NOAA’s Commerce and Transportation Goal Team

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NOAA Marine Transportation System Program
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<th>Name</th>
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<tr>
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<td>Bill Connor</td>
<td>Emergency Response</td>
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Presentation Overview

- C&T Overview
- The World Today
- Future Challenges
- C&T Priorities
Commerce & Transportation Objectives

Information That Moves America

Enhance American Public’s ability to:

• Know where they are
• Safely and efficiently get where they are going
• Make sound decisions on transportation
• Keep NOAA’s services available at all times
Commerce & Transportation Programs
Intermodal Transportation

- Marine Transportation System
- Geodesy
- Emergency Response
- Aviation Weather
- Marine Weather
- Surface Weather
What is the Budget?

- Smallest of NOAA’s Four Mission Goals
- Includes NOS, NWS and NESDIS
The World Today

Global Markets – Maintaining a Competitive Edge
What do corn grown in Iowa, tennis shoes made in China, and oil have in common?

They all rely on our intermodal transportation system to get to market.
The World Today

The Intermodal Network
“Without International Shipping, half the world would freeze and the other half would starve.” -IMO

Container ships carry $15 billion dollars in Chinese goods to Wal-Mart each year. Marine transportation, in general, moves over three quarters of the weight of all U.S. international freight.

Maritime commerce generates 16 million jobs nationwide and contributes almost $80 billion to the gross domestic product.
Weather related surface transportation deaths and accidents equate to $42 billion in economic loss.

Weather related aviation delays and accidents contribute $10 billion in socioeconomic impact to the U.S. economy.

There are 8,300 annual hazardous material spills in the coastal environment. As an example, the EXXON VALDEZ in clean-up alone cost approximately $2.5B.
Future Challenges

Growth

Projected increased growth in trade and subsequent reliance on the intermodal transportation network.
Since 1970, U.S. economy has seen imports triple and exports double.

Freight carried on the system has increased annually in weight and value:
- 2002 – $13.2 Trillion, 19.3 billion tons
- 2006 – $14.9 Trillion, 20.9 billion tons
- 2035 – $41.8 Trillion, 37.2 billion tons

Airline flights worldwide are growing and expected to skyrocket over the coming decades.
This is one way to address what emerging problem?

Larger taller vessels are striking more bridges
Growth
System Wide Stress

Compare...

Cargo Capacity

- ONE BARGE: 1,500 TON
- ONE 15 BARGE TOW: 22,500 TON
- ONE JUMBO HOPPER CAR: 112 TON
- ONE 100 CAR TRAIN: 11,200 TON
- ONE LARGE SEMI: 26 TON

Equivalent Units

- ONE BARGE
- ONE 15 BARGE TOW
- TWO 100 CAR TRAINS
- ONE LARGE SEMI

Equivalent Lengths

- ONE 15 BARGE TOW: 25 MILE
- TWO 100 CAR TRAINS: 2.4 MILES
- 870 LARGE SEMIS: 11.5 MILES (BUMPER TO BUMPER)
Surface Transportation
Congested Segments – 1998

[Map of the United States showing congested segments in 1998 with different colors representing different levels of congestion.]
Surface Transportation
Congested Segments – 2020
Growth

Air Transportation

- Tripling of demand by 2025, saturation by 2015.
- Weather is a factor in about 70 percent of delays.
- Two thirds of weather delays can be avoided with better weather information.
- Air traffic delays cost the National economy $41B in 2007.
Growth
Air Passenger Demand

Number of Passengers Boarding Flights (Millions)
Future Challenges
Hazards

Resilience to High Impact Events
Increased importance of preparing for and recovering from hazardous events
Hazards
Hurricanes Katrina and Rita

- Mississippi River mouth closed
- Oil/gas production significantly reduced or stopped.
  - Gas Prices up 150%
- Many goods frozen:
  - Grain for Europe and Africa
  - 70 % of U.S. coffee in flooded warehouse
  - Bananas, tires, paint sat on barges clogging river ways
  - Trucking rerouted at a loss of $1M/day
  - Fisheries Closed
Hazards
Hurricanes Katrina and Rita

East End of Highway 90 Bridge
Ocean Springs, Mississippi
What NOAA assets were instrumental in helping open up the Mississippi River and other Gulf Coast port waterways?

NOAA’s Navigation Response Teams
Future Challenges

Climate

Climate Change – High Impact, Longer Lead Time
Climate
Transportation Impacts Nationwide

- Rising sea levels and coastal inundation
  - Low lying roads, airports and rail lines, especially in Gulf of Mexico
- More frequent rain, storms, hurricanes
  - Air and shipping service disruptions
  - Evacuations, debris, infrastructure damage
  - Road/rail erosion
By 2050, there may be 2-3 months of ice-free channels.

Northern sea route from Europe to Asia is 4,500 miles shorter - a 40% savings.

Expanding shipping routes increase number and size of ships in Arctic region.
C&T FY11 Priorities

Growth

Increased timeliness, quality, and usability of:

- Navigation products
- Positioning capacity
- Weather information in the air, on the ground, and at sea
- Emergency response and preparedness
C&T FY11 Priorities

Growth

Next Gen

- Integrates improved observations and forecasts into the Nation’s Airspace System (NAS).
- Accurate and consistent weather with high resolution, and rapidly updated 4D forecasts.
- Reduces weather related air traffic delays and accidents.
C&T FY11 Priorities
Climate: Alaska and the Arctic

“The Arctic is upon us… All Federal, State and local agencies must prepare for full seasonal operations in the Arctic”

• USCG D-17
C&T FY11 Priorities
Climate: Alaska and the Arctic

- Improved geospatial framework will describe physical changes
- Arctic sea observations will enhance marine safety products and services.
- Marine weather expansion will protect coastal communities from storm surge
Questions?