

REPORT

Processing Fee Study



North Carolina Turnpike
Authority
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Raleigh, NC 27601

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Executive Summary

The following report summarizes the results of a video tolling processing fee study conducted by CDM Smith for the North Carolina Turnpike Authority (NCTA). CDM Smith was retained by NCTA to perform this study in response to North Carolina Session Law 2015-241 Section 29.15, which is shown in Figure ES-1.

Figure ES-1 North Carolina Session Law 2015-241 Section 29.15

STUDY/TURNPIKE AUTHORITY PROCESSING FEE

SECTION 29.15.(a) Study. – The Department of Transportation shall study whether the amount of the processing fee set forth in G.S. 136-89.215 is in excess of the actual cost to collect and process unpaid open road tolls. The following information, set forth separately for each calendar year since the fee's enactment, shall be included within the study:

- (1) The amount of the processing fee.
- (2) The total amount of proceeds generated by the imposition of the processing fee.
- (3) The total amount of costs incurred by the Turnpike Authority to collect and process unpaid open road tolls and a description of how the Department determined the total amount of costs incurred.
- (4) An identification of whether the processing fees collected exceeded, equaled, or fell short of the costs incurred by the Turnpike Authority for collecting and processing unpaid open road tolls.

SECTION 29.15.(b) Report. – The Department shall report its findings to the Joint Legislative Transportation Oversight Committee by March 1, 2016.

In addition to addressing the tasks identified in Session Law 2015-241 Section 29.15, this study includes the results of a toll industry survey. The timing and results of this study are important as NCTA's first toll road, the Triangle Expressway, matures and several other toll facilities in North Carolina move forward. Having a well-defined process for evaluating processing fee revenues will aid in obtaining financing for these other toll facilities.

ES.1 Processing Fee Amount

NCTA began tolling on the Triangle Expressway in January 2012 and has since experienced strong transaction and revenue growth. Drivers on the Triangle Expressway can pay using the NC Quick Pass transponder program, which is subject to discounted tolls compared to the alternative Bill by Mail (BBM) payment program. In addition to non-discounted tolls in the Bill by Mail program, if the initial Bill by Mail invoice is not paid, subsequent invoices are subject to a \$6.00 processing fee per invoice (up to a \$48.00 maximum in a 12-month period). NCTA legislation specifies "The Authority must set the processing fee at an amount that does not exceed the costs of collecting the unpaid toll" (G.S. 136-89.215).

ES.2 Total Processing Fee Revenue

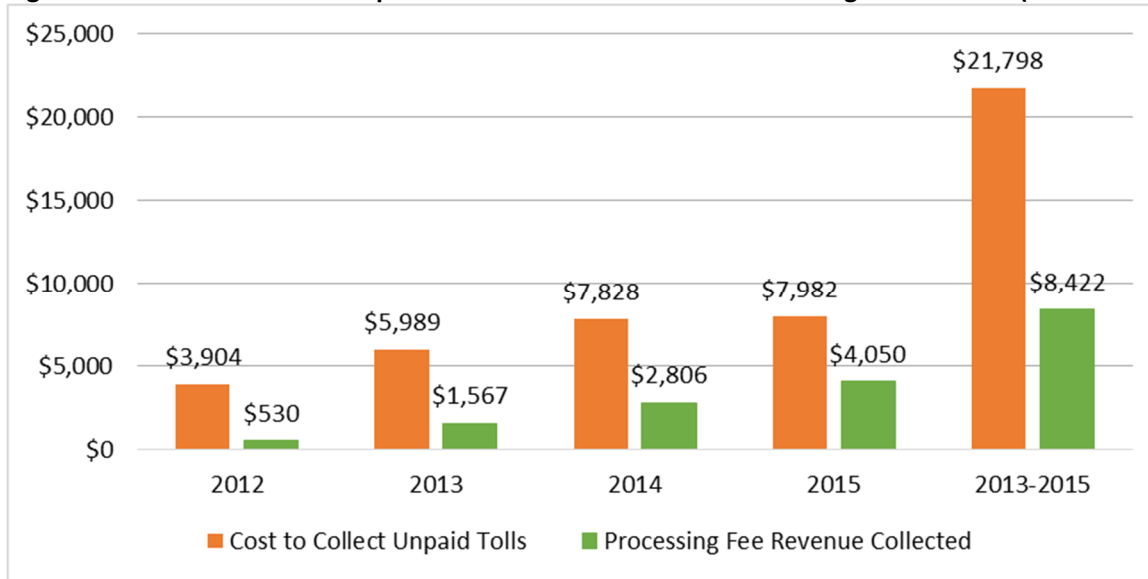
Processing fee revenue collected has grown in each year of operation of the Triangle Expressway. The total processing fee revenue collected was calculated to be \$0.5 million, \$1.6 million, \$2.8 million, and \$4.1 million for calendar years 2012, 2013, 2014, and 2015, respectively.

ES.3 Total Cost to Collect and Process Unpaid Tolls

The estimated cost to collect unpaid tolls has been evaluated annually by NCTA. The estimation process and results are documented in detail in Section 2 of this report. NCTA estimated the costs to be \$7.1 million, \$8.9 million, \$10.9 million, and \$11.1 million for calendar years 2012, 2013, 2014, and 2015, respectively. The shares of Bill by Mail (BBM) expenses for personal services, supplies, purchased services, property, plant, equipment, and credit card fees were estimated and are included in these estimates. CDM Smith reviewed the categories and sub-categories included and overall methodology for this estimation. For the purposes of this study, CDM Smith recommends removing sub-categories that can be considered part of overall capital (construction) costs from the analysis. These sub-categories can be considered to be paid through bond financing. When removing these sub-categories the costs to collect unpaid tolls are estimated to be \$3.9 million, \$6.0 million, \$7.8 million, and \$8.0 million for calendar years 2012, 2013, 2014, and 2015, respectively.

ES.4 Cost and Revenue Comparison

CDM Smith recommends that the processing fee revenue collected should be compared with the cost to collect the Bill by Mail tolls (after removing capital costs) on a total fee revenue and cost basis. Figure ES-2 shows this comparison with costs to collect in orange and processing fee revenue collected in green. As shown by this comparison, to date, processing fee revenue collected has been much lower than the cost of collecting the unpaid tolls. CDM Smith recommends that the comparison be done as a 3 year rolling total to lessen individual year spikes in the analysis due to new facilities opening. By this comparison, the 2013 to 2015 total processing fee revenue of \$8.4 million is less than the 2013 to 2015 cost to collect unpaid tolls of \$21.8 million, meeting the requirements of G.S. 136-89.215.

Figure ES-2 Recommended Comparison of Costs to Collect and Processing Fee Revenue (in thousands)

Because NCTA operates on a July to June fiscal year basis, cost and revenue summaries are more readily available in fiscal years rather than calendar year. Thus, in the future CDM Smith recommends performing this comparison annually at the end of each fiscal year. If the three (fiscal) year rolling total processing fee revenues are shown to exceed costs to collect unpaid tolls during the annual review, a reduction in the processing fee should be considered. If deemed necessary, a change in the processing fee could then be made on the typical toll change date of January 1. This would give six months of review time between July and December before a process fee change would need to be made.

ES.5 Industry Survey

CDM Smith also collected data on video tolling business rules from other toll agencies as part of the overall study effort. Data was collected to compare with NCTA's video tolling business rules and obtain information on lessons learned from the operating experience of other agencies. Data sources included the following:

- A review of published material from articles, reports, and toll agency websites;
- A survey of business rules conducted by CDM Smith sent to toll agencies currently operating video tolling payment programs; and
- Phone calls with toll agencies conducted by CDM Smith to discuss lessons learned based on operating video tolling payment programs.

The toll agencies Transportation Corridor Agencies, E-470 Public Highway Authority, Tampa-Hillsborough County Expressway Authority, 407 ETR, and Washington State Department of Transportation all responded to the survey of business rules. In summary of the results, a wide variety of video tolling business rules are in place across the toll industry which makes it difficult to determine toll industry best practices. However, in reviewing the survey data and other

supporting information, it can be stated NCTA processing fee and penalty levels are on the lower end of the toll industry.

CDM Smith also reviewed other examples of cost to collect estimation in the toll industry. Based on these reviews and discussions with toll industry professionals, it can be stated that there is variation relating to the categories that are included in estimating cost to collect. Similar to the review of video tolling business rules, this variation makes it difficult to determine toll industry best practices related to cost to collect estimation. While there is not a toll industry standard for comparison, NCTA's cost to collect estimation methodology appears to be in line based on other toll industry examples.

More detailed information on the toll industry survey can be found in Section 4. Section 5 includes the recommendations discussed above relating to comparing cost to collect unpaid tolls with processing fee revenues as well as other recommendations relating to video tolling business rules.

Summary of Findings Relating to Session Law 2015-241

A summary of the findings of this study corresponding to the sub-sections of North Carolina Session Law 2015-241 Section 29.15 is as follows:

- (1) The established processing fee is \$6.00. A maximum of \$48.00 in processing fees can be charged in a 12-month period.
- (2) Processing fee revenue collected from 2013 to 2015 (calendar years) totaled \$8.4 million.
- (3) Cost to collect and process unpaid tolls from 2013 to 2015 (calendar years) totaled \$21.8 million.
- (4) As required by G.S. 136-89.215, 2013 to 2015 total processing fee revenue collected does not exceed the cost to collect and process unpaid tolls during that same period.

Section 1

Background

The following report summarizes the results of a video tolling processing fee study conducted by CDM Smith for the North Carolina Turnpike Authority (NCTA). CDM Smith was retained by NCTA to perform this study in response to North Carolina Session Law 2015-241 Section 29.15, which is shown in Figure 1-1.

Figure 1-1 North Carolina Session Law 2015-241 Section 29.15

STUDY/TURNPIKE AUTHORITY PROCESSING FEE

SECTION 29.15.(a) Study. – The Department of Transportation shall study whether the amount of the processing fee set forth in G.S. 136-89.215 is in excess of the actual cost to collect and process unpaid open road tolls. The following information, set forth separately for each calendar year since the fee's enactment, shall be included within the study:

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In addition to addressing the tasks identified in Session Law 2015-241 Section 29.15, this study includes the results of a toll industry survey. The timing and results of this study are important as NCTA's first toll road, the Triangle Expressway, matures and several other toll facilities in North Carolina move forward. Having a well-defined process for evaluating processing fee revenues will aid in obtaining financing for these other toll facilities.

This section provides information on NCTA business rules related to the Bill by Mail (BBM) payment type. This section also provides background information on NCTA operations, including historical trends in transactions and toll revenue, and method-of-payment trends.

1.1 NCTA Toll Rates and Business Rules

NCTA was formed in 2002 by the North Carolina General Assembly. The mission of NCTA is to supplement the traditional non-toll transportation system by accelerating the delivery of roadway projects using alternative financing options and facilitating the development, delivery and operation of toll roads. NCTA is authorized to study, plan, develop, and undertake preliminary design work on Turnpike Projects. At the conclusion of these activities, the Turnpike Authority is authorized to design, establish, purchase, construct, operate, and maintain no more than eleven projects.

NCTA currently operates one toll road, the Triangle Expressway, located in the Raleigh area. Phase 1 of the Triangle Expressway connects NC 540 between NC 55 and NC 54 and initially opened on December 8, 2011. Phase 1 began tolling on January 3, 2012. The second and third phases of the Triangle Expressway began tolling on August 2, 2012 and January 2, 2013, respectively. The second phase connects NC 540 between NC 54 and US 64 and the third phase connects NC 540 between US 64 and the NC 55 Bypass. Two other toll road projects are currently under construction by NCTA but not yet opened; the Monroe Expressway and the I-77 Express Lanes, both in the Charlotte area. Several other projects are under development.

1.1.1 Toll Rates

NCTA allows two payment programs on the Triangle Expressway; by the pre-paid NC Quick Pass or by the post-paid Bill by Mail. NC Quick Pass is an electronic toll collection program that requires a transponder, while Bill by Mail is a video tolling option. By policy, Bill by Mail toll rates are the base rates and NC Quick Pass customers receive a 35 percent discount off of the Bill by Mail toll rate. Figure 1-2 shows the toll rates by toll plaza for each payment type as well as a map of the facility. The toll rates shown reflect the toll schedule as of January 1, 2016.

The NC Quick Pass program involves setting up a pre-paid account with NCTA and installing a transponder in the vehicle that automatically deducts tolls from the account. Drivers not in the NC Quick Pass program are automatically billed through the Bill by Mail program. In this program, a digitized image of the license plate is taken as the vehicle traverses the tolling zone and a bill is mailed to the owner of the vehicle.

1.1.2 Business Rules

North Carolina Session Law 2015-241 Section 29.15, shown previously in Figure 1-1, references G.S. 136-89.215 which is shown in Figure 1-3. G.S. 136 specifies that the processing fee for unpaid tolls may not exceed \$6.00 and a person may not be charged more than \$48.00 in processing fees for unpaid tolls in a 12-month period.

The “unpaid toll” in G.S. 136-89.215 is also referenced in G.S. 136-89.214, titled “Bill for unpaid open road toll”. The text includes “Bill. – If a motor vehicle travels on a Turnpike project that uses an open road tolling system and a toll for traveling on the project is not paid prior to travel or at the time of travel, the Authority must send a bill by first-class mail to the registered owner of the motor vehicle or the person who had care, custody, and control of the vehicle.” Thus, for the purposes of this study, “unpaid toll” is assumed to refer to all those customers in the NCTA Bill by Mail payment program.

Figure 1-2 Triangle Expressway Map and Toll Rates

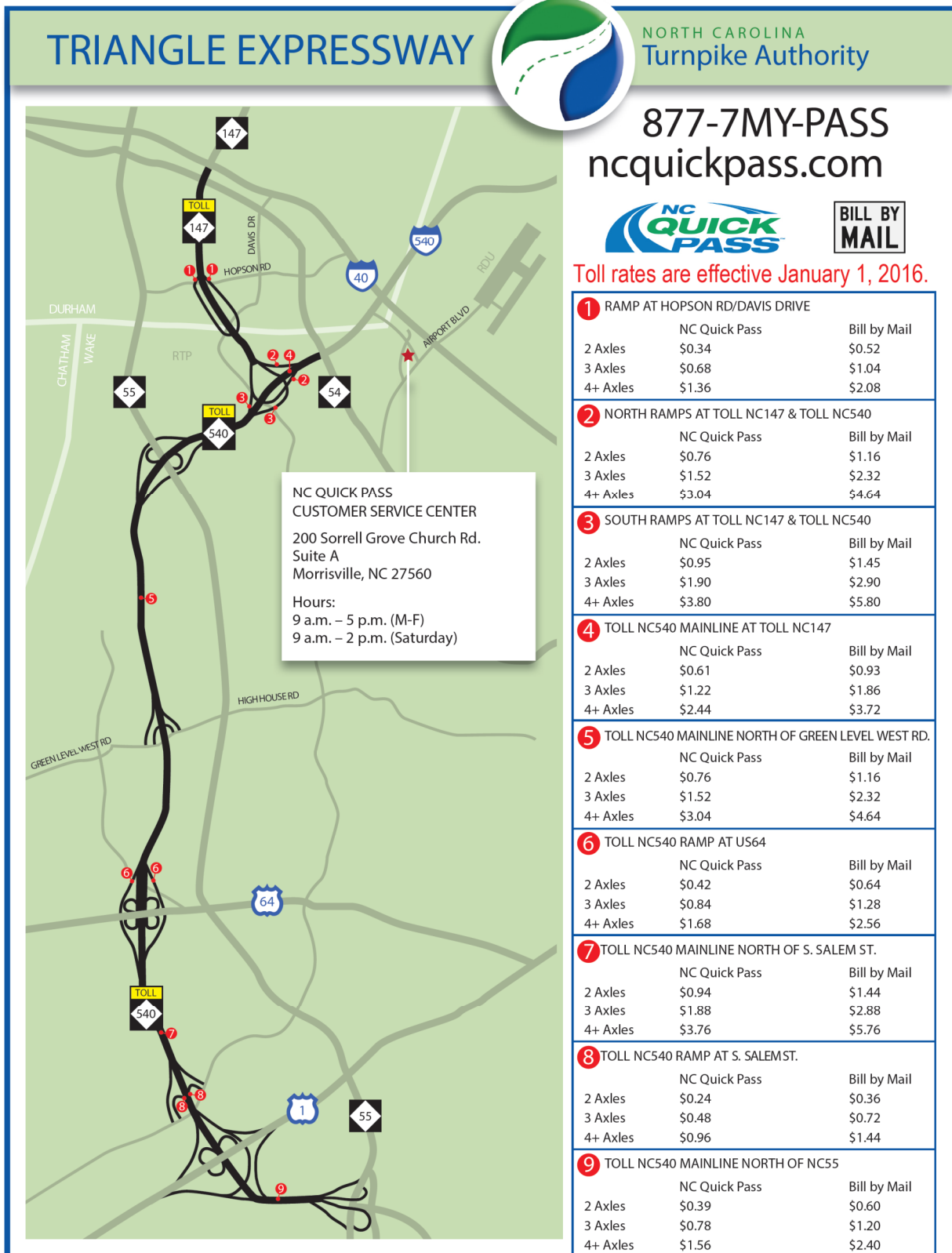


Figure 1-3 Enabling Legislation 136-89.215 Relating to Processing Fees**§ 136-89.215. Required action upon receiving bill for open road toll and processing fee for unpaid toll.**

(a) Action Required. - A person who receives a bill from the Authority for an unpaid open road toll must take one of the following actions within 30 days of the date of the bill:

- (1) Pay the bill.
- (2) Send a written request to the Authority for a review of the toll.

(b) Fee. - If a person does not take one of the actions required under subsection (a) of this section within the required time, the Authority may add a processing fee to the amount the person owes. The processing fee may not exceed six dollars (\$6.00). A person may not be charged more than forty-eight dollars (\$48.00) in processing fees in a 12-month period.

The Authority must set the processing fee at an amount that does not exceed the costs of collecting the unpaid toll. (2008-225, s. 2; 2010-133, s. 4; 2013-183, s. 5.6.)

Table 1-1 shows a detailed breakdown of NCTA business rules, especially related to the Bill by Mail process. Invoices are sent to first time customers 30 days after their first Bill by Mail transaction. Afterward, customers are invoiced on a 35 day cycle for all Bill by Mail transactions occurring within the cycle. If a customer does not pay the first invoice for an unpaid toll, a processing fee is charged with each subsequent invoice beginning with the second invoice. NCTA has set their processing fee at \$6.00 per invoice. As indicated previously, a maximum of \$48.00 in processing fees may be assessed in a 12-month period. NCTA also assesses a \$25.00 civil penalty as part of the third invoice if a Bill by Mail invoice remains unpaid. A maximum of \$50.00 in civil penalties may be assessed in a 12-month period. It is important to note only the processing fee revenue proceeds are retained by NCTA. Civil penalty proceeds are not retained by NCTA. Rather, they are credited to the State Schools Fund.

Table 1-1 Bill by Mail Business Rules

Categories	Details	Notes
Transponder Account Options	NC Quick Pass program which is interoperable with EZPass, GA, and FL transponder programs.	
Video Account Options	User automatically becomes Bill-by-Mail if not in NC Quick Pass.	A NC Quick Pass Account holder also becomes Bill-by-Mail if their account has insufficient funds.
Other Account Options	Government and a few registered video accounts.	Registered video accounts are not advertised.
Video Toll Billing Frequency	1st time customer is mailed invoice 30 days after their first transaction. Afterward, customers are invoiced on a 35 day cycle. Invoices are not sent for 35 day cycles with no accrued tolls.	If not paid after 1 year, a customer's account is sent to collections. Thus, up to 12 invoices can be sent for a single unpaid toll. NCTA must send the first invoice within 90 days of the first toll transaction or NCTA waives the right to collect the toll.
Initial Video Toll Process	Registered owner is sent bill in mail.	
Initial Processing Fee	None (There is a base 35 percent discount for transponder tolls compared to Bill-by-Mail tolls).	
Initial Payment Deadline	30 days	
Second Bill Process	A second bill is sent if the first is not paid in 30 days.	
Second Bill Fees/Penalties	\$6.00 processing fee per bill	The processing fee applies to the bill (not per transaction). A maximum of \$48.00 in processing fees can be charged in a 12-month period.
Second Bill Payment Deadline	30 days	
Third Bill Process	A third bill is sent if the second is not paid in 30 days.	
Third Bill Fees/Penalties	An additional \$6.00 processing fee is assessed as well as a \$25.00 civil penalty.	The civil penalty applies to the bill (not per transaction). A maximum of \$50.00 in civil penalties can be charged in a 12-month period.
Third Statement Payment Deadline	30 days	
Collections Process	A customer owing over \$500 is sent to collections. A user owing less than \$500 is set to collections after 1 year.	NCTA began enforcing the collections process in Fall 2014.
Vehicle Registration Block	A customer failing to pay tolls and fees in previous statements can have their vehicle registration withheld by the DMV.	NCTA implemented collections process which referred delinquent accounts to collections agency in Fall 2014.

1.2 NCTA Operating Trends

The sub-sections below describe historical trends in transactions, revenue, and trends in payment types on the Triangle Expressway. The trends are intended to give background and context to other analysis provided later in this report.

1.2.1 Transactions

Transactions on the Triangle Expressway have increased since Phase 1 opened to tolled traffic on January 3, 2012. The second and third phases opened and began tolling on August 2, 2012 and January 2, 2013, respectively. Table 1-2 includes historical transactions by calendar year and by

payment type. Transactions shown here are gross transactions, or all vehicles passing the tolling points whether or not they eventually pay (also referred to as “expected” transactions).

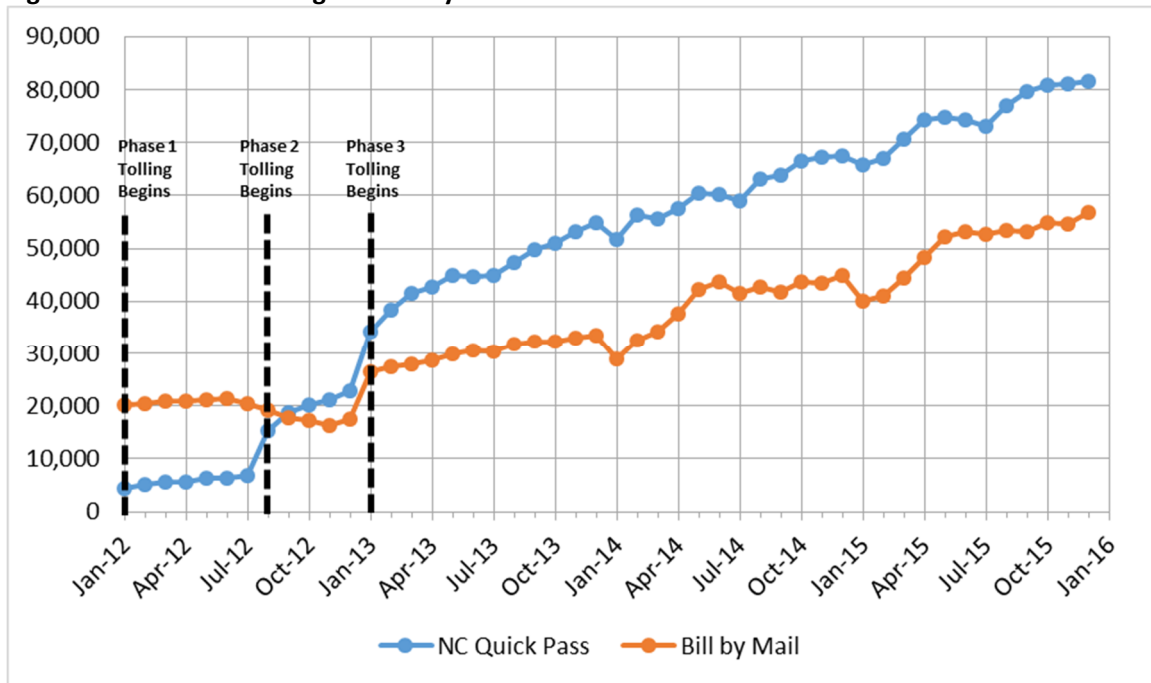
In 2014, total transactions increased 32.9 percent compared to 2013. The 2014 total transaction increases were composed of 33.8 and 30.6 percent increases for NC Quick Pass and Bill by Mail, respectively. In 2015, transaction growth remained strong with a total of 25.0 percent increase compared to 2014. The 2015 transaction increases were composed of 24.1 and 26.4 percent increases for NC Quick Pass and Bill by Mail, respectively.

Table 1-2 Historical Total Gross Transactions (in thousands)

Calendar Year	NC Quick Pass	Bill by Mail	Total
2012	2,807	2,901	5,708
2013	13,258	9,801	23,059
2014	17,801	12,849	30,650
2015	22,083	16,235	38,319

Source: NCTA

Figure 1-4 shows average weekday transactions (excluding holidays falling on weekdays) by payment type from January 2012 to December 2015. Evaluating average weekday transactions by month allows for a more stable year to year comparison. Monthly total all-day transaction growth trend comparisons can be impacted significantly by the number of weekend and weekdays in the month. It can be seen that strong transaction growth continues on the Triangle Expressway, with the overall slope of both the NC Quick Pass and Bill by Mail lines continuing to point upward. Growth trends in both payment types have been very similar since early 2014.

Figure 1-4 Historical Average Weekday Transactions

Note: Average weekday data does not include weekends or holidays that fall on weekdays.

1.2.2 Revenue

Table 1-3 shows historical revenue collected by NCTA broken down by NC Quick Pass toll revenue, Bill by Mail toll revenue, total fee revenue, and transponder sales revenue. Total fee revenue includes processing fees, other fees, non-sufficient funds fees, interest earnings, national interoperable fees, and credit card equity. Credit card equity relates to arrangements for sharing credit card fees with other interoperable states. Strong growth can be seen in historical toll revenue, which is driven by additional segments opening and growth in transactions as discussed previously. In addition, NCTA implemented toll increases of about 5 percent on January 1, 2014 and January 1, 2015 which has also increased revenue.

Table 1-3 Historical Collected Total Revenue (in thousands)

Calendar Year	NC Quick Pass Toll Revenue	Bill by Mail Toll Revenue	Total Fee Revenue	Transponder Sales Revenue	Total Revenue
2012	\$1,589	\$1,208	\$533	\$299	\$3,628
2013	\$8,580	\$5,659	\$1,623	\$433	\$16,295
2014	\$12,476	\$8,569	\$2,941	\$406	\$24,393
2015	\$16,454	\$12,325	\$4,245	\$540	\$33,564

Source: NCTA

Note: Total fee revenue includes processing fees, other fees, non-sufficient funds fees, interest earnings, national interoperable fees, and credit card equity. It does not include civil penalty proceeds.

1.2.3 Payment Type Trends

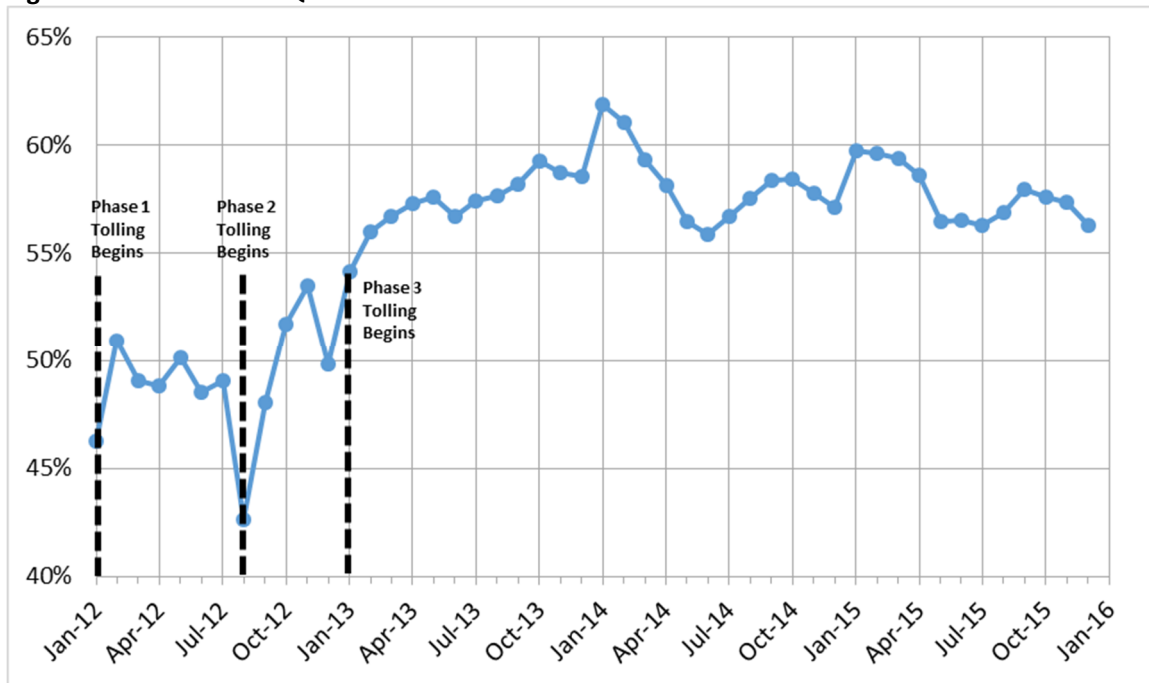
Table 1-4 shows the historical trend in NC Quick Pass market share by calendar year. Figure 1-5 shows the historical trend by month. Since early 2014 the NC Quick Pass market share has fluctuated between about 55 and 60 percent, with some of the variation appearing to be due to seasonal travel patterns. Market shares shown in this sub-section are reflective of gross transactions, or all vehicles passing the tolling points whether or not they eventually pay.

Table 1-4 Historical NC Quick Pass Market Share

Calendar Year	NC Quick Pass Market Share
2012	49.2%
2013	57.5%
2014	58.1%
2015	57.6%

Source: NCTA

Figure 1-5 Historical NC Quick Pass Market Share



Source: NCTA

Section 2

NCTA Evaluation of Cost to Collect Unpaid Tolls

Under G.S. 136-89.215, “The Authority must set the processing fee at an amount that does not exceed the costs of collecting the unpaid toll.” As discussed in the previous section, the processing fee is set at \$6.00. The estimated cost to collect unpaid tolls has been evaluated annually by NCTA. This section describes the most recent cost of collection calculation methodology which evaluated cost of collection for calendar years 2012, 2013, 2014, and 2015.

2.1 Methodology Used by NCTA

NCTA has used the following methodology in calculating costs to collect Bill by Mail tolls. First, all costs relating to toll collection (both NC Quick Pass and Bill by Mail) were obtained from the NCTA Triangle Expressway accounting system. Next, the shares of costs attributable to unpaid tolls (the Bill by Mail program) were determined. The shares were based on either the percent of Bill by Mail transactions or the percent of customer service activities attributable to Bill by Mail. The latter was based on an average of customer service staff time spent on Bill by Mail related activities in each calendar year. A summary of these shares is provided in Table 2-1.

Table 2-1 Share of Costs Attributable to Bill by Mail Program

Calendar Year	Bill by Mail Transaction Share	Bill by Mail Customer Service Share
2012	51%	69%
2013	43%	69%
2014	42%	74%
2015	42%	74%

Source: NCTA

Finally, costs were grouped into five main categories for analysis. Descriptions of the sub-categories making up these five main categories are provided in Table 2-2. The five main categories are:

- Customer Service Operations;
- Supplies;
- Purchased Services;
- Property, Plant & Equipment; and
- Other Expenditures.

Table 2-2 Description of Cost Sub-Categories

Type of Expenditure	Description
Customer Service Operations	
Operations Staffing Contractor	Costs for operating the Customer Service Center (Customer Service Representatives, Image Review Specialists, etc.)
Consultants - Toll Integration	Professional services for efforts related to toll system design/procurement/integration
Professional Consultants	Professional services related to the development and operation of BOS, RTCS, and operations staffing
Operations Services Base Contract	Costs related to Customer Service Center startup
NCDOT Personnel	Personnel costs for the Director of Customer Service, Customer Service Liaison, Director of Toll Road Operations, Toll Systems Manager, and Roadside System Manager
Supplies	
Mail House	Costs for printing and mailing invoices
Purchased Services	
RTCS Development	Costs for Roadside Toll Collection System development
Back Office System Contractor	Contract for Back Office System maintenance
Back Office System Development	Costs for Back Office System development
RTCS Contractor	Contract for Roadside Toll Collection System maintenance
Property, Plant & Equipment	
Customer Service Center Facility	Customer Service Center facility costs
Routine Maintenance	Contract for maintenance of roadside toll facilities
Utilities	Utility costs related to toll zones
Other Expenditures	
Credit Card Fees	Fees incurred for payments made by credit card
Collections	Payments made to collections agency

Source: NCTA

2.2 Results

The results of the cost to collect unpaid tolls estimation is shown in Table 2-3. For a given year, the Bill by Mail transaction share or the Bill by Mail customer service share taken from Table 2-1 is shown in the “% Bill by Mail” column. The total cost was then multiplied by the corresponding share to estimate the Bill by Mail cost. Note that one-time contracted costs were divided by the duration of the contract to allow a more consistent year to year comparison. This included Consultant – Toll Integration, Operations Services Base Contract, Back Office System Development, and Road Toll Collection System (RTCS) Development. The grand total cost to collect Bill by Mail transactions was estimated by NCTA to be \$7,060,000 for 2012, \$8,946,000 for 2013, \$10,911,000 for 2014, and \$11,076,000 for 2015.

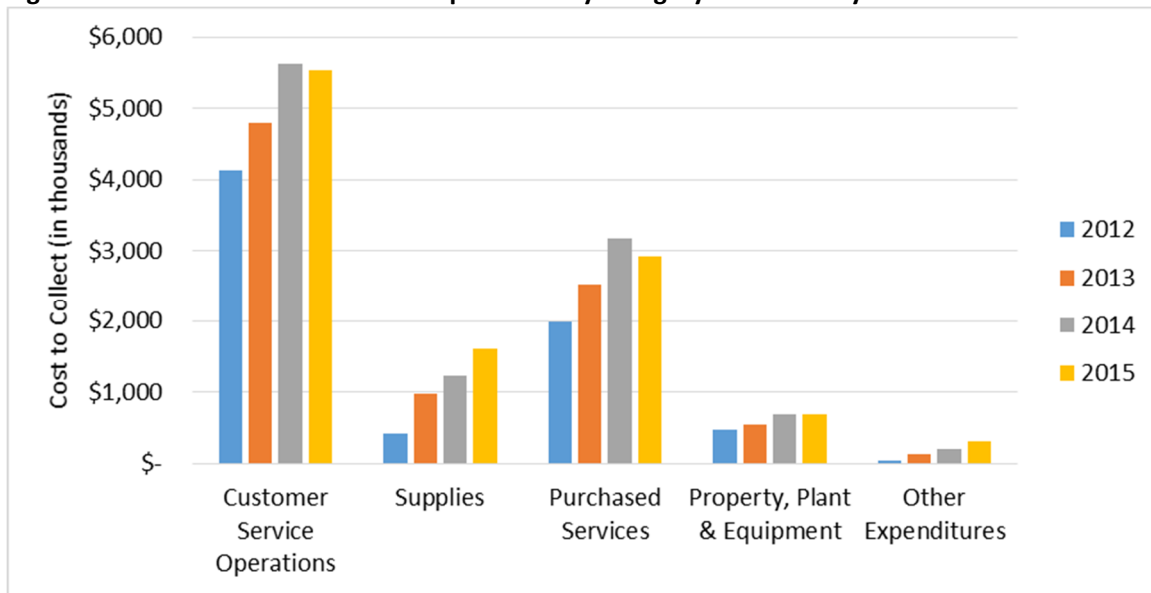
Table 2-3 Cost to Collect Unpaid Tolls Estimated by NCTA (in thousands)

Type of Expenditure	Calendar Year 2012			Calendar Year 2013			Calendar Year 2014			Calendar Year 2015		
	Total	% Bill by Mail	Bill by Mail	Total	% Bill by Mail	Bill by Mail	Total	% Bill by Mail	Bill by Mail	Total	% Bill by Mail	Bill by Mail
Customer Service Operations												
Operations Staffing Contractor	\$ 3,001	69%	\$ 2,076	\$ 3,201	69%	\$ 2,215	\$ 3,979	74%	\$ 2,952	\$ 4,123	74%	\$ 3,059
Consultants - Toll Integration	\$ 1,523	69%	\$ 1,054	\$ 1,523	69%	\$ 1,054	\$ 1,523	74%	\$ 1,130	\$ 1,523	74%	\$ 1,130
Professional Consultants	\$ 455	69%	\$ 315	\$ 1,273	69%	\$ 880	\$ 1,169	74%	\$ 867	\$ 838	74%	\$ 622
Operations Services Base Contract	\$ 565	69%	\$ 391	\$ 565	69%	\$ 391	\$ 565	74%	\$ 419	\$ 565	74%	\$ 419
NCDOT Labor	\$ 422	69%	\$ 292	\$ 364	69%	\$ 252	\$ 339	74%	\$ 252	\$ 411	74%	\$ 305
Sub-Total	\$ 5,966	69%	\$ 4,127	\$ 6,926	69%	\$ 4,791	\$ 7,574	74%	\$ 5,619	\$ 7,460	74%	\$ 5,534
Supplies												
Mail House	\$ 424	100%	\$ 424	\$ 975	100%	\$ 975	\$ 1,226	100%	\$ 1,226	\$ 1,613	100%	\$ 1,613
Purchased Services												
RTCS Development	\$ 2,396	51%	\$ 1,218	\$ 2,396	43%	\$ 1,018	\$ 2,396	42%	\$ 1,004	\$ 2,396	42%	\$ 1,016
Back Office System Contractor	\$ 316	69%	\$ 219	\$ 991	69%	\$ 685	\$ 1,462	74%	\$ 1,085	\$ 1,294	74%	\$ 960
Back Office System Development	\$ 714	69%	\$ 494	\$ 714	69%	\$ 494	\$ 714	74%	\$ 530	\$ 714	74%	\$ 530
RTCS Contractor	\$ 124	51%	\$ 63	\$ 756	43%	\$ 321	\$ 1,325	42%	\$ 555	\$ 1,000	42%	\$ 424
Sub-Total	\$ 3,550	56%	\$ 1,993	\$ 4,856	52%	\$ 2,519	\$ 5,897	54%	\$ 3,174	\$ 5,403	54%	\$ 2,929
Property, Plant & Equipment												
Customer Service Center Facility	\$ 475	69%	\$ 328	\$ 473	69%	\$ 327	\$ 623	74%	\$ 462	\$ 653	74%	\$ 484
Routine Maintenance	\$ 261	51%	\$ 133	\$ 440	43%	\$ 187	\$ 505	42%	\$ 212	\$ 427	42%	\$ 181
Utilities	\$ 17	51%	\$ 9	\$ 47	43%	\$ 20	\$ 45	42%	\$ 19	\$ 42	42%	\$ 18
Sub-Total	\$ 752	62%	\$ 470	\$ 960	56%	\$ 534	\$ 1,173	59%	\$ 692	\$ 1,122	61%	\$ 683
Other Expenditures												
Credit Card Fees	\$ 90	51%	\$ 46	\$ 297	43%	\$ 126	\$ 475	42%	\$ 199	\$ 597	42%	\$ 253
Collections	\$ -	100%	\$ -	\$ -	100%	\$ -	\$ -	100%	\$ -	\$ 64	100%	\$ 64
Sub-Total	\$ 90	51%	\$ 46	\$ 297	43%	\$ 126	\$ 475	42%	\$ 199	\$ 661	48%	\$ 317
Grand Total	\$ 10,782	65%	\$ 7,060	\$ 14,014	64%	\$ 8,946	\$ 16,344	67%	\$ 10,911	\$ 16,258	68%	\$ 11,076

Source: NCTA

As shown in Figure 2-1, Bill by Mail estimated costs increased for each of the five categories between 2012 and 2014. In 2015, costs in three of the five categories were flat or declined slightly as costs stabilized after three full years of operations. The largest percentage increase over time continues to be in supplies which includes the mail house costs. The increase is expected as the volume of mailings for the Triangle Expressway has increased significantly due to additional Bill by Mail transactions.

Figure 2-1 Trends in Cost to Collect Unpaid Tolls by Category Estimated by NCTA



Section 3

Comparison of Fee Revenues and Cost of Collection for Unpaid Tolls

This section evaluates how the collected proceeds generated by the processing fee compare to the total cost to collect unpaid tolls.

3.1 Processing Fee Revenues

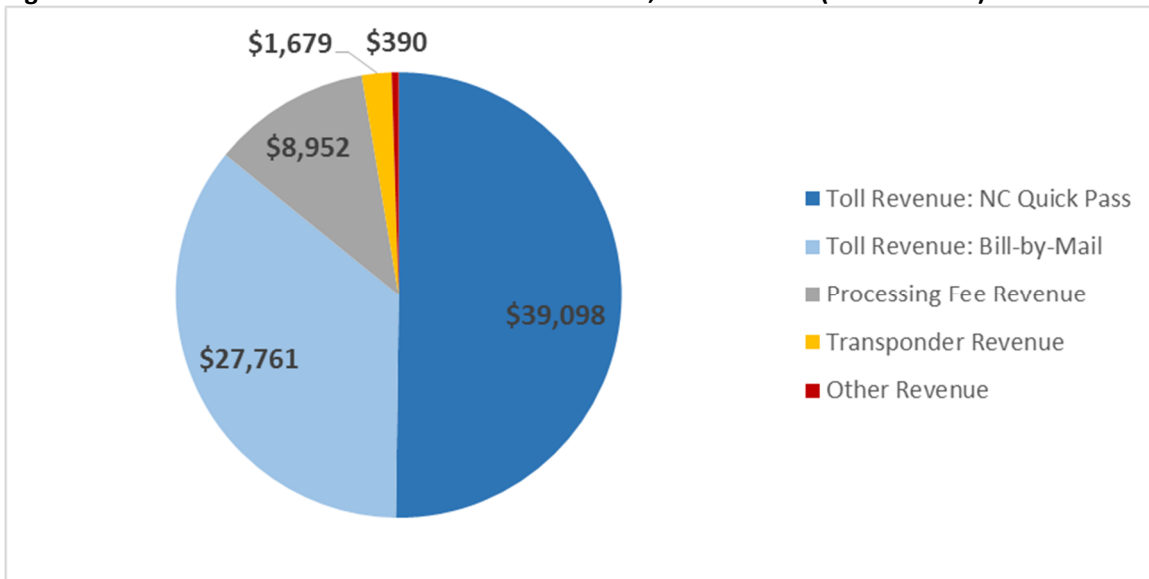
As discussed previously in Section 1, NCTA charges a processing fee of \$6.00 for the second and subsequent invoices and a customer may not be charged more than \$48.00 in processing fees in a 12-month period. Table 3-1 lists the total processing fee revenue collected by calendar year and compares it with the total revenue collected. Total revenue includes toll revenue (both NC Quick Pass and Bill by Mail), processing fees, transponder fees, other fees, non-sufficient funds fees, interest earnings, national interoperable fees, and credit card equity. The processing fee share of total revenue has ranged from a low of 9.6 percent in 2013 to a high of 14.6 percent in 2012.

Table 3-1 NCTA Historical Processing Fee Revenue Percent of Total Revenue (in thousands)

Calendar Year	Total Revenue	Processing Fee Revenue	% Processing Fee of Total
2012	\$3,628	\$530	14.6%
2013	\$16,295	\$1,567	9.6%
2014	\$24,393	\$2,806	11.5%
2015	\$33,564	\$4,050	12.1%
Total 2012-2015	\$77,880	\$8,952	11.5%

Note: Does not include Civil Penalty proceeds

As shown in Table 3-1 between 2012 and 2015 a total of \$77,880,000 was collected by NCTA. As shown in Figure 3-1, toll revenue (made up of \$39,098,000 NC Quick Pass and \$27,761,000 Bill by Mail), processing fees (\$8,952,000), and transponder fees (\$1,679,000) made up nearly all of this total. The "Other Revenue" category comprised \$390,000. Note that the tables and figures in this sub-section do not include Civil Penalty proceeds which are not retained by NCTA. Civil Penalty proceeds are presented separately in Section 3.4.

Figure 3-1 Breakdown of Total NCTA Revenue Collected, 2012 to 2015 (in thousands)

Note: Does not include Civil Penalty proceeds

Three important points should be considered when evaluating the processing fee revenue collected. These are:

- Not every invoice is charged a processing fee;
- Not every invoiced processing fee is collected; and
- Processing fee collections may be impacted if new NCTA toll facilities are opened.

Regarding the first point (not every invoice is charged a processing fee), initial invoices sent to Bill by Mail customers do not include processing fees. To quantify this, an evaluation was made of the Bill by Mail toll revenue collected by duration from the initial invoice (total for Fiscal Year 2014 and 2015). This evaluation showed that at least 54 percent of Bill by Mail toll revenue is collected within 30 days and would not be subject to the processing fee. In addition to not including processing fees on the first invoice, a customer can be charged a maximum of \$48.00 in processing fees over a 12-month period. For these reasons, even if all Bill by Mail customers eventually paid the assessed processing fee, revenue collected would be much less than \$6.00 per invoice.

Regarding the second point listed above (not every invoiced processing fee is collected), revenue leakage also limits the processing fee revenue collected. It is standard practice among agencies utilizing open road tolling and all-electronic tolling to assume some revenue leakage, normally based on recent operating experience. The evaluation of the Bill by Mail toll revenue collected described in the previous paragraph showed that most Bill by Mail toll revenue (about 70 percent) was collected within 60 days of the initial invoice. A total of 18 percent was collected in 61 or more days and 12 percent of Bill by Mail toll revenue remains uncollected from Fiscal Years 2014 and 2015. This revenue leakage limits the processing fee revenue collected.

The third point to consider is that processing fee collections may be impacted if new NCTA toll facilities are opened. New toll facilities, especially in regions that do not currently include other existing toll facilities, often initially have lower transponder market shares and higher revenue leakage as drivers gradually become accustomed to toll payment options and business rules. This may cause many more invoices to be sent out in the initial period after a new facility opens with only moderate increases in processing fee revenue. This is important to consider as NCTA continues to develop additional toll projects in different regions of North Carolina.

3.2 Cost of Collection for Unpaid tolls

Section 2 documents the methodology used by NCTA to evaluate the cost to collect unpaid tolls. Fourteen sub-categories are used in the methodology, including four sub-categories that can be considered to be primarily capital or start-up costs. These are:

- Consultants – Toll Integration;
- Operations Services Base Contract;
- Back Office System Development; and
- RTCS Development.

As described in Section 2, the costs for these categories were divided by a five year life of contract in NCTA’s cost to collect unpaid tolls process. However, because these are primarily start-up (capital) related costs, it is recommended by CDM Smith that these four sub-category costs be removed from the cost to collect unpaid tolls evaluation when comparing with the processing fee revenue. Rather than including them in this methodology, it is recommended that these costs be considered part of overall capital (construction) costs which were paid for through bond financing. The comparison in this study should focus on the remaining ten sub-category costs which include operations and maintenance costs for the Bill by Mail program.

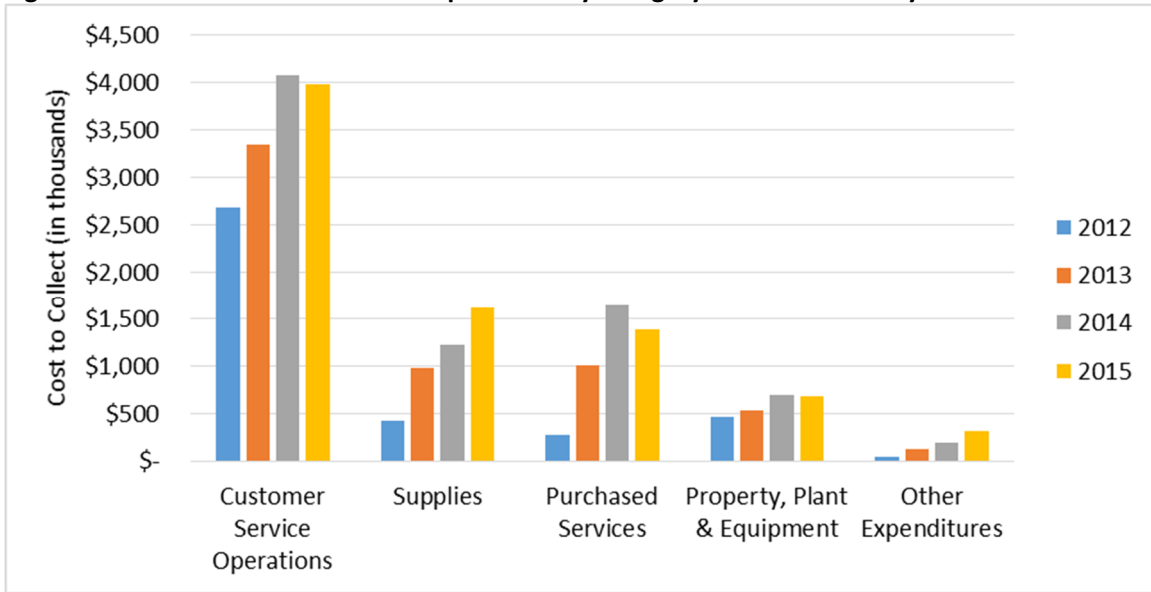
Table 3-2 shows the cost to collect unpaid tolls (Bill by Mail program costs) by main category after removing the four capital cost sub-categories listed above. Compared to Table 2-3, costs in the “Customer Service Operations” and “Purchased Services” categories were lowered. The new totals are \$3,904,000; \$5,989,000; \$7,828,000; and \$7,982,000 for 2012, 2013, 2014, and 2015, respectively. Figure 3-2 shows trends in cost to collect unpaid tolls by category after removing the four capital cost sub-categories listed above.

Table 3-2 Cost to Collect Unpaid Tolls Recommended by CDM Smith (in thousands)

Type of Expenditure	2012	2013	2014	2015
Customer Service Operations	\$2,683	\$3,347	\$4,070	\$3,986
Supplies	\$424	\$975	\$1,226	\$1,613
Purchased Services	\$282	\$1,006	\$1,640	\$1,384
Property, Plant & Equipment	\$470	\$534	\$692	\$683
Other Expenditures	\$46	\$126	\$199	\$317
Total	\$3,904	\$5,989	\$7,828	\$7,982

Note: Compared to Table 2-3, this table removes the four capital or start-up cost sub-categories listed above

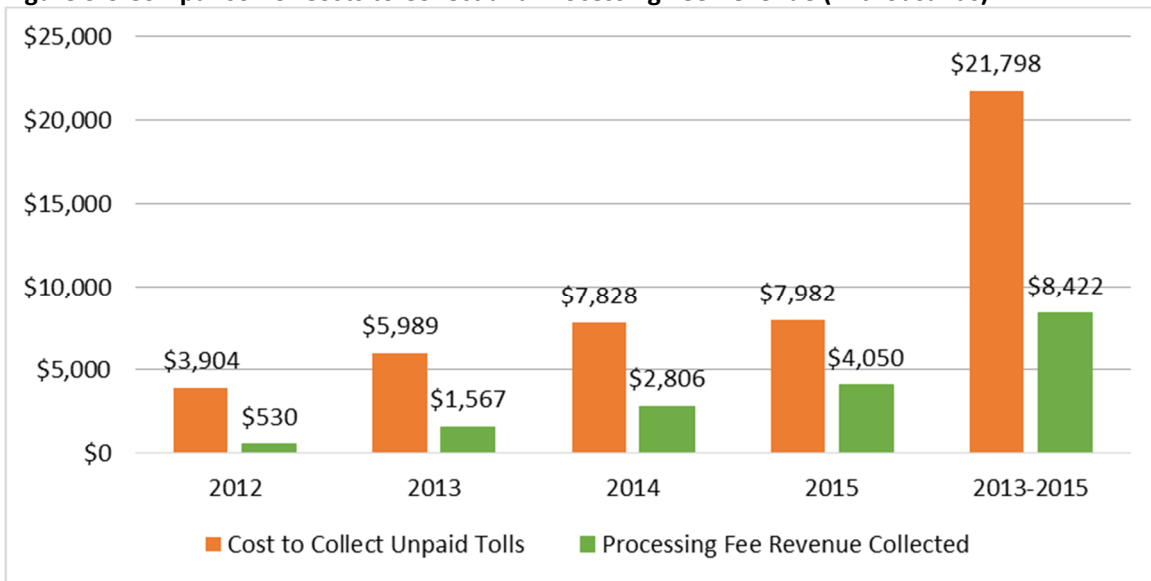
Figure 3-2 Trends in Cost to Collect Unpaid Tolls by Category Recommended by CDM Smith



3.3 Comparison

Figure 3-3 shows the annual comparison of the cost to collect unpaid tolls as presented in Sub-Section 3.2, with the processing fee revenue collected presented in Sub-Section 3.1. As shown, processing fee revenue collected has been much lower than costs to collect. Using this methodology, NCTA has satisfied the legislative requirement that the processing fee does not exceed the cost of collecting Bill by Mail tolls in accordance with G.S. 136-89.215. In the last three years, (2013 to 2015) total processing fee revenue collected of \$8,422,000 is 38.6 percent of the total cost to collect unpaid tolls of \$21,798,000 for the same years.

Figure 3-3 Comparison of Costs to Collect and Processing Fee Revenue (in thousands)



Note: Cost to collect unpaid tolls does not include capital costs

3.4 Civil Penalty Proceeds

Civil penalty proceeds collected by NCTA are shown in Table 3-3. As indicated previously in this report, civil penalty proceeds are not retained by NCTA. Rather, they are deposited in the North Carolina State Schools Fund. Thus they are provided for reference only and are not included in the cost to collect unpaid tolls comparisons shown previously in this section. Comparing Table 3-1 and Table 3-3 shows civil penalty proceeds and processing fee revenues collected are of similar magnitude.

Table 3-3 NCTA Historical Civil Penalty Proceeds (in thousands)

Calendar Year	Civil Penalty Proceeds
2012	\$454
2013	\$1,357
2014	\$2,348
2015	\$3,363

Source: NCTA

Section 4

Industry Survey

CDM Smith collected data on video tolling business rules from other toll agencies as part of the overall study effort. Data was collected to compare with NCTA's video tolling business rules and obtain information on lessons learned from the operating experience of other agencies. Data sources included the following:

- A review of published material from articles, reports, and toll agency websites;
- A survey of business rules conducted by CDM Smith sent to toll agencies currently operating video tolling payment programs; and
- Phone calls with toll agencies conducted by CDM Smith to discuss lessons learned based on operating video tolling payment programs.

The methodology and results of these data collection efforts are discussed in more detail below.

4.1 Review of Published Material

Processing fees and other related business rules for video tolling, such as those for the NCTA Bill by Mail program, have been the subject of much media attention around the country in recent years. This is especially the case as new toll facilities open with video tolling or existing facilities add video tolling. While there have been some articles on positive aspects of video tolling, much of the media attention has been negative. A CDM Smith review of news articles and editorials relating to video tolling from around the country in the past two years revealed some common negative themes including:

- Insufficient public outreach and education;
- Insufficient or ineffective signing;
- Delayed billing for video tolls;
- Insufficient staff to handle customer service center call volume; and
- Erroneous billing for video tolls.

While each agency responded somewhat differently to this media feedback, most initially stated that sufficient outreach was conducted and that problems would subside in time. The sheer scale of many video tolling implementations likely made some negative media attention inevitable. However, most agencies eventually adopted some kind of changes to their business rules partially due to this feedback. These have included amnesty programs for first-time or infrequent violators and customer service center reforms. Additional information on this review of news articles and editorials can be provided upon request.

In part due to lessons learned by agencies already adopting video tolling, other agencies have been observed to be taking a more gradual approach to implementing video tolling on their existing facilities. Additionally, projected costs to implement a video tolling system have increased over time, as the industry more fully understands the process based on operating experience.

In addition to a review of published news articles, toll agency websites were also reviewed by CDM Smith staff to obtain basic information on video tolling business rules. Most toll agencies provide some level of information on their websites. However, because business rule terminology has been found to vary between toll agencies (and sometimes agency departments) a number of written agency surveys and follow up phone calls were also attempted to verify and standardize the information. The results of this data collection are provided in Table 4-2 later in the Survey Results Sub-Section.

4.2 Survey Methodology

A written survey of business rules focused on video tolling was developed as part of this study. The survey introduction letter and blank survey form are included in Appendix A of this report and were approved by NCTA in November 2015. Those agencies filling out the written survey were contacted in a follow-up phone call to discuss lessons learned based on operating video tolling payment programs.

All toll agencies currently utilizing license plate tolling were initially considered for the survey. Of those, the agencies shown in Table 4.1 were selected to send the survey form. The reason(s) for surveying each agency are included in the table. Most agencies were surveyed as regional tolling authorities with sizes generally similar to NCTA.

The toll agencies in Table 4-1 were contacted in December 2015 by sending the survey introduction letter, a sample survey form populated with information from NCTA, and a survey form populated with information from the website and other public sources of the agency being surveyed. In general, agencies were initially contacted by CDM Smith staff with pre-existing business relationships with the agency.

Table 4-1 Agencies Attempted to Survey

State	Agency	Year AET Started	Reason(s) for Surveying
CA	Transportation Corridor Agencies	2014	Regional tolling authority; Good lessons learned from recent AET conversion
CO	E-470 Public Highway Authority	2009	Regional tolling authority; Also operate one AET toll facility
GA	Georgia State Road and Tollway Authority	2011	Do not offer a video tolling option but geographically close to NC
FL	Miami-Dade Expressway Authority	2007	Regional tolling authority
FL	Tampa-Hillsborough County Expressway Authority	2010	Regional tolling authority; Also operate one AET toll facility
ON	407 ETR (Ontario, Canada)	1997	First AET toll road facility in North America; Different perspective from privately operated agency
TX	North Texas Tollway Authority	2007	Early adopter of AET; Good lessons learned
TX	Central Texas Regional Mobility Authority	2008	Regional tolling authority
WA	Washington State Department of Transportation	2011	Also have one AET facility with video tolling (SR 520 bridge); Started AET tolling within a few days of Triangle Expressway

4.3 Survey Results

Of the agencies listed in Table 4-1, the following responded to the survey:

- Transportation Corridor Agencies (TCA);
- E-470 Public Highway Authority (E-470);
- Tampa-Hillsborough County Expressway Authority (THEA);
- 407 ETR; and
- Washington State Department of Transportation (WSDOT).

The following sub-sections summarize the survey results relating to business rules and costs to collect. Discussion is also included to compare the results to NCTA operations.

4.3.1 Business Rules

Table 4-2 provides information on video tolling business rules for the agencies included in the survey. In addition, information for the Central Texas Regional Mobility Authority (CTRMA) is provided from their website. Full tables including complete results of the written surveys are included in Appendix B.

Overall, a wide variety of video tolling business rules are in place across the toll industry which makes it difficult to determine industry best practices. For example, charging fees and penalties on a per trip/transaction basis or per bill/invoice basis can make a considerable difference in the total amount charged to a customer who takes several trips and receives several billing

statements. However, in reviewing the information in Table 4-2 as a whole, NCTA total video tolling fee and penalty levels are on the lower end of the industry. This is especially true considering that civil penalty proceeds are not retained by NCTA. Some key differences between NCTA and other agencies are:

- TCA treats all unregistered customers as violators. Violators who do not pay their first two statements are charged \$100 per transaction. Therefore one unpaid transaction in the TCA system would result in more fines than a customer can accrue in an entire year of traveling on the NCTA system without paying.
- E-470 customers can be charged a maximum of \$70 per account per full billing cycle (including collections) if a customer goes through the entire billing cycle without paying. The entire billing cycle for E-470 takes at least seven months. However, E-470 retains all fee revenue and penalty proceeds collected compared to only a maximum of \$48 per account per year retained by NCTA.
- THEA customers can be charged a maximum of \$20 per account per full billing cycle (including collections) if a customer goes through the entire billing cycle without paying. The entire billing cycle for THEA takes about five months. Florida Turnpike Enterprise (FTE) manages the initial video tolling process and retains the \$2.50 charged on the first and second bills. Thus, THEA retains \$15 per account per full billing cycle if a customer goes a full billing cycle before paying. This is less than NCTA even if a THEA customer went through multiple billing cycles in a year. However, because FTE manages the first two bills of the video tolling process, THEA's back office staffing, system, and material requirements are also less than NCTA.
- 407 ETR has a \$4 "camera charge" per trip on the first video bill. All video customers pay this charge, unlike on the NCTA system where the first video bill does not have a fee included. This \$4 "camera charge" is also important to be assessed on every bill because 407 ETR does not have a base ETC toll discount. However, 407 ETR also has significantly higher base toll rates, at ranging from about 26 to 33 cents per kilometer (42 to 53 cents per mile) depending on time of day and day of week. Given the high toll rates, the 26.82 percent effective annual interest on unpaid tolls assessed on the second bill can result in substantial fines if several long distance trips are made on the facility.
- CTRMA charges a higher fee on the initial bill (\$1) and second bill (\$15) than NCTA. The total CTRMA fee on the first four statements for an unpaid toll is \$61, which is more than NCTA can charge and retain in an entire year (\$48) for unpaid tolls.
- WSDOT (SR-520 Toll Bridge) has a similar ETC discount, first video bill fee, and second video bill fee compared to NCTA. However the third statement has a \$40 civil penalty assessed per transaction. Thus, a few unpaid transactions on the SR-520 Toll Bridge would result in much higher fees and penalties than can be charged by NCTA in a year.

Table 4-2 Summary of Video Tolling Processing Fees and Penalties

Agency	ETC Account Payment % ¹	Passenger Car ETC Toll Discount Relative to Video Toll	First Video Bill Fee or Penalty	Second Video Bill Fee or Penalty	Third and Subsequent Video Bill Fees or Penalties	Collections	Vehicle Registration Hold	Any Specific Maximum Fees and Penalties	Any Fee and Penalty Proceeds that Pass Through the Agency
NCTA (NC)	58%	35%	None	\$6 processing fee per bill	\$6 processing fee per bill additional. Max of \$48.00 in processing fees can be charged in a 12-month period. Civil penalty fee of \$25.00 after 60 days from the first Bill by Mail invoice. Only one civil penalty can be assessed in a 6-month period. Max of \$50.00 in civil penalties can be charged in a 12-month period.	Policy states that in-state customers (NC license plates) may be sent to collections if they owe at least \$500 and their account is 90 days past due or if they owe less than \$500 and their account is a year past due. Out of state customers may be sent to collections if their account is 90 days past due.	Policy states that customers may have their vehicle registration withheld once an invoice is 90 days past due. This only applies to customers with NC license plates.	\$98 per year per customer (\$48 for processing fees and \$50 for civil penalties)	Civil penalty proceeds go into the State Schools Fund
TCA (CA) ²	81%	About 25% (relative to One-Time video toll)	\$57.50 per transaction (violation fee) ²	\$42.50 per transaction (violation fee) ²	No third bill – accounts may be sent to collections or may have vehicle registration withheld	Failure to respond to the second violation notice may result in accounts sent to third-party collections based on the age and amount of the debt owed.	Failure to respond to the second violation notice may result in DMV hold being put on registration	\$100 per transaction (violation fee) ²	NA
E-470 (CO)	68%	20%	No fees or penalties on first bill	None	No third bill – accounts are sent to collections	Collections agency process begins after second bill is not paid. This includes an additional \$20 per account collection fee. If this is not paid an additional \$25 civil penalty is assessed. If these are not paid the case is referred to an administrative law court which assess an additional \$20 adjudication fee.	If found liable for unpaid tolls in adjudication process, vehicle registration is blocked	\$70 per full billing cycle if a customer goes through a full billing cycle (including collections and courts) without paying	NA
THEA (FL)	80%	16%	\$2.50 per bill	\$2.50 per bill additional	No third bill – accounts are sent to collections	Collections agency process begins after second bill is not paid. This process has three notices which include a collection fee of \$9 per account for the first notice and a late fee of \$6 per account for the second notice.	The second notice from the collection agency includes a vehicle registration block.	\$20 per full billing cycle if a customer goes through a full billing cycle (including collections and courts) without paying	Florida Turnpike Enterprise manages the initial video tolling process so the \$2.50 processing fee revenues for the first and second bills are retained by them. (THEA manages the collections process.)
407 ETR (Ontario)	Unknown	0% ³	\$4 camera charge per trip for light vehicles (\$50 per trip for heavy)	Additional 26.82% effective annual interest rate charged on unpaid tolls	No third bill – accounts are sent to collections and may have vehicle registration withheld	Collections agency process begins after second bill is not paid. This includes an additional \$15 per account collection fee.	A customer may be denied license plate renewal after the second bill is not paid. This includes a \$20 enforcement fee per account.	No specific Maximum. Depends on how long tolls remain unpaid	NA
CTRMA (TX) ⁴	68%	25%	\$1.00 per bill	\$15.00 per bill additional	\$15 per bill additional. Also have fourth statement with \$30 per bill additional.	Unknown ⁴	Unknown ⁴	Unknown ⁴	Unknown ⁴
WSDOT – SR 520 (WA)	67%	30% during AM and PM peaks with a greater discount in off-peaks (relative to Pay-by-Mail video toll)	No fees or penalties on first bill	None	Additional \$40 civil penalty per transaction on third bill.	Accounts may be sent to collections agency if third bill is not paid.	A hold may be placed on vehicle registration if third statement is not paid.	No specific maximum. Depends on number of transactions unpaid	After funding certain elements of video tolling enforcement, remaining civil penalty proceeds can be used toward SR 520 corridor capital expenses at the discretion of the legislature.

¹Sources and years for ETC Account payment percentages are as follows: NCTA (2015) from Section 1.2.3 of this report; TCA (2015) from another CDM Smith study; E-470 (2014) from Toll Transactions Report; THEA (FY 2012) from Dec 2012 Official Statement; CTRMA (2014) from Nov 2015 Official Statement; and WSDOT (2014) from another CDM Smith study

²TCA does not mail video tolling bills for unregistered customers (TCA does not perform DMV lookups). A customer who does not pre-register for a transponder account, pre-register for a charged or invoiced video account, or pay a One-Time video toll within five days of traveling on TCA facilities is treated as a violator. Invoiced pre-registered video accounts are assessed a \$2 processing fee per bill.

³\$4 camera charge per trip is assessed in the first bill

⁴Based on publically available data only (not verified through written survey and phone call)

4.3.2 Cost to Collect Estimation

As previously discussed in this report, NCTA has estimated the cost to collect unpaid tolls using a specific methodology. To provide context to the NCTA estimation methodology, CDM Smith reviewed other examples of cost to collect estimation in the toll industry. Based on these reviews and discussions with toll industry professionals, it can be stated that there is variation relating to the categories that are included in estimating cost to collect. Similar to the review of video tolling business rules, this variation makes it difficult to determine industry best practices related to cost to collect estimation. Variation is often related to different toll agency organizational structures and different arrangements for toll collection within and between toll agencies. While there is not an industry standard for comparison, NCTA's cost to collect estimation methodology appears to be in line based on other toll industry examples.

Another more general source of cost to collect information is a National Cooperative Highway Research Program (NCHRP) study titled "Costs of Alternative Revenue-Generation Systems" (NCHRP 689). Some relevant elements of this study are described below to offer more context on cost to collect estimation. NCHRP 689 compared motor fuel tax, tolling, VMT fees, cordon pricing, and parking pricing as means of generating revenue for transportation systems. The section on tolling divided total operating costs into three categories: (1) administration, (2) collection, and (3) enforcement. Enforcement strategy was presented as a choice between civil and criminal enforcement, with civil penalties being cheaper to implement but less of a deterrent, and criminal penalties being an effective but expensive deterrent. The report summarized the following common cost measures as benchmarks:

- (1) Costs as a Percent of Toll Revenue;
- (2) Cost per Toll Transaction; and
- (3) Cost per Centerline Mile.

For benchmark (1), the average operating cost as a percentage of revenue was found to be 33.5 percent for the agencies studied. The study found that 407 ETR in Toronto, Ontario was the most efficient facility due to its limited competition and private operation, with incentive to maximize profits and minimize costs. Facilities that scored poorly on this benchmark included those with regulatory or political restrictions on toll increases.

For benchmark (2), the average operating cost per transaction was found to be \$0.54. Expansive urban and multi-facility agencies benefitted from economies of scale, with higher numbers of transactions leading to decreasing costs per transaction. It should be noted that single facility toll agencies had higher costs per transaction.

For benchmark (3), the average cost per centerline mile was found to be about \$830,000. Enforcement costs were found to be a function of facility centerline mileage, as larger facilities are more costly to patrol.

4.4 Lessons Learned

A wide variety of lessons learned related to video tolling have been developed by toll agencies and industry professionals involved with implementing video tolling. The lessons learned most applicable to this study are listed below:

- E-470 made significant changes to their video tolling business rules in 2012 to make their billing process easier to understand and reduce the number of extremely large fines and fees. Fines and fees were reduced and changed from per transaction to per account. The amount of time to pay was increased and the toll bill itself was redesigned. Customers have been receptive to these changes, resulting in fewer customer complaints and lower leakage rates.
- Video tolling fees can be influenced by actual costs to develop and send out invoices, revenue needed to maintain net toll revenue neutrality of video tolling, and political influences. Public reaction can also play a role, either directly or indirectly through political influences.
- Some agencies have found it beneficial to implement business rules that significantly reduce previously charged fees on un-registered (Bill by Mail) customers to encourage them to register for transponder accounts. (Cited by TCA and WSDOT.)
- Many video tolling customers are infrequent users. However, video tolling business rules should consider the need to manage the quantity of video tolls and potential for system abusers. (Cited by TCA.)
- Un-registered video tolling for commercial vehicles is much more challenging than for passenger cars. To mitigate this, 407 ETR has implemented much higher video tolling processing fees for heavy (commercial) vehicles than light vehicles (passenger cars).
- It is helpful for agencies to standardize business rules as much as possible across different facilities in a specific region to minimize driver confusion. (Cited by WSDOT.)
- Online post-payment programs, where a customer can go online after their trip and pay their tolls using their license plate number, have been found to be a more cost-effective way to collect video tolls. WSDOT and TCA both have an online post-payment program in place.

Section 5

Summary of Recommendations

This section provides a summary of recommendations based on the review of NCTA operations, cost to collect unpaid tolls, and processing fee revenues provided in Sections 1, 2, and 3 as well as on the industry survey discussed in Section 4.

5.1 Recommendations for Comparison of Cost of Collection for Unpaid Toll and Fee Revenues

NCTA began tolling on the Triangle Expressway in January 2012 and has since experienced strong transaction and revenue growth. Drivers on the Triangle Expressway can pay using the NC Quick Pass transponder program, which is subject to discounted tolls compared to the alternative Bill by Mail payment program. In addition to non-discounted tolls in the Bill by Mail program, if the initial Bill by Mail invoice is not paid, the second and subsequent invoices are subject to a \$6.00 processing fee per invoice (up to a \$48.00 maximum in a 12-month period). NCTA legislation specifies “The Authority must set the processing fee at an amount that does not exceed the costs of collecting the unpaid toll” (G.S. 136-89.215).

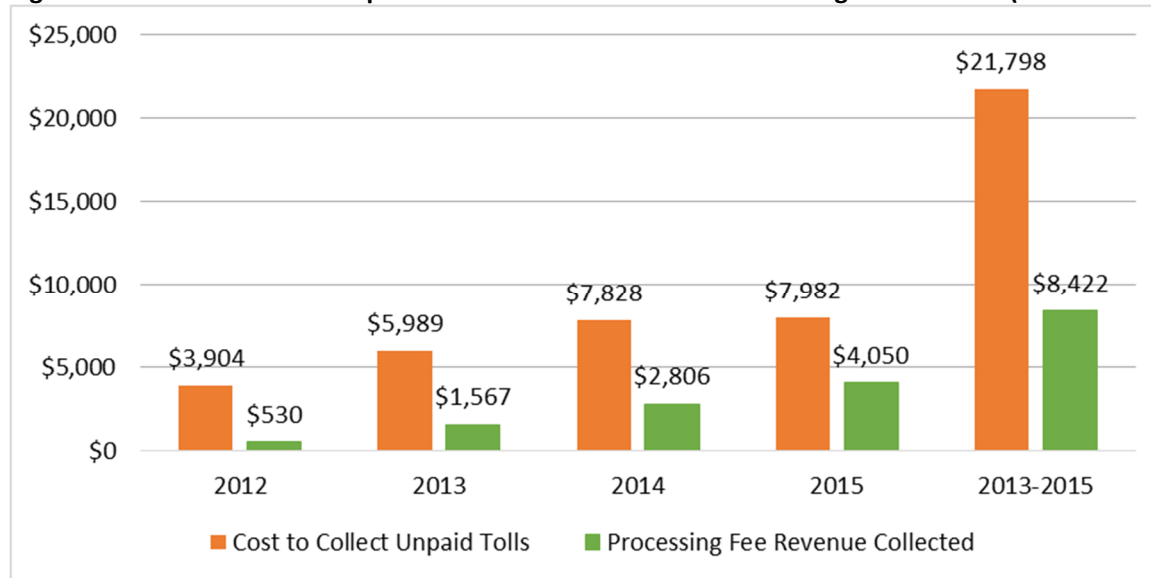
The estimated cost to collect unpaid tolls has been evaluated annually by NCTA. NCTA estimated the costs to be \$7.1 million, \$8.9 million, \$10.9 million, and \$11.1 million for calendar years 2012, 2013, 2014, and 2015, respectively. The shares of BBM expenses for personal services, supplies, purchased services, property, plant, equipment, and credit card fees were estimated and are included in these estimates. CDM Smith reviewed the categories and sub-categories included and overall methodology for this estimation. CDM Smith recommends removing sub-categories that can be considered part of overall capital (construction) costs from the estimates. These sub-categories can be considered to be paid through bond financing. When removing these sub-categories the costs to collect unpaid tolls are estimated to be \$3.9 million, \$6.0 million, \$7.8 million, and \$8.0 million for calendar years 2012, 2013, 2014, and 2015, respectively.

CDM Smith recommends that the processing fee revenue collected should be compared with the cost to collect the Bill by Mail tolls (after removing capital costs) on a total fee revenue and cost basis. Figure 5-1 shows this comparison with costs to collect in orange and processing fee revenue collected in green. As shown by this comparison, to date, processing fee revenue collected has been much lower than the cost of collecting the unpaid tolls. CDM Smith recommends that the comparison be done as a 3 year rolling total to lessen individual year spikes in the analysis due to new facilities opening. By this comparison, the 2013 to 2015 total processing fee revenue of \$8.4 million is less than the 2013 to 2015 cost to collect unpaid tolls of \$21.8 million. Thus, the requirement of G.S. 136-89.215 is being met.

Because NCTA operates on a July to June fiscal year basis, cost and revenue summaries are more readily available in fiscal years rather than calendar year. Thus, in the future CDM Smith recommends performing this comparison annually at the end of each fiscal year. If the three (fiscal) year rolling total processing fee revenues are shown to exceed costs to collect unpaid tolls

during the annual review, a reduction in the processing fee should be considered. If deemed necessary, a change in the processing fee could then be made on the typical toll change date of January 1. This would give six months of review time between July and December before a process fee change would need to be made.

Figure 5-1 Recommended Comparison of Costs to Collect and Processing Fee Revenue (in thousands)



5.2 Other recommendations

Other recommendations based on the analysis and industry survey included in this report are listed below:

- NCTA could consider reducing the number of invoices sent for unpaid tolls. In general, other agencies surveyed sent between two and four invoices.
- NCTA video tolling fees and penalties are on the lower end of the toll agencies surveyed. Given this, NCTA and the legislature could consider increasing processing fees. This may include applying a processing fee on the initial bill sent to Bill by Mail customers or increasing the current \$6.00 processing fee on the second and subsequent bills. These changes would likely also influence some Bill by Mail customers to enroll in the NC Quick Pass program.
- NCTA may consider an online post-travel payment option similar to what is available on WSDOT and TCA facilities. This would require additional implementation steps, including roadway signage and an online payment website, but could be marketed as a way to pay without a transponder while still avoiding invoices and processing fees.
- NCTA should continue to monitor toll industry trends in AET and video tolling. Video tolling is still relatively new in the tolling industry. Many additional facilities have recently implemented significant AET or video tolling operations or will implement in the near future. These include several major agencies such as the Pennsylvania Turnpike Commission, New York State Thruway Authority, and the Illinois Tollway.

Appendix A

Agency Survey Documents

Figure A-1 Request Letter to Agencies

December 1, 2015

CDM Smith is collecting video payment business rule information from different agencies on behalf of the North Carolina Turnpike Authority (NCTA). The information being collected will be used by NCTA to evaluate their own video payment business rules and determine whether changes may be warranted. This evaluation is important especially as their all-electronic tolling (AET) facility – the Triangle Expressway – matures and as other North Carolina AET facilities begin construction. Your help in this data collection by filling out the attached survey and having a follow up phone call would be greatly appreciated.

Two excel files are attached that show the survey. One file shows an example completed survey form from NCTA. The other file has some blanks for you to fill in. We (CDM Smith) started to fill in the survey using information from online sources including your website. You can verify and add to this information. A column to add notes is also provided to include clarifications about the different categories. In addition to the rules, we are most interested in lessons learned from your experience operating your agency with these business rules.

An attempt was made to keep the categories as straightforward as possible. However, terminology has been found vary between different agencies and agency departments. Thus, we would like to schedule a follow up phone call between December 3rd and December 18th to discuss the survey, and especially any lessons learned you have. You can either complete the survey before the call or we can fill out the survey together during the call. Please contact Ron Davis at DavisRW@cdmsmith.com or 630-874-7916 with your availability for this follow-up call.

Thank you very much for your assistance. If you have any questions or concerns please contact Ron Davis at DavisRW@cdmsmith.com or 630-874-7916.

Figure A-2 Blank Survey Form

Agency/Facility: Contact Information: Date: 			
#	Categories	Details	Notes
Business Rule Steps			
1	Transponder Account Options		
2	Video Account Options		
3	Other Account Options		
4	Video Toll Billing Frequency		
5	Initial Video Toll Process		
6	Initial Processing Fee		
7	Initial Payment Deadline		
8	Second Statement Process		
9	Second Statement Fee		
10	Second Statement Payment Deadline		
11	Third Statement Process		
12	Third Statement Fee		
13	Third Statement Payment Deadline		
14	Fourth Statement Process		
15	Fourth Statement Fee		
16	Fourth Statement Payment Deadline		
17	Collections Process		
18	Courts		
19	Vehicle Registration Block		
20	Fee Revenue Neutrality Requirement		
21	Other Steps Not Listed Above		
General Questions			
22	Are the Business Rules in Place Addressed in Specific Legislation? If so, what is the Legislation?		
23	Historical Changes to Business Rules		
24	Justifications for these Historical Changes		
25	Lessons Learned from Operating your System with these Business Rules		

Appendix B

Detailed Survey Results

The following pages include detailed survey results for the following agencies that responded to the survey:

- Transportation Corridor Agencies (TCA);
- E-470 Public Highway Authority (E-470);
- Tampa-Hillsborough County Expressway Authority (THEA);
- 407 ETR; and
- Washington State Department of Transportation (WSDOT).

Figure B-1 Transportation Corridor Agencies Survey Results

#	Categories	Details	Notes
Business Rule Steps			
1	Transponder Account Options	FasTrak prepaid account	
2	Video Account Options	Pre-registered account program called ExpressAccount offers three payment options for prepaid, pay-as-you-go, and invoiced.	
3	Other Account Options	Non-account holders can pay online within 5 days of the transaction	
4	Video Toll Billing Frequency	TCA does not invoice/bill for unregistered accounts	
5	Initial Video Toll Process	Unpaid transactions become violations which are issued within 21 days from identification of responsible party (per state legislation)	
6	Initial Processing Fee	N/A - Each violation carries a \$57.50 penalty. This may be mitigated based on TCA business decisions which are influenced by factors such as first time or repeat violations, previous account holder, and notice level	
7	Initial Payment Deadline	violations require payment within 21 days to prevent escalation	
8	Second Statement Process	N/A - however, unpaid violations do escalate if not paid or resolved and a "notice of delinquent toll evasion is issued"	
9	Second Statement Fee	N/A - "notices of delinquent toll evasion" increase the penalty per violation to a total of \$100. The same state laws and TCA business rules apply	
10	Second Statement Payment Deadline	21 days from second violation notice date	
11	Third Statement Process	N/A - if toll violations remain unresolved 30 days after the delinquent notice, CA agencies have various options to pursue debt including vehicle registration holds, collections, tax refund intercept and civil judgments	
12	Third Statement Fee	N/A	
13	Third Statement Payment Deadline	N/A	
14	Fourth Statement Process	N/A	
15	Fourth Statement Fee	N/A	
16	Fourth Statement Payment Deadline	N/A	
17	Collections Process	TCA will utilize third-party collections based on the age and amount of the debt owed and plans to send violation accounts owing more than \$950 to collections at the same time DMV holds are placed	
18	Courts	CA agencies may utilize civil judgments for unpaid tolls and penalties. TCA uses this tool sparingly and only for the most egregious violators	
19	Vehicle Registration Block	Failure to respond to the second violation notice could result in DMV hold being put on registration	
20	Fee Revenue Neutrality Requirement	None	
21	Other Steps Not Listed Above	None	
General Questions			
22	Are the Business Rules in Place Addressed in Specific Legislation? If so, what is the Legislation?	CA Vehicle Code 40250-40273	
23	Historical Changes to Business Rules	Do not think there has been any	
24	Justifications for these Historical Changes	N/A	
25	Lessons Learned from Operating your System with these Business Rules	Each CA toll agency mitigates penalties as they feel appropriate and is characterized with the "bark is worst than bite" analogy as most violators are infrequent. However, a strong threat does have an impact on potential abuse and the penalties and tools are needed to manage the quantity of violations and system abusers.	
26	Do all fees/civil penalties stay within the agency or are some revenues directed elsewhere?	All stay within	
27	Is there a per year or per transaction cap on the amount of fees/penalties that an individual can receive?	\$100 maximum fine per violation	

Figure B-2 E-470 Public Highway Authority Survey Results

#	Categories	Details	E-470 NOTES
Business Rule Steps			
1	Transponder Account Options	Express Toll	ExpressToll is the account based system that provides customers with a pre paid toll account that is automatically deducted when tolls are incurred. The customer may have a 6C stickter tag, a T-21 transponder, a 6C motorcycle tag or the Switchable HOV transponder that allows the customer to travel for free with 2+ occupant on facilities that offer HOV travel
2	Video Account Options	User automatically becomes a License Plate Toll customer if they are not an Express Toll customer	License Plate Toll customers pay a 25% premium on E-470
3	Other Account Options	NA	
4	Video Toll Billing Frequency	Monthly statements (every 30 days)	
5	Initial Video Toll Process	License Plate Toll statement is sent for all transactions in a 30 day period, beginning on the date of the initial transaction	Drivers are automatically a License Plate Toll customer if they are not an ExpressToll customer with a transponder associated with an ExpressToll account. Cameras will photograph the front and rear license plates and a statement is sent to the vehicle owner's address on file with the Department of Motor Vehicles (DMV)
6	Initial Processing Fee	no additional fee beyond License Plate Toll surcharge for each transaction	
7	Initial Payment Deadline	30 days	
8	Second Statement Process	A second statement is sent with an additional late fee assessed	
9	Second Statement Fee	additional \$5.00 late fee per account	
10	Second Statement Payment Deadline	3 months from the initial statement date	
11	Third Statement Process	referred to an outside agency collections law firm	
12	Third Statement Fee	one-time \$20 collections fee per account	
13	Third Statement Payment Deadline	4 months after entering into collections process	
14	Fourth Statement Process	Civil Penalty Assessment Notice sent	
15	Fourth Statement Fee	additional \$25 Civil Penalty	
16	Fourth Statement Payment Deadline	no deadline given; however, if Civil Penalty is not paid, case is referred to administrative law court where a final \$20 Adjudication Fee is assessed	
17	Collections Process	collections process begins after second statement when assessed late fee remains unpaid	
18	Courts	Civil Penalty Assessment Notice with assessed Civil Penalty fee is sent after unpaid account has been in collections for 4 months; if Civil Penalty is unpaid, case is referred to administrative law court for adjudication and additional \$20 Adjudication Fee is assessed	
19	Vehicle Registration Block	if found liable for unpaid tolls in adjudication process, vehicle registration is blocked for Colorado drivers	
20	Fee Revenue Neutrality Requirement	Colorado Revised Statute CRS Title 43 Article 4 Part 506.5 section 5: "the aggregate amount of penalties, exclusive of court costs, collected as a result of civil penalties... shall be applied by the authority to defray the costs and expenses of enforcing the laws of the state and the rules and regulations of the authority"	
21	Other Steps Not Listed Above		
General Questions			
22	Are the Business Rules in Place Addressed in Specific Legislation? If so, what is the Legislation?	CRS 43-4-506.5	
23	Historical Changes to Business Rules	In 2012, E-470 rolled out a significant update to the billing process. Fines and fees were reduced, amount of time to pay was increased and fees were shifted from per transaction to per account. The License Plate Toll bill was also redesigned to make the bill easier to understand	
24	Justifications for these Historical Changes	E-470 wanted to design the billing process to be as effective and fair. The new billing process was created to be easier to understand and intended to collect the tolls without charging hefty fines and fees	
25	Lessons Learned from Operating your System with these Business Rules	Customers have been very receptive to the new billing process, less complaints and overall great collection rate (91%)	
26	Do all fees/civil penalties stay within the agency or are some revenues directed elsewhere?	All stay within	
27	Is there a per year or per transaction cap on the amount of fees/penalties that an individual can receive?	\$70 per full billing cycle if a customer goes through a full billing cycle (including collections and courts) without paying	

Figure B-3 Tampa-Hillsborough County Expressway Authority Survey Results

#	Categories	Details	Notes
Business Rule Steps			
1	Transponder Account Options	SunPass and other FL transponder account options (Leeway, E-Pass)	
2	Video Account Options	User automatically becomes a Toll-By-Plate customer if not a SunPass customer	
3	Other Account Options	N/A	
4	Video Toll Billing Frequency	30 day billing life cycle	30 day anniversary date
5	Initial Video Toll Process	within 14 days of the transaction a Toll-By-Plate Invoice is mailed to the registered owner	
6	Initial Processing Fee	\$2.50 Administrative Fee on every invoice, in addition to Toll-By-Plate surcharge	Florida Turnpike Enterprises handles the first two rounds of billing and collects the fee
7	Initial Payment Deadline	30 days	
8	Second Statement Process	A second invoice is sent if the first is not paid in 30 days	Florida Turnpike Enterprises handles the first two rounds of billing and collects the fee
9	Second Statement Fee	additional \$2.50 Administrative Fee per invoice	
10	Second Statement Payment Deadline	30 days	
11	Third Statement Process	FTE hands the billing process over to THEA after the first two rounds of unpaid bills. THEA places the unpaid transactions into the debt collections database and the account is sent to collections. The collections agency sends a First Notice of Collections	After issuance of this third invoice, THEA has the ability to issue a Uniform Traffic Citation (UTC) (violation of State Uniform Traffic Control statute 316.1001). If a citation is not resolved during the final 75-day grace period provided by Clerks of Court, then the driver is subject to additional penalties. Though THEA is certified to issue UTCs, none have been issued thus far
12	Third Statement Fee	\$9 First Notice of Collections Fee	Used to be \$10 prior to 1/1/2016
13	Third Statement Payment Deadline	30 to 45 days	
14	Fourth Statement Process	Second Notice of Collections is sent if the First is not paid by the deadline and a hold on vehicle registration is placed if tolls are in excess of \$5	
15	Fourth Statement Fee	\$6 Second Notice of Collections Fee (used to be \$7.50 prior to 1/1/2016)	
16	Fourth Statement Payment Deadline	30 to 45 days	
17	Collections Process	See third and fourth statement process description above	
18	Courts	An account may be transferred to the courts after the Second Notice of Collections is sent, though this is rarely done. Legal action is rare and no formal system has been set up to pursue violators through the courts, though THEA has settled with a few major violators in small claims courts	
19	Vehicle Registration Block	A hold on vehicle registration is placed after the issuance of the Second Notice of Collections if tolls are in excess of \$5	
20	Fee Revenue Neutrality Requirement: Is the fee structure designed to offset the administrative costs of collecting video tolls?	Administrative fees were set by an initial study based on estimated costs to cover invoicing and plate lookups	
21	Other Steps Not Listed Above	THEA creates "in-house invoices" for transactions that have been rejected by FTE for bad imaging or other similar reasons. THEA attempts to research the owner of the vehicle involved in the transaction and will bill them independently if the owner is identified. THEA also provides the owner with information on obtaining new, more legible plates	
General Questions			
22	Are the Business Rules in Place Addressed in Specific Legislation? If so, what is the Legislation?	N/A	
23	Historical Changes to Business Rules	Nothing significant	
24	Justifications for these Historical Changes	N/A	
25	Lessons Learned from Operating your System with these Business Rules	Transparency with the general public with regard to business rules is key	
26	Do all fees/civil penalties stay within the agency or are some revenues directed elsewhere?	Florida Turnpike Enterprise manages the initial video tolling process so the \$2.50 processing fee revenues for the first and second bills are retained by them. (THEA manages the collections process.)	
27	Is there a per year or per transaction cap on the amount of fees/penalties that an individual can receive?	\$20 per full billing cycle if a customer goes through a full billing cycle (including collections and courts) without paying	

Figure B-4 407 ETR Survey Results

#	Categories	Details	Notes
Business Rule Steps			
1	Transponder Account Options	407 ETR Transponder	Light vehicles (<5000kg) have different transponder than heavy vehicles; Heavy vehicles (>5000kg) are required to have transponders (not eligible for Video Recorded account)
2	Video Account Options	Video Recorded account tied to license plate	
3	Other Account Options	N/A	
4	Video Toll Billing Frequency	Customers are billed monthly (30 days based on their initial billing date)	No minimum on trips/tolls. Invoices are sent for \$0 in tolls (see additional details on this below). Note also that all customer accounts on 407 (transponder and video) are post-pay. So transponder users are also billed
5	Initial Video Toll Process	ETR Toll Bill is sent to the registered vehicle owner every month (30 days) based on their initial billing cycle	Have 8-10 billing cycles in a given month. Depends on when person first traveled
6	Initial Processing Fee	\$4 Camera Charge per trip for light vehicles. Heavy vehicles are charged \$50 camera charge per trip	Have additional \$0.90 per trip charge for both transponder and video users. This was implemented in Feb 2009 as the agency was losing money on short distance trips
7	Initial Payment Deadline	35 days after ETR Toll Bill date	Based on legislation
8	Second Statement Process	Notice of Failure to Pay sent if ETR Toll Bill remains unpaid after 35 days	Also referred to as section 16 notice
9	Second Statement Fee	a 26.82% effective annual interest rate is charged for unpaid tolls	This applies on continued billing of unpaid tolls even after collections and plate denial start
10	Second Statement Payment Deadline	90 days	
11	Third Statement Process	Notice of Plate Denial is sent if account is unpaid 90 days after receipt of Notice of Failure to Pay	Also referred to as section 22 notice. Third statement also triggers collections process
12	Third Statement Fee	Additional \$15 Collection fee or \$20 Enforcement fee	Depends if customer pays in collections process
13	Third Statement Payment Deadline		
14	Fourth Statement Process		
15	Fourth Statement Fee		
16	Fourth Statement Payment Deadline		
17	Collections Process	if account is unpaid 90 days after receipt of Notice of Failure to Pay, account is sent to a collection agency and subject to \$15 Collection Fee	Accounts in Notice of Plate Denial status but pay through the collections process are then in good standing and are allowed to renew their plates
18	Courts	Customer has 30 days after receipt of Notice of Failure to Pay to send a Notice of Dispute to 407 ETR, and may appeal the decision of 407 ETR regarding the Notice of Dispute to an independent arbitrator	
19	Vehicle Registration Block	Notice of Plate Denial accounts may be sent to the Ministry of Transportation for collection through denial of license plate renewal. These accounts are subject to an additional \$20 Enforcement Fee	
20	Fee Revenue Neutrality Requirement: Is there a mandate that the fee structure be calculated to offset the administrative costs of collecting video tolls?	Not specifically addressed in legislation	
21	Other Steps Not Listed Above		
General Questions			
22	Are the Business Rules in Place Addressed in Specific Legislation? If so, what is the Legislation?	Highway 407 Act of 2005	
23	Historical Changes to Business Rules	Have generally maintained same business rules since inception. There has been requests from the government for more control of toll rate changes but nothing has been withheld. For example, in 2004/2005 the new Ontario government took 407 to courts for changes. Courts ruled that 407 concession agreement should not be changed; In the past 407 did not sent invoices for \$0 but decided to do this to help in transparency; Started applying a \$50 camera charge to heavy vehicle video and transponder requirement	
24	Justifications for these Historical Changes	407 was having trouble collecting from heavy vehicles resulting in the transponder requirement. The \$50 video charge was put in place in April 1999 at the beginning of the concession agreement to encourage transponder adoption among heavy vehicles. Transponder adoption has increased since then	
25	Lessons Learned from Operating your System with these Business Rules	Pre-pay would be preferred. All accounts (transponder and video) are currently post-pay as written in original concession agreement; Heavy vehicle video tolling is challenging	
26	Do all fees/civil penalties stay within the agency or are some revenues directed elsewhere?	All stay within	
27	Is there a per year or per transaction cap on the amount of fees/penalties that an individual can receive?	No	

Figure B-5 Washington State Department of Transportation Survey Results

#	Categories	Details	Notes
Business Rule Steps			
1	Transponder Account Options	Good To Go! Pass	Pass options include sticker tag, occupancy-declarable tag, motorcycle tag, license plate tag (external), switchable tag (discontinued, but still used)
2	Video Account Options	Users automatically become a "Pay By Mail" customer if they do not have a prepaid account	Good to Go! pass holder becomes video customer if account is delinquent or tag is not read and plate is not on GTG account; PBM toll surcharges range between \$1.60 to \$2.00 depending on the toll facility and/or time of day
3	Other Account Options	WSDOT offers a "Pay by Plate" account as one of its prepaid options. By registering additional license plates on an Good To Go! account, an account holder can make those vehicles eligible for Pay By Plate rates; Pay By Plate transactions do not require a Good To Go! transponder but are charged the Good To Go! toll rate, plus an extra 25 cent fee	WSDOT offers a Short Term Account which allows customers to login to the GTG website and self identify a license plate and credit card to be charged. Customers have 72 hours to input the license plate and billing information. The information is active for 14 days. WSDOT charges a \$0.50 premium for this service
4	Video Toll Billing Frequency	A "repeat" customer will receive a monthly invoice on the anniversary of their first toll bill which includes any trips taken during the prior 30 day period	
5	Initial Video Toll Process	a Toll Bill is received by the registered vehicle owner within 14 days of the transaction	Delay allows for accurate license plate identification and registered owner information recovery as well as gives those customers who wish to utilize the Short Term account option time to input their plate and billing information
6	Initial Processing Fee	no additional fee beyond the Pay By Mail surcharge for the transaction	
7	Initial Payment Deadline	15 days from the date of the Toll Bill	
8	Second Statement Process	a Second Toll Bill is sent if the initial bill is not paid within 15 days	
9	Second Statement Fee	an additional \$5 reprocessing fee per bill	
10	Second Statement Payment Deadline	80 days from the date of the most recent transaction on the first notice	
11	Third Statement Process	a Notice of Civil Penalty is sent if the Second Toll Bill is not paid within 80 days of the most recent transaction on the first toll bill	
12	Third Statement Fee	an additional \$40 Civil Penalty fee per transaction	note that processing fee is per bill and civil penalty is per transaction
13	Third Statement Payment Deadline	20 days from the date of the Notice of Civil Penalty	The customer has 20 days to dispute or pay. If not they are eligible for vehicle registration hold or other escalated collection efforts
14	Fourth Statement Process	Department of Licensing may place a hold on vehicle registration and unpaid tolls, fees and penalties may be sent to collections	WSDOT does not send a notice when a license plate is forwarded for registration hold. The next notice the customer received is from Department of Licensing 120 days prior to the date of the registration renewal
15	Fourth Statement Fee	WSDOT does not have additional fees	DOL includes a \$15 processing fee for administering the registration hold
16	Fourth Statement Payment Deadline	Per DOL rules, transactions over 3 years old are not eligible for registration hold. Therefore, until a transaction is 3 years old, it remains eligible for payment	
17	Collections Process	may be referred to outside collections agency after Notice of Civil Penalty due date passes	Collection agency includes a set percentage fee which when recovered they retain as payment
18	Courts	WSDOT administers its own administrative hearing program. A customer can choose to dispute an NOCP in person or in writing	Washington state Office of Administrative Hearings provides the administrative law judges to hear the disputes
19	Vehicle Registration Block	Department of Licensing may place a hold on vehicle registration after Notice of Civil Penalty due date passes	DOL reviews WSDOT's hold requests each month for any vehicles which have registration renewals due in the next 120 days. DOL screens the hold requests for eligibility (customer still owns vehicle, transactions have not been previously resolved, transactions are not over 3 years old). DOL send notice with list of unpaid transactions and instructions on how to resolve
20	Fee Revenue Neutrality Requirement	RCW 47.56.795 (6) states "...to assess administrative fees as appropriate for toll collection processes. Administrative fees must not exceed toll collection costs	
21	Other Steps Not Listed Above		
General Questions			
22	Are the Business Rules in Place Addressed in Specific Legislation? If so, what is the Legislation?	Legislation governing tolling is included in several Revised Codes of Washington (RCWs). Many are related to authorization of tolling on state highways. The RCW which governs the photo-tolling process is codified in RCW 46.63.160. In addition, as WSDOT implements business practices related to the RCWs, a Washington Administrative Code (WAC). WAC 468-270-XXX and WAC468-305-XXX cover tolling related policies	
23	Historical Changes to Business Rules	Legislature has updated RCW 46.63.160 several times over the past three years related to how WSDOT is administering the photo-toll program	
24	Justifications for these Historical Changes	The majority of the changes have been implemented to allow WSDOT to resolve unpaid NOCPs without a strict requirement to collect all fees and civil penalties. WSDOT and administrative law judges have been given specific mitigating circumstances which can be taken into consideration when determining whether a customer is responsible for the tolls, fees and/or penalties	
25	Lessons Learned from Operating your System with these Business Rules	Customer response to the less strict interpretation of the RCW requirements related to photo-tolling have been good. This has allowed WSDOT to resolve approximately 12% of its unpaid toll receivables since July 2015. The process is still new, but WSDOT has not seen a tendency for the customers to ignore initial notices knowing that they can find relief later in the process (e.g., payment rates on initial notices have not reduced)	
26	Do all fees/civil penalties stay within the agency or are some revenues directed elsewhere?	After funding certain elements of video tolling enforcement, remaining civil penalty revenues can be used toward SR 520 corridor capital expenses at the discretion of the legislature.	
27	Is there a per year or per transaction cap on the amount of fees/penalties that an individual can receive?	No	

