PROJECT GOAL
The goal is to improve safety at the US-Canada border on I-87, where queues of 1.5 miles can develop, posing a safety threat for northbound travelers approaching the border. The ability to inform travelers in advance about queue duration is also a key at this location.

EXISTING PROGRAMS
NYSDOT and the NYS Police have installed a temporary system to deal with this safety concern, caused by northbound motorists, after long stretches of uninterrupted high-speed driving, coming unexpectedly to stopped traffic in both northbound lanes. The existing rudimentary queue detection and variable message warning system uses portable queue detectors at two locations to “trigger” activation of one or both of two trailer-mounted, relatively small variable message signs (VMSs) adjacent to the northbound lanes. The VMS use very basic, pre-programmed text messages to travelers, and the system does not notify NYSDOT when the signs are activated.

PROPOSED PROJECT COMPONENTS
The proposed solution involves construction of a queue detection system combining proven ITS technology with an advanced VMS system, replacing the current limited system. The system would provide drivers with traffic and driver information reflecting “real-time” queuing conditions. The system would include:

- **Queue Detectors** to determine queues in highway lanes.
- **TRANSMIT Detectors**, which use the travel time of detected E-ZPass vehicles between the beginning and end of the “queuing zone” to estimate the duration of the queue. During preliminary design, the potential of using license plate reader technology will be considered as well.
- **Flashing Beacons**, with wireless communication capability, to warn motorists of impending queues.
- **Variable Message Sign(s)** to inform drivers about queue duration, using bilingual (English-French) messages. The VMS would be “full matrix” signs that would span across all northbound travel lanes.
- **Central System**, to control VMS content and flashing beacons, record queuing histories and communicate with the IEN (Information Exchange Network) for wider dissemination of queuing information.

RELATION TO SHORT-/LONG-TERM PLAN
Project is fully consistent with Strategic Plan’s Smart/Safe Driver and Smart Highway goals, and with overall State/Federal effort to make Champlain’s Port of Excellence crossing a state-of-the-art facility. This project would be coordinated with a similar effort being undertaken by the Ministère des Transports du Québec (MTQ) to inform southbound travelers.

REGULATORY REQUIREMENTS, AGENCY COORDINATION
Minimal environmental review requirements. Coordination between NYSDOT, NYS Police, and US and Canadian border officials to maximize benefit of system information and agencies’ use of it.

ESTIMATED COST
Capital cost of $1.4 - $1.7 million, fundable under FHWA trade corridor or border crossing programs.