

*TESTIMONY BEFORE  
THE HOUSE OF REPRESENTATIVES  
COMMITTEES  
ON  
TRANSPORTATION  
&  
ECONOMIC DEVELOPMENT*

*SEPTEMBER 15, 1999*

**PRESENTED BY:**

**BRIAN K. McFARLAND, DIRECTOR OF LOGISTICS**

**WARD CORP. OF PA  
700 N. THIRD AVENUE  
ALTOONA, PA 16601**

**(814) 944-9482**

P.O. Box 310, Juniata, Altoona, PA 16601  
Phone (814) 944-9482 FAX (814) 944-9484

## Intermodal

Logistically, Altoona is an ideal location for establishing an Intermodal Port.

The highway infrastructure required to support such an enterprise is in place, and is less congested than those high traffic pattern areas associated with the larger cities you would find in the east and western part of the state. With this matrix in place it allows freight to move to approximately 80% of the Mid-Atlantic region on a next day delivery basis. With the completion of I-99 which will transverse all the major highways crossing the state will only enhance the accessibility to Altoona.

Altoona is fortunate to have a major rail company such as Norfolk Southern already operating a large service yard in the city. Currently, all rail freight going to the northeastern states passes through this service yard. In addition to their current facility, Norfolk Southern owns additional land for expansion, if required.

There are numerous motor freight carriers within a 30-mile radius of Altoona that can support both TOFC and container drayage service, or any other type of motor transportation services derived from this type of operation. Due to the nature of this region combined with the over all number of freight carriers servicing customers in this geographical region, the pricing structure promotes a very competitive rate base. Therefore any additional freight brought into this region will enjoy a very competitive rate base not normally found in our neighboring regions.

The Blair County Region has a reputation of supplying a highly capable work force at a very competitive cost in comparison to other industrialized sections of the state. In addition, technical expertise required for this type of business is also readily available.

To summarize the logistic advantages, Altoona is centrally located, and has easy access to all the major highways servicing the state. It has an established major railroad service center located within the city, and numerous motor freight companies in the near vicinity to provide immediate service. It also has an existing competitive work force that is readily available. Combine this with the recently acquired KOZ zone and this region has a powerful tool to furnish any Intermodal provider.

# Testimony from F. J. Gurney

President and CEO of MAGLEV, Inc.

September 15, 1999

Ladies and Gentlemen, I am delighted to have the opportunity to address you about issues of transportation and economic development. I represent MAGLEV, Inc., a company that is vitally concerned with the future developments in both transportation and job creation. Our interest stems from our principal objective of developing high-speed magnetic levitation transportation. High-speed maglev is a reality. Some of you might be surprised to know that fare paying passengers have been riding high-speed maglev for a number of years even though in only a limited way. We, at MAGLEV, Inc., predict that high-speed maglev will be operational in the United States within five years. We are postured to grab this opportunity for Pennsylvania. It is real and the time is now. There is little opportunity for hesitation or extended debate. If Pennsylvania wants the leadership position in the transportation system of the future and its associated economic and new industry development, we must act now and work diligently!

## **Background**

Pennsylvania had an initial push into high-speed maglev through the activities of the Pennsylvania High Speed Intercity Rail Passenger Commission. MAGLEV, Inc. built from that Commission but developed its nucleus in 1988 through a study at the Rail Systems Center of Carnegie Mellon University concerning future transportation needs in the United States. The conclusion of that study was unequivocal: high-speed maglev

was the safest, fastest and most innovative way to meet our nation's transportation needs and fill the niche between air and highway modes that were then rapidly reaching saturation. That saturation condition is a continually growing problem today.

High-speed maglev is a train-like transportation mode that allows the vehicle to move over a fixed guideway with no contact between the vehicle and the guideway. The vehicle is lifted and propelled by electromagnetic forces and in fact does so without any moving parts. It makes only an aerodynamic noise at higher speeds and is virtually emission free from the vehicle itself. It can move into the heart of our cities and shopping centers and through its use it can help bring about an improvement in our air quality and our individual quality of life.

### **Role of Transportation on Economic Development**

The Commonwealth of Pennsylvania, probably more than any other state can recognize the impact of transportation in all its forms on the health of a region's economy. From our earliest days, Pennsylvania's advantage was in its ports and waterways enabling efficient modes of receiving resources and exporting products around the world. The development of the railroad and the impact of the Pennsylvania Railroad in forging a lead for growth of our nation is indisputable. The construction of the Pennsylvania Turnpike was an engine of commerce that kept us in the lead. We have had a strong history and we have done a lot. But other states are also moving ahead and the economic development of Pennsylvania is now under challenge. Fortunately, at this crossroads there is an exciting solution – not only a solution but an exciting opportunity for renewed growth in both transportation and economic development. That opportunity

is high-speed maglev and its development will be a real part of the continued leadership in transportation and economic development for Pennsylvania.

### **Need for High-Speed Maglev in Pennsylvania**

#### **Airport Corridor Transportation**

In southwestern Pennsylvania, we have an important economic asset that is only partially tapped, that asset is the Pittsburgh International Airport. The Pittsburgh Airport is one of the largest in land area of all the airports in the country. It is located approximately half way between New York City and Chicago and it is within one hour flying time of 51 percent of the population of the United States and 50 percent of the population of Canada. This region includes 63 percent of the industrial output of the United States. Additionally, the Pittsburgh airport is located in a non congested area with almost no conflict with nearby population centers or industry. That means that the Pittsburgh airport, unlike others, can expand easily with minimum roadblocks from citizens and industry who would otherwise be subjected to additional noise or other concerns.

Now while we have this unique advantage, it is by and large untapped. One of the principal reasons is that the transportation between the Pittsburgh airport and the downtown area is limited. That transportation link is restricted by the channeled east-west traffic flow through the region which must accommodate the rugged ridges and river crossings and ultimately passage through the Ft. Pitt tunnel. The organization that I represent, MAGLEV, Inc., is in the initial phases of pre-construction planning of a transportation system that will help alleviate the problem of connection between the downtown Pittsburgh region and the Pittsburgh airport. With high-speed maglev, that

segment to be traversed at speeds that could exceed 250 or even 300 mph. Our objective is to cross the Commonwealth with high-speed maglev. Continued expansion to Cleveland, Detroit and Chicago will establish southwestern Pennsylvania as the natural focal point linking the population centers of the northeast and the Midwest and exploit the advantages of the Pittsburgh International airport as the point of departure and point of arrival for international flights between the United States and Europe and Asia.

#### Linking Cities through Travel Time Reduction

Another concern impacting the growth of commerce in our region and in the United States is the increasing travel delays associated with congestion on the nation's highways and at its airports. Almost every day reports of road rage, and more increasingly, air rage are broadcast to us over the media emphasizing the growing frustration of travelers. Statistics on lost productivity from travel delays show the growth of the problem. The cities and regions that provide a mechanism for capturing that lost time will place themselves in a significant position to reap the tremendous economic benefits that will result.

High-speed maglev offers a means and opportunity to capture some of this lost travel time. As an example, the current highway travel time between downtown Philadelphia and downtown Pittsburgh requires about six hours. Traveling that distance by air with consideration of time delays at each airport makes that travel time average three hours. Since all maglev stations will be off line, traveling the same distance by high-speed maglev on an express run bypassing intermediate locations would require slightly more than one and one half hours. Even with stops at intermediate locations such

as Lancaster, Harrisburg, State College, Altoona, Johnstown, Greensburg and Monroeville the total time would be only slightly more than two hours.

### **Economic Stimulation from Building High-Speed Maglev in Pennsylvania**

Building high-speed maglev will be a long term economic generator. The raw materials, fabrication expertise and construction requirements to build high-speed maglev by themselves would provide an economic stimulus of significant magnitude. Estimates in an Argonne National Laboratory study show that manufacturing for high-speed maglev would create a 200 billion dollar industry. The region where the system is first initiated will reap the greatest amount of economic benefits. We want to capture the bulk of those benefits for Pennsylvania.

### **Raw Material Usage**

Let's look at just the raw material usage that building maglev requires. 100 miles of dual guideway beams alone will require:

400,000 tons of plate steel

40,000 tons of steel reinforcing bar

55,000 tons of magnetic steel laminates

30 miles of aluminum conducting wire of  $\frac{3}{4}$  in diameter

53,000 cubic yards of concrete

Remember that these numbers are for only 100 miles of dual guideway infrastructure.

The vehicles will require sheet aluminum, copper, steel and various non-metallics in the body structure.

The transportation power, signal, and communication and control system will require power transformers, computers and control electronics.

The stations and support buildings themselves will require all the assorted materials that compose modern buildings.

#### Manufacturing, Construction, Installation and Maintenance Jobs

Jobs will also be created in the manufacturing, construction, installation and maintenance areas. The exact job creation numbers, with documentation, will be developed by June 30, 2000, but our best current estimates are that approximately 5,000 jobs will be created by the construction of 100 miles of dual guideway. These will include high wage advanced manufacturing jobs.

#### Spin Off and Total Jobs

Every factory or construction job creates an associated number of spin-off and support jobs. There are various multipliers that are used to project these associated jobs but a factor of 2.5 is generally accepted. Thus, the number of total jobs created in the annual production and installation of 100 miles of dual guideway structure would be projected to result in approximately 20,000 new jobs. This number compares favorably with German estimates of 19,000 jobs created for their Berlin-to-Hamburg line.

#### High Tech Jobs

Of particular significance in the job creation area is that several new job activities will be created that can in themselves spin-out other jobs. One such area is in the



fabrication of the guideway itself. The guideway beam is a large structure – 10 feet wide, 7 feet deep and up to 165 feet long. Even though the structure is quite massive, its fabrication must be accomplished to very stringent dimensional tolerances. These close dimensional tolerances will require the guideway structure be fabricated in environmentally controlled facilities using robotics and computer controlled operations. Initially, this may sound like a very expensive fabrication process, but in actuality this sophisticated fabrication process, once established, will result in a cost saving of 20-25 percent over conventional methods.

The fabrication process developed for the high-speed steel guideway is also applicable to the fabrication of steel bridge structures, shipbuilding and conventional buildings. While these structures might not demand the very close tolerances that are required for high-speed steel guideway, the cost reduction benefit is still there nevertheless. In a recent discussions with Kvaerner Philadelphia Shipyard personnel, the Production Vice President stated that up to 1/3 of the costs in shipbuilding were associated with rework – simply because the produced assembly would not fit in its intended location in the ship structure. They are working to reduce this lost effort. When applied to bridge component construction or rejuvenation, the benefits of precision fabrication will manifest themselves in the lower costs in direct fabrication and in reduced rework. This will make the tax funds dedicated to bridge work go further. If we consider that the National Bridge Inventory statistics that more than 30 percent of all bridges in the United States are deficient in some way it is easy to see that even small cost reductions in fabrication can make a significant impact in the effort funded by tax dollars.

## **Needs for Transportation and Economic Development in Southwestern**

### **Pennsylvania**

MAGLEV, Inc. is particularly interested in telling its story about the benefits of high-speed maglev as a transportation system and as job and economic generator for Pennsylvania. We have the opportunity to recapture Pennsylvania's leading role in transportation technology and in industrial development. We look forward to working with the Commonwealth of Pennsylvania in a partnership that will bring additional jobs to Pennsylvania.

The pieces are in place for the Commonwealth of Pennsylvania to capture this leading edge transportation technology for the United States. With the help of our private partners and the Commonwealth, we have secured a lead in this technology and this industry for Pennsylvania. Senator Arlen Specter rode the high-speed maglev while on a trip to Germany. Since then, he has been successful in securing earmarked funding for Pennsylvania as part of TEA-21. We have just received 4.4 million dollars of earmarked funds along with matching funds from the Commonwealth through PennDOT to get underway with pre-construction engineering for high-speed maglev for Pennsylvania. Almost one billion dollars is in TEA-21 and available for Pennsylvania to establish its position as the leader in this transportation technology and leading edge industry. We need your enthusiasm for this technology for Pennsylvania. We need your support.