



Logistics Planning and Management Services Pathway:

Water Mode

Problem-based Scenario Outline

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

Pathway Knowledge and Skill(s):

- P02.1 Develop logistics solutions for customers
- P02.2 Analyze and improve performance of logistics systems

Performance Element(s):

- Determine customer needs and requirements.
- Define logistics and distribution.
- Identify and analyze the major alternatives for each component of the logistics solution which could include the selection of:
 - ◆ Transportation carriers (marine, surface and air)
 - ◆ Routes and schedules
 - ◆ Logistics networks
- Develop final logistics plan which includes routes, schedules, and total cost.
- Develop written business plan and individual reflective essay.
- Present logistics plan to business panel.
 - ◆ Describe and explain the tradeoffs between costs and service levels in evaluating alternative logistics solutions.
 - ◆ Understand the process and basic requirements of marine construction.
 - ◆ Use maps, routes and other geographic information to identify and analyze alternative transportation routes.
 - ◆ 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 provide examples of the major types of customer requirements for transportation/distribution services addressing time, quality and costs.
 - ◆ Describe and explain the factors in comparing alternative transportation modes and transportation carriers or other contractors.

Title: Manson Construction

Completion Time: 4 weeks

Problem Statement You are the Heavy Lift Supervisor for Manson Construction and Engineering, a Seattle- based construction company that specializes in marine construction. Your company has been contracted to do a pier reconstruction job in the port of Seward, Alaska. During construction, a machinery malfunction requires immediate shipment of a new generator from your home office on the Duwamish waterway. Also, the Port of Seward has decided to expand the pier, requiring Manson to ship in additional materials and equipment from various locations.

Your assignment is to:

- 1) Ship a generator from Seattle immediately. Without a new generator, the job would have to shut down, costing money in lost labor.
- 2) Truck or vessel ship several tons of concrete pipe to expand the pier.

Occupations and Related Job Titles (*Examples*):

- Related Career Pathways
 - ◆ Transportation Operations
 - ◆ Sales and Service
 - ◆ Marine Construction
-
-

Business/Industry/Government Partner(s):

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

Students:

- Identify the most cost-efficient method of transferring the tools and materials to the desired location
- Decide on which carrier and which sailing/route the materials will be shipped
- Provide a detailed budget for transportation costs
- Develop distribution plan
 - ◆ Word processed and edited
 - ◆ Maps of possible routes, with distances
- 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

Required Materials and Resources:

- Computers
- Word processing and presentation software
- Dimensions of generator – special shipping requirements/options
- Manifest list for construction materials/supplies
 - ◆ container size TEU/FEU's
 - ◆ Total weight and distribution
- Site location and map
- Maps of Seattle, Tacoma, Anchorage, Seward, Sea Routes
- Distances by land/sea/air
- Shipping cost sheet(s)
 - ◆ Price: per total weight, number of containers, or total shipment
 - ◆ Compare cost/time/services requirements
 - Liner Trade/Tug & Barge/Air/Surface shipping
 - ◆ Insurance for entire shipment
- Computer with word processing/Power Point software
 - ◆ Projector for multimedia presentation

Suggested Assessment Approaches:

- Students will be graded on their depth of knowledge in the industries the scenario involves (as evidenced in the students' presentations as well as their written plan), and their ability to persuade the panel to "accept" their plan of action.
- Each group will submit copies of a written business plan outlining their proposal and justifying the group's decisions.
- 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 Academic Skills:

Washington State Essential Academic Learning Requirements:

- Communication: Students will use listening and observation skills to gain understanding; will explore different perspectives on complex issues; will demonstrate their ability to make a well reasoned, insightful presentation supported by related details; will demonstrate their ability to use language to influence others; and will demonstrate their ability to respect that a solution may require honoring other points of view. .
(EALR's 1.1, 1.2, 1.3, 2.2, 2.3, 2.4, 3.1, 3.3)

- Writing: Students will demonstrate their ability to write clearly and effectively, as well as to use writing to reflect upon their own experiences, to communicate, to make inferences or draw conclusions, and to present convey technical information. Students will also gain experience writing for a career application, and identify particular writing and analytical skills required for occupational/career areas of interest.
(EALR's 1.2, 1.3, 2.4, 3.1, 3.2, 3.3, 3.4, 4.1)

- Economics: Students will analyze the importance of supply and demand, focusing on a particular example.
(EALR's 1.1, 1.2)