SESSION 5 – LEVELS OF SERVICE

CHAIR
Patricia Mutschler, U.S. Army Corps of Engineers, Institute for Water Resources

COORDINATOR
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TITLE OF PRESENTATIONS AND SPEAKERS
"Highway Perspective" by Ray Derr, Federal Highway Administration

"Capacity of Inland Waterways" by David Grier, U.S. Army Corps of Engineers

"Corps LOS Perspective" by Jack Langowski, Planning and Management Consultants, Ltd.

"Port Perspective" by Greg Brubeck, Port of Corpus Christi

"Coast Guard Perspective" by Jorge Arrozyo, U.S. Coast Guard

SUMMARY
The goal of this session was to discuss how various agencies measure Levels of Service for transportation systems. The speakers included Ray Derr of the Transportation Research Board; David Grier of the U.S. Army Corps of Engineers; Jack Langowski of Planning and Management Consultants; Greg Brubeck of the Port of Corpus Christi; and Jorge Arrozyo of the U.S. Coast Guard. The speakers represented a cross-section of the transportation community to include Federal agency proponents as well as users. The session was organized and chaired by Dr. Sandra Knight and Ms. Patricia Mutschler of the U.S. Army Corps of Engineers.

Highway Perspective
Mr. Ray Derr discussed the extensive effort that has gone into the Federal Highway Administration's (FHWA) program for addressing the level of service provided for highways, transit, bicycles and pedestrians. The system used by the FHWA uses a letter ranking, from A through E, to evaluate the capacity of a roadway. A grade of "A" means that there is excess capacity and a grade of "E" means that the roadway just meets capacity. As congestion increases, the rating decreases. Congestion is measured by how crowded the road is, and the speed at which traffic can flow. For transit services, such as busses, a different metric is used. This metric measures the availability of service, the comfort of the service and the convenience of the service. For bicycles and pedestrians, congestion is measured by the number of occurrences that a single cyclist or pedestrian will encounter another user in a given hour.

Capacity of Inland Waterways
Like highways, rail and air traffic, the 12,000 miles of the Mississippi River and tributaries' inland waterways system (IWW) also experience congestion and capacity choke points that cause delays and increase transportation costs. Capacity challenges are poised to increase as commerce continues to grow, while at the same time the system is aging and becoming less reliable. Mr. David Grier discussed the current and future commodities expected on the IWW system of the United States, particularly petroleum, coal, aggregates, chemicals, and farm and food supplies. Currently, $73 billion of cargo transits

the system at an average transportation cost savings of $10.67 per ton in 31 states. The recent discussion of capacity constraints has focused on lock dimensions. Smaller locks necessitate multiple lockages for a single tow. Also, as the capitol stock ages, deterioration causes unplanned closures. In 1999 there were a total of 120,000 hours of unavailability of locks in the system. It is estimated that the system is at 75 percent capacity now and commerce is expected to grow by 33 percent by the year 2020. Without improvements to the infrastructure, growth cannot be realized. Mr. Grier discussed the existing plans to increase the IWW capacity by increasing the size and efficiency of the locks on the waterways. Each lock project costs between $200 million and $1 billion. Two of the nine most constrained locks are being replaced. He also discussed the current backlog of Corps projects awaiting construction and major rehabilitation.

Corps LOS Perspective

Dr. Jack Langowski discussed the ongoing effort by the Corps' Institute for Water Resources to develop a metric for measuring the level of service provided by the various Corps projects. Dr. Langowski traced the history of the effort from its inception with Principals and Guidelines of 1983 through the Operations and Maintenance Program Plan of Improvement of 1993, the Government Performance and Results Act of 1995, the Cost Savings Task Force of 1998, and the Operations and Maintenance Business Information Link (OMBIL) of 1999. Dr. Langowski discussed how navigation projects are evaluated on commodity projections over a projected 50 year project life to determine which project will have the highest projected net benefits and therefore be the expected National Economic Development (NED) Plan to be constructed. However, some projects, once constructed, exceed expected throughput and others fall short. One way to determine the level of service provided by a particular project would be to consistently and frequently update the feasibility analyses performed. However, this approach is time and cost limiting. Other metrics have to be measured to assure that a given project is still performing at an acceptable level to warrant continued public investment. Dr. Langowski discussed the current effort to develop a useful metric for measuring level of service. The team, lead by the Institute for Water Resources, has chosen nine characteristics to explore to develop a more holistic picture of the service provided by an ongoing project. These characteristics include the following: safety, customer requirements, economic performance, operational and physical performance, stakeholder expectations, capacity, policy and political issues, national security issues, and environmental issues. This effort is ongoing and further analysis is required for each composite component, but progress is being made.

Ports Perspective

Mr. Greg Brubeck shared with us his experience as a user of the navigation projects constructed by the Federal government. He addressed the level of service issues that needed to be addressed in the Corpus Christi Harbor. These issues included dredged material management, a narrow channel, a lack of deep water access, a channel that was not deep enough to accommodate future growth, safety concerns and vessels

delays. He spoke about an ongoing planning effort for the Corpus Christi Ship Channel that he has participated in with the Corps district in Galveston to address some of these issues. His experience has been mixed. Initially, he viewed the Corps process as being onerous, long and expensive. As a businessperson he wanted to have the new port constructed as inexpensively and quickly as possible. Through long negotiations, the Corps was able to focus the scope of their effort and streamline their study process significantly enough to meet the needs of the port community. This effort is expected to lead to a constructed project by 2010.

Coast Guard Perspective

Captain Jorge Arrozyo of the United States Coast Guard, Vessel Traffic Management Group, made a presentation addressing a decision making tool used by the Coast Guard to assess the needs and priorities of each harbor in the United States. The goal of the Port and Waterway Safety Assessment is to increase public participation and promote more public and private partnerships. The tool utilizes the Harbor Safety Committee at each port, lead by the Harbor Master, as a users group to identify the specific needs and risks at each port. To date, this process has been completed at 28 ports in the United States. The tool uses a list of questions and asks the group to rank the questions in progressive pairs. A statistical analysis is used to then order the relative rankings of the questions to gain a comprehensive view of the overall needs of the port. This can then be used to set the priorities for the harbor for future development and funding.