



National Open Court
Data Standards
www.ncsc.org/nods



National Open Court Data Standards

NODS

TECHNICAL NOTES



Introduction

The NODS standards as described in the NODS User Guide provide an extensive list of case-related data elements that courts may use for business purposes and may elect to share with researchers, policy makers, and the media. These elements and corresponding definitions are included in a spreadsheet organized by the types of information they represent (e.g., case information, participant information, events, etc.).

In addition to the NODS data elements spreadsheet, a corresponding set of logical data models have been developed to provide a view of the NODS data elements organized in a set of tables and relationships between tables. Definitions from the spreadsheet are included in the data models.

The following documents (including the above-referenced spreadsheet and models) are provided as part of NODS:

NODS leadership guide	A broad overview of the NODS project, intended for court leaders.
<u>NODS data elements spreadsheet</u>	All data elements included in NODS, with definitions and value lists. Each tab includes a segment of information. The primary case category or categories (civil, family, probate, dependency, juvenile, criminal, or traffic) for which the data element is relevant is marked.
NODS user guide	Discussion of data elements, their use, and mapping guidance for those elements requiring additional context or explanation. The user guide is intended for data specialists, court users of the data, and those who request court data.
NODS technical notes (this document)	Brief technical document explaining the NODS logical data models and contents of the ZIP file with technical artifacts.
NODS logical data models	A set of entity-relationship diagrams (ERDs) that illustrate logical groupings of elements (tables) representing entities and their relationships with other entities.

What are the NODS Logical Data Models?

The NODS project included development of a set of entity-relationship diagrams (ERDs) that illustrate logical groupings of elements (tables) representing entities and their relationships with other entities. These models were developed using Oracle SQL Developer Data Modeler.¹ Models developed in Oracle SQL Data Modeler can be exported and imported into other data modeling tools. Seven separate models are provided, one for each major case type category: Civil, Criminal, Dependency, Family, Juvenile Delinquency, Probate, and Traffic.

In creating the models, some degree of normalization was applied to create a logical structure that aligns somewhat with the source databases, including relationships among tables in those databases. Information in the NODS Data Element Spreadsheet may be represented differently in the data models.

For example, the Hearings & Events tab in the spreadsheet includes elements for different types of events. In the data models, Events and Event Types are separate tables related with a reference based on the value of the Event Type element. The Event Type table does not delineate all possible event types – it instead serves as a value list (a/k/a code list) representing possible types of events contained within the extracted data.

Another example involves Case Participants and their Role(s) in the case. Participants and Participant Roles are two different, but related, tables in the models. The Roles table would be a value list with additional attributes depending on the type of case.

To be clear, as high-level “logical” data models, these models do not provide detailed database-specific information that would be required in a physical data model. Further, the logical models do not represent a pristine or ideal database design – they are provided only for the purpose of facilitating extraction of NODS data.

Files Provided

The data models and related files are provided in a ZIP file with the following contents:

- This Technical Notes document in PDF format
- A “NODS Data Models” folder containing files created and maintained by the Oracle data modeling tool:
 - » Separate DMD files corresponding to the seven major case categories in NODS: Civil, Criminal, Dependency, Family, Juvenile Delinquency, Probate and Traffic.
 - » Separate subfolders for each of the seven case categories with numerous files and subfolders used by the modeling tool.
- A “NODS Data Dictionaries” folder containing seven PDF documents with the data dictionary generated by the data modeling tool for each case category.
- A “NODS Data Diagrams” folder containing seven one-page PDF documents with high-level illustrations of the data models for each case category.

¹ SQL Developer Data Modeler is a database modeling product offered by Oracle Corporation. It may be downloaded free of charge from <https://www.oracle.com/database/technologies/appdev/datamodeler.html>.

How can the NODS Logical Data Models be used?

This section will be further developed in conjunction with NODS pilot projects.

As part of facilitating extraction of case data that aligns with NODS, the data models can help with mapping, format decisions and delivery mechanisms.

>> Mapping

A key step in sharing data that conforms with NODS is mapping data elements from the court's database(s) to elements defined in NODS.

Regardless of how a court goes about the mapping exercise, it is essential that business experts be involved. One of the most significant benefits of using NODS to share case information is the common definitions NODS provides. Understanding these definitions from a business perspective and how the court's data translates to those common definitions is critical to consistent interpretation by consumers of the data. Policies and rules around security and public access must also be considered. The CSP Data Privacy Policy Guide² provides useful guidance on creating and maintaining good data governance policies.

It is highly recommended that the court create a series of test files based on different types of data requests and that business experts participate in reviewing and verifying the resulting datasets.

>> Format & Delivery

A court needs to decide how it's going to publish or make data available in response to NODS data requests. Format and delivery options are highly dependent upon the how data requests will be fulfilled. It could involve (but is certainly not limited to) some combination of the following:

- Generate flat files to be delivered to the requestor.
- Create XML schema to be used for NODS data requests.
- Share data via general/standard data exchanges with commonly requested data.
- Provide subscription-based data feeds (basically a variation of a standard exchange).
- Customize a data exchange in response to a specific data request.
- Use a data exchange tool to create a subset schema with elements required for an exchange.
- Share data via Web Services or a managed messaging solution.
- Create or utilize an existing data warehouse from which to process NODS requests.
- Create standard extract options for common types of requests from a data warehouse or data mart.
- Design a data warehouse (based on the NODS data models) from which ad hoc data requests could be fulfilled.

Practical and viable options will vary with different jurisdictions. These options, and likely many more, will be considered through ongoing updates to this documentation and from lessons learned in NODS pilot projects.



**National Open Court
Data Standards**
www.ncsc.org/nods



ncsc.org/NODS