

Procedures and Technical Standards for the State of Connecticut Centralized Infractions Bureau Electronic Citations Processing System (eCitations)

I. Introduction

Mail-In violations and infractions are uniform across the State of Connecticut and processed by a centralized department, known as the Centralized Infractions Bureau (CIB). Connecticut is in process of migrating from a manual, paper citation system to an electronic one, where pertinent data are transmitted electronically to CIB via the state's Judicial Information Technology Division (ITD). These are the procedures and technical standards for local and state agencies that wish to participate in Connecticut's eCitations program.

II. Agency Requirements: Procedural

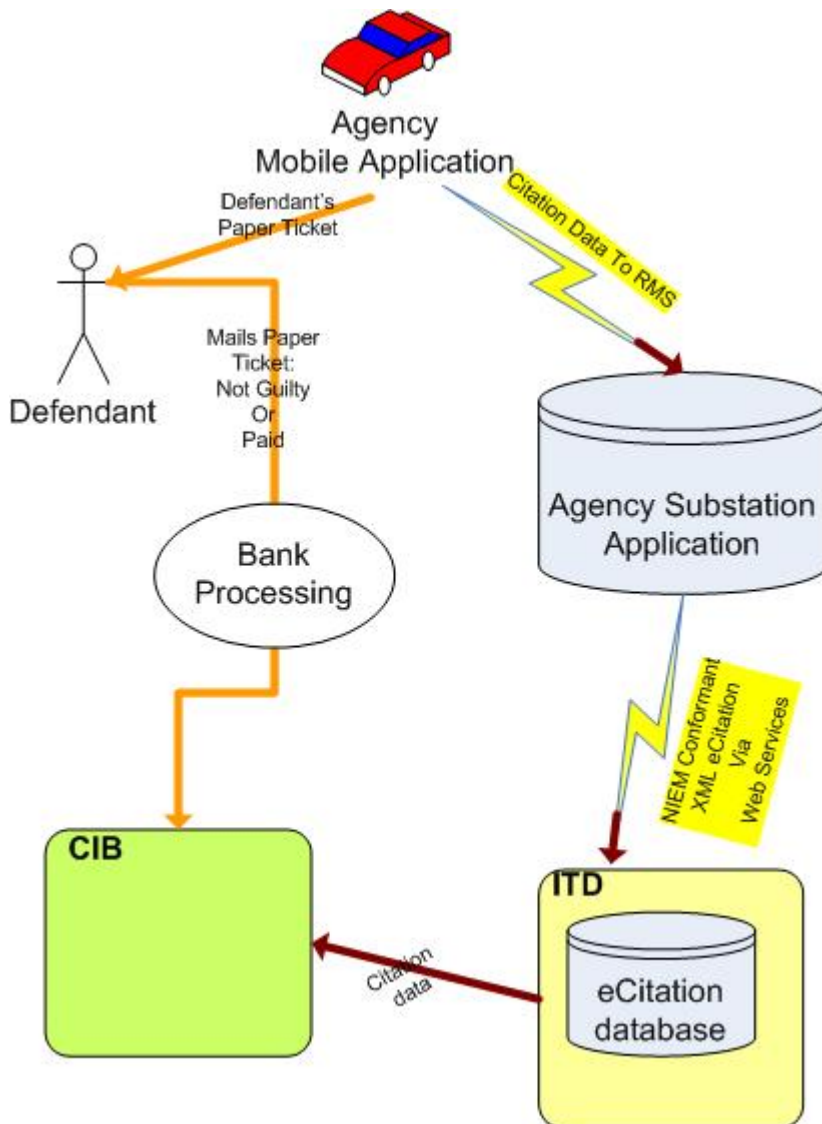
- a. Contact CIB to express interest in participation.
- b. Identify a vendor or in-house technical team that has received eCitations Mobile App Approval (separate form available).
- c. Work with CIB and ITD to receive eCitations Agency Approval (separate form available).

III. Agency Requirements: Overview of Technical Requirements

- a. Properly printed paper citations for defendant
 - i. Defendant citations are to be printed on thermal paper, 4 inches wide and 8.8 inches in height, with a clean tear line, using CIB-issued thermal paper rolls; the agency is free to select its own printers (as a practical consideration, only a few printers can meet this specification).
 - ii. Defendant's copy must be printed using a PDF template distributed by CIB
 - iii. Dimensions: the defendant's copy of the citation must be printed to the exact dimensions specified by CIB
 - iv. Content: the defendant's copy of the citation must contain the data specified by CIB
- b. Properly formatted court original copy of the citations for presentation to court
 - i. The court original must be produced using a PDF template distributed by CIB
 - ii. Content: the court original of the citation must contain the data specified by CIB
- c. Citation Numbering
 - i. Both the defendant's copy and the court original must contain properly formatted ticket numbers and corresponding barcodes containing the ticket number. The numbers issued must be within the CIB-assigned range for the agency.
- d. Conformance with CIB business rules
 - i. Data collection and manipulation must be in conformance with CIB business rules
- e. Proper Transmission of XML citation data to Connecticut Judicial Information Systems (ITD)
 - i. The transmission of electronic data that represents a citation must utilize the eCitations web service
- f. Properly formatted NIEM (National Information Exchange Model) -conformant XML citation data
 - i. NIEM schema, subsets, extensions and a sample payload file will be distributed by ITD
 - ii. The payload file represents the XML version of a specific citation
 - iii. Attachments: the payload file also contains (currently) two attachments: the defendant PDF and the court original PDF.

- g. Proper Implementation of Statute List
 - i. In general: A regular statute list update is required of any front-end citation system, in order to ensure currency with Connecticut's infractions and their corresponding fine amounts.
 - ii. Future Considerations: a front-end citation system should be flexible enough to automate the upload process for periodic updates (e.g. nightly).
- h. Support
 - i. Identification of contact personnel: the agency (and any vendor utilized by the agency) must identify key personnel responsible for supporting the citation system, as well as tracking down issues that arise in the field.

IV. High-Level Overview



The diagram above represents a general overview of eCitations and serves to identify two areas of agency responsibility: a mobile application responsible for the citation data collection and printing, and an agency application responsible for storing citation data issued by the agency, and transmitting that information to CIB.

- a. The mobile application can use any or multiple methods for data collection purposes (typically software installed in the police car). This application will always contain a minimum of three features: (i) a mechanism to gather data related to the citation, (ii) printing the citation for the defendant in an approved format on approved paper, and (iii) transmitting the electronic information to the agency application located at a “substation” (a substation can either be a police station with a server, or some organization with a server that represents a group of police stations) using a minimum of Advanced Encryption Standard (AES) 128 bit encryption (AES is a National Institute of Standards and Technology (NIST) standard adopted by the US government starting in 2002).
- b. The agency application will reside at the substation. From the perspective of the eCitations, the purpose of this application is to transmit the electronic citation as a NIEM-conformant XML message to servers located at ITD.

V. Agency Requirements: In Detail

a. Items Under Agency Control

i. Data Collection Hardware

Agencies have complete control over data collection methods and equipment. This includes software, and any equipment an agency chooses to use for data collection. The actual data elements and business rules are defined by CIB.

ii. Printers

Agencies have complete control over printers to be used in vehicles. However, as a practical matter, since the requirements for paper size, quality, and format are specified by CIB, options for printers are severely limited. Printers must be able to print on 4-inch wide thermal rolls, with a clean (toothed) tear, and have black-bar sensing capabilities. As an example, without recommending or endorsing this particular manufacturer or product, the Zebra RW420 thermal printer complies with these requirements.

iii. Transmittal Mechanism from mobile application to agency application

Transmission of data to substations can occur in any secure way practicable but must use a minimum of Advanced Encryption Standard (AES) 128 bit encryption.

b. CIB Requirements

The State of Connecticut CIB has specific eCitations requirements that must be followed by agency participants to ensure compatibility with CIB’s back-office procedures. These requirements involve properly printing the “defendant copy” of the citation, electronically delivering a properly formatted “defendant” and “court original” copy as PDF images, and transmitting the NIEM-conformant electronic data that represents the citation to ITD’s back-end web service. More detail is provided below:

i. Printing Requirements of the agency mobile application

The mobile application must print a “defendant’s copy” of the citation in conformance with the specifications below, so that this paper ticket can be delivered to the defendant along with a pre-addressed envelope for mailing a response.

Pre-printed rolls of thermal paper, as well as envelopes with pre-printed instructions and return address, *will be issued by CIB* to agencies/groups approved for eCitations. Additionally, an electronic template (in PDF format with pre-defined form fields) for the front-side of the defendant’s citation will be issued to any approved agency.

1. The following is supplied by CIB:
 - a. Thermal Paper Rolls
 - i. Minimum Weight: 3.2 MIL
 - ii. Width: 4.0 inches
 - iii. Cutoff Height: 8.8 inches
 - iv. Reverse side (non-thermal) will include precise legal language for defendant pleading
2. Additional Mobile Printing Requirements:
 - a. Thermal side of ticket must be printed using PDF template supplied by CIB
 - b. Ticket numbers must conform to Connecticut system (a number range will be assigned by CIB to the agency, Mod7 format with alpha prefix).
 - c. Bar code (Code 39, 5/16” in height, 2” in length) containing ticket number must be on ticket 1/8” from left and 1/8” from top.
 - d. Vertical ticket number must be on ticket in 10pt OCR-A font, the check digit separated from the ticket number by a space and 5/8” from bottom of the ticket, the center of the number to be offset from the left edge by 5/16”.

ii. Transmission Requirements of the agency application

The agency application must generate a NIEM-conformant XML payload message (representing an individual citation) and transmit it to a Connecticut ITD server via web services.

1. Prior to transmission, the application must validate the message against an XML schema supplied by ITD.
2. The transmission must use credentials assigned to it by ITD.
3. Each transmission (i.e. each citation) must contain two Base64-encoded attachments that represent PDF versions of the defendant citation and the court original citation.
 - a. The defendant copy should be produced using a PDF template provided by CIB.
 - b. The court original is an 8.5” x 11” report-like copy with the same basic information as the defendant copy, with some exceptions: it contains officer’s notes and indicates if the defendant provided a photo ID. An electronic template for this copy will be provided by CIB to the agency (PDF format with pre-defined form fields). The bar code (Code 39, 5/16” in height, 2” in length) containing ticket number must be on ticket 2 3/8” from left and 1/4” from top. The ticket number must conform to Connecticut system (a number range will be

assigned by CIB to the agency, Mod7 format with alpha prefix), and be identical to the ticket number on the defendant copy.

- c. Both PDF-rendered citations must contain the officer's signature (programmatically, surrounded by forward-strokes (e.g. "/Trooper Jones/"))
4. Each citation/transmission must contain a unique ticket number.

iii. NIEM-conformant XML payload

As part of the Global Justice Information Sharing Initiative put forth by the United States Department of Justice, the State of Connecticut now has an active policy of leveraging the National Information Exchange Model (NIEM) for projects that utilize inter-agency data exchanges. eCitations is such a project. ITD has designed appropriate NIEM schema, subsets, extensions and a sample payload file, available to any approved agency. The schema includes a primary schema, subsets derived from the standard NIEM library, and extensions specific to the State of Connecticut citations system and Connecticut's unique code lists. In addition, ITD will provide a spreadsheet that maps NIEM elements to citation elements, allowing for easier translation.

iv. Security Requirements for Agency Application

The eCitations project consists of several distinct technologies that ultimately work together to deliver citation information in digital form to the Connecticut Centralized Infractions Bureau (CIB) and ultimately the court system. Major components consist of web services module(s) designed to receive citations in electronic form from external substations. These substations communicate with police officers/cruisers in the field where the information originates, to collect individual electronic citations and deliver them to the web services module(s).

The electronic chain of custody for these citations, and the security implemented along every link of the chain, is critical to ensuring that each electronic citation has been "signed" by an authenticated charging law enforcement officer who can be identified, and that the information has remained intact all the way to its destination (CIB). Additional substantiation for the officer's assent is provided by the transmittal of the officer's shield number, name, offense date and time, substation ID, law enforcement agency code and case number. The following requirements apply to the agency's portion of the chain of custody for each eCitation generated and transmitted.

1. Each officer must be assigned a unique, unshared set of credentials consisting of a username/ID and password
2. Mobile application must implement user authentication utilizing an accepted industry standard (e.g. Active Directory)
3. Passwords must be complex and non-permanent
4. Mobile application must implement inactivity log-outs and/or application termination
5. Network traffic from the mobile application to the agency application must be encrypted using a minimum of Advanced Encryption Standard (AES) 128 bit encryption.

v. Statute List Updates

eCitations utilizes a statute database that is kept current on almost a daily basis. Consequently, the agency mobile application must also have a mechanism for staying current with this list. ITD currently produces two extracts for eCitations: one for “standard” violations (corresponding to the main section of the published Mail-In Violations and Infractions schedule); another for “special” violations (corresponding to the appendices – largely related to speeding – section of the published Mail-In Violations and Infractions schedule).

1. Main Section Extract format:

```
<Statute>
  <CiteAs>14-230(c)</CiteAs>
  <statute_no>14-230(c)</statute_no>
  <Cash_effect_date>2006-07-01T00:00:00</Cash_effect_date>
  <Cash_Repeal_date>2199-12-31T00:00:00</Cash_Repeal_date>
  <Cash_total_amt>127.00</Cash_total_amt>
  <Cash_Fine_amt>50.00</Cash_Fine_amt>
  <Cash_Fee_amt>7.00</Cash_Fee_amt>
  <Cash_Surcharge_amt>35.00</Cash_Surcharge_amt>
  <Cash_STF_amt>25.00</Cash_STF_amt>
  <Cash_PLUS_amt>0.00</Cash_PLUS_amt>
  <Cash_Municipal_Fee>10.00</Cash_Municipal_Fee>
  <Description>Failure to DRIVE RIGHT - WIDE Load Vehicle</Description>
</Statute>
<Statute>
.....
</Statute>
```

2. Appendices Section Extract format:

```
<Statute>
  <CiteAs>14-218a*</CiteAs>
  <statute_no>14-218a*SZ</statute_no>
  <Category>EC</Category>
  <Zone>SZ</Zone>
  <Appendix>A</Appendix>
  <Cash_effect_date>2010-04-15T00:00:00</Cash_effect_date>
  <Cash_Repeal_date>2199-12-31T00:00:00</Cash_Repeal_date>
  <Cash_total_amt>177.00</Cash_total_amt>
  <Cash_Fine_amt>50.00</Cash_Fine_amt>
  <Cash_Fee_amt>7.00</Cash_Fee_amt>
  <Cash_Surcharge_amt>35.00</Cash_Surcharge_amt>
  <Cash_STF_amt>25.00</Cash_STF_amt>
  <Cash_PLUS_amt>0.00</Cash_PLUS_amt>
  <Cash_Municipal_Fee>10.00</Cash_Municipal_Fee>
  <Description>VIO 14-218A* IN A SCHOOL ZONE </Description>
</Statute>
<Statute>
.....
</Statute>
```

For this extract there are several additional tags: Category, Zone, and Appendix.

- Category: [S]peeding; driving to [E]ndanger; [C]ar; [T]ruck
- Zone: [SZZ] school zone and other zone; [SZ] school zone; [Z] construction, utility, or traffic zone
- Appendix: corresponds to pamphlet appendix

vi. Agency Applications Must Incorporate CIB Business Rules

Any application acting as a front-end for eCitations must conform to the following CIB business rules:

1. Required Fields (under all circumstances)
 - a. Ticket Number
 - b. Date of Issuance
 - c. Time of Issuance
 - d. Offense Town Name
 - e. Offense Town Code
 - f. Defendant Name
 - i. business names go in Last Name
 - ii. "unknown" goes in Last Name
 - g. if Defendant Address known
 - i. Defendant State required
 - h. if Defendant Address not known
 - i. if homeless, write "homeless" or "unknown"
 - i. if Defendant a person (not a business)
 - i. Defendant Sex required
 - ii. Defendant Race required
 - j. Incident Location
 - k. Answer Date
 - i. must be a Friday; 2-4 weeks out is recommended
 - l. Infraction Description, Code, Count(s), Amount
 - i. at least 1 set must be present
 - m. Officer Signature (e.g. "/Trooper Smith/")
 - n. Total Amount Due
 - o. Shield Number
 - p. Police Department Name
 - q. Agency Code (not present on ticket, but must be transmitted)
2. The following should be FALSE if no vehicle is involved
 - a. Truck
 - b. Truck 15% overweight
 - c. Truck 18,000 lbs overweight
 - d. CV
 - e. HM
3. If a vehicle is involved
 - a. include Make, Model, Style, Color, Road, Traffic, Visibility, Area, CV
 - b. if registration document is available
 - i. include Registration Number, State, Year, Owner Name, Owner Address, Owner State, BOAT
4. If a driver's license is available
 - a. CDL should be false if the license is not commercial
 - b. include driver's license state
 - c. include driver's date of birth
5. If no driver's license available
 - a. CDL = false
6. If speeding violation, include Actual, Posted, Road
7. If a truck is involved and a weight violation, 15% Overweight or 18,000 lbs Overweight must be True
8. CIB-specific Business Rules
 - a. Answer date: must be a Friday; 2-4 weeks out is recommended
 - b. Warnings are not a part of eCitations; officer must handle by paper

- c. Connecticut ID (vs. Connecticut Driver's License) should NOT be entered in the License Number entry field
 - d. Trucks
 - i. If violation involves a truck, prompt for related information (i.e. encourage entry of information that they have); e.g. CDL, CV, DOT#
 - ii. prevent entry of operator's license or VIN # if citation is issued to a company
 - e. Shield Number: some PD's use up to 6 chars: allow this
 - f. Voiding a Citation: CRITICAL: voiding an eCitation can ONLY occur if the officer retains the paper printed. In other words, if a printed eCitation has been handed to the defendant, the eCitation can not be electronically voided. Voiding in this situation would occur the old-fashioned way (i.e. following current agency practice).
- vii. Support Provided By The Agency

Inevitably, problems will arise in eCitations that cannot be trapped even by the best-designed automated system. The NIEM schema validation process and the CIB business rules operate to minimize these situations. When a problem arises, it is essential that the agency have personnel in place who are familiar with their mobile and agency applications, and who know how to contact the officer who issued the citation to understand how the problem occurred. This is a prerequisite to CIB approval of the agency for eCitations. Another prerequisite is the provision by the agency (in conjunction with any involved vendor) of ample officer training on the systems involved.

As part of this support structure, ITD provides a parallel test platform whereby an agency can issue citations in TEST mode for training and testing purposes.