Crossing Jordan

Thinking Highways Magazine

In 2004, Jordan's multi-billion dollar economic modernization strategy, which focused on the revitalization of its sole seaport of Aqaba, was making slow progress. Its resort properties and residential development were imperiled by an underperforming freight transport sector that struggled to contain its impact on the community as volumes at the port continued to grow.

The culprit was the country's antiquated road freight management system which was heavily regulated, fragmented, and lacking performance incentives. The results were predictable: queues, congestion, pollution and chaos.

The problems were centered in Aqaba, Jordan's sole seaport on the northern tip of the Red Sea, and entry point for almost all imports and exports. Traffic congestion from trucks serving the port was directly impacting the redevelopment of this historic city into a tourist and trade hub. Shippers were frustrated by poor service. Truckers would sometimes wait in line for days to clear goods, their idling vehicles spewing fumes, polluting the air around formerly pristine recreational areas.

> *" The antiquated road freight management system was heavily regulated, fragmented, and lacking performance incentives"*

ITS to the rescue

To address these problems, Jordan's Ministry of Transport and Aqaba Special Economic Zone Authority (AZESA) committed to implementing a Truck Control System (TCS) to coordinate the movement of trucks through Aqaba. The TCS focused on efficiency outside of the port gates, and looked at improvements in process and information technology, improvements, rather than further investments in physical infrastructure as a means.

AZESA entered into an agreement with NTELX, a US-based technology company, to design and implement this new system. NTELX already had extensive experience in designing complex solutions for data management, knowledge discovery, and decision automation for US Government clients. But, most importantly, they had a plan in mind for Jordan.

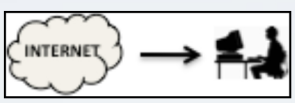
At the heart of the NTELX plan was an intelligent transportation system designed to minimize the time trucks spent in and around Aqaba. The design objective was to collect, validate, and share information to minimize wait times, cut unnecessary trips, and get trucks smoothly and quickly through the port. To further reduce congestion, the system would monitor capacity utilization of roads and terminals, and, as needed, diverts trucks to waiting areas. As opposed to previous practices, permits to enter the Aqaba region would only be issued to trucks with valid business in the port area.

Immediate results

Fully operational less than three months after its launch in late 2005, the results were immediate and dramatic. Inland transportation costs have now dropped by an estimated 20 per cent. Today, with the same number

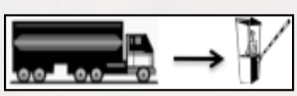
How NTCS Works

On the NTCS website, the trucking company dispacher applies for a permit for a truck to enter the Aqaba Special Economic Zone (ASEZ), providing a cargo release number, a truck number, and a driver's license number, details on the operation performed, and selects a route for the trip.



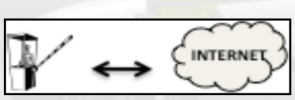
After validating the information against customs, port, terminal and military databases, the system issues a permit with a time window for entering the ASEZ.

The dispatcher gives the permit number to the driver who drives from point of origin (usually Amman) to an ASEZ entry point.



The gate operator enters the permit number in the system, which generates a permit with all the pertinent instructions for the driver.

As the truck goes to one of four waiting areas and, as capacity becomes available, is directed to the next point on a designated route - another waiting area or one of 39 possible destinations - including terminals, warehouses, and logistics centres - to pick up or deliver cargo or reture equipment and containers.



As the truck moves through its route, the system recognizes that capacity has become available and releases those trucks that have been waiting for capacity. The truck then exits.

of trucks serving the port, the sector is able to move 25 per cent more cargo. An independent evaluation by Professor Hani Mahmassani of Northwestern University in Evanston, Illinois, and past editor of *Transportation Science*, concludes that TCS delivers its core objective to cut turn times, tame congestion, and encourage trucking sector investment, while generating collateral benefits of creating 200 new jobs associated with operating this new system. Additionally, truck accidents on Jordan's hilly roads were reduced and pollution that had negatively impacted the tourist industry was significantly minimized. As one observer remarked, "when the air cleared up, the outdoor cafés filled up again."

Having been in operation for over three years now, the TCS has processed well over three million permits. It is an embedded and critical component of business prosperity in Aqaba. The port has been able to handle growing volumes of cargo without filling city streets with trucks, and the region as a whole has continued to attract investment in real estate development and its logistics sector. In retrospect, it is unclear how any of this could have been achieved without the breakthroughs brought about by the TCS.

"The TCS is an embedded and critical component of business prosperity in Aqaba"

Industry takes notice

The Intelligent Transportation Society of America (ITSA) named NTELX the winner of its top 2009 award for innovative use of information technology in solving surface transportation problems worldwide. ITS America's President Scott Belcher said: "We were impressed with the measurable benefits truck drivers, shippers, port operators, government officials and other users received from this system, coupled with NTELX's ability to effectively deploy cutting edge technology in a low tech environment."

Said Rob Quartel, NTELX CEO, "One of the things I'm most proud of is how our design team created a system of complex rules and commands, built in a way that was immediately usable and accessible to drivers and dispatchers, even those who had no previous experience with any IT system."

Changing the dialogue

To support and keep pace with the growth in international trade, countries and corporations have made massive investments in ports and ships, highways, gates, lanes and trucks. However, with infrastructure costs climbing, budgets tightening, and competition among ports increasing, a lot more emphasis needs to be put on finding new approaches to achieving more with existing physical infrastructure investments.

As Dhiren Patel, NTELX's President and lead for the Jordan project puts it, "Billions were spent in Aqaba, but it took an intelligent transportation system costing relatively few dollars to make those investments pay off. More governments will begin making these same judgments, and will use intelligent transportation more often. The journey has only just begun." TH

For more information visit the NTELX website at www.ntelx.com