



Warehousing and Distribution Center Operations Pathway:

Water Mode

Problem-based Scenario Outline

School Site: Ballard High School, Maritime Academy Seattle, Washington

Pathway Knowledge and Skill(s):

P01.2 Improve the performance of the transportation operations to meet customer and business requirements

P01.3 Maintain the compliance of transportation operations with company policies and government laws and regulations

Performance Element(s):

- Identify and obtain necessary risk, performance, and compliance information.
- Identify and analyze the major alternatives for unloading APL *China*.
- Describe which governmental agencies will be involved in determining the unloading plan (OSHA, POS, EPA).
- Describe the major measures and types of data used by government and companies to measure and monitor safety/environmental risks.
- Describe how information technology is used in safety and environmental management.
- Describe the role, functioning, and major features of material receiving, handling, and shipping systems.
- Use problem-solving and improvement tools and methods to analyze and present information on operational performance.
- Understand the process and basic requirements of container loading/unloading.
- Describe how transportation planning determines costs and benefits and potential impacts, especially social, economic, and environmental impacts.
- Describe and explain the factors used in comparing alternative transportation modes and carriers or other contractors.
- Demonstrate an understanding of the scope and major components of logistics systems.
- Describe and explain the tradeoffs between costs and service levels in evaluating alternative logistics solutions.
- Describe and provide examples of the major types of customer requirements for transportation/distribution services addressing time, quality and costs.

Title: APL China

Completion Time: 4 weeks

Problem Statement: You are a member of the ILWU (International Longshore Workers Union) in Seattle. To your amazement, you see the APL *China* being towed into port with the containers that were so neatly stacked on top looking like dominoes about to fall. The ship encountered a storm so severe that some of the containers are crushed, and many more are twisted and out of place. You need to determine how the APL *China* will be unloaded, and who will need to help with the operation.

Occupations and Related Job Titles (Examples):

- Transportation Operations
 - Risk Management Specialist
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Business/Industry/Government Partner(s):

- ILWU
- American President Lines
- NESS Cranes
- Manson Construction
- Insurance Companies
- Surface Shipping Companies

Teacher/Evaluator:

Students: In groups, students must decide how to unload the ship. They will determine who will need to be notified, and contact each group to arrange a meeting. During this meeting, they will need to present their proposal for how to safely unload the ship. The groups will create a presentation and business proposal for unloading the APL *China*. A panel of business partners will score students on depth of knowledge, understanding of the issues involved, and viability of the proposal. In addition, students will submit written reflections of their group work, and their role in the decision process.

- Identify the safest and most efficient method of unloading the APL *China*.
- Decide on which cranes can be used to unload ship.
- Write individual reflection on drill and your group/role.
 - ◆ Develop written business plan.
 - ◆ Word-processed and edited.
- Presentation
 - ◆ Using power point and digital camera – minimum of five slides with three images.

Process:

- Students use all skills/tools available in identifying and evaluating all possible routes.
- Students complete the project in the allotted time.

- Identify causes for performance problems and gaps in transportation operations and troubleshooting methods for possible scenarios.
- Determine methods of measuring customer satisfaction.
- Develop written business plan.

Required Materials and Resources:

- Computers
- Word processing and presentation software
- List of available heavy-lift equipment
 - ◆ Land-based cranes
 - ◆ Barge-based cranes
- Site location and map
 - ◆ Maps of Puget Sound
- Safety guide for crane operators
- Computer with word processing/Power Point software
 - ◆ Projector for multimedia presentation
 - ◆ Word processor for writing Media release statements

Suggested Assessment Approaches: Students will be graded on their depth of knowledge in the industries the scenario involves

- Each group will submit copies of a written business plan outlining their proposal for unloading the APL China
- Each student will be responsible for their own written reflection, assessing how the group's decision was made and each student's role in the process.

Related Academics:

Washington State Essential Academic Learning Requirements:

- History: Students will identify and explain major issues, movements, people, and events in US history; will interpret events, issues, and developments in Washington State history and their impact on people then and now; will identify social issues and define problems to pose historical questions; will explain the origins and development of an idea in history; and will interpret how ideas and attitudes have been shaped by changing technologies.
(EALR's 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3)
- Communication: Students will demonstrate listening and observation skills to gain understanding; will practice communicating ideas clearly and effectively; will demonstrate communication strategies and skills to work effectively with others; and will analyze how communication is used in career settings.
(EALR's 1.1, 1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 4.4)
- Writing: Students will practice writing clearly and effectively in a variety of forms for different audiences and purposes. Students will practice writing for career

applications, producing technical and non-technical documents using resources from career settings.

(EALR's 1.1, 1.2, 1.3, 2.4)