



# **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 (2005) slogan tells much of the E-ZPass story. Electronic toll collection reduces delays, eliminates fumbling for change, and trims air pollution from idling vehicles. In 2006, 9 million accounts recorded over 2 billion road, bridge, and tunnel transactions, and customer satisfaction is high. The Ohio Turnpike, a non-E-ZPass toll road, serves over 50 million vehicles annually. Its management has been reluctant to implement E-ZPass because of high costs and questions about its value to Ohio drivers. After many years of rumination the Ohio Turnpike Commission announced its intention to implement E-ZPass technology by 2009 (Ohio Turnpike Commission, 2007). This case study reviews the Turnpike’s operations, the use of electronic tolling in other states, and the information technology and political environment needed to support its implementation.*

**Keywords:** *transportation, requirements analysis, public sector, RFID, toll collection, technology adoption, state government, implementation*

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## **ORGANIZATION BACKGROUND**

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 eight year terms. The executive director of the commis-

sion directly supervises 900 full-time and 430 part-time employees who collect tolls, maintain the roadways, and control the financial operations of the turnpike. Many of these employees are unionized, and while the current labor situation is stable, there have been recent periods of tension between management and labor. Some activities, such as safety patrols, food service, and towing, are outsourced.

There are other important government organizations with which the OTC collaborates. The Ohio Department of Transportation (ODOT) is responsible for the maintenance and development of other major highways and roadways in the state. ODOT is funded directly by the state budget and does not collect tolls on its roadways. Patrol and traffic enforcement on the turnpike is the responsibility of the Ohio State Highway Patrol. The OTC also works with the communities through which it travels to produce local benefits from the roadway.

## SETTING THE STAGE

The use of innovative technology has long been seen as a critical enabler to competitiveness (Hammer & Champy, 1993), though the discussion of its ability to sustain leadership has been disputed (Carr, 2003). In the public sector, however, competitive pressures are less important than the provision of services to the public in a useful and cost-effective manner. The absence of a financial “bottom line” makes the analysis of the value of a public sector IT investment more challenging and subject to multiple and subjective interpretations. In addition, limited budgets and technical resources can constrain the range of options available to a public agency (Dawes et al., 2004). There are also concerns about privacy of personal information (Hinnant & O’Looney, 2003), particularly when it can be combined with legal or financial records. These factors all contribute to the challenges faced when governments decide when and how to adopt technology.

The E-ZPass system is a remarkably successful introduction of innovative technology in the public sector (U.S. Federal Trade Commission, 2005; Vollmer Associates, 2000). Drivers appreciate the convenience of automated toll collection, allowing them to move quickly through a toll plaza without fumbling for exact change or waiting on long lines. Highway officials improve operations by replacing paper toll tickets with electronic data collection. Audit and control managers maintain better records and see reduced opportunities for fraud and lost revenue. In addition, the collection of transaction data identifies the travel habits of millions of consumers. This RFID-based electronic toll collection technology, along with others with different names, has been widely adopted across most of the United States.

## CASE DESCRIPTION

While the E-ZPass system has been in stable operation for over a decade, the Ohio Turnpike Commission has only recently decided to consider implementing it on its roadway. Understanding its reluctance to implement E-ZPass requires an examination of the management philosophy of the OTC and its operations history.

### Management Philosophy of the Ohio Turnpike Commission

The OTC’s mission statement encapsulates the management principles of the roadway: “To operate and maintain a user-fee supported highway with sound financial management that provides motorists and travelers with safe, modern, and helpful services.” Over its five decades of operation, the Ohio Turnpike Commission has identified three themes that guide its decision-making and structure its operations. Each year, when the OTC reports on its activities, they are re-asserted and amplified in the context of that year’s objectives and constraints.

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