



Oakland Airport Parking Lot Connector rendering

CyberTran® International

Milestones, Studies and Evaluations to Date

Over the course of the development and testing of CyberTran®, a number of studies have been conducted that show the CyberTran® System and concept to be well founded, functional, as well as cost effective and operationally efficient with respect to other more conventional technologies. These studies and evaluations have been conducted by both CyberTran® International, Inc. and independent entities. A list of developments of the CyberTran® system both at Idaho National Engineering and Environmental Laboratory (INEEL) and in Alameda, as well as those studies and evaluations conducted by independent entities and funded by independent sources are discussed below.

■ Track stability up to 60 mph 1990

Two mile of ground level track was built; a vehicle was designed and built with computerized radio control and electric propulsion. The vehicle/rail interaction was proven to be stable

■ MK Study 1991

The CyberTran® system was jointly studied by Morrison-Knudsen and the INEEL. MK conducted a cost evaluation and market analysis for their own benefit to evaluate the potential for CyberTran®. Their conclusions were that the best market for the technology at the time was in the airport people mover area and that the technology could be implemented for approximately 10% - 50% of existing technology. While they saw the potential benefit of the technology, the system was not developed at that point in time to a level such that it could be taken into the commercial market.

■ Curve - self-steering capability 1992

The CyberTran® vehicle was tested on conventional rail for its steering capability through a curve. The vehicle was found to successfully steer through a curve.

■ High speed computer simulation 1993

The CyberTran® vehicle and rail system was computer simulated at the American Association of Railroads Test Center in Pueblo, Colorado. The simulation result described the potential for travel at 160 mph as “promising”.

■ SAIC Circa 1994

Science Applications International Corp. performed an in-house evaluation of the technical and capital cost parameters of CyberTran® regarding a decision to approach the US Department of Transportation for testing and commercialization funding. While SAIC verified the potential cost savings of CyberTran® over conventional technologies, they could not put together an internal organizational structure that would have supported the pursuit or utilization of development funds.

■ Technology Transfer 1998

In 1998 CyberTran® International Inc. took possession of intellectual and material property from the US DOE. Simultaneously, CTI received a \$250,000 grant from the Federal Transit Administration, provided matching funds, and inaugurated a one mile test track at the site of the former Alameda Naval Air Station. A laboratory and office were also established in Alameda. The Chicago office of DOE signed the intellectual and material property transfer documents.

■ Guideway switching 1999

The first use of the test track was the development of a new type of rail switch necessitated by the single-axle bogey design of the CyberTran® vehicle. The switch was tested in both the vehicle actuated and trackside actuated modes. It behaved correctly in both modes.

■ Drive train 2000

In 1999 CTI received a \$65,000 grant from the FTA to develop a propulsion system that would test different drivetrain configurations. The different installations were done and tested and a successful design was decided upon.

■ Gradability of 10% 2001

In 2000 CyberTran® received a \$100,000 grant from the FTA for a demonstration of the CyberTran®’s vehicle’s 10% hill climbing capability. The CyberTran® test track in Alameda was modified in order to add a 10% section with ramps and a bridge section. The vehicle demonstrated hill climbing capability up to 20%.

■ Clough Harbour Study 2001

Cough Harbour is an engineering firm in Albany, NY that performed a technical and cost evaluation of a CyberTran® line between the government center in Albany and an AMTRAK station across the river in Renssaliel, NY. The application, approximately 1 mile in length, was estimated to cost approximately half of what a conventional LRT system would cost.

■ BART/Port of Oakland/Alameda Study 2002-2004

In 2002, CyberTran® joined with the Bay Area Rapid Transit District, the Port of Oakland, and the City of Alameda to study the CyberTran® system with specific simulations of performance in the City of Alameda and at the Oakland International Airport. The study also included analysis of CyberTran®’s structures and a cost analysis of the system. The results have been positive and were published during the summer of 2004.

■ Control System 2002-2004

In 2002 CyberTran® received a \$150,000 grant from the FTA to analyze the potential for the use of BART’s AATC system, co-developed with General Electric Transportation Systems, in CyberTran®’s system. An

analysis was completed, vehicle testing of communication, software, and sensor and actuator equipment was completed, and final control system architecture was designed.

■ Kimley Horn 2003-2004

Kimley Horn, a Houston based company, world renowned in the transportation industry for simulation of highway, airport, and transit systems, was commissioned by BART to perform an evaluation and computer simulation of the operational validity of the CyberTran® concept. The objective was to determine if a transit system based on the use of large numbers of small (14 passenger) vehicles, with off-line stations, and controlled by a central control system, could carry the number of travelers required by a modern transit system. The simulation showed that CyberTran® could not only carry the number of passengers typical of the requirements of existing technology automated people movers (APM) and light rail transit (LRT) systems, but could carry these passengers at a higher average speed, with a lower number of total system seats, and with fewer total vehicle miles. These latter parameters reflect the characteristics of a system that has not only a lower system operating cost, but a higher passenger appeal.

■ PGH Wong Engineering 2003-2004

PGH Wong Engineering, a well known San Francisco based company in the transit industry performed a structural system evaluation (with SF Bay area seismic criteria), and a capital and operating cost evaluation of the guideway, vehicle, and system. This study and evaluation was financed by the San Francisco Bay Area Rapid Transit District (BART) to evaluate the potential of CyberTran® to be used as an adjunct to the BART system in the bay area. The results of their evaluation were that the light weight system was structurally sound and could be installed and operated for substantially less than conventional transit technology.

■ BART 2003-2004

In addition to the funding of outside studies on the cost and functional viability of CyberTran®, the Research and Development Division of BART has conducted its own studies on the operational capabilities of systems like CyberTran®, and how a system such as CyberTran® might be made to interface with BART. CyberTran® was found to be a viable adjunct to systems like BART when used to extend a large metro system beyond its current coverage and into areas where existing ridership would not support the capital and operating cost of a large system like BART (presently costing approximately \$100M per mile). CyberTran® could be used to extend the reach of BART into low passenger flow areas at a fraction of BART costs, expanding BART's ridership at a fraction of the per passenger cost associated with extending BART. There are several areas in the bay area where this concept of low cost BART extension with CyberTran® is possible.