Information and Privacy Commissioner/ Ontario

# 407 Express Toll Route: How You Can Travel the 407 Anonymously





2 Bloor Street East Suite 1400 Toronto, Ontario M4W 1A8 416-326-3333 1-800-387-0073 Fax: 416-325-9195 TTY (Teletypewriter): 416-325-7539 Website: www.ipc.on.ca



# **Table of Contents**

Objective	1
ntroduction	1
What is the 407 ETR?	2
ntelligent Transportation Systems	2
foll Roads in Other Jurisdictions	3
Ontario's 407 ETR and ITS	4
Why Ontario's 407 ETR is Different from Other Jurisdictions	4
Zehicles Over 5 Tonnes	6
Conclusion	7
2 & A	7



## **Objective**

The Ontario Transportation Capital Corporation (OTCC) and the Information and Privacy Commissioner/Ontario (IPC) wish to raise the public's awareness as to how one can travel along the 407 Express Toll Route (407 ETR) — an electronic toll highway, and still maintain their personal privacy.

## Introduction

When the IPC first learned that the 407 ETR was going to use electronic technology to collect data on highway users for purposes of automatic billing, the OTCC was contacted to discuss the privacy issues involved. At the initial meeting in May 1994, the OTCC assured the IPC that the need to protect personal privacy was already included as part of the Highway 407 Project Request For Proposals (September 1, 1993). The OTCC had recognized the importance of including privacy in all aspects of the design and operation of the highway. In addition to ensuring that any personal information collected on highway users would be used for billing purposes only, the OTCC developed a unique billing system that allows individuals the opportunity to travel the 407 ETR and pay for their trips without having to reveal who they are.

A significant amount of work was required to ensure that the 407 ETR toll and billing system did not compromise personal privacy. In order to accomplish this goal, a number of toll billing programs and routines were developed. Most important, however, were the special arrangements made for alternative payment methods with financial institutions to collect toll payments without the requirement for any personal identifiers — an anonymous account, a most unusual occurrence. The 407 ETR staff then needed to be trained to deal with members of the public enquiring about opening an anonymous account.

A considerable amount of effort was expended by the OTCC staff and its private sector partners to ensure that 407 ETR anonymous accounts would be available to the public. The effort was well worth it — the public now has a means of travelling the 407 ETR in a manner that protects the privacy of highway drivers.



#### What is the 407 ETR?

The 407 ETR is a multi-lane toll highway, running 69 kilometres across the top of the Greater Toronto Area. What places it apart from other toll highways is its use of high-tech toll technology. It is the world's first completely electronic toll highway — a state-of-the-art transportation route that will move people and goods efficiently without any toll booths or plazas. Tolls are calculated based on time of day, day of the week, distance travelled, and class/weight of vehicle, all collected using electronic technology.

When you enter one of the 29 interchanges on this highway, you simply drive under an overhead tolling gantry that automatically records the beginning of your trip into the 407 ETR's electronic toll collection system. When you exit the highway, you drive under another overhead frame and the toll system logs your vehicle off the highway.

How does it do this? The 407 ETR uses a suite of technologies commonly referred to as "Intelligent Transportation Systems."

## **Intelligent Transportation Systems**

For an in-depth discussion of this suite of technologies and their privacy implications, we refer you to the IPC's paper entitled, *Intelligent Transportation Systems and Your Privacy*, published in 1995. A brief overview of Intelligent Transportation Systems technology is provided below.

Intelligent Transportation Systems (ITS) is the name for a group of technologies specifically designed to reduce traffic congestion and to improve highway efficiency, safety, and convenience. ITS may involve any of the following:

- All types of vehicles, including private cars, taxis, trucks, buses, and trains;
- All aspects of surface transportation systems, including urban and rural roads, freeways, transit stations, and ports;
- A variety of information devices, such as computers, signs, dashboard monitors, hand-held equipment, and kiosks.

Although some ITS applications are still in the developmental and testing stages, there are many which have already been implemented. These include electronic toll roads and changeable message signs (electronic message boards located over the highway that alert drivers to road or weather conditions ahead).



## **Toll Roads in Other Jurisdictions**

Several large scale projects have either been developed or are under way in the United States, United Kingdom, Portugal, Italy, Finland, Sweden, Norway and Singapore. One of the more interesting examples is presented below.

In the United States, the SR91 Express Lanes in California is said to be the world's first fully automated highway using transponders to collect tolls electronically. While this road is ten miles long, it essentially has only one entry and one exit point, very much like a long bridge. Today more than 30,000 transponders are in use on this highway and it has alleviated congestion on its adjacent freeway.

To date, none of the toll roads in other jurisdictions that use transponders to collect tolls electronically offer motorists the option to travel the road anonymously. In all cases, patrons of these toll roads must identify themselves to the toll system in order to obtain a transponder. Ontario's 407 ETR represents a first globally — to date, it is the only highway of its kind that provides its customers with a way to travel their toll road without compromising their privacy.



#### Ontario's 407 ETR and ITS

The 407 ETR's toll collection technology has five main components: the vehicle recognition and identification system, the vehicle transponder, the roadside toll collection system, the toll transaction processor, and the revenue management system.

For users of the 407 ETR who do not have a transponder, tolls will be collected and calculated using a rear licence plate recognition and identification system. A transponder is a device roughly the size of a garage door opener that is attached to the inside of the vehicle's front windshield (behind the rear view mirror). When a vehicle without a transponder enters and exits the highway, a video camera records the vehicle's rear licence plate and sends the image to a central processing computer to be matched. The system checks its database to determine if an account exists for this licence plate number. If not, an electronic search is made of the province's vehicle licence database for the name and address of the registered licence plate holder to allow an account to be set up. The toll is calculated using a billing rate table and an invoice is sent to the registered licence plate holder in the mail once a month.

Regular highway users are encouraged to register and obtain a transponder. For vehicles with a transponder, the plate recognition and identification system is not activated. When a vehicle equipped with a transponder enters the highway, the transponder logs that vehicle onto the 407 ETR's electronic toll collection system at the start of the trip. Upon leaving the highway, the transponder is read by another overhead electronic sensor to complete the toll transaction. Using the same billing rate table, a toll is calculated and a bill sent out on a monthly basis. Unique among toll authorities, OTCC introduced a number of payment options including pre-payment, post-payment, pre-authorized bank withdrawal, or charging to one's credit card.

# Why Ontario's 407 ETR is Different from Other Jurisdictions

There are three privacy components that set Ontario's 407 ETR apart from other toll roads. First, the plate recognition system only records the rear licence plate of the vehicle. Thus, no images of the vehicle's occupants are recorded or collected. The OTCC agreed with the IPC that it was not necessary to obtain pictures of the front plates of passenger cars for toll-collection purposes.

Second, legislation only permits the OTCC to use any personal information it collects for two purposes: toll collection and traffic management. The OTCC does not allow any secondary uses of this personal information without the consent of those involved (e.g., for promotional material).



Third, and most important, is the option of obtaining a transponder and travelling the highway anonymously, without providing any personal information—ever. To open a regular transponder account individuals must provide some identification during the registration process in order to effect the following monthly payment options: they can be billed by mail, they can have a preauthorized bank withdrawal, or they can have a pre-authorized credit card charge. In all of these instances, individuals must supply a certain amount of personal information to have these arrangements made.

However, with an *anonymous transponder account*, an individual is not required to provide any identification whatsoever. All financial transactions are done via cash to ensure true anonymity. During the registration process, no personal information is required — an account is opened and a security deposit is prepaid by cash.¹ When the IPC first presented the anonymous option, the OTCC's initial proposal required anonymous account clients to visit the OTCC Operations Centre to replenish their account, whereas regular transponder account clients could pay through a variety of means. Since it was important that the anonymous transponder option be as convenient to use as the regular transponder option, this solution was not acceptable to the IPC. The OTCC then explored the idea of having anonymous transponder clients replenish their account at any chartered bank or trust company, without providing any identification. Through extensive discussions with the financial community, the OTCC was successful in achieving this objective.

The method of payment developed for anonymous accounts is unique: the user's OTCC account (not a bank account but just like one, for an account holder's purposes) is credited with funds for future trips on the 407 ETR — in effect, a prepaid cash account. This is accomplished by using a preprinted payment booklet. When an anonymous account is first opened and a transponder issued, the individual is also provided with a booklet of payment slips that are preprinted with the anonymous account number. When it comes time to replenish their account (learned through the transponder which signals the driver by a flashing yellow light and one beep), one simply visits any chartered bank or trust company and deposits funds into the account number that appears on the payment slip. The clerk at the financial institution marks the payment slip with the amount of money paid and then electronically transfers the funds to the OTCC account. The bank or trust company acts as a convenient intermediary, accepting deposits into anonymous accounts on behalf of the OTCC. Payment can also be made by mail or in person at the 407 ETR Operations Centre where a similar electronic transfer of funds will occur.

If they wish to remain anonymous, anonymous transponder users cannot let their account balances fall to zero (transponder signals this by a red light and one beep). If they do, a record of the trip and any others will be made using the rear licence plate recognition and identification system and a bill will be mailed to the registered licence plate holder. Thus, anonymity is forfeited if accounts are not replenished. However, patrons are given sufficient warning so as to allow enough time to replenish their anonymous accounts.

<sup>&</sup>lt;sup>1</sup> A form of security deposit is required from everyone obtaining a transponder.



### **Vehicles Over 5 Tonnes**

Anonymous accounts are available for 'light' vehicles only, which include cars, vans, and pick-up trucks. For vehicles with a Registered Gross Vehicle Weight or Gross Vehicle Weight over 5 tonnes, transponders are mandatory under the *Highway Traffic Act* (Ontario) in order to travel the 407 ETR. These 'heavy' vehicles, which include large trucks, dump trucks, tractor trailers, etc., require a transponder for a number of reasons including:

- 1. The rear licence plate of any trailing vehicle is not necessarily registered to the driver/owner of the power unit (permit holder of tractor). Therefore, reading the trailers' licence plate would not provide the information necessary to forward the toll charge invoice to the registered plate holder;
- 2. The toll system is presently designed to take video images of rear licence (trailer) plates. For heavy vehicles, these plates may be recessed or be in unusual locations which the system cannot reliably read;
- 3. The OTCC recognizes the need to ensure an even playing field for all commercial vehicles. The province wants to ensure that Ontario's commercial trucking industry is not put at a competitive disadvantage vis-a-vis out-of-province commercial vehicles who may attempt to evade paying tolls. Thus, the requirement for mandatory transponders for all vehicles with a Registered Gross Vehicle Weight or Gross Vehicle Weight over 5 tonnes.

To ensure that tolls are collected from all heavy vehicles, the OTCC uses two toll collection methods available through the current 407 ETR tolling system. The primary means to identify a heavy vehicle which does not have a valid transponder is through the rear licence plate recognition and identification system. A supplementary toll collection method for non-transponder heavy vehicles accurately identifies toll violators through the front licence plate. This secondary toll collection process is not unduly invasive since no passenger vehicles are recorded.

This secondary system will be made up of permanent sites as well as portable units which will be continually relocated along the 407 ETR to gain maximum toll collection potential. Heavy vehicles found to be on the highway without a valid transponder will be sent a toll charge for the trip taken and an additional \$25 Heavy Vehicle Non-Transponder Toll Charge. As well, if the Ontario Provincial Police or Ministry of Transportation Enforcement Officers stop a heavy vehicle on 407 ETR without a valid transponder, the driver will be subject to a \$90 Highway Traffic Act fine.



## **Conclusion**

While Intelligent Transportation Systems have the capability of being privacy invasive, when coupled with the will to preserve privacy, they can become privacy enhancing. The OTCC and the IPC have worked together from the outset of this initiative to ensure that privacy was considered throughout all phases of the development and implementation of this project. Through this cooperation, we have ensured that the public has a way in which to travel the 407 ETR in an anonymous manner. We consider this a true win/win scenario.

Listed below are some more detailed questions (and answers) that individuals may have regarding the use of personal anonymous transponders.

## **Q & A**

#### 1. What is an Anonymous Account?

An Anonymous Account is available for 407 ETR patrons (light vehicles only - 5 tonnes and under) who do not wish to be identified. If you choose an Anonymous Account:

- No personal information is provided;
- A transponder will be used to identify your trips for billing purposes only;
- You will be required to make an initial payment into an anonymous account from which toll charges will automatically be deducted;
- No invoice or bill will (or can) be sent to you.

#### 2. Does an Anonymous Account cost more than other accounts?

No, an anonymous account costs exactly the same as other transponder accounts. However, because there is no record of who you are, tolls and the security deposit for transponders must be prepaid.

#### 3. How do I open an Anonymous Account?

You can open an account at the 407 ETR Operations Centre or at a participating Ministry of Transportation, Drivers and Vehicles Licence Issuing Office.



An initial payment for the following is required:

- \$10.00 plus tax for a one-time transponder activation fee;
- \$50.00 security deposit for the transponder (refundable upon return of the transponder);
- \$50.00 for initial prepayment for tolls (approximately one month of anticipated use).

#### 4. How am I billed?

Unless specifically requested (which would defeat the purpose of the account since an address and some other personal information would be required), a bill or statement will not be sent.

# 5. How will I know when to replenish my anonymous account; how does the transponder work?

The transponder has three lights (green, yellow, red) and a beeper. When you exit the highway, the transponder will signal one of the following responses:

- 1. A green light and four beeps indicates a successful transaction;
- 2. A yellow light and one beep indicates that the balance of the toll account has dropped below the threshold (initially set at \$10.00);
- 3. A red light and one beep indicates that there are no funds left in the anonymous account or there may be a problem with the transponder. At this time, anonymity can no longer be guaranteed. Contact a 407 ETR Customer Service Representative as soon as possible.

#### 6. How do I make payments into my Anonymous Account?

Anonymous Accounts must be prepaid in order to maintain anonymity.

Payment slips preprinted with your account number will be provided.

Payment can be made by cash, cheque, money order, debit card, credit card, or through a third party. However, if personal information is disclosed during the payment process (cheque, credit card or debit card), anonymity may be lost. Cash is the only true payment method to maintain complete anonymity.

Your anonymous account number is the only means of identifying your account for payment or other inquiries.



#### 7. Where can I make payments into my Anonymous Account?

Payments can be made at the 407 ETR Operations Centre or at any chartered bank or trust company, using a preprinted payment slip. Please note that you **cannot** make payment at a Ministry of Transportation, Drivers and Vehicles Licence Issuing Office.

# 8. What if I find that the warning on the transponder to make a payment is not sufficient for me to make a payment in time?

Contact the 407 ETR Operations Centre to have the threshold value for the yellow warning light changed to a value that better suits your personal needs.

# 9. Do I always have to make a \$40.00 payment when it is time to replenish my Anonymous Account?

No, you can choose to make any amount of payment. You may wish to change the amount depending on your past experience or anticipated use. A smaller payment amount will increase the number of times that you have to make payments, while a larger payment amount will decrease the number of times. It is simply a matter of convenience; there is no need to notify the 407 ETR Operations Centre of the payment amount you choose to make. If you wish, the Operations Centre can review your past toll usage and assist you in determining a suitable payment amount.

#### 10. What happens if I don't make payments into my Anonymous Account on time?

If your account falls below \$0.00, it will be assumed to be in default. As with any account in default, your transponder will be deactivated and you will be charged for the transponder or your security deposit will be appropriated. However, if you subsequently make payment for any charges that are due, your account and security deposit will be reinstated; but your anonymity will have been lost for those trips taken during the defaulting period.

The toll system roadside equipment will take a video image of the rear licence plate of the vehicle in use at the time. The billing system will then process the vehicle as a non-transponder vehicle and the licence plate owner will receive an invoice in the mail.

#### 11. What happens if I forget or lose my Anonymous Account number?

Either bring your transponder to the 407 ETR Operations Centre or phone the Operations Centre at 905-264-5330 or 1-888-407-0407. The transponder can be used to identify your account.

Note: As an anonymous account holder, there is no method of verifying ownership. If the transponder is lost or stolen, whoever has possession of it can return it for a full refund of the toll account balance and transponder deposit.



#### 12. How do I cancel my Anonymous Account?

Return the transponder to the 407 ETR Operations Centre and provide the anonymous account number for a full credit of the balance in the account as well as the transponder security deposit. Please note that whoever returns the transponder, and knows the account number, will receive the refund since the actual account holder cannot be personally identified.

#### 13. Is the Anonymous Account transponder different from the other transponders?

No. All 407 ETR transponders look exactly the same. It is the Anonymous Account that sets it apart.

#### 14. How will I be notified of changes in toll rates or other charges?

Notification will be provided in public media such as newspapers. If at any time, you have questions about rates, or your account, you can call a Customer Service Representative at the OTCC Operations Centre and request information. In addition, the 407 ETR maintains a Web site on the Internet (www.407etr.com) which provides current information about the highway.

#### 15. What happens if my transponder is lost or stolen?

Report it to the 407 ETR Operations Centre immediately. You will need to know your account number. After you report that it is lost or stolen, it will be deactivated and the system will no longer debit your account. If the transponder is used after it is reported stolen or lost, the toll system will identify the vehicle and invoice toll charges to the holder of the vehicle licence plate. A replacement fee of \$50.00 applies to all lost or stolen transponders.

Note: As an anonymous account holder, there is no method of verifying ownership. Unless reported stolen, whoever has possession of the transponder can return it for a full refund of the toll account balance and transponder deposit.

#### 16. What if I want more than one transponder?

Each anonymous account can have just one transponder associated with it. If you require more than one transponder, you will have to open a separate account.



#### 17. Can I use the transponder in any other vehicle?

Yes, but only in vehicles weighing 5 tonnes and less. By legislation, vehicles with a Registered Gross Vehicle Weight or Gross Vehicle Weight over 5 tonnes must carry a heavy vehicle Class 4 transponder which is different from the one used by anonymous account holders.

#### 18. Are there any situations under which I could lose my anonymity?

You can lose anonymity under the following conditions:

- The account balance falls below zero;
- The transponder is reported lost or stolen, or it is damaged, abused or malfunctioning;
- The transponder is not installed properly or has been installed in a vehicle equipped with a metallized windshield (call the 407 ETR Operations Centre for more information);
- The transponder is used in a vehicle with a Registered Gross Vehicle Weight or Gross Vehicle Weight exceeding 5 tonnes.

#### 19. If I lose my anonymity, how does the OTCC know who I am?

If any of the above conditions occur, the licence recognition system will be activated and a video image of the rear licence plate will be taken — a bill will then be sent out in the mail. However, at no time does the OTCC know who you are, they only know what vehicle was travelling on the highway.

#### 20. Will I be eligible for the same promotional offers available to other accounts?

As reasonably as possible, the 407 ETR will make the same promotional offers available to anonymous account holders as it does for other personal accounts. Because anonymous accounts are handled differently, it may not always be possible to extend the same promotional offers. In any event, this would only be considered if the offer did not require the account holder to be contacted or identified.

# 21. How do I get questions about my Anonymous Account or my highway usage answered?

Contact the 407 ETR Operations Centre at 6300 Steeles Avenue West, Woodbridge, Ontario, L4H 1J1, or call a Customer Service Representative at 905-264-5330 or 1-888-407-0407, providing your anonymous account number.

