



State of Illinois: *eCitations System Overview*

July 1, 2010



Executive Summary

In the 2006 Strategic Plan for Traffic Records Improvement, the Traffic Records Coordinating Committee (TRCC) stated that it intends to improve citation data collection, adjudication and driver history processing by following a list of immediate, near and long term actions (Phase 2, Step 2). This set of documents outlines a solution (see figure 1) to attain several of those actions, namely to:

- promote and assist all local police agencies in electronically generating citations and reporting them to the courts and to any future statewide citations tracking system (immediate action)
- promote and assist all local courts in electronically reporting all dispositions to any future statewide citation tracking system – convictions as well as acquittals, dismissals and other non-conviction cases, etc. (near term action)
- establish a statewide citation tracking system (near term action)

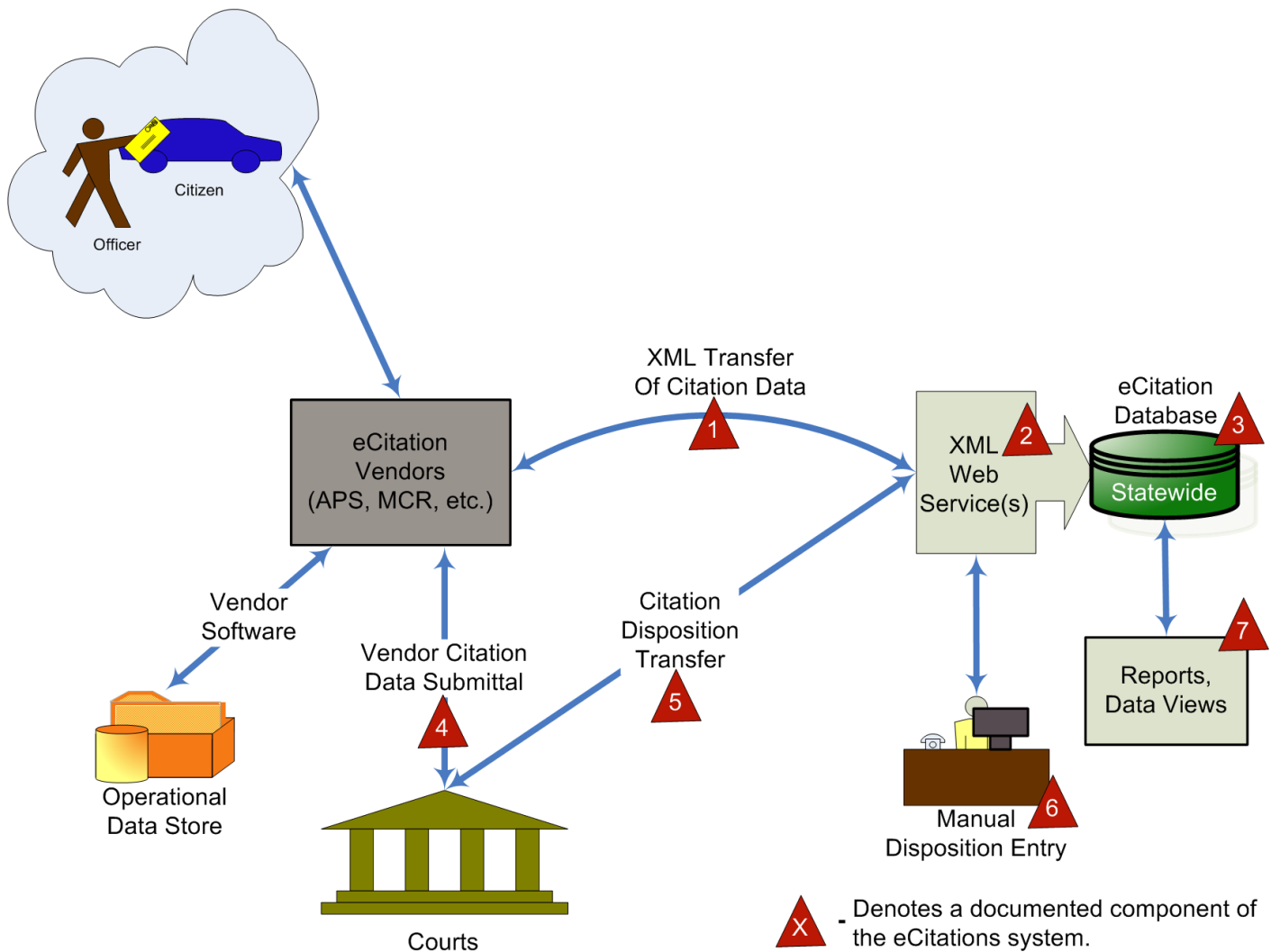


Figure 1: eCitations System Diagram

The heart of the solution is a statewide citation database. It will store Uniform Traffic Citations, Written Warnings, Overweight Citations, the Department of Natural Resource's Conservation Citations and Warnings and IDOT's Traffic Stop Statistical Study data. This gives all parties involved with or interested in the citation process better access to timely and accurate citation data. Other solution components would be:

- A common web service to accept, process and write all transferred information into the database. This ensures that all data gets written to the database in the same way with the same data validation rules.
- A web page or application to manually enter citation, warning and/or disposition data. This allows agencies to contribute to the statewide database without having to have an electronic citations program at this time.
- A common description in XML format of the data, relationships and communication protocols that the county courts and law enforcement agencies will use to transfer information to the state. This allows for a near-real time transfer of data files to occur, making citation details, including adjudication information, available from the database shortly after they are submitted.

In addition, this solution offers cost savings and other benefits to nearly every level of the traffic records community including the courts, state and local law enforcement. To name just a few, the system will:

- Allow for the automation of citation reports that are now only available in an ad hoc nature.
- Increase the accuracy of citation information, eliminating duplicate data entry by circuit clerks or disposition data processors, while also eliminating issues with legibility of hand-written citations.
- Reduce manpower costs throughout the citation lifecycle by reducing the amount of manual data entry of citation or disposition data and by decreasing sworn personnel's time spent creating reports, most with a fair amount of redundant data.
- Improve the timeliness of the data availability giving officers in the field more current and more thorough details of a defendant's traffic offense history thereby increasing officer safety and quality of decision making as well as providing the SOS information needed to take sanctions against drivers as prescribed by statute.
- Provide citation data to external agencies – e.g. traffic safety systems, county court systems, etc.
- Provide metrics and statistics on the full life cycle of a citation.
- Ability to identify clusters and trends of certain types of offenses i.e., DUI, Zero Tolerance.
- Identify citation and disposition data written during hire-back patrols for analysis.
- Provide geospatial analysis of violations
- Provide data for grant effectiveness and other federal reports

Implementation of this solution could start out slowly by creating the statewide database and web service, defining the data file XML transfer format and capturing citation and warning data from those counties and municipal law enforcement agencies that already have or are currently in the process of deploying electronic citation programs. Five (5) northern counties (DeKalb, DuPage, Kane, McHenry and Will) are in this position today; coincidentally these five counties contribute roughly 22% of the total number of citations written in the state. Another eight (8) counties have purchased countywide licenses from an electronic citations vendor but have not yet deployed, so promoting and assisting the courts and law enforcement agencies in these counties could be a secondary step. An electronic citation request for proposal has been written and is available if the TRCC wanted to pursue this course of action as a tertiary step.

System Component Overview:



XML Transfer of Citation Data

This system component handles the passing of information between the law enforcement agencies via their eCitation Vendor application and the state. To make sure all information is reported in the same manner, a file format will be created and published by the state using. It will be defined using XML and it will describe the data and any relationships between the data elements.

The transfer mechanism is defined in such a way that data can be sent to the database in near-real time. This makes the citation details available from the database shortly after it has been submitted.

During this process, the system will capture details about the data being transferred, such as the date and time the citation was printed and when it was transferred. This information is commonly referred to as metadata and will also be available in the database.



XML Web Service(s)

The XML Web service(s) will be the information gateway to the statewide citation database. It is essentially a program which polices the inputs and outputs from the various contributors to the database.

As files pass through this gateway, the data is validated, and in some cases transformed, to enhance its usability in the database and provide some standardization. Some examples of this transformation are the age at the time of the offense will be calculated from the defendant's date of birth and formatting currency values from raw numbers to the familiar dollar/cents format. A common set of business rules are applied by web service(s) so the data is reliable and accurate in addition to being standardized.

Any file which fails these evaluations will be returned to originating source identifying the problem requiring correction. Correct files will be resubmitted and will undergo the same series of validations as it passes through the gateway.



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Statewide eCitation Database

At the center of all of this data sharing is the database itself. This represents the first time Illinois has collected citation data from all levels of law enforcement and shared that data statewide. It also will, for the first time, incorporate disposition data alongside the citation data for a more comprehensive view of the final resolution. The database acts as a central storage location for information which comes from various law enforcement agencies and the courts. The data in the database can be selectively retrieved and provided to others, such as SOS, federal agencies, etc.

The database has been designed so the information in it can be consumed by other systems as required to facilitate traffic stops and provide officers with near-real time traffic citation history which increases officer safety and afford more informed decision-making.



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Vendor Citation Data Submittal

At the same time the citation data is transmitted to the state by the local law enforcement's eCitation application, relevant citation data is also being provided to the appropriate Circuit Clerk system.

With citation data communicated electronically to the court's record management system via XML files, both efficiency and accuracy of the data are vastly improved. The result: a significant amount of time saved in the citation lifecycle through a reduction in the number of resources required to capture and communicate the information.



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XML Transfer of Citation & Disposition Data

As citations pass through the local court systems, disposition data is returned electronically to the statewide database where it becomes part of the citation record itself.

This is not intended to replace the AOIC's automated disposition reporting (ADR) definition, although the file requirements for communicating this information will be similar. The current format for transmission of disposition data (referred to as the State Police Traffic Disposition Record Format) is defined by the AOIC and is limited to only the disposition data. There is, however, an extended version of this format proposed which will enhance that record to include additional citation data alongside some data validations to be applied upon receipt of the file by web services.

As an alternative to the current use of these flat file formats, this solution will offer an XML-based option for those courts whose systems will support it.



Manual Citation & Disposition Entry

A web page or program will be created to handle those situations where citation, warning and/or disposition information must be input directly into the system rather than being electronically transferred. The web page/program will allow for the manual input of data and will create a data file using the same XML file definition that the XML transfer of citation data does. It will also send the data file to the web service to be processed in the same manner as the electronically filed data.

While manually entering this data, the same business rules and entry restrictions will be applied by the web service(s) to ensure standardization and accuracy of the data.

For example, if an officer issues a citation by hand via paper, the citations must be manually entered into the database. In turn, for circuit clerks who do not have an automated record management system, dispositions must be manually input into the database.



Reports & Data Views

Existing legacy and ad hoc reports were reviewed to help define the data requirements for the statewide citation database. Although the list of reports used was not exhaustive, it became quickly apparent how many of the existing ad hoc reports could be easily automated using a centralized database.

Another powerful feature of the database is the ability to define data views and export large sets of data to other systems for complex statistical analysis and mashups. Integration with a reporting engine to automate existing ad hoc reports would be left to a future project or phase, at which time a more exhaustive could be made with the citation stakeholder community.