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BEFORE

THE SUBCOMMITTEE ON TRANSPORTATION, AVIATION AND MATERIALS  
OF THE COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY

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Mr. Chairman and distinguished members of the Committee, my name is Steven A. Barsony. I am the Director of the Office Of Engineering Evaluations in the Office of Technical Assistance and Safety at the Urban Mass Transportation Administration. Appearing with me today is Daniel Duff, an Assistant Chief Counsel at UMTA, and Patricia Cass, Division Chief in the Office of Technical Assistance and Safety. Miss Cass is the Project Manager of the study I will be discussing in my testimony. I am pleased to appear before you today to discuss a proposal to initiate a Potomac River Air Cushion Vehicle Transportation System.

Let me begin by providing you with some background on UMTA's involvement with high-speed ferry vehicles and services in general and specifically with air cushion vehicles. Pursuant to direction from Congress in 1981, \$2.3 million was made available for several

studies of ferry boats and ferry operations, the major one being a study of High-Speed Waterborne Transportation Services Worldwide. A competitive procurement was held to pick a contractor to assist UMTA in responding to this Congressional directive. A small business firm, Advanced Marine Systems Associates, in association with Peat Marwick Mitchell & Co., was awarded the contract in 1982. The study was completed and provided to Congress in 1984.

The primary purpose of the study was to determine why high speed waterborne passenger transportation, successful in other countries, was virtually nonexistent in the United States. The study team visited builders and operators of high speed passenger vessels in order to review their activities and to collect necessary data on cost, performance and utilization. Only advanced waterborne craft having a calm water speed of twenty-five knots or more and in passenger service somewhere in the world were considered. Therefore, no monohull vessels were considered nor were advanced craft that were only in the design stage. The types of vessels considered were hovercraft, including air cushion vehicles (ACV) and surface effect ships (SES), submerged and surface piercing hydrofoils, catamarans and small waterplane area twin hulls (SWATH).

The study team visited shipyards and operations in Europe, including England, Asia, and South America as well as the Boeing facility in Tacoma and the Textron Marine (then called Bell Halter) facility in New Orleans. At the time of the study, British Hovercraft Corporation in England had just introduced its new ACV, the AP. 1-88, which represented an advance over the state-of-the-art air cushion vehicles since the rear fans had cowlings around them to deaden noise. The AP. 1-88 is seventy-seven feet in length overall, has a thirty-two foot beam, goes forty knots at cruise speed, carries eighty-eight passengers and, at that time, cost about \$2 million. Of those vehicles included in the UMTA study, the AP. 1-88 is the most similar to that proposed for use on the Potomac, although the British vessel is considerably larger.

The study team was afforded an unparalleled opportunity to review the books of foreign operators to determine profitability of high speed vessel services. This was due to UMTA's insistence that a Federal government representative always lead the study field team to assure confidentiality of the obtained operational data.

Using the data thus developed on technical, cost, physical and operational characteristics of the services and craft, the study then considered the potential opportunities for introduction of

these types of services into the United States. Sites with a high potential for successful U.S. operations were selected. Criteria for site selection were: accessibility to the waterfront; sufficient water depth for vessels; sufficient traveling public to support an additional mode of travel; and water routes having travel time or convenience advantages equal to existing modes of travel. The sites finally picked were Boston, Providence, Rhode Island, Ft. Lauderdale, Florida, the New York Metropolitan Area, Washington, D.C., the Virgin Islands, Lake Michigan, San Francisco, Seattle, and the Hawaiian Islands. Corpus Christi, Texas was evaluated after the original study was completed.

Key to the determination that a particular route could be deemed to be economically feasible was a requirement that the operation had to break-even without a subsidy. The most conservative analytical approach was taken; no revenues from sources other than fares were considered in the revenue calculations. In the San Francisco and Seattle analyses, we factored in Federal government capital assistance on a seventy-five percent Federal, twenty-five percent local matching ratio to purchase the vessels, since the Federal government had already assisted in purchasing ferryboats in these two cities.

The site specific analyses of the economic feasibility of implementing high speed waterborne services were theoretical studies only. We compared travel times and costs of the waterborne services with travel time and costs on existing transit where it was available and also with travel by car. In most sites we analyzed more than one route, except in Washington, D.C., where the only route analyzed was one which went up the Potomac from Woodbridge, Virginia to the District's Maine Avenue with a stop at Smoots Bay, Maryland (the proposed site of Port America).

Regarding the outcome of the study, in New York, the Virgin Islands, Seattle and the Hawaiian Islands, most of the routes analyzed were found to be economically feasible. One route in San Francisco was feasible when the analysis provided a Federal capital assistance grant. All of the other routes and sites were found to be marginal or not economically feasible, primarily because not enough passengers could be diverted from other existing modes of travel to cover the cost of the high speed waterborne service.

With this general background, let me describe more specifically the analysis in the Washington, D.C. area. The craft which were considered in the study were a Vosper Hovermarine SES, a British Hovercraft ACV, a very small Rodriguez hydrofoil, and several

catamarans. The passenger-carrying capacity of the vessels ranged from sixty-two to two hundred and forty-three. Some of the service limitations were that water depth at the mouth of the Washington Channel and in several spots on the Potomac limited the craft to those with a 6-foot draft. Ice during the winter and debris in the river would probably necessitate cancelling service fifteen days per year. Service from Woodbridge was determined not to be feasible because of low ridership and high operating costs. One-way peak hour ridership was estimated to be sixty passengers at a \$2.30 fare which was the same as the existing bus fare at the time of the study, 1983. Therefore the Woodbridge leg of the trip was dropped.

Considering only the Smoots Bay to D.C. trip, it was estimated that three hundred and thirty one-way riders would be attracted to the high speed service at a fare of \$1.00, which was consistent with bus fare at the time, 1983. However, in order for revenues to cover costs of an operation using an AP. 1-88, the fare would have to be \$6.00. Travel times from Smoots Bay to D.C. by bus were fifty-six minutes, by car, forty minutes, by forty-five knot vessel, forty minutes, and by twenty-five knot vessel, sixty-one minutes. Therefore, savings in travel time would not be a great incentive to take the high speed boat to Maine Avenue. While it was not specifically cited in the 1984 Report to

Congress, the inconvenience of walking to a METRO rail station would be a strong deterrent to taking a boat and was considered in our analysis. The nearest planned METRO station to the D.C. waterfront is Waterside Mall (still under construction) which is a considerable walk (four or five blocks). Therefore, considering the issue of high cost and lack of convenience, our study concluded that high speed waterborne service on the Potomac would not be financially viable because prohibitively high fares would be necessary to break even given the estimated relatively low demand for high speed waterborne travel.

The Committee in its letter asked that we address the Federal role with respect to local and State governments. UMTA provides Federal financial assistance to State and local public agencies, and private transportation providers sponsored by public agencies, with an eighty or seventy-five percent Federal share for the purchase of transit equipment and facilities. Under our section 3 discretionary program we are currently striving for an "overmatch" from public agencies, as much as 50% when possible, in order to encourage the maximum use of Federal funds. It is important to emphasize that UMTA itself does not determine what projects, or what types of projects, should be funded. Rather, these are local decisions arrived at through a local planning process. Only after a project has been considered at the local planning level will UMTA accept an application for funding.

Finally, UMTA has assisted local communities and States in the purchase of ferry boats and related facilities for use in mass transit service. These projects have generally involved areas that have had considerable experience in providing ferry boat operations for some time. Specifically, we have provided Federal funds for the purchase of ferries for the City of New York, the State of Washington, the Golden Gate Bridge and Transportation District in the San Francisco Bay Area, the State of Maine and the Casco Bay Island Transit District in Maine.

That concludes my testimony, Mr. Chairman. I will be pleased to answer any questions you may have.