 Glass Breakage Hazard (Roughly 2x IBD)
  - Absolute Safe Distance = K328
- ESQD Formula: $D=KW^{1/3}$
  - D = Distance (ft)
  - W = Licensed Net Explosive Weight (lbs)

Explosives Safety Quantity Distance Requirements
Inhabited Building Distance (IBD) Example

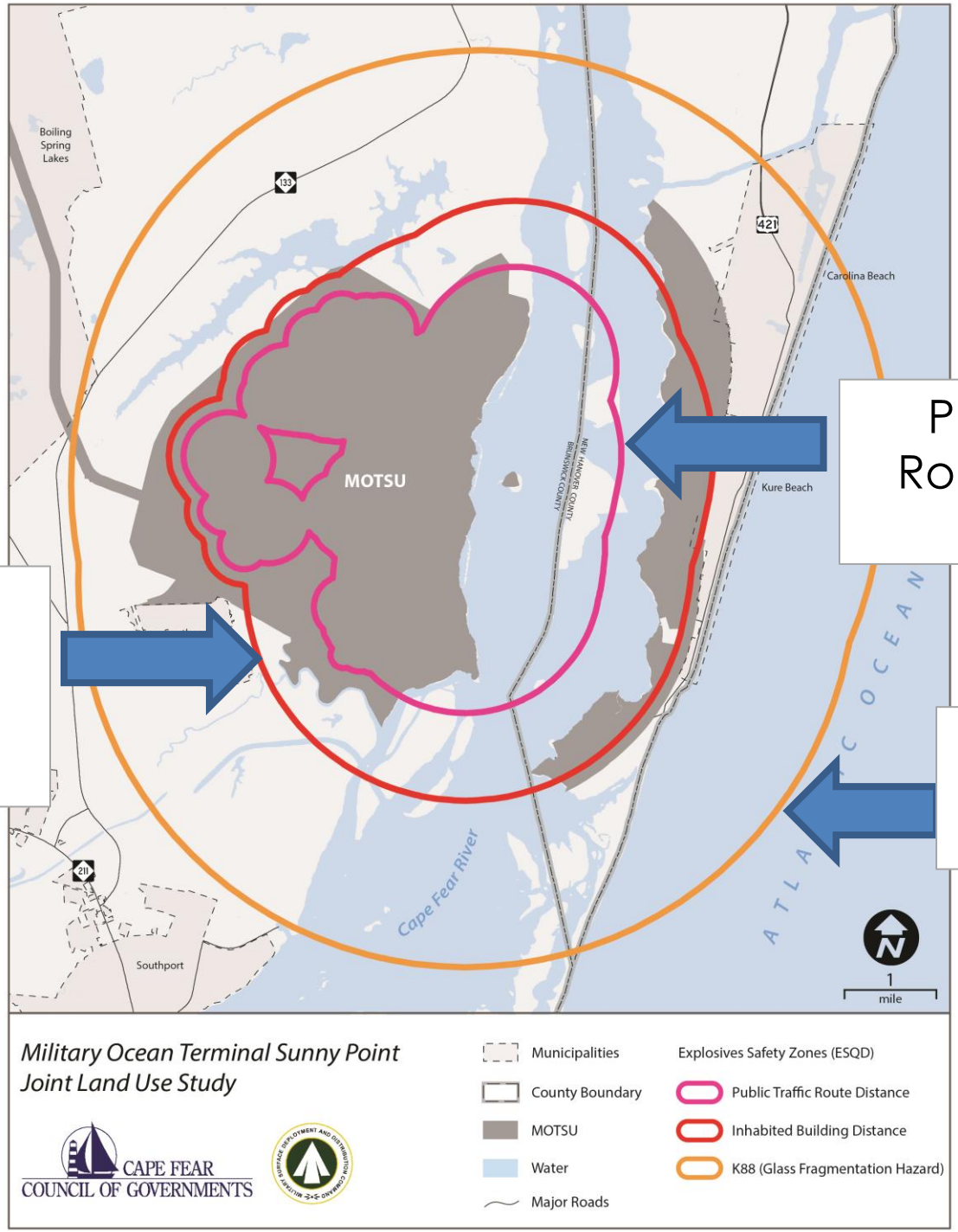


EXPLOSIVES SAFETY ZONES

- ESQD Zones are ***not applicable*** to munitions during their transportation:
  - Truck traffic on local highways
  - Rail traffic, including in the Leland Yard and on the Army railroad
  - Ship traffic in the Cape Fear River

- Once on the Terminal, ammunition is ***temporarily*** staged per the license and applicable ESQD arcs for each holding area.

- ESQDs are static, but the degree of risk increases and decreases with the presence and absence of munitions.



Public Traffic Route Distance (K30)

Inhabited Building Distance (K50)

K88 (Glass Breakage Hazard)

IBD COMPATIBILITY

- DESR 6055.09 / DA Pamphlet 385-64 establish siting criteria for certain uses within the Inhabited Building Distance (as well as other safety zones).

- Primarily focused on uses typically found on a military installation / ammunition facility.

- Best guidance available, and can be translated to apply to civilian uses.

DA PAM 385-64 USE TABLES

Table 8–5
Type of exposed sites and safe separation distance required—Continued

Type of structure/activity	Safe separation distance required	Notes
Loading docks serving operating buildings	ILD	Separate loading docks will be sited on the basis of use.
POV Parking Lots for administrative areas	PTRD	Minimum fragment distances apply.
POV Parking Lots serving multiple PESs	ILD	Access for emergency vehicles must be provided.
POV Parking Lots serving a single potential explosion site	ILD	1. May be separated at less than ILD only from its associated facility but no less than 100 feet is required to the associated facility to protect it from vehicle fires. 2. Access for emergency vehicles must be provided.
Rail holding yards	Aboveground magazine	Rail holding yards will be laid out on a unit car-group basis with each car-group separated by the applicable aboveground magazine distance. Separate from other facilities by applicable QD criteria.
Rail holding yards -Christmas tree	Aboveground magazine	1. Separated by the applicable aboveground magazine distance for the net quantity of HE in the cars on the spurs. 2. Will be separated from other facilities by the applicable QD criteria. 3. Arrangement consisting of a ladder track with diagonal dead-end spurs projecting from each side at alternate intervals.
Rail yards two parallel ladder tracks connected by diagonal spurs	Aboveground magazine	1. Separated by applicable aboveground magazine distance for the unit-group quantities of HE. 2. Will be separated from other facilities by the applicable QD criteria.
Railcar holding yards	QD separations are not required	May be used to interchange truck trailers or railcars between the commercial carrier and the Army activity and to conduct visual inspections.
Railcar inspection stations	QD separations are not required	1. They should be as remote as practical from hazardous or populated areas. 2. Activities that may be performed at the inspection station after railcars containing ammunition and explosives are received from the delivering carrier and before further routing within the garrison or installation are as follows: External visual inspection of the railcars. 3. Visual inspection of the external condition of the cargo packaging in vehicles (such as, trailers, railcars) that have passed the external inspection indicated above. 4. Interchange of railcars or MILVANS between the common carrier and the Army activity.
Railcar Interchange yards	Applicable QD tables apply unless meets remarks.	1. Railcar interchange yards are not subject to QD regulations when they are used exclusively— a. For the interchange of railcars containing ammunition and explosives between the commercial carrier and Army activities. b. To conduct external inspection of the railcars, or MILVANs containing ammunition and explosives. c. To conduct visual inspection of the external condition of the cargo
Recreational facilities - open air - no structures	Sited at not less than PTRD and preferably as near IBD as practical.	Open areas between explosive storage and handling sites and between these sites and non-explosive buildings and structures shall be controlled carefully regarding use for recreation or training facilities. As a general rule, the fragment hazard will be severe from the explosion site out to approximately the PTRD. For an exception, see table 8–16 and paragraph 8–15b.
Recreational facilities - structures, *including bleachers*	Sited at not less than IBD.	Open areas between explosive storage and handling sites and between these sites and non-explosive buildings and structures shall be controlled carefully regarding use for recreation or training facilities. As a general rule, the fragment hazard will be severe from the explosion site out to approximately the PTRD. For an exception, see table 8–16 and paragraph 8–15b.

Table 8–5
Type of exposed sites and safe separation distance required—Continued

Type of structure/activity	Safe separation distance required	Notes
Roll-on or roll-off operations (not involving lifting)	QD criteria apply to all roll-on or roll-off operations.	Site plans will be submitted in accordance with DA Pam 385–65. When QD requirements cannot be met the following mitigation factors should be considered: 1. Total NEWQD present shall not exceed 50,000 lbs. 2. Conducted on garrisons or installations under U.S. control, when possible, to limit exposures to the public. 3. All ammunition and explosives present (such as, in trailers, railcars, barges, ships) must be associated only with the RORO operation being conducted. 4. Roll-on or roll-off operations shall not exceed 24 hours following arrival of ammunition and explosives, including ammunition and explosives staged at a transshipment point. 5. Roll-on or roll-off operations shall be located as remote as practicable from populated areas, in order to minimize exposure of unrelated personnel. 6. Off-installation military vans/International Standardization Organization (MILVAN/ISO) container inter- or intra-modal transfers (involving highway and rail modes only) where containers are not stored or other operations performed.
Secure explosives holding area.	Aboveground magazine	1. Will be laid out on a unit truck-group basis with each group separated by the applicable aboveground magazine distances. 2. Will be separated from other facilities by the applicable QD criteria. 3. An area designated for the temporary parking of commercial carriers' motor vehicles transporting DOD-owned Arms, Ammunition, and Explosives (AAE), classified (SECRET or CONFIDENTIAL) materials, and controlled cryptographic item (CCI). There are two types of secure holding areas. (Note: Although the intent of such areas is to provide a secure storage location for commercial carriers while in-transit, or during emergencies or other circumstances that are beyond a carrier's control, this Standard imposes no requirement for garrisons or installations to have such areas. The term Secure Holding Area is applicable to areas (CONUS, Hawaii, Alaska, and Puerto Rico) governed by Part 205 of Defense Transportation Regulation (DTR) 4500.9–R, Part II Cargo Movement.
Secure Non-explosives Holding Area	The holding of HD 1.4S materials, without regard to QD, is permitted at this location	No siting required if located outside all QD arcs. If located within a QD arc, provide appropriate safe separation distance.
Security posts and similar locations	Prudent fire protection	May be at explosives operations servicing only one building or operation.
Service tanks - Unprotected	May be sited in accordance with table 8–7 provided the conditions in the notes are met-	1. Unprotected service tanks which support aboveground explosives storage or operating complexes, but not inhabited buildings (such as those in administrative, supply, industrial, and housing areas). 2. The Command must accept the possible loss of the tanks and any collateral damage that a fire might cause if the tanks were punctured by fragments. 3. A dike system must be installed meeting the requirements of NFPA, part 30 to provide spill containment. 4. If the tank is supplied by a pipe system as opposed to a tank truck, then the supply pipe must be protected from blast and fragments to prevent a spill larger than the contents of the tank. If the supply pipe is underground, it will be located from PESs in accordance with be-
Storage tanks for water	-QD does not apply if the loss of the water tank is acceptable -IBD applies if the loss of the water tank is unacceptable -Buried tanks and associated components of like value shall meet the siting requirements below for underground tanks	1. A key QD consideration is whether loss of the water tank is acceptable. If a water tank is used for firefighting and no adequate alternate water supplies exist, the tank is essential and its loss is unacceptable. If adequate alternate water supplies do exist, loss of the tank may be acceptable. However, consider other factors, such as the replacement cost of the tank and the effect of its loss on the garrison or installation mission, before making a final determination. 2. The Command shall designate the approval authority level for the siting of aboveground water tanks within IBD of PESs, and for buried tanks or pipelines sited at less than the distances required see "Underground pipelines".

DA PAM 385-64 USE TABLE EXAMPLES

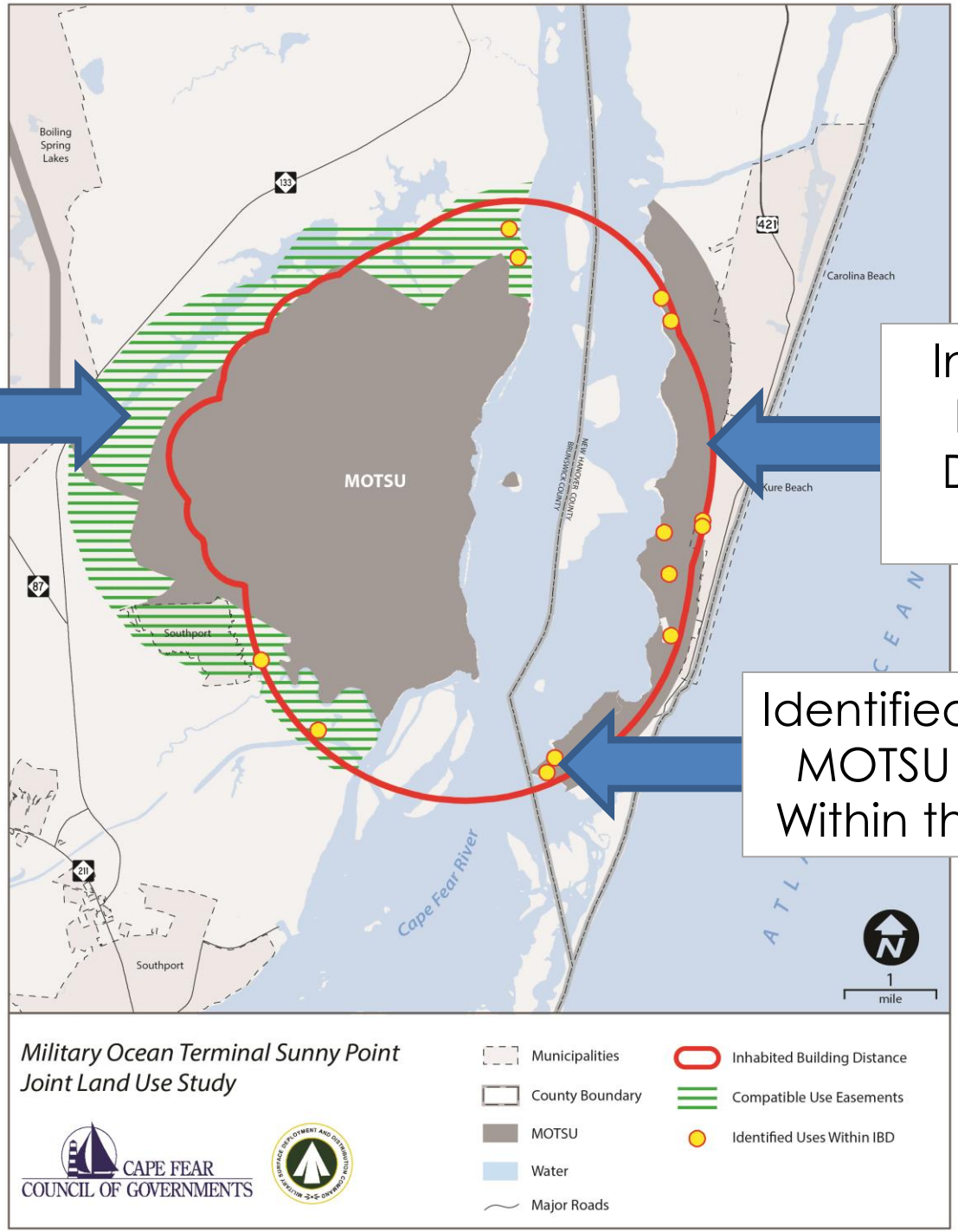
RECREATION USES

Recreational facilities - open air - no structures	Sited at not less than PTRD and preferably as near IBD as practical.	Open areas between explosive storage and handling sites and between these sites and non-explosive buildings and structures shall be controlled carefully regarding use for recreation or training facilities. As a general rule, the fragment hazard will be severe from the explosion site out to approximately the PTRD. For an exception, see table 8–16 and paragraph 8–15b.
Recreational facilities - structures, *including bleachers*	Sited at not less than IBD.	Open areas between explosive storage and handling sites and between these sites and non-explosive buildings and structures shall be controlled carefully regarding use for recreation or training facilities. As a general rule, the fragment hazard will be severe from the explosion site out to approximately the PTRD. For an exception, see table 8–16 and paragraph 8–15b.

WATER STORAGE TANKS

Storage tanks for water	-QD does not apply if the loss of the water tank is acceptable -IBD applies if the loss of the water tank is unacceptable -Buried tanks and associated components of like value shall meet the siting requirements below for underground tanks	1. A key QD consideration is whether loss of the water tank is acceptable. If a water tank is used for firefighting and no adequate alternate water supplies exist, the tank is essential and its loss is unacceptable. If adequate alternate water supplies do exist, loss of the tank may be acceptable. However, consider other factors, such as the replacement cost of the tank and the effect of its loss on the garrison or installation mission, before making a final determination. 2. The Command shall designate the approval authority level for the siting of aboveground water tanks within IBD of PESs, and for buried tanks or pipelines sited at less than the distances required see “Underground pipelines”.

Compatible Use Easements



Inhabited Building Distance (K50)

Identified Non-MOTSU Uses Within the IBD

K88 Glass Breakage Hazard

Tall Structures (5+ Stories)

EMERGENCY EVACUATION CRITERIA

- DESR 6055.09 / DA Pamphlet 385-64 establish identical "Emergency Withdrawal Distances for Nonessential Personnel"
- Distances are intended for initial response to an incident involving ammunition/explosives.
- Substitute guidance in the absence of ESQD arcs for the rail line.
- Applies to both transportation and facilities

EVACUATION DISTANCES

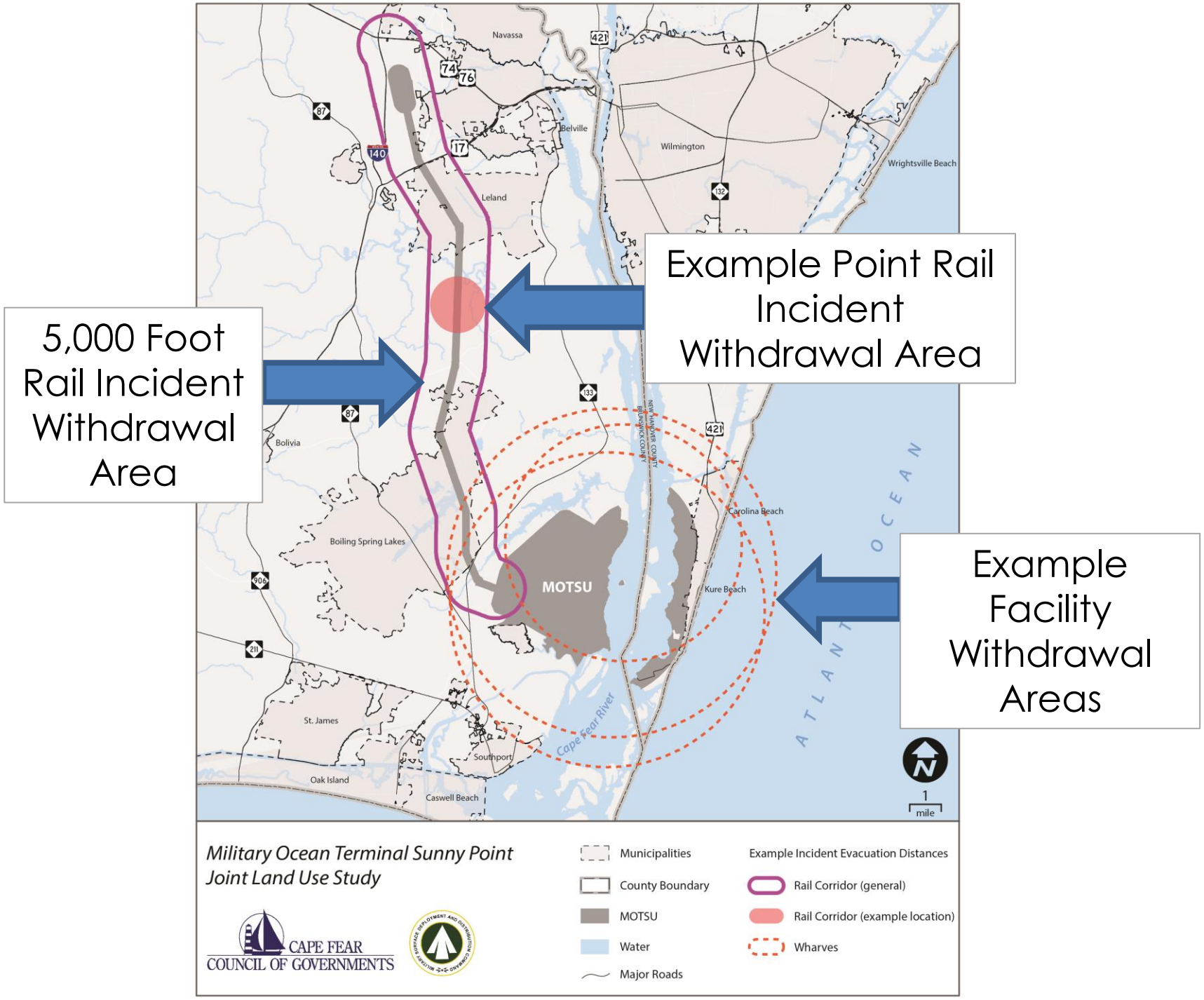
- Railcar incident evacuation distance when over 500 lbs: 5,000 ft.
- Facility incident evacuation distance when over 55,285 lbs: $D=105W^{1/3}$

Table V1.E10.T10. Emergency Withdrawal Distances for Nonessential Personnel[a]

HD	Unknown Quantity (ft) [m]	Known Quantity (ft) [m]
Unknown, located in facility, truck, or tractor trailer	4,000 [1,219]	4,000 [1,219]
Unknown, located in railcar	5,000 [1,524]	5,000 [1,524]
1.1[b] and 1.5	Same as unknown facility, truck, trailer, or railcar as appropriate	For Transportation: NEWQD ≤ 500 lbs: D = 2,500 ft NEWQD ≤ 226.8 kg: D = 762 m NEWQD > 500 lbs: D = 5,000 ft for railcars D = 4,000 ft for other modes NEWQD > 226.8 kg: D = 1,524 m for railcars D =1,219 m for other modes For bombs and projectiles with caliber 5 inch [127 mm] or greater: D = 4,000 ft D = 1,219 m For Facilities: NEWQD ≤ 15,000 lbs: D = 2,500 ft NEWQD ≤ 6,804 kg: D = 762 m 15,000 lbs < NEWQD ≤ 55,285 lbs: D = 4,000 ft 6,804 kg < NEWQD ≤ 25,077 kg: D = 1,219 m NEWQD > 55,285 lbs: $D = 105W^{1/3}$ NEWQD > 25,077 kg: $D = 41.65Q^{1/3}$
1.2[b] and 1.6	2,500 [762]	2,500 [762]
1.3	600 [183]	Twice IBD with a 600 ft [183 m] minimum (V3.E3.T13)
1.4	300 [91.5]	300 [91.5]

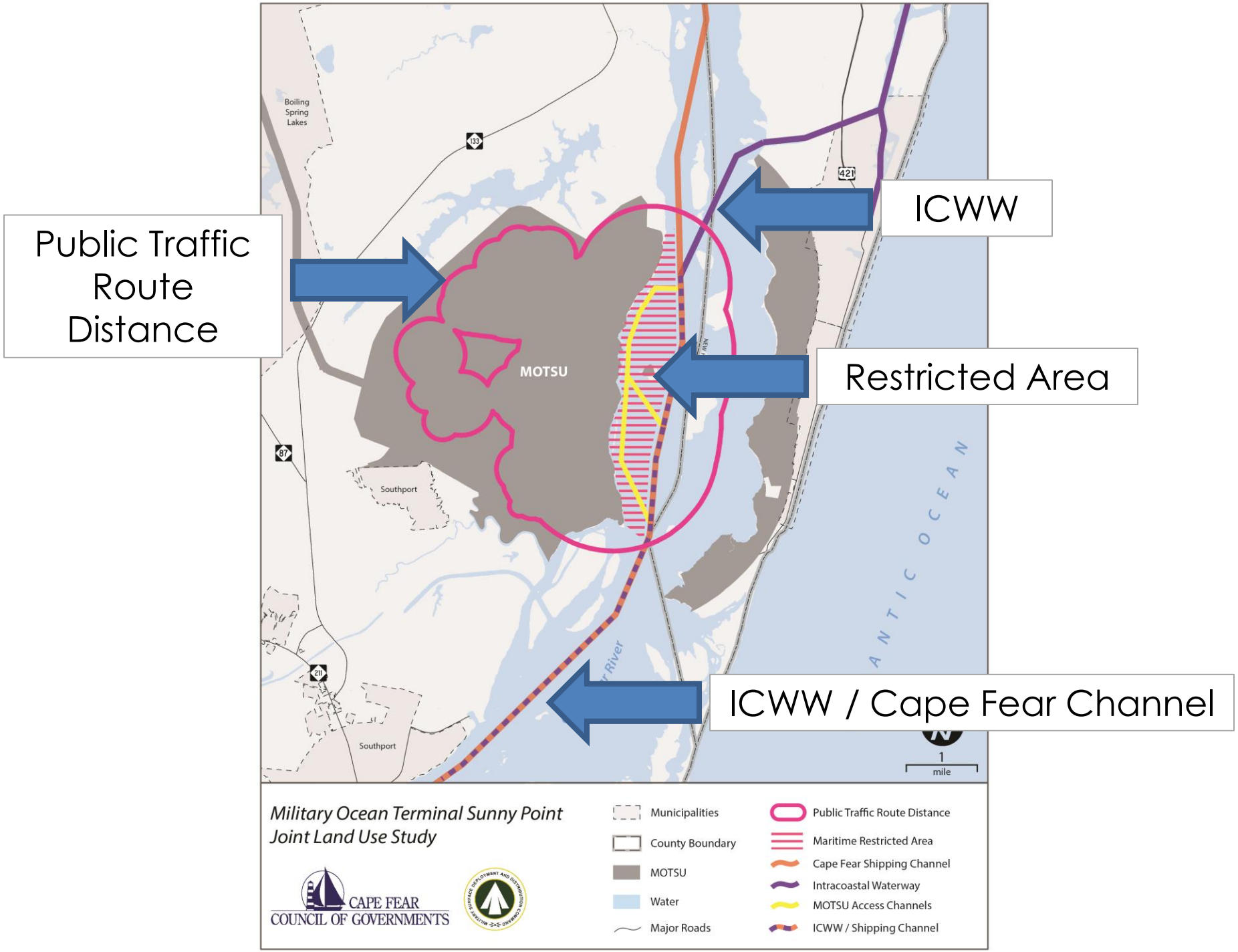
a Emergency withdrawal distances do not consider the potential flight range of propulsion units.

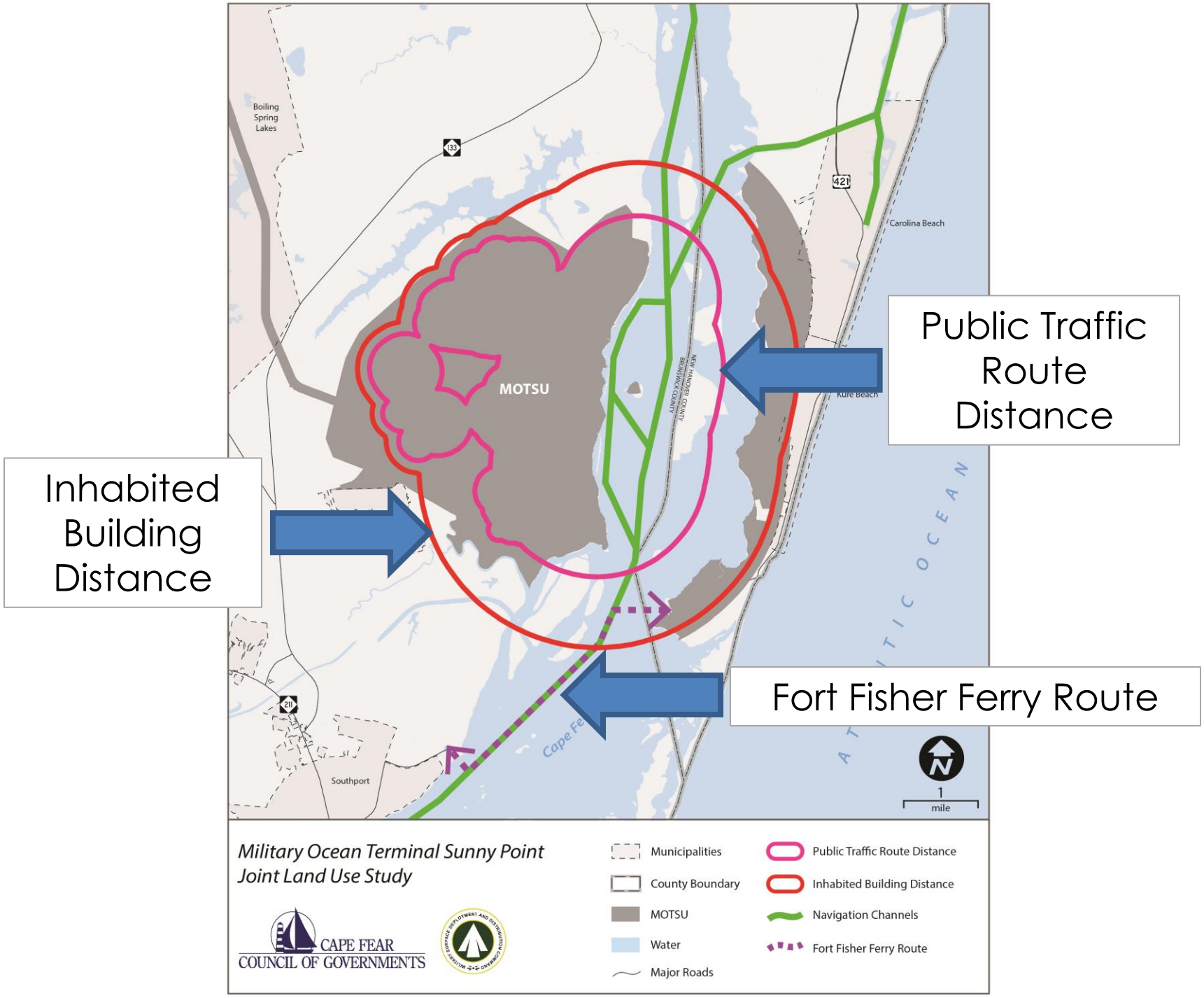
b For HD 1.1 and HD 1.2 AE, if known, the maximum range that fragments and debris will be thrown (including the interaction effects of stacks of items, but excluding lugs, strongbacks, and/or nose and tail plates) may be used to replace the distances given.


5,000 Foot Rail Incident Withdrawal Area
Example Point Rail Incident Withdrawal Area
Example Facility Withdrawal Areas
Navassa
Belville
Wilmington
Wrightsville Beach
Leland
Bolivia
Boiling Spring Lakes
MOTSU
Carolina Beach
Kure Beach
St. James
Southport
Oak Island
Caswell Beach
Cape Fear River
ATLANTIC OCEAN
NEW HANOVER COUNTY
BRUNSWICK COUNTY
1 mile
Military Ocean Terminal Sunny Point
Joint Land Use Study
CAPE FEAR COUNCIL OF GOVERNMENTS
Municipalities
County Boundary
MOTSU
Water
Major Roads
Example Incident Evacuation Distances
Rail Corridor (general)
Rail Corridor (example location)
Wharves

TRANSPORTATION RELATED COMPATIBILITY ISSUES

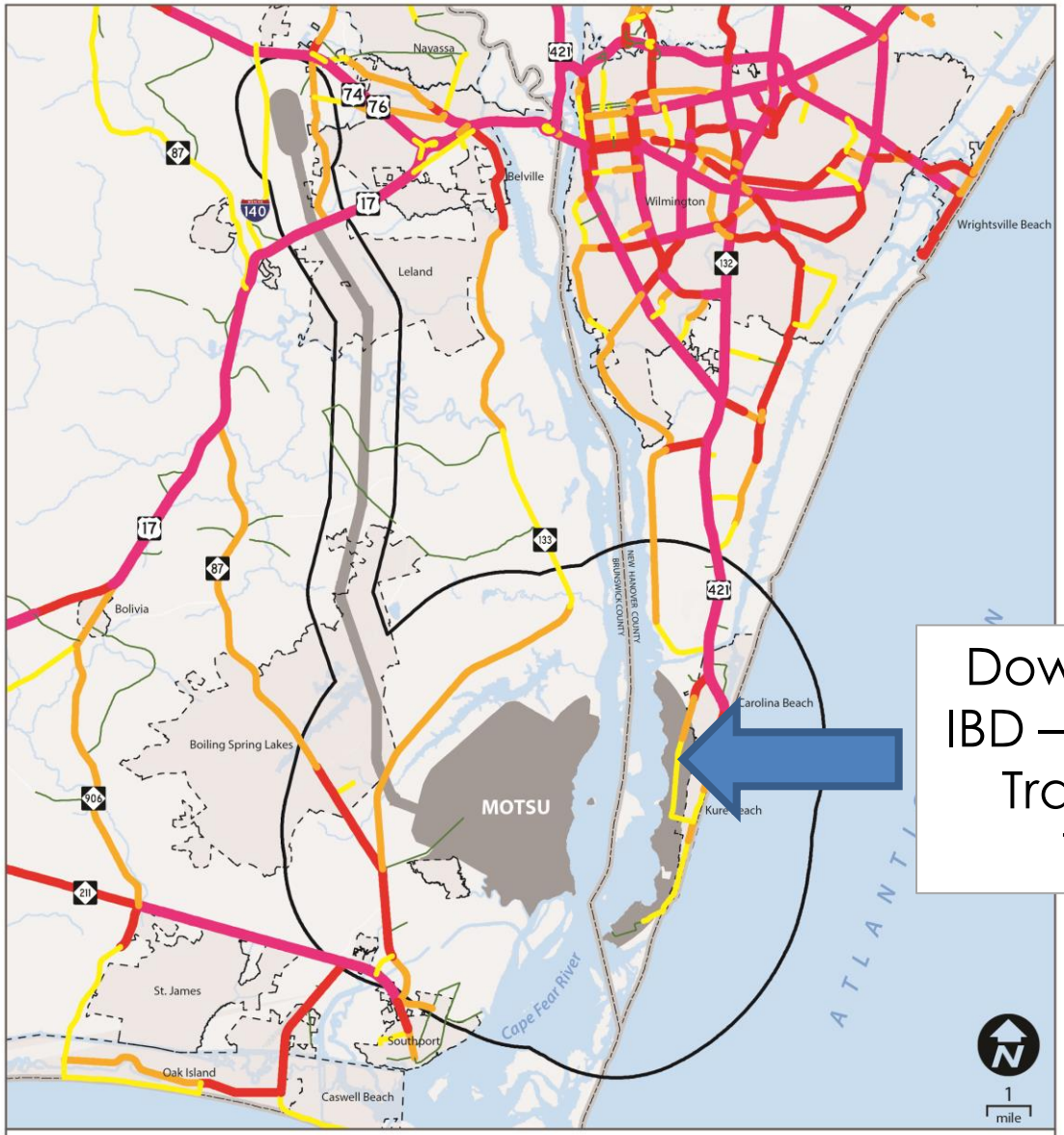
- The main Cape Fear River shipping channel and ICWW fall within the Public Transportation Route explosives safety zone.
- The current Cape Fear River restricted area at MOTSU may not meet all safety / security requirements.
- The Fort Fisher Ferry route is considered a "high volume" maritime route which triggers the use of the Inhabited Building distance to assess compatibility.


Public Traffic Route Distance
ICWW
Restricted Area
ICWW / Cape Fear Channel
Boiling Spring Lakes
MOTSU
Southport
Southport
133
421
87
211
1 mile
Military Ocean Terminal Sunny Point
Joint Land Use Study
CAPE FEAR COUNCIL OF GOVERNMENTS
Municipalities
County Boundary
MOTSU
Water
Major Roads
Public Traffic Route Distance
Maritime Restricted Area
Cape Fear Shipping Channel
Intracoastal Waterway
MOTSU Access Channels
ICWW / Shipping Channel


Public Traffic Route Distance
Inhabited Building Distance
Fort Fisher Ferry Route
Boiling Spring Lakes
133
421
Carolina Beach
MOTSU
NEW HANOVER COUNTY
BRUNSWICK COUNTY
Kure Beach
ATLANTIC OCEAN
211
Southport
Cape Fe
N
1
mile
Military Ocean Terminal Sunny Point
Joint Land Use Study
CAPE FEAR
COUNCIL OF GOVERNMENTS
Municipalities
County Boundary
MOTSU
Water
Major Roads
Public Traffic Route Distance
Inhabited Building Distance
Navigation Channels
Fort Fisher Ferry Route

TRANSPORTATION RELATED COMPATIBILITY ISSUES

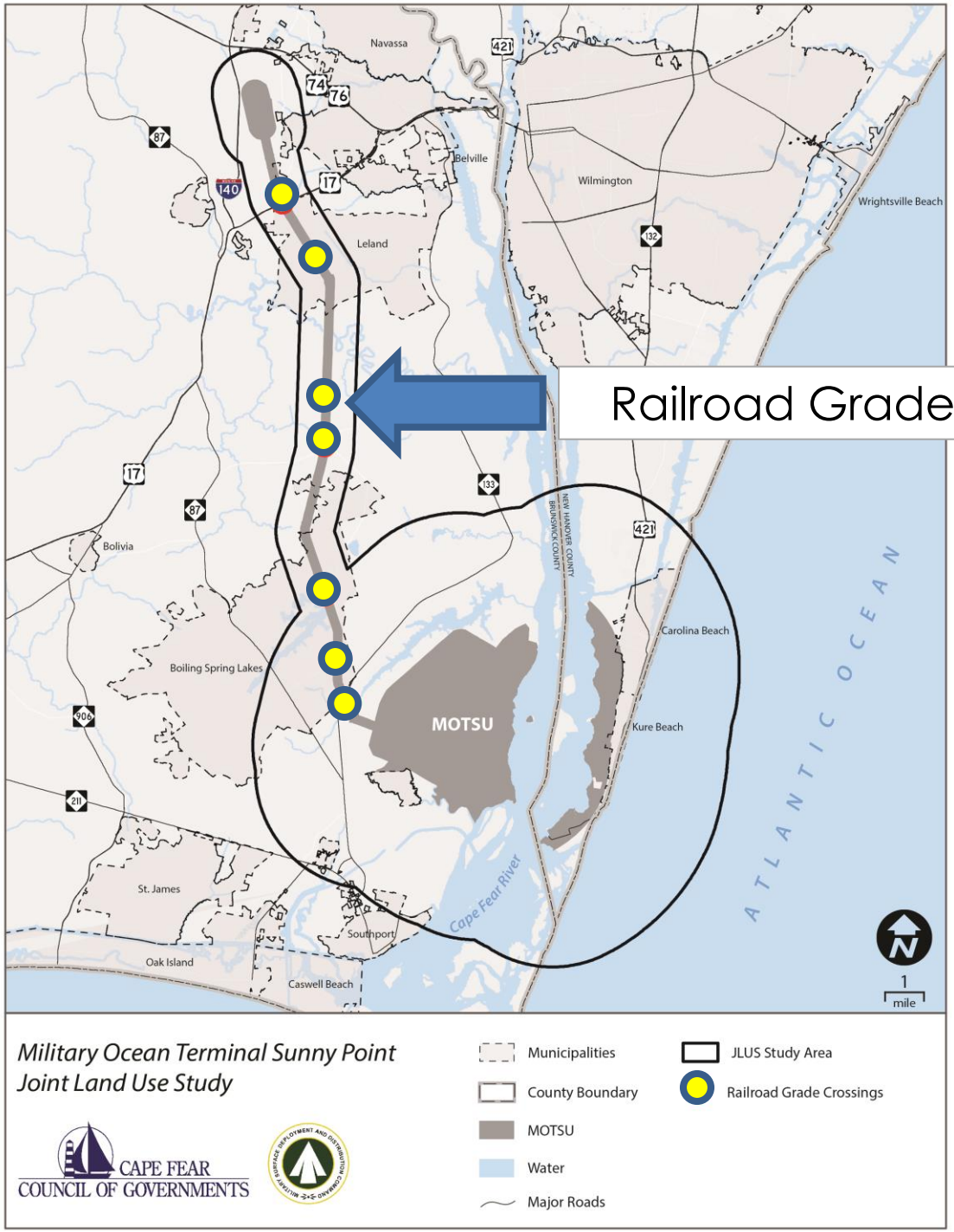
- Expansion to a third ferry on the Fort Fisher ferry route will increase passenger volume within the IBD.
- Dow Road is within the IBD, and is approaching the AADT volume at which compatibility concerns will apply.
- Easements rather than fee simple ownership of the MOTSU – Leland rail corridor present challenges with access restrictions and law enforcement.

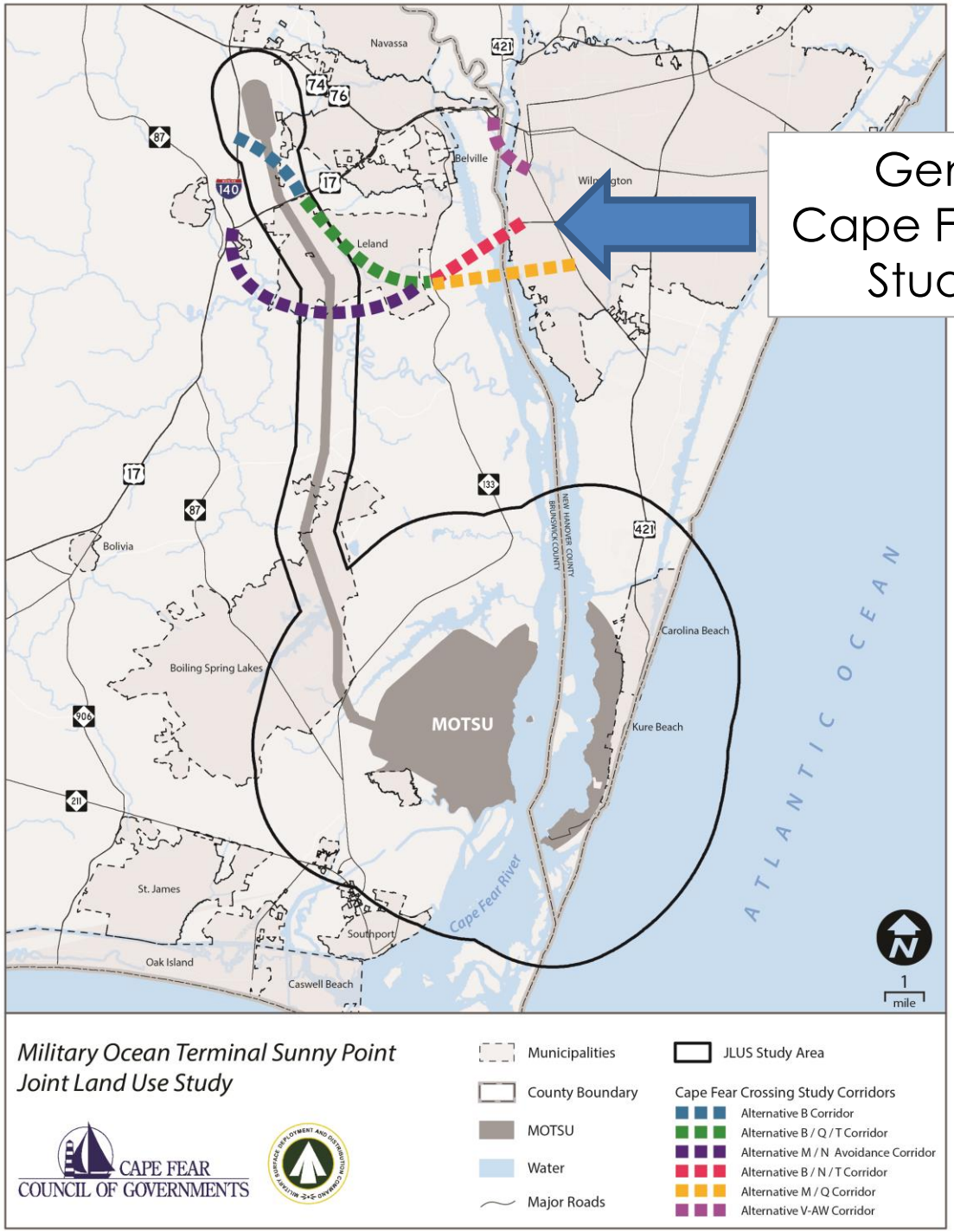


Dow Road Within IBD – Approaching Traffic Volume Threshold

TRANSPORTATION RELATED COMPATIBILITY ISSUES

- Lack of redundant regional rail access can impede the mission – requiring 100% use of trucks for inbound cargo if the rail is compromised.
- At-grade rail crossings along the MOTSU rail corridor present safety and security challenges.
- Several potential Cape Fear Crossing routes will require additional grade separated crossings of the MOTSU rail corridor – but also an opportunity for better truck access to MOTSU.


Railroad Grade Crossings
Navassa
Belville
Wilmington
Wrightsville Beach
Leland
Bolivia
Boiling Spring Lakes
MOTSU
Carolina Beach
Kure Beach
St. James
Southport
Oak Island
Caswell Beach
Cape Fear River
ATLANTIC OCEAN
NEW HANOVER COUNTY
BRUNSWICK COUNTY
1 mile
Military Ocean Terminal Sunny Point
Joint Land Use Study
CAPE FEAR
COUNCIL OF GOVERNMENTS
Municipalities
County Boundary
MOTSU
Water
Major Roads
JLUS Study Area
Railroad Grade Crossings


Generalized
Cape Fear Crossing
Study Routes
Navassa
Belville
Leland
Bolivia
Boiling Spring Lakes
MOTSU
Carolina Beach
Kure Beach
St. James
Southport
Oak Island
Caswell Beach
Cape Fear River
ATLANTIC OCEAN
NEW HANOVER COUNTY
BRUNSWICK COUNTY
1
mile
Military Ocean Terminal Sunny Point
Joint Land Use Study
CAPE FEAR
COUNCIL OF GOVERNMENTS
Municipalities
County Boundary
MOTSU
Water
Major Roads
JLUS Study Area
Cape Fear Crossing Study Corridors
Alternative B Corridor
Alternative B / Q / T Corridor
Alternative M / N Avoidance Corridor
Alternative B / N / T Corridor
Alternative M / Q Corridor
Alternative V-AW Corridor

SECTION 6:
COMPATIBLE GROWTH FRAMEWORK

COMPATIBLE GROWTH FRAMEWORK

- Review and analysis of:
  - Federal Military Land Use Compatibility Programs
  - NC Military Land Use Statutes and Programs
  - Local Government Plans and Ordinances

Military Coordination & Notice

- N.C.G.S. § 153A-323 [counties]
- N.C.G.S. § 160A-364 [cities]

- Within five (5) miles of boundary of military base, jurisdictions must notify commander of proposed changes:
  - To the zoning map;
  - Affecting permitted uses of land;
  - Related to telecom towers or windmills; or
  - To proposed new major subdivision preliminary plats;
  - Or >50% increases in approved subdivision size.

Statutory Land Use Coordination Area

Table 6-1

		Brunswick County				New Hanover County		
		County	Boiling Spring Lakes	Leland	Southport	County	Carolina Beach	Kure Beach
Comprehensive Planning	Jurisdictional Land Use Planning	YES	YES	YES	YES	YES	YES	YES
	Military-Related Plan Policies[1]	YES - BACKGROUND	YES - BACKGROUND	NO	YES - BACKGROUND	NO	YES - BACKGROUND	YES - LIMITATIONS
Zoning	Jurisdictional Zoning	YES	YES	YES	YES	YES	YES	YES
	Overlay Zoning Districts	YES	NO[7]	NO	YES	YES	YES	YES
	"Military Zoning Land Use Limitations[2]"	NO	NO	NO	NO	NO	NO	NO
Subdivision	Jurisdictional Subdivision Regulations	YES (UDO)	YES (UDO)	YES	YES (UDO)	YES	YES	YES
	Military-Related Subdivision Regulations[2]	NO	NO	NO	NO	NO	NO	NO
NC Military Statutes	"Formal Land Use Coordination Protocol[3]"	YES	NO	NO	NO	NO	YES	NO
	Tall Structures Coordination Protocol[4]	NO	NO	NO	NO	NO	NO	NO
	Wind Energy Facility Coordination Protocol[5]	NO	NO	NO	NO	NO	NO	NO
Other	Extraterritorial Jurisdiction (per N.C.G.S. 160A-360)	N/A	NO	NO	YES	N/A	YES	YES
	Disclosures Required[6]	"YES - STREETS ONLY"	NO	"YES - STREETS ONLY"	YES - PLAT CERTIFICATES (INCLUDING STREETS)	YES - PLAT CERTIFICATES (INCLUDING STREETS)	YES - PLAT CERTIFICATES (INCLUDING STREETS)	"YES - STREETS ONLY"

SECTION 7: RECOMMENDATIONS

JLUS RECOMMENDATIONS

The JLUS process has produced 52 primary recommendations in 5 categories:

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

7.2.3 Transportation (T)

T-1: MOTSU AND THE USACE SHOULD CONTINUE TO EXPLORE OPPORTUNITIES TO ACQUIRE FEE SIMPLE OWNERSHIP OF THE RAIL CORRIDOR.

Justification: When MOTSU was established, much of the rail corridor to Leland was acquired as an easement (either through purchase or condemnation) rather than fee simple purchase of the underlying property. Over time, this has led to some confusion about the rights and responsibilities of the Army with regard to limiting access to the corridor as well as a host of other issues. Full ownership of the corridor would make security improvements, such as sealing the corridor, more feasible, and would help to establish clear law enforcement jurisdiction along the rail line.

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).

Justification: Road crossings of the rail line exist along the entire corridor between MOTSU and Leland. While some are necessary for rural transportation connectivity, there are some opportunities to eliminate road crossings. This would, in turn, enhance safety and security by limiting road access to the rail line and reducing the number of potential conflict points for train-vehicle incidents.

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.

Justification: As demonstrated frequently over recent years, flooding is an ongoing and potentially increasing concern along the highway routes from the main highway arteries in the region to MOTSU. In particular, there are numerous locations on NC 87, NC 211 and NC 133 that are subject to flooding hazards, with portions of NC 133, in particular, subject to flooding during and after smaller rain events. Maintaining highway access to MOTSU is critical to ensuring that personnel and cargo can reach the installation, particularly in situations where natural disasters might have affected access along the rail corridor.

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.

Justification: Most of the routes under consideration for the Cape Fear Crossing will provide a limited access highway route to an interchange with NC 133. This new limited access highway route

provides an opportunity to gain a more feasible secondary highway access route to MOTSU via NC 133, and, with improvement to the road (flooding issues, lane widths, curves) could provide a better option for truck cargo traffic to the installation since it would bypass the more densely developed portion of Boiling Spring Lakes that much of the truck cargo currently passes through to reach the terminal.

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.

Justification: When the preferred route for the Cape Fear Crossing is identified, MOTSU should work with local transportation agencies to identify and mitigate any negative impacts that might arise from the future completion of the route to ensure that changes in traffic patterns do not create bottlenecks or congestion in unexpected areas that might impede safe and efficient highway access to the terminal. Since MOTSU does not have any authority to direct road improvements off of the installation, it will rely on NCDOT and other agencies to advocate for such improvements during the project development process.

T-6: NCDOT AND THE CAPE FEAR RPO SHOULD EXPLORE OPPORTUNITIES FOR CONSTRUCTING A GRADE SEPARATION OF NC-133 OVER THE MOTSU RAIL LINE.

Justification: Of the at-grade road crossings of the MOTSU rail line to Leland, the NC-133 crossing is the most heavily traveled. Traffic volumes on the highway, particularly during summer months and holiday weekends can cause long backups on the road when trains pass through the crossing. Heavy traffic volume at this point also increases the likelihood of an incident between a vehicle and a train. By providing a grade separated crossing, both the safety and efficiency of the highway and rail line can be enhanced.

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.

Justification: MOTSU is currently reliant on the CSX rail line between Wilmington and Pembroke as the only main-line rail access to the installation. A study is underway regarding reopening the Whiteville to Malmo line and many studies have taken place over the years regarding reopening the abandoned line between Castle Hayne and Wallace. Reopening either one of these abandoned rail corridors would provide MOTSU with a more resilient transportation network that could be utilized in the event of issues on the main CSX line.

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)

ADDITIONAL RECOMMENDATION

C-10: Once established, MOTSU should communicate the new procedure for requesting licenses on installation property to the Standing Committee.

Justification: The lack of clarity in how communities submitted license requests to MOTSU was an underlying issue of the JLUS. License request procedures are now in flux due to Army policy changes. Providing the new procedure to the communities, once established, will help improve transparency and enhance communication between MOTSU and its host communities.

FINAL PUBLIC MEETINGS

- Meeting locations have been secured for June 24 and 25
  - June 24: Kure Beach Town Hall (Evening)
  - June 25: Southport Community Center (Afternoon)
- Need consensus from the Policy Committee to publish the JLUS and begin advertising for the meetings.
- Possible follow-up Policy Committee meeting following final public meetings

MILITARY OCEAN TERMINAL SUNNY POINT JOINT LAND USE STUDY

POLICY COMMITTEE / ADVISORY COMMITTEE JOINT MEETING
MAY 14, 2019