

ALASKA

MARINE

HIGHWAY

OVERVIEW

4-17-86

**Consultant's Project Review**  
**ALASKA MARINE HIGHWAY SYSTEM**  
**System Plan Development**

**being prepared for the**  
**Department of Transportation and Public Facilities**  
**Richard J. Knapp, Commissioner**

**Presented to the**  
**Transportation Committee**  
**Alaska State Senate**  
**April 16, 1986**

**by**  
**Boeing Computer Services Company**  
**in association with**  
**Arthur Young & Company**  
**H.W. Lochner, Inc**  
**Nickum & Spaulding Associates, Inc.**  
**ETA:2000, Inc.**

# **PRESENTATION OUTLINE**

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- I. Purpose**
- II. Process Description**
- III. Products To Be Delivered**
- IV. Progress To Date**

## PURPOSE

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- **Develop a long-range plan for AMHS, as recommended by the Governor's Task Force**
- **Provide guidance for daily operations as well as for long-term system development**
- **Deliver a working document and specify ongoing process, not just "another study to occupy shelf space."**

# PRIMARY ISSUES

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- **General**
  - **Levels of service**
  - **Relationships between local and mainline service**
  - **Capital and operating funding needs & sources**
- **Specific**
  - **High speed ferry applications**
    - Southern Panhandle
    - System-wide
  - **Age of existing fleet**
  - **Private funding / contracting for services**
  - **Marketing**

# GIVENS

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- **Southeast Transportation Plan Recommendations**
  - **Implementation of high speed ferries in Southern Panhandle**
  - **Seattle service to be maintained**
  - **Definition of communities to be served in the Southeast**
- **Initiation of Service to Hyder**
- **Development of Ketchikan maintenance facility**

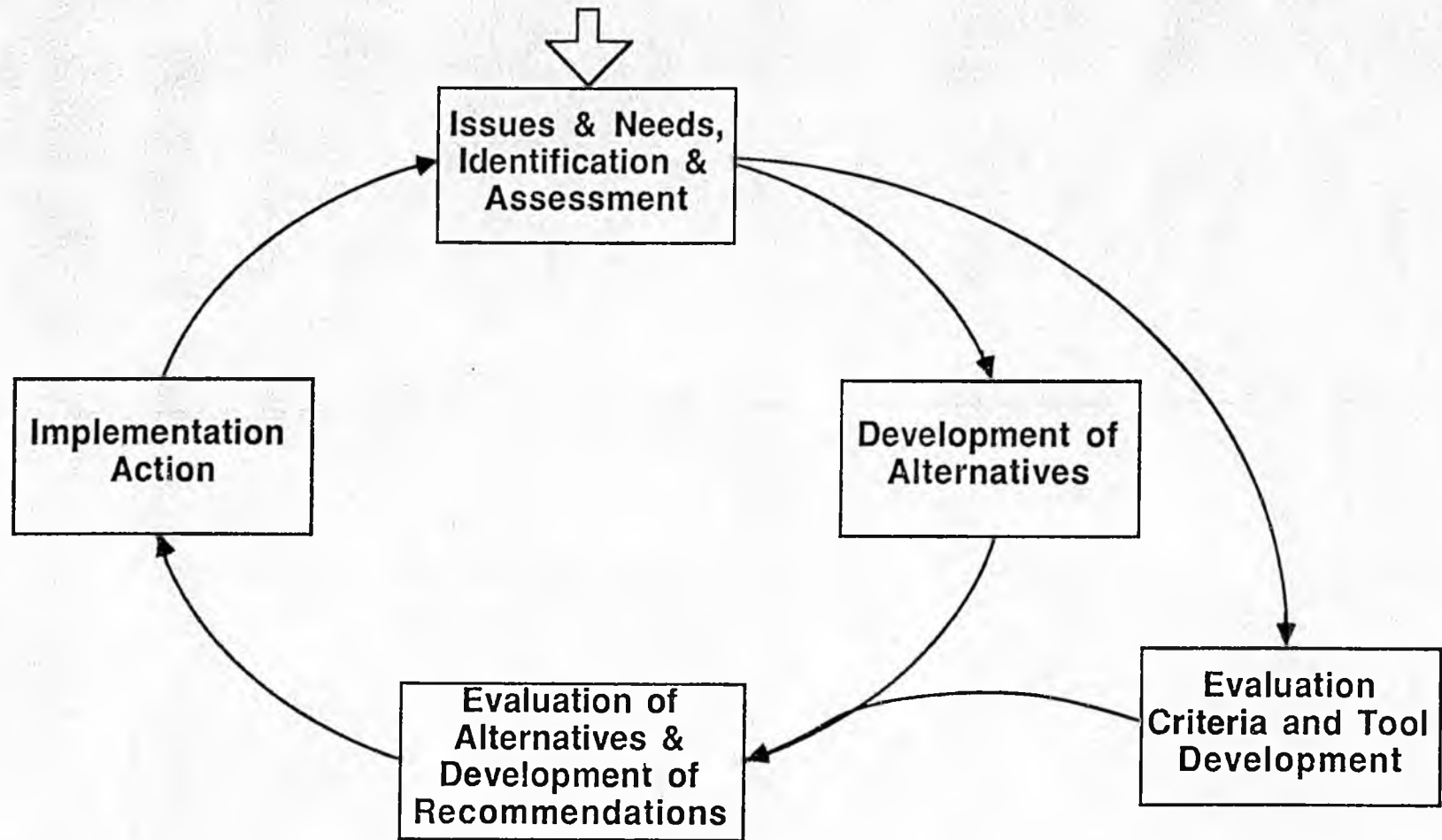
# PRESENTATION OUTLINE

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- I. Purpose
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# OVERALL PLANNING PROCESS

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# **SPECIFIC TASKS IN THIS PROJECT**

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- **Review Existing Plans**
- **Define Issues**
- **Collect Data**
- **Initiate Public Participation Program**
- **Develop Analytical Models**
- **Define Alternatives**
- **Analyze Alternatives**

## **SPECIFIC TASKS IN THIS PROJECT (cont)**

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- **Evaluate and Select System Plan**
- **Develop Implementation Plan**
- **Citizen and Agency Review**
- **Final Documentation and Presentations**
- **Training of DOT&PF Staff**
  - **Plan update process**
  - **Model Applications**

# PRESENTATION OUTLINE

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- I. Purpose
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# GENERAL PRODUCTS TO BE DELIVERED

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- **Mission Statement for the System**
  - **Goals**
  - **Objectives**
- **Policy Summary and Evaluation Criteria / Standards**
- **Recommended Actions Regarding:**
  - **Vessels and shore facilities**
  - **Operations**
  - **Financing**
- **CIP**
- **Long-Range Operating Projections**
- **Implementation Plan**
- **Process Definition and Analytical Modeling Tools**
  - **To provide for ongoing analysis**
  - **To respond to changes in operating and/or funding environment**

# **SPECIFIC PRODUCTS**

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**BY JUNE 1986:**

- **High Speed Ferry (HSF) Evaluation and Recommendations for Southern Panhandle**
- **Analytical Models Operational**
  - **Vessel performance**
  - **Travel demand model prototype**
  - **Financial evaluation**
- **Financial Policy Evaluation and Recommendations**
- **Alternatives Defined**

## **SPECIFIC PRODUCTS (cont.)**

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**BY AUGUST 1986:**

- **System-wide Physical Alternative Evaluation and Recommendations**
- **6-year CIP, 20-year Operating Projections**
- **Projected Funding Needs and Sources**
- **Analytical Models**
- **Follow-up Actions Defined**
  - **AMHS staff training in model application**
  - **Final documentation**
  - **Public and agency review**

# PRESENTATION OUTLINE

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- I. Purpose
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# PROGRESS TO DATE

TASK	STATUS
<ul style="list-style-type: none"><li>● Review Existing Plans</li><li>● Define Issues</li></ul>	<ul style="list-style-type: none"><li>● Completed March 31, 1986 (Work Memo A)</li><li>● Correspondence and reports reviewed</li><li>● Interviews of DOT&amp;PF, transport industry, and others in progress</li></ul>

## PROGRESS TO DATE (cont)

TASK	STATUS
● Collect Data	● Travel Survey Complete ● Marine Data Collection Complete ● Financial Data Identified ● Manufacturer's Questionnaire Completed ● Technical Resource Data Compiled
● Initiate Public Participation Program	● Design of Program Started
● Develop Analytical Models	● Transportation Demand Model Requirements Defined ● Marine Planning, Vessel Operations Models Defined ● Financial Analysis Models Defined ● Routing and Scheduling Model Definition in Progress

HIGH SPEED FERRY  
SELECTION PROCESS

FOR

SERVICE IN THE  
SOUTHERN PANHANDLE

HSF SELECTION PROCESS  
**PRESENTATION OUTLINE**

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- I. Purpose**
- II. Known Constraints**
- III. The Process**
- IV. The Product**
- V. Progress**

## HSF SELECTION PROCESS

# PURPOSE

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- To implement the Southeast Transportation Plan's recommendation for high speed ferry service in the Southern Panhandle region by using the emerging tools of the system planning process
- Subsequently, to apply the same planning methods to analyze establishment of high speed ferry service system-wide.
- To provide the Operation and Economic Comparison Model to the AMHS Staff for later alternative analysis using the same methods.

HSF SELECTION PROCESS

## **KNOWN CONSTRAINTS**

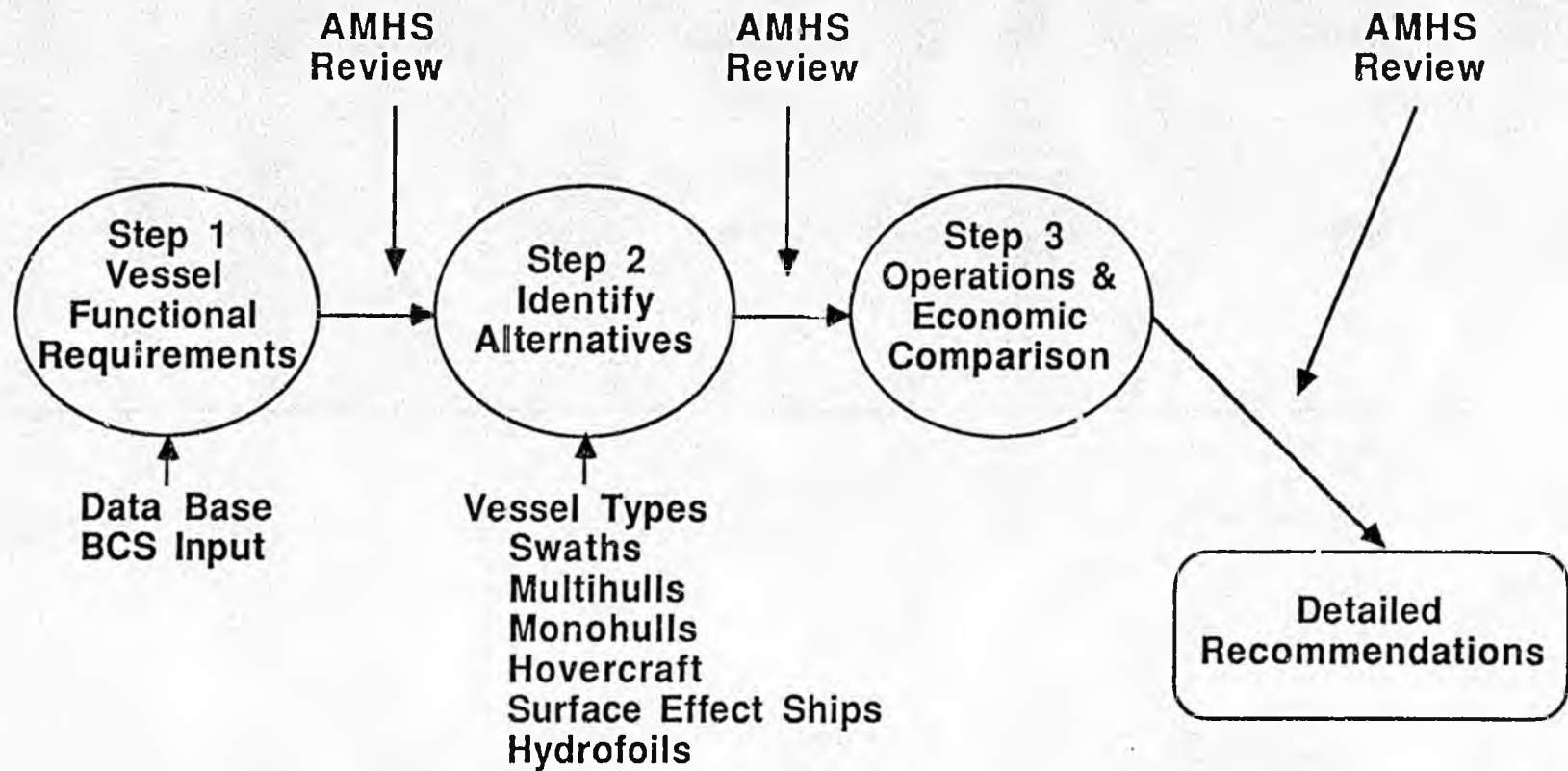
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- **Few High Speed Ferries carry vehicles and/or cargo**
- **Ferry to be a Day Boat -- Crew to Home Port Nightly**
- **Maximize Crew Productivity**
- **Maintainable in Alaska**
- **Minimum or No Modifications to Existing Terminals**
- **Serve in the Southern Panhandle Environment**
- **Minimize Risk and Damage from Object Strikes**
- **Acceptable Ride Quality — Acceptable Availability**
- **"Get Home" Capability**
- **Acceptable Wake and Effect on Shorelines**

# HSF SELECTION PROCESS

## THE PROCESS

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## HSF SELECTION PROCESS

# THE PRODUCT

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- **Requirements Review**
- **Review of Candidate Vessels to be Modeled**
- **Definition of Preferred Vessel(s) Characteristics:**
  - Vessel Type
  - Vehicle and Cargo Capacity
  - Passenger Capacity
  - Speed (at full load, engine at continuous rating)
  - Crew Size and Qualifications
  - Propulsion & Generator Engine Types
  - Loading & Unloading Configuration
  - Features to Accomodate Terminals
  - Features for Protection from Object Strikes
  - Vehicle & Cargo Deck Strength Requirements
  - Wake Limitations
  - Maximum G Forces on Passengers at Operating Speed in a Specified Sea State

## HSF SELECTION PROCESS

# PROGRESS

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- **Developed Data Bases Including**
  - UMTA Study
  - Southeast Transportation Study
  - Consultant's Files
  - Questionnaire to Manufacturers
- **Preliminary Functional Requirements Definition Started**

**HSF SELECTION PROCESS**

**PROGRESS (cont)**

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- **Next Milestones**

**By 5/15: Requirements Review**

**By 6/6: Review of Candidate Vessels  
to be Modeled**

**By 6/30: Definition of Preferred Vessel(s)  
Characteristics**

- **Subsequent Milestones**

**System-Wide Evaluation of High  
Speed Alternatives**

**Impact of High Speed Service on  
Other Routes, Schedules and  
Costs**