Chapter 14

E-ZPass and the Ohio Turnpike: Adoption and Integration of Electronic Toll Collection

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EXECUTIVE SUMMARY

“Stop Stopping, Get Going.” The commonwealth of Virginia’s Web site slogan (2005) tells much of the E-ZPass story. E-ZPass uses computer technology to automate vehicle toll collection and payments across most of the northeastern and eastern sections of the United States. E-ZPass participants have radio frequency identification (RFID) tags installed in their cars to signal their trip through a tollbooth. Each entry and exit is recorded in a database and charged against an account on file. Bills for tolls may be paid automatically through a credit card charge or from deposits in a cash account. Electronic toll collection reduces delays at tolls, eliminates fumbling for change, trims air pollution from idling vehicles, and accelerates travel. By most accounts, E-ZPass has been a resounding success. Within the northeastern and midwestern United States, over 9 million account holders subscribe to the program, recording over 2 billion transactions each year for road, bridge, and tunnel use in 2006. Customer satisfaction is high, and program enrollments continue to grow. E-ZPass represents a state-of-the-art practice in electronic toll collection as well as a significant success in the use of RFID technology for consumers (U.S. Federal Trade Commission, 2005).

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ORGANIZATION BACKGROUND

The State of Ohio seems a likely spot for E-ZPass. The Ohio Turnpike, the major toll road through the state, collects tolls from over 50 million vehicles each year. Ohio lies between states that have already implemented E-ZPass successfully. The costs and overhead associated with its implementation are significant, however, and it is difficult to make a case purely from direct economic benefit to Ohio drivers.

After many years of rumination and reluctance, the Ohio Turnpike Commission announced its intention to implement the E-ZPass technology by 2009 (Ohio Turnpike Commission, 2007). This decision will render the roadway toll collection technology compatible with that of its neighbors. It will also strain its traditional fee-for-service financial model to pay for the estimated $40-50 million required for new toll plaza redesign and toll collection technology.

This case study considers the decision to implement E-ZPass on the Ohio Turnpike. The first section presents the history and current operations of the roadway. The OTC’s position as a late technology adopter of electronic toll collection technology is examined. A discussion of the New York state E-ZPass implementation, an early and successful adopter, provides insight into the types of information technology needed to support electronic tolling and integration into the regional network. The case ends with a discussion of public sector technology adoption and issues facing the OTC as part of their decision.

The Ohio Turnpike, officially opened in 1955, runs for 241 miles across the northern part of the state. At its eastern border, the turnpike connects with the Pennsylvania Turnpike, a toll road. It travels through Cleveland, the state’s second largest city, follows the coast of Lake Erie to Toledo, and continues across to the western border to the Indiana Toll Road, which is also near the border with Michigan. These connections in turn, link to major toll roads from Massachusetts, New York, and Illinois. All of these states are major manufacturing and commercial centers, and the turnpike serves both trucking and passenger vehicles traveling across the state.

In 2006 the roadway maintained 31 interchanges across its length, 20 from its initial launch, with 11 added since 1991. Alongside the roadway are 16 service centers that provide meals, sanitary facilities, and repair centers for motorists. At the end of 2005 the Ohio Turnpike Commission (OTC) employed about 1,300 full-time and part-time employees, of which about 900 were unionized staff responsible for toll collection and roadway maintenance. Concessionaires run many of the service center activities and pay rental fees to the roadway.

The OTC oversees turnpike operations. The seven members of the commission, appointed by the governor and legislature, serve 8 year terms. The executive director of the commission directly supervises 900 full-time and 430 part-time employees.
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