Priority, Market-Ready Technologies and Innovations

Border Wizard

Problem: Border crossings suffer from growing congestion

Increasing traffic volumes and delays in processing commercial vehicles have led to significant congestion at land-based border crossings with Canada and Mexico. In addition, a new national emphasis on security calls for more efficient and secure border crossings. Balancing the needs for security and trade efficiency, as well as coordinating improvements to ports of entry, can be a tremendous challenge for U.S. agencies involved in border activities.

Where are truck-processing delays most significant?

In 2001, the Federal Highway Administration (FHWA) surveyed seven ports of entry that handle more than 60 percent of U.S. truck trade with Canada and Mexico (source: *Freight News* June 2002). The study found that the time needed to process commercial vehicles entering the United States was significantly longer than that for departing vehicles at nearly every location. It also showed that delay times at southern borders exceeded those at northern borders, mostly because of controlled substance and illegal immigration inspections at southern crossings.

Putting It in Perspective

In 2001, before the September 11 tragedy, a truck traffic survey at seven U.S. ports of entry found that:

- Average inbound travel time was 26.8 minutes, but for 95 percent of trucks it was more than 70 minutes.

- Average outbound travel time was 14.2 minutes.

- Border crossing delays were less predictable than those observed on urban roadways in another FHWA study.

Solution: Border Wizard analyzes facility and operational needs at crossings

FHWA, in conjunction with the General Services Administration (GSA), Customs and Border Protection and Immigration and Customs Enforcement, developed a tool called Border Wizard to coordinate improvements to border crossings that increase security, traffic throughput, and trade efficiency. Border Wizard is maintained and distributed by GSA under an agreement of the Border Station Partnership Council, consisting of the four developing agencies.

What is Border Wizard?

Border Wizard is a computer-based model that simulates cross-border movements of autos, buses, trucks, and pedestrians. It can simulate all Federal inspection activities—including customs, immigration, motor carrier, and security procedures—at any land border station to determine infrastructure, facility, and operational needs to ensure safe and secure operations. It is also intended to be linked to other traffic modeling and planning tools used by States and metropolitan planning organizations. Analysis is currently

underway to determine Border Wizard's effectiveness as an integrated tool for transportation planning purposes.

How does Border Wizard work?

Port facility and operational data are entered into the model using data entry screens. Sample facility data include layout of the station and number of inspection booths, parking spaces, and warehouse slips. Operational data include kinds of equipment used, Federal and contractor personnel conducting inspections, and processes in use by all border inspection agencies, including Customs, Immigration and Motor Carrier Safety. Border Wizard can then graphically construct or modify border station design and operations.

Successful Applications: Border Wizard helps save on capital investments

Since 2002, more than 60 ports of entry have used Border Wizard for project justification and evaluation. GSA estimates that between $5 million and $10 million has been identified as unnecessary capital investments at the 10 ports of entry for which Border Wizard was originally used as an analysis tool. For three additional ports scheduled for major capital investments, GSA projects that avoided capital investment will be between $15 million and $30 million.

Customs and Border Protection has used Border Wizard to evaluate proposed inspection methods and routing in commercial operations at both northern and southern border stations. In addition, Immigration now collects data at all major border stations in preparation for using Border Wizard to evaluate inbound and outbound inspection operations and assess the effects of security changes at U.S. borders.

In the future, Border Wizard will allow users to run studies on multiple border stations simultaneously and compare their effects on each other. This will be useful in analyzing proposed border station development and in determining when an area will reach capacity and require a new border station to be built. The dispersion of traffic to the new facility can also be estimated.

Benefits

- Accurately simulates cross-border movements.

- Helps save on capital investments at ports of entry.

- Can be used to evaluate prospective or existing facilities.

Additional Resources

Border Wizard is still undergoing analysis and testing to determine its fit with other traffic modeling and planning tools. It is available for purchase through GSA in Fort Worth, TX. For purchasing information, contact Don Cobb at 817–978–7210.

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