

A Customer Centric AETC Strategy

Introduction

*All-Electronic-Toll-Collection, AETC is **the** topic of discussion, study and debate for toll agencies around the globe. The potential exists to eliminate the iconic toll booth and the costs of manual collection. Design, construction and maintenance costs of buildings, canopies and other facilities, along with utilities and the manpower to operate and manage manual toll operations could be eliminated. However, the potential for huge back office operations may threaten the conversion. When considering conversion to AETC the focus usually turns to the technology of AETC such as systems integration, radio frequency identification, enforcement, the legal framework, the cost of transponders, RFID readers etc. While these issues are important and must be addressed, it might be of value to consider those who use the toll roads, the customer. Rather than focusing inward and concentrating on efficiency, perhaps AETC conversion strategies should be set from the perspective of the customer. A customer centric focus may result in strategies quite different from those where efficiency and technology are preeminent. What are the key strategies that an agency should consider for conversion to AETC? Why would customers be interested in AETC? Why would they want to get a transponder or set up an account or prepay tolls? Are the answers to these questions different for each toll agency and/or country? What is important to the customer? Are the needs and desires of all customers the same?*

When the focus is moved from the technical, organizational, procedural, policy and other internal considerations and move to the customer the importance of various strategies is altered. For example, when considering the issue of account management, toll agencies have one data format for all account management records and therefore essentially one type of account. While this is being altered slightly as electronic toll collection has matured, the assumption remains that a minimum of data is required for setting up an account. Therefore, when describing the procedures for collecting customer information the focus is to ensure the most efficient methods for collecting all of the data. One could argue that this minimum dataset requirement is actually a maximum data set.

A customer centric focus

With so many complex and moving parts to the subject of electronic toll collection, it is difficult to focus on the customer. We prepare numerous marketing plans and public information campaigns, usually with the customer in mind but the reality of processing large volumes of transactions returns the focus back to systems and procedures. As transactions are processed, daily anomalies can accumulate. Small component failures and/or erroneous assumptions in the process can generate a wave of outstanding transactions to be dealt with. When this wave builds, the management focus turns to procedure, tasks, human resources, computer systems and survival. These and similar factors can conspire to cause an internal focus.

Who are the customers of a given toll road? What do we mean when we say customer? Is there just one type? Are there just customers and violators? It has been clearly shown that there are significantly different customers of tollway systems. There are frequent customers who are composed of commuters, local businessmen and other local citizens who use the system for recreation, shopping and school related trips. This category of customer is likely to be familiar with the roadway system and toll roads in general. They are likely to read the local morning newspaper and watch local TV news and listen to local radio stations. They are familiar with local toll road organizations and those appointed to lead them. This customer is likely to have an ETC transponder and shares his experiences with other local ETC customers in the community. If there's a question about ETC there are likely many sources of information for this individual.

Some toll agencies seem to have concluded that the frequent ETC customer, the transponder customer, is the only customer on the system. There are however, a range of other customers, many of whom use the system on an infrequent and irregular basis. Studies have shown that as few as 2% of the customers of a toll road in a year generate a third of the total revenue and that the most frequent 11% of the customers generate 2/3 of the total revenue. It is not surprising that ETC penetration rates stall at around 2/3 of total revenue. These frequent customers are however not the only ones. To collect the remaining 1/3 of the revenue requires dealing with the remaining 89% of the total number of users.

These infrequent customers may be vacationers or local citizens whose travel requires use of the tollway on an irregular basis. They may also be regular users that are infrequent. People who use the system once a month or once a week, perhaps to go to church or other scheduled event. Taken together, these infrequent customers constitute the vast majority of customers on the system. It is easy to confuse the percentage of trips collected electronically with the percentage of customers.

There is a considerable amount of information that must be conveyed to customers and this is particularly difficult for infrequent customers because there are less opportunities to do so. Simply defining ETC only lanes to infrequent customers can be a challenge. Many infrequent customers are unfamiliar with tolling in general and they are certainly unfamiliar with how to set up an account, install a transponder, which toll roads are interoperable with one another, who to call when there is a difficulty and what the local statutes and practices may be regarding violations. They tend to be more concerned than frequent customers about privacy and the potential release of personal financial data and are uncomfortable with their travels being tracked. They do not know the particulars of violation penalties nor whether erroneous violation data may result in repercussions to their driving record, employment and standing in the community.

Some infrequent users may wish to establish an account for a specific period of time, perhaps one day. Toll operators have commonly used day passes to allow customers to travel the toll road on an unlimited basis for a given amount. Day passes do not require a transponder or knowledge of ETC procedures and processes. However, day passes are not suitable for a vacationer or businessman who will be using the system regularly but for a limited period of time. A new type of ETC product is needed for this customer, one that would allow for the establishment of a temporary account with a beginning date and an end date. Further, day passes work well only when the toll road in question is not near other toll facilities and when it is not part of a larger network of toll roads.

There are also local customers who may be very familiar with the community, the toll road and the process required to obtain an ETC transponder and account but still use the tollway infrequently. Retired individuals might fit this definition. Because of the infrequent use they're not interested in obtaining a transponder and maintaining its use, especially if there is a monthly account fee that is charged.

Surveys of infrequent customers have also found that they are willing to accept a higher cost per transaction to avoid the inconvenience of establishing and maintaining an ETC account. Because the total cost of using a toll road is kept lower as a result of less frequent use, it is more acceptable to pay higher per transaction amounts for providing a more convenient means of payment.

Marketing Focus



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It is clear that an ETC marketing program that is intended to result in 100% electronic transactions must focus on the entire range of customers. It is insufficient to sell the single product of a standard ETC account and consider the remaining customers to be violators. To accomplish AETC, a range of products must be available for the marketing campaign to be successful. The key strategic element is to get as many customers (not trips) as possible onto a prepaid status. By doing so the percentage of trips and therefore revenue collected through an electronic means will approach 100% or AETC. Once a customer is in a post-paid relationship with a toll operator, the costs of collection greatly increase. If a large volume of transactions are allowed to go into a post-paid status, it will be very expensive to attain AETC or alternatively a large percentage of revenue will be lost.

Postpaid costs include video collection of the license plate image, optical character recognition to convert that image to letters and numbers which can be looked up on a motor vehicle database, legal and judicial costs, postage and the human resources required to process all the information. Further, violations are an aggravation to the customer and result in negative feelings toward the toll agency. An AETC toll system must offer ultra-convenient and widely available electronic payment methods beyond the standard ETC account. Otherwise, a large number of customers will end up in the violations process. The availability of cash payment in the lanes has heretofore kept infrequent customers out of the violations process. This will not be the case under AETC.

Post paid situations should also be avoided because a loss of revenue can result. There are many steps in the process of a post-paid transaction that may result in no revenue realization. First, the conversion of the license plate image to a useful series of characters for database look up is hampered by the need to maintain a high level of confidence that no one customer may receive a violation in error. Therefore, it is common practice to require manual review of the results of the optical character recognition software. While this can be done quickly, the volume of transactions that might not satisfy a 99% confidence level will be large. Further, once the images are properly converted there remains the possibility that the license plate under review is from another jurisdiction and the revenue unrecoverable. Additionally, 20% of motor vehicle records in the U.S. contain incorrect mailing addresses for the registered owner. In some states there is also the possibility of duplicate plate numbers. Some states allow government license plates to duplicate private license plate numbers.

Beyond the technical complications of a post-paid/violation relationship are the legal aspects. Statutes must be enacted which support the ETC violations process. The statutes must support due process and recover the cost of the court proceedings. The legal costs of recovering small numbers of violations for a large number of customers may quickly exceed a rational cost benefit analysis. However, if repeated violations are allowed it is unlikely that AETC will be attainable.

BackOffice management



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The numerous procedures and processes involved in post-paid transactions can quickly lead to a large back office staff. People are needed to answer telephones, set up accounts, resolve issues with customers, provide court coordination and result in a smooth error free integration of functions. In such an environment human resource management becomes a significant function. Issues of compensation, promotion, recruitment, training etc. require significant management attention. Efficiency is crucial to maintaining minimum operating costs in such an environment. It is easy to understand how the focus can be redirected from measures of performance based on output to one which is internally focused. A large BackOffice function can be a hindrance to the goal of attaining AETC.

Strategic Product offerings

Considering the potential for large BackOffice operations to occur once cash payment is no longer accepted in the lane and considering the large number of infrequent customers, it is crucial to offer as many methods of prepayment as possible. Clearly, each toll operation's external environment is unique and requires an analysis of the customer base to determine which types of toll payment products to offer. Pre-paid technical options include those using transponders, license plate recognition, GPS and mobile telephony. All of these technologies play a role in ETC today. GPS thus far serves a unique role in ETC and while it may be a major payment technology in the future, most current agency technology is provided via transponders.

Payment products are not just limited to the types of technology used however. It is the combination of technology and business process that defines the types of payment products. For example, the standard ETC account which requires a transponder, a user agreement and the collection of considerable customer and vehicle data is the most common account type. Other alternatives however may be possible using the same technology. For example, a transponder sold at a retail shop could be preloaded with a set amount of tolls and activated with a simple phone call. Further, this type of account could be anonymous. These ETC Lite accounts might be set up with only the minimum of information. In fact, the amount of information might be left to the discretion of the customer. The account could be established as an ETC Lite account and later converted, if the customer chooses, to a full ETC account. However, it should be an option for the customer to provide only the minimum data to establish an ETC Lite account for convenience. Depending upon the amount of data, various versions of ETC accounts might be possible.

A similar thought process may be used for the technology of license plate recognition. ALPR accounts could be established as full accounts, as anonymous minimal information accounts or something in the middle. ALPR is a crucial product strategy for achieving AETC. This type of account could be funded through cash or through the provision of a credit card. While this option should be left to the customer, the customer must accept greater responsibility for an account that is not set up for automatic replenishment. Another version of an ALPR account is the day pass which has been previously described.

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Mobile telephony has only begun to be applied in ETC. Few toll operations utilize telephony as a toll payment method. However, the potential is significant. If the goal is to attain AETC status then every option available to satisfy the various categories of customers should be considered. SMS messaging as a communications method has great potential. According to the Cellular Telecommunications & Internet Association, the total number of cell phone users in the U.S. was 207.9 million at the end of 2005, a figure representing 69 percent of the U.S. population. In some countries cellphone minutes have value as if it were a currency and is used to make small purchases. Further, cellphone billing offers yet another opportunity to avoid BackOffice infrastructure and to introduce anonymity to the toll payment process.

Convenience is measured from a customer's perspective

Program evaluation is usually performed based on various measures of efficiency and cost. From the perspective of the toll agency, it seems inherently the correct process. However, if the goal is to take ETC to a new plateau of AETC we will need to evaluate programs from the customer's perspectives. We should evaluate the functions of establishing an account, maintaining an account, installing a transponder, changing transponder batteries etc. from a customer's perspective. What may appear to be extraordinarily easy to someone intimately familiar with ETC may be quite difficult for a customer, especially an infrequent one. A survey at one toll agency of customers entering a customer service center revealed that 10% of the customers who took the time to come to the service center and stand in line, where there for the purpose of obtaining double sided mounting tape. This is particularly interesting since the absence of double sided tape could lead to a greater percentage of customers placing the transponder on the dash of their vehicle reducing the probability that the transponder transaction would be carried out properly.

Because of the need to evaluate AETC strategy from a customer's perspective, it is important to ask the customers for their opinion. Some toll operators carry out annual surveys to establish a quantitative understanding of customer desires and preferences. Repeat questions on annual surveys can also give an indication of trends. Further, focus groups are used to qualitatively enhance an understanding of the raw survey data. These techniques are a crucial foundation to the development of product marketing strategies to get as many customers as possible into a prepaid status. Only then will AETC become a reality.

Conclusion

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All-Electronic-Toll-Collection is clearly the next plateau for ETC. Rarely is a new toll facility developed without consideration for AETC. Further, many established ETC toll operators are studying methods for converting to full ETC. These goals are attainable but will be realized only by accepting the reality that there are many types of customers and each customer group should be consulted on the payment products that will be most convenient from their perspective. Payment methods will have to be priced for the effort the customer is willing to expend in setting up and maintaining accounts and they must be easy to obtain and maintain, reasonable in cost and reliable from the customer's perspective.

