

TRAINING SUPPORT PACKAGE (TSP)

TSP Number	CAS-003-01
TSP Title	FORCE XXI
Task Number(s) / Title(s)	N/A
Effective Date	01 Jun 1999
Supersedes TSP(s)	N/A
TSP Users	88N30 Transportation Management Coordinator (BNCOC) 88N40 Transportation Management Coordinator (ANCOC)
Proponent	The proponent for this document is: DEPARTMENT OF THE ARMY TRAINING DIRECTORATE ATTN: ATCL-AT 401 First Street Suite 227 Ft. Lee, VA 23801-1511
Comments / Recommendations	Send comments and recommendations directly to: DEPARTMENT OF THE ARMY TRAINING DIRECTORATE ATTN: ATCL-AT 401 First Street Suite 227 Ft. Lee, VA 23801-1511
Foreign Disclosure Restrictions	This product has been reviewed by the product developers in coordination with the U.S. Army Combined Arms Support Command foreign disclosure authority. This product is releasable to military students from foreign countries on a case-by-case basis.

PREFACE

Purpose

This Training Support Package provides the instructor with a standardized lesson plan for presenting instruction for MOS 88N30 Transportation Management Coordinator, BNCOC, and MOS 88N40 Transportation Management Coordinator, ANCOC.

**This TSP
Contains**

TABLE OF CONTENTS

		<u>PAGE</u>
Preface		2
Lesson	Section I Administrative Data	4
	Section II Introduction.....	6
	Terminal Learning Objective - Define the purpose of Force XXI, explain why the Force XXI initiative was established, name its primary goals, and specify the three areas of critical importance to the future of Force XXI.	6
	Section III Presentation	8
	Enabling Learning Objective A - Define Force XXI.	8
	Enabling Learning Objective B - Explain why the Force XXI initiative was established.	10
	Enabling Learning Objective C - Name the primary goals established for Force XXI.	11
	Enabling Learning Objective D - Name the three areas of critical importance to the future of Force XXI.	17
	Section IV Summary	17
	Section V Student Evaluation	18
Appendix A	Viewgraphs.....	A-1

CAS00301 version TATS / FORCE XXI
01 Jun 1999

SECTION I. ADMINISTRATIVE DATA

**All Courses
Including This
Lesson**

Course Number

551-88N30

Course Title

88N30, TRANSPORTATION MANAGEMENT
COORDINATOR, BNCOC

**Task(s)
Taught(*) or
Supported**

Task Number

Task Title

**Reinforced
Task(s)**

Task Number

Task Title

**Academic
Hours**

The academic hours required to teach this TSP are as follows:

ADT

Hours/Methods

1.0 / Conference / Discussion

Test

.0

Test Review

.0

Total Hours:

1.0

**Prerequisite
Lesson(s)**

Lesson Number

621-300-02

Lesson Title

Transportation Management Coordinator Course
Overview

**Clearance
Access**

Security Level: Unclassified

Requirements: There are no clearance or access requirements for the lesson.

References

<u>Number</u>	<u>Title</u>	<u>Date</u>	<u>Additional Information</u>

**Student Study
Assignments**

None

**Instructor
Requirements**

One instructor per class.

**Additional
Support
Personnel
Requirements**

One assistant instructor per class.

**Equipment
Required
for Instruction**

Name

None

Quantity

Expendable

**Materials
Required**

Instructor Materials:
 Training Support Package
 Overhead Projector
 Viewing Screen
 Viewgraphs
 Erasable Overhead Pen

Student Materials:
 Notepad
 Pen/Pencil

**Classroom,
Training Area,
and Range
Requirements**

CLASSROOM, GENERAL PURPOSE, (750 SQ FT, 20 PERSONS, 110-VOLT AC OUTLET)

**Ammunition
Requirements**

<u>Name</u>	<u>Student Qty</u>	<u>Misc Qty</u>
None		

**Instructional
Guidance**

NOTE: Before presenting this lesson, instructors must thoroughly prepare by studying this lesson and identified reference material. Ensure facilities and training materials are ready prior to class start time.

**Proponent
Lesson Plan
Approvals**

<u>Name</u>	<u>Rank</u>	<u>Position</u>	<u>Date</u>

SECTION II. INTRODUCTION

Method of Instruction: <u>Conference / Discussion</u>
Instructor to Student Ratio is: <u>1:15</u>
Time of Instruction: <u>0 hrs 5 mins</u>
Media: <u>Small Group Instruction (SGI)</u>

Motivator

With the end of the predictable environment of the Cold War, the Army's focus has broadened:

- From a potential conflict in a mature and well developed theater to a broad range of Military Operations Other Than War in many undeveloped theaters.
- From a Soviet threat-based force forward deployed in Europe to a Continental United States based, power projection Army, prepared to fight a wide variety of threats as part of a joint or combined arms team.
- From a slow, manual information environment to a high technological age with massive amounts of information flowing along the information super highway.
- These fundamental changes demand we break old paradigms and old ways of thinking.

(Using a personal experience or related story, explain the importance of this lesson to the students.)

NOTE: Show objective viewgraph (VGObjective)

Terminal Learning Objective

NOTE: Inform the students of the following Terminal Learning Objective requirements.

At the completion of this lesson, you [the student] will:

Action:	Define the purpose of Force XXI, explain why the Force XXI initiative was established, name its primary goals, and specify the three areas of critical importance to the future of Force XXI
Conditions:	In a classroom environment given lecture/conference and class notes
Standards:	Demonstrate knowledge of Force XXI by answering all check on learning questions correctly.

Safety Requirements

None

Risk Assessment Level

Low

Environmental Considerations

AR 200-1 delineates TRADOC responsibilities to integrate environmental requirements across DTLOMs and ensure all training procedures, materials, and doctrine include sound environmental practices and considerations. The Army's environmental vision is to be a national leader in environmental and natural resource stewardship for present and future generations as an integral part of all Army missions. This Training Support Package meets this standard.

Evaluation

Refer students to the Student Evaluation Plan.

**Instructional
Lead-In**

The challenges of 21st Century warfare call upon us to redesign the force structure and assess how this new structure should be equipped, armed, and trained to fight tomorrow's battles. Force XXI defines how the Army will build a bridge into the future, based upon capabilities provided by modern and emerging technology.

According to General Gordon R. Sullivan, U.S. Army Chief of Staff, the vision of Force XXI reads as follows:

"America's Army, Trained and Ready, a Strategic Force, Serving the Nation at Home and Abroad, Capable of Decisive Victory...into the 21st Century."

SECTION III. PRESENTATION

NOTE: Inform the students of the Enabling Learning Objective requirements.

A. ENABLING LEARNING OBJECTIVE A

ACTION:	Define Force XXI
CONDITIONS:	In a classroom environment given lecture/conference and class notes.
STANDARDS:	The student will describe the Force XXI concept by defining Force XXI.

1. Learning Step / Activity 1. Define Force XXI.

Method of Instruction: Conference / Discussion
 Instructor to Student Ratio: 1:15
 Time of Instruction: 10 mins
 Media: Small Group Instruction (SGI)

Background: The post-Cold War environment is very different from that of the 70s and 80s. While the Army's basic missions have not changed, the downsizing of Defense has forced a rethinking of the means to support those missions in a power projection Army. Downsizing has also lead to a work overload in government, industry, and university research and development organizations. This, in turn, exacerbates the competition between government (in-house) and private sector (contract) research to meet future Army needs. Finally, the explosion of information technology has provided many new opportunities for basic and applied research.

NOTE: Show viewgraph (VG01) and discuss.

- a. The U.S. Army is doing something that no other army has done before: while reducing its size, it is increasing its ability to fight.
- b. It is clear that our Army is on a deliberate course to bring warfare into the Information Age and change forever the very essence of conducting war. The plans being made are awesome, and the vision, when fully understood, is spectacular. The vision is Force XXI.

NOTE: Show viewgraph (VG02)

- c. The definition of Force XXI reads as follows: Force XXI is an Army initiative to redesign the force structure and related Doctrine, Training, Leader Development, Organization, Material, and Soldiers (DTLOMS), for the next century. Changing world events, resource austerity, revisions in national security and military strategy, lessons learned from DESERT STORM, RESTORE HOPE, JUST CAUSE, etc., and technological advances, have all lead the Army's leadership to redesign the force.

NOTE: Show viewgraph (VG03)

- d. Force XXI is the name service leaders have given to the mammoth project for designing, building, and equipping the Army of the 21st Century. It is the transformed Army in its entirety. The brainchild of General Sullivan, Force XXI is the service's most ambitious overhaul since the early 1940's. It not only encompasses the redesign of tactical units, but of major headquarters, schools, and the procurement system. Force XXI will encompass the planning

and redesign of the force at all echelons. Importantly, it will focus on connectivity--how we put the force together when we employ it.

- e. It is clear that we must open our minds to the power of change, ask ourselves "What could be?" and take advantage of every opportunity along the journey.
- f. If America's Army is to remain the world's preeminent land warfare force, we must review our unit organization and structures to ensure we take full advantage of emerging technology.
- g. The Army is transforming itself from an Industrial-Age force to an Information-Age force. The Force XXI concept lays the foundation for the 21st Century Army digitized and redesigned to achieve land force dominance in the Information Age.

NOTE: Ask students if they have any questions.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO. Ask students the following questions. As you review the items individually, ask students if they have any other additional questions.

- 1. Define Force XXI.
(Force XXI is an Army initiative to redesign the force structure - and related Doctrine, Training, Leader Development, Organization, Materiel, and Soldiers [DTLOMS] - for the 21st Century)
- 2. Force XXI is the brainchild of whom?
(General Sullivan)

B. ENABLING LEARNING OBJECTIVE B

ACTION:	Explain why the Force XXI initiative was established
CONDITIONS:	In a classroom environment given lecture/conference and class notes
STANDARDS:	The student will complete the action by actively participating in group and class discussion.

1. Learning Step / Activity 1. The student will explain why the Force XXI initiative was established.

Method of Instruction: Conference / Discussion
 Instructor to Student Ratio: 1:15
 Time of Instruction: 10 mins
 Media: Small Group Instruction (SGI)

NOTE: Show viewgraph (VG04) and discuss.

- a. The Army's total obligation authority is down, dollars are down, and the size of the Army is comparable to that of the late 1930's. Yet, missions are up significantly. Bosnia, Somalia, Rwanda, Haiti, Kuwait, and Korea are premier examples. Civil operations other than war, such as floods, hurricanes and earthquakes, have also been significant. Simultaneously, the Army is leading the way to unprecedented warfighting capabilities and readiness.
- b. It is clear that it is time to redesign the force to better leverage the power of the people that make up the U.S. Army and to better leverage the power of technology.

NOTE: Show viewgraph (VG05)

- c. The focus is on enhanced capabilities for the force to be more lethal, more deployable, and more sustainable. This is predicated upon rescoping the modernization vision to assimilate Post-Industrial-Age technology.
- d. Force XXI is the focus of the Army's modernization vision. Force XXI systems will project Army power deeper and provide better survivability, improved accuracy, and increased effectiveness.
- e. In the current socio-political environment, the Army, faced with these challenges of fewer resources, a smaller force and worldwide technology proliferation, can pursue only those new systems that significantly increase capability.
- f. The accelerating pace of technological change will continue to offer significant challenges and opportunities to enhance operational capabilities.

NOTE: Ask student if they have any questions.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO. Ask students the following questions. As you review the items individually, ask students if they have any other additional questions.

1. Name two reasons why the Force XXI initiative was established.
 - (1. The Army's missions are up significantly, yet overall dollars and the size of the force has decreased considerably. Force XXI will ensure that as the Army reduces in size, it will, in fact, increase in lethality, survivability and deployability.)
 - (2. As a result of the development of technology, warfare has become more and more a battle of information rather than a battle of power of the people that make up the U.S. Army. Force XXI better leverages the power of technology.)
2. Force XXI was established to _____ the Army to meet the 21st Century missions. (Modernize)

C. ENABLING LEARNING OBJECTIVE C

ACTION:	Name the primary goals established for Force XXI
CONDITIONS:	In a classroom environment given lecture/conference and class notes
STANDARDS:	The student will complete the action by actively participating in group and class discussion.

1. Learning Step / Activity 1. The student will name the primary goals established for Force XXI.

Method of Instruction: Conference / Discussion
Instructor to Student Ratio: 1:15
Time of Instruction: 15 mins
Media: Small Group Instruction (SGI)

NOTE: Show viewgraph (VG06)

- a. The effective employment of precision strike weaponry depends on timely collection, interpretation, and distribution of information. To ensure land force dominance requires enhanced battle command systems, an improved ability to synchronize direct and indirect fires, better and faster access to intelligence data, and improved situational awareness leading to greater force protection.
- b. Digitization of information, converting it to zeros and ones, then manipulating, transferring, and displaying it, provides probably the greatest technological leap forward on the battlefield since the introduction of the internal combustion engine. Digitization--harnessing the power of information--will enable us to realize the vision of TRADOC Pam 525-5, to create a force for the future, a force leveraging unique American strengths.

NOTE: Show viewgraph (VG07)

- c. Digitization is the integration of digital information technologies across the battlefield among combat, combat support, and combat service support systems and units.
- d. Such integration of information will allow the warfighter to maintain a clear, accurate, and relevant picture of the battle space to support both planning and execution.
- e. The application of digital technologies can be tailored to the needs of each commander, warfighter, and supporter, and allow commanders and staffs at all echelons to maintain a clear, accurate, and relevant picture of the battle space.

NOTE: Show viewgraph (VG08)

- f. A digitized battlefield is the key to a more efficient and effective fighting force in an era of declining service budgets and reduced force structure.
- g. In a message to all Army commanders, dated March 8, 1994, Army Chief of Staff General Gordon R. Sullivan unveiled the vision and methodology for building the force for the 21st Century-Force XXI. By this time the Army had already invested four years in reengineering many of the major commands (MACOMs), maintained training and readiness rates, and successfully shifted the intellectual and physical posture from the Cold War to looking beyond the Industrial Age.

NOTE: Show viewgraph (VG09) and discuss

- h. The goals established for Force XXI by General Sullivan were:
 - 1) The creation of a digitized brigade by 1996
 - 2) The creation of a digitized division by 1997
 - 3) The creation of a digitized corps by 1999
- i. Specifically, completion of Force XXI goals look like this:
 - 1) Design a Force XXI Division, then develop, activate, experiment with and test a Brigade and the supporting DTLOMS. Activation and testing of this Brigade was scheduled for mid fiscal year 96 through February 97.
 - 2) Subsequently, develop, activate and test a Force XXI division. This would follow the Brigade test and would last for one year.
 - 3) Finally, design, develop, activate and test a Force XXI Corps following the division testing. Again, experimentation and testing will last approximately one year.
 - 4) All Force XXI design and implementation decisions will be made by the year 2000.
- j. To date, the Brigade experiment occurred in March, 1997. Division Army Warfighting Experiment (AWE) was scheduled for November 97 at Fort Hood.
- k. One common rule of thumb for basic research is that it generally takes from 10 to 20 years to realize results and the first practical applications. Since the late 1970s, the Army has been sponsoring research in support of the technologies to be vertically and horizontally integrated into the formative stages of Force XXI.
- l. The basic scientific research sponsored by the Army today will influence the course the Army pursues in the evolutionary development of Force XXI. Research primarily in electronics, physics, mathematics, and computer science will result in the improved and upgraded "second generation" assets required to assure continued battlefield preeminence.

MATHEMATICS & COMPUTER SCIENCE

High Performance Computing

Data Compression and Fusion

PHYSICS & ELECTRONICS

High Frequency Microelectronics

Optical Communications

Information Fusion and Processing

Artificial Intelligence/Decision Aids

Algebraic & Geometric Methods for Terrain Analysis

Algebraic & Geometric Methods for Information Management

Automated, Low Cost, Software Production

Virtual Reality

Multi-Sensor Fusion

Automated Image Recognition and Compression

Lightweight, Affordable Power Source and Displays

Millimeter Wave Imaging Technology

NOTE: Ask students if they have any questions.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO. Ask students the following questions. As you review the items individually, ask students if they have any other additional questions.

1. One goal for the Force XXI concept was to develop, activate, experiment with, and test a digitized _____ by 1999.
(Corps)
2. What subject areas will Force XXI researchers focus on?
(Electronics, physics, mathematics, and computer science)

D. ENABLING LEARNING OBJECTIVE D

ACTION:	Name the three areas of critical importance to the future of Force XXI
CONDITIONS:	In a classroom environment given lecture/conference and class notes
STANDARDS:	The student will complete the action by actively participating in group and class discussion.

1. Learning Step / Activity 1. The student will name the three areas of critical importance to the future of Force XXI.

Method of Instruction: Conference / Discussion
 Instructor to Student Ratio: 1:15
 Time of Instruction: 10 mins
 Media: Small Group Instruction (SGI)

NOTE: Show viewgraph (VG10) and discuss.

a. Communication Networks

- 1) Communication networks lie at the very heart of the Force XXI requirements concept and are absolutely essential to the implementation of the digital battlefield. Research challenges include the design of network architectures and adaptive protocols with distributed control for a highly dynamic, mobile Army network providing cellular-like service in the field.
- 2) Network protocols are used to maintain message routing and transmission scheduling when signals are interdicted or communication links drop out. Control must be distributed, not centralized, to avoid the catastrophic network failure that would occur if the enemy could target a central control node.
- 3) A final example is adaptive antenna technology which promises to provide lower probability of intercept transmissions, power conservation, wider bandwidth channels, and frequency reuse allowing increased volume and quality of data transmitted.

b. 21st Century Land Warrior

- 1) The second area, critical to the future of Force XXI, is the 21st Century Land Warrior concept. While the initial goals for implementing Force XXI will involve the netting of command and control assets with air and ground vehicles, the ultimate goals will involve the inclusion of the individual land warrior as a component of the battlefield network. The weight, size, processing power density, and electrical power requirements for the individual soldier's equipment will be more difficult to achieve than those that can be sustained on vehicles. These power sources must be lightweight, compact, manportable units.
- 2) No areas are more important than integrating the individual soldier into the Force XXI concept, including advanced sensors, electronics, opto-electronics, advanced software,

light-weight displays and mobile power sources. All these will be key factors in enhancing the individual soldier's capability and achieving unit land force dominance. Tomorrow's soldier will go into battle with the most sophisticated tools and weapons the world has ever known.

c. Advanced Distributed Simulation

- 1) The third area relates to Advanced Distributed Simulation (ADS). The ADS provides for simulation linking synthetic operational networks to maintain the warfighter and soldier "in the loop" from conceptual development through fielding. By using ADS, the Army will train exactly as it intends to fight, by bringing the services together to train and execute joint warfighting.
- 2) This increased attention to interoperability and joint force integration over the full spectrum of warfighting will result in a role for simulation in terms of developing and sustaining readiness while reducing acquisition cycle time.
- 3) In addition to its importance in the joint operations and training arenas, ADS will be the key technology in determining and analyzing alternatives for digitizing the battlefield.

NOTE: Ask students if they have any questions.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO. Ask students the following questions. As you review the items individually, ask students if they have any additional questions.

1. What are the three areas of great importance to the success of Force XXI?
(Communication networks, the 21st Century Land Warrior, and Advanced Distributed Simulation - ADS)
2. What key technology will be used in determining and analyzing alternatives for digitizing the battlefield?
(Advanced Distributed Simulation - ADS)

SECTION IV. SUMMARY

Method of Instruction: <u>Conference / Discussion</u> Instructor to Student Ratio is: <u>1:15</u> Time of Instruction: <u>0 hrs 10 mins</u> Media: <u>Small Group Instruction (SGI)</u>
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**Review /
Summarize
Lesson**

NOTE: Show summary viewgraph (VGSummary)

In this lesson you learned about Force XXI. The following key points were discussed within the lesson unit:

- a. Force XXI Introduction
 - b. Force XXI Definition And Mission
 - c. Reasons for Establishing Force XXI
 - d. Force XXI Goals
 - e. Areas of Great Importance to the Future of Force XXI
-

**Check on
Learning**

Conduct a check on learning and summarize the lesson.

Determine if the students have learned the material by:

- a. Soliciting student questions and explanations.
 - b. Asking questions and getting answers from the students.
 - c. Correcting any student misunderstandings.
-

SECTION V. STUDENT EVALUATION**Testing
Requirements**

NOTE: Describe how the student must demonstrate accomplishment of the TLO standard. Refer students to the Student Evaluation Plan.

**Feedback
Requirement**

NOTE: Rapid, immediate feedback is essential to effective learning. Schedule and provide feedback on the evaluation. Provide remedial training as needed.

FORCE XXI

VIEWGRAPHS