



GET MORE FROM YOUR NIBRS CRIME DATA



CRIME INSIGHT

FROM BEYOND 20/20

Get more from your state and NIBRS crime data with Crime Insight from Beyond 20/20

Collecting accurate state crime data demands an enormous investment of time and money.

Of course, states do it because analyzing and reporting on that data produces information essential to important mandates:

- developing good policy
- acquiring and allocating resources effectively
- increasing public safety contributing to a national perspective through FBI-standard NIBRS

The old adage, “a poor worker blames his tools” may be true in other fields—but at this level, with such vast quantities of data, even the most skilled statistician will tell you: a lot depends on the tools.

So how can your state get the most out of its significant investment in data collection?

Meet the considerable challenges of precise state-wide data collection, validation, aggregation and analysis by using better tools: the Crime Insight repository and reporting engine from Beyond 20/20. Use Crime Insight to:

- **produce more relevant and timely analysis to advance state interests** by defining, capturing and working extensively with state-specific data
- **meet more diverse audience requirements** by performing advanced, customized reporting
- **encourage more consistent, accurate contributions from state agencies** by sharing targeted analysis that demonstrates immediate value
- **decrease costs associated with data collection and reporting** by streamlining processes related to both state and FBI-standard NIBRS



SOLUTION OVERVIEW

Beyond 20/20's Crime Insight consists of two components:



Crime Insight Repository

A powerful database with a user-friendly web interface and fully automated data processing capabilities. Supports the FBI NIBRS standard and can be customized as your state requires.

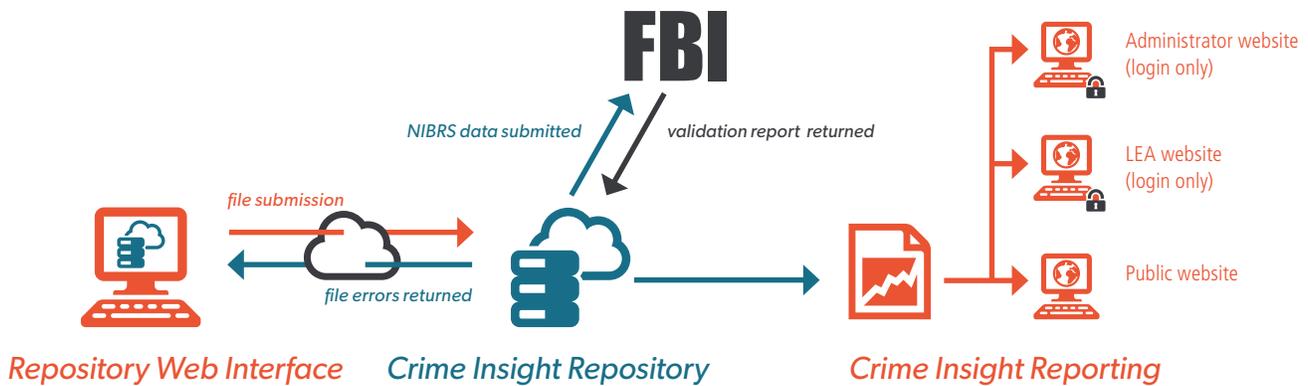


Crime Insight Reporting

A user-friendly web interface that allows administrators to perform complex and highly targeted reporting and data analysis in a few clicks.

Core Features

As shown in Figure 1, state and agency staff upload incident-based crime data to the Repository through its web interface. The Repository validates the files based on FBI and state-specific rules, returns errors immediately to agency and state administrators, and allows them to make required corrections directly in the interface. In a few clicks, data is then converted to the FBI-standard NIBRS format and packaged as a file that can be submitted to the FBI.



Agencies can:

- Submit data files
- Review and correct errors
- Resubmit files

Administrators can:

- Review and correct errors
- Manage users
- Review activity by user and date/time
- Manage data elements

The Crime Insight Repository automatically:

- Validates uploaded files
- Converts files to FBI NIBRS format
- Prepares files for submission to the FBI
- Consolidates errors identified by Crime Insight and FBI

Users of all three websites can:

- Manipulate views by dragging, dropping and nesting dimensions
- Perform cross-tabulations
- Add filters, sort, drill down, drill through, and aggregate data
- Produce highly targeted reports
- Perform in-depth analysis
- Conduct detailed research

Fig. 1 – Crime Insight workflow



Core Features ...cont'd

Crime Insight Reporting formats Repository data using proprietary algorithms to prepare it for complex analysis. Through a web-based interface, users then manipulate views, drag, drop and nest dimensions, perform cross tabulations, add filters, sort, drill down, drill through, and aggregate data to produce accurate reports on targeted information. Customized views can be saved for later use.

By allowing contributing agencies to view their crime data in a series of reports, states demonstrate the importance of reporting the data correctly and encourage consistent contribution.

Crime Insight Reporting can make data available on three user-friendly websites, each displaying reports tailored for the intended audience:

- **Administrator** – for state-level repository administrators and auditors – login only
- **Law Enforcement Agency (LEA)** – for contributing agency administrators and analysts – login only
- **Public** – for the general public – no login required

Website users can navigate the data using hierarchies, text searches and by filtering for specific dimensions. Researchers, journalists and the general public will appreciate the public site for easy access to current, accurate data. And by allowing contributing agencies to view their crime data in a series of reports on the LEA site, states demonstrate the importance of reporting the data correctly and encourage consistent contribution.

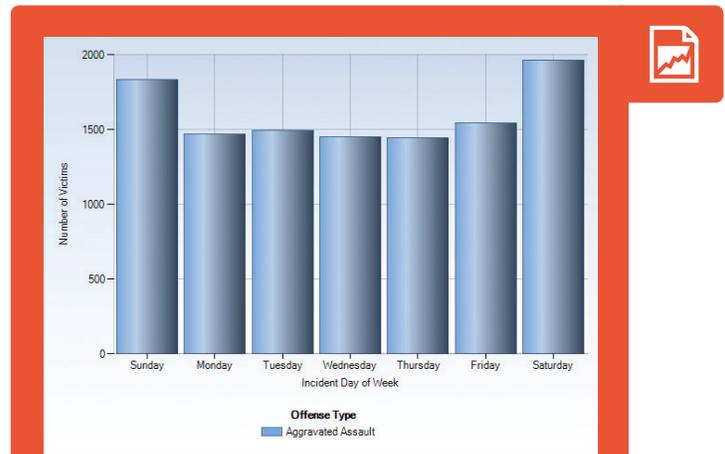


Fig. 2 – Sample custom report showing state-wide aggravated assaults by day of the week.

- **TIBRS Crime Data**
 - Crimes and Clearances by Offense Type
 - Crimes Rates by Jurisdiction
 - Crimes by Day of Week
 - Crimes by Hour of Day
 - Drug Related Offenses
 - Bias Motivated Offenses by Bias Type
 - **TIBRS Arrest Data**
 - Group A Arrests By Month
 - Group B Arrests By Month
 - Total Arrestees by Weapon Type
 - Group A and B Arrestees with Age and Weapon Armed With
 - DUI Arrests
 - **TIBRS Victim Data**
 - Domestic Violence - Aggravated Assaults by Day of Week
 - Domestic Violence Offenses and Clearances
 - Domestic Violence Offenses and Injury Type
 - Victim Injury by Offense Type
 - Victims by Offense, Age, Gender and Race
 - Victim Offender Situation vs. Victim age
 - **Property and Drug Crime Data**
 - Stolen Vehicles by Month by Jurisdiction
 - Drug Related Offenses Reported

Fig. 3 – A list of some of the Crime Insight reports that states can make available for law enforcement agencies to review.



Crime Insight Repository – Feature Snapshot

The Crime Insight Repository consists of a web-based user interface and a back-end database running proprietary algorithms for data processing.

State-level Administrator Features

State-level administrators can use the web interface of the Repository to:

- Upload incident-based crime data
- Validate uploaded files against FBI NIBRS and state data standards automatically
- Review and correct validation errors, including those submitted by state agencies if required
- Generate the FBI NIBRS submission file in a few clicks
- Upload validation reports from the FBI and automatically verify the Repository’s validation against the one performed by the FBI
- Control all user access including roles and passwords
- Review all activity in the system by user, time, and actions performed

Law Enforcement Agency Features

State agencies can use the web interface of the Repository to:

- Upload incident-based crime data
- Review a detailed error report that is returned shortly after data is uploaded
- Correct errors in specific records

“Our staff analyze data quickly and easily with Crime Insight, and are often able to provide state and local stakeholders with same-day answers to complex questions.”

Max Schlueter, Ph.D.

Senior Research Associate, Crime Research Group

The screenshot displays the Crime Insight web interface. At the top, there are navigation tabs: "Data upload", "Data status", "Reference file editor", "FBI submissions", and "Summary". Below these is an "Upload a file..." button. The "Upload history" section shows a table with columns for Agency, Date, and File name. Below this is a detailed error report table with columns: Incident / B-Arrest / Zero Report, Line number, Error code, Type, and Description.

Incident / B-Arrest / Zero Report	Line number	Error code	Type	Description
200816721	398	342	⚠ warning	Warning - value of p
200822310	1141	401	✖ error	Victim Offense Code
200823012	2593	407	✖ error	Injury Type contains
200823957	4599	601	✖ error	Arrestee Sequence N
200821813	776	605	✖ error	Invalid Arrest Date (c
200823322	3296	653	✖ error	Disposition of arreste
200823616	3913	653	✖ error	Disposition of arreste
200823674	4032	653	✖ error	Disposition of arreste
200823422	3495	553	⚠ warning	Offender and Victim

Fig. 4 – Sample summary of data file errors by agency and sample of complete error report, which can be reviewed and corrected in the Crime Insight interface.



Crime Insight Reporting – Feature Snapshot

Crime Insight Reporting offers web-based ad-hoc reporting and analysis of the multi-dimensional data from the Crime Insight Repository.

Crime Insight Reporting can be used with any state crime data repository to get the most out of whatever data exists. However, significantly deeper, more strategically useful and complex analysis can be achieved when paired with the Crime Insight Repository because they were designed to work together. Reporting fully capitalizes on the Repository’s business rules; and the Repository is optimized for Reporting.

Minimal training is required to navigate data using hierarchies, text searches, and dimension selections. Content providers can easily tailor analysis and delivery solutions for their audiences. Reporting features include:

- Predefined and ad-hoc calculations and reporting
- Tabular and graphic displays
- Sorting, ranking, filtering, and exception highlighting
- Nest and drag-and-drop data manipulation
- Intuitive drilldown into deeper levels of any hierarchy
- Record-level data available to users who have access
- Extensive descriptive metadata, including footnotes and summaries
- Download to XLS, XML, and CSV for further analysis of data in local environments
- Multi-level security access



Measures	Number of Crimes
<u>Incident Day of Week</u>	↑ ↓ [123] [123] [123]
Sunday	67,506
Monday	76,303
Tuesday	76,385
Wednesday	78,253
Thursday	76,319
Friday	82,563
Saturday	77,651

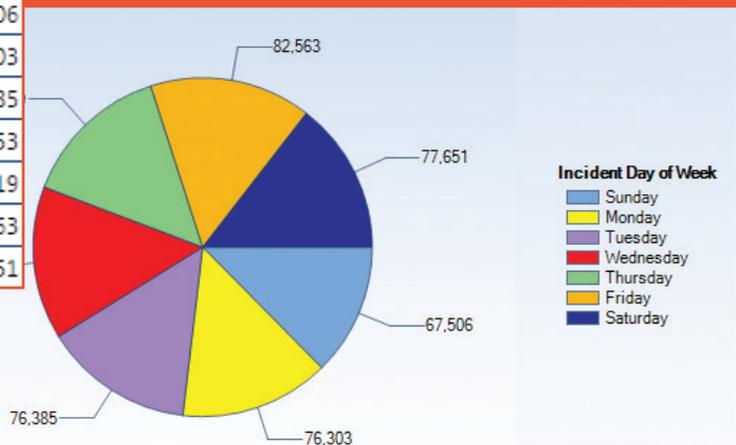


Fig. 5 – Sections of a sample report showing crimes by day of the week.



Crime Insight: Optional Features

Crime Insight's core features meet the challenges of the FBI-NIBRS submission process. With optional add-on features, Crime Insight has the power to serve more specific state interests.

For example, both Repository and Reporting support the ability to:

- **create and customize fields for state-specific data** – administrators can perform most customizations without involving a developer, allowing states to capture and analyze unique information relevant to the state
- **work with legacy Uniform Crime Reports (UCR) Summary data** – for a more comprehensive state-wide view on crime, administrators can generate UCR Summary data from the NIBRS data and integrate it with UCR submissions from non-NIBRS agencies
- **integrate with single sign-on** – for greater administrative efficiency and convenience



Crime Insight Repository

The most powerful option for the Repository is the ability to customize codes, labels and fields in the dimensional database. Use this capability to make data relevant to the state available to Crime Insight Reporting where it can be analyzed in depth and from many different perspectives.

The Crime Insight Repository can also allow permitted users to submit new incidents directly in the interface for greater efficiency.

"All our dealings with Beyond 20/20 have inspired confidence in their technical ability, proficiency with the data, and commitment to developing great solutions for their clients. Since we started using Crime Insight, we've seen significant improvement in so many areas - including a big reduction in quality control issues."

Jackie Vandercook

Criminal Justice Information Services (CJIS) Director
Tennessee Bureau of Investigation



Crime Insight Reporting

Optional features for the Crime Insight Reporting include:

- **QC reporting** – checks over 50 different common warning conditions above and beyond FBI standard rules, and can generate reports for each agency highlighting areas of specific concern
- **export utility** – facilitates rapid generation of reports across large numbers of agencies. This can be particularly useful for building the content of "Crime in [Your State]" reports.
- **interactive maps** – instant, online visualization of crime data to quickly spot trends and issues by crime or location and can be made available on Administrator, LEA and Public websites
- **Crime Trend Dashboard** – allows quick visual overview of levels of crime at both state and jurisdictional levels, including comparison to the previous year and 1-year and 5-year trends for specific crimes
- **additional standard reports** – to be made available on the Administrator, LEA and/or Public websites, including Crime Trend reports and the ability to view reports on single incidents



Optional Features Comparison

Features	Crime Insight core product	Crime Insight optional add-ons
Upload incident-based crime data	✓	
Validate uploaded files automatically	✓	
Produce error report promptly and automatically for review and correction	✓	
Correct errors in interface or re-upload corrected files	✓	
Convert data to FBI-standard NIBRS format	✓	
Prepare NIBRS file for submission for FBI	✓	
Review prior FBI submission files	✓	
Upload FBI validation reports and verify against Repository's validation	✓	
Manage users and roles	✓	
Review system activity by user, date/time, and actions performed	✓	
Data analysis capabilities: drag, drop and nest dimensions, perform cross tabulations, add filters, sort, rank, drill down, drill through, aggregate and perform exception highlighting	✓	
Create predefined and ad hoc calculations and reporting	✓	
Tabular and graphical displays	✓	
Support three websites with audience-specific reports and ability to search and filter data	✓	
Record-level access for specific users	✓	
Export data in XLS, XML or CSV	✓	
QC reporting to support effective data quality management		✓
Create and customize codes, labels and fields for state-specific data		✓
Submit new incidents directly in Crime Insight interface		✓
Generate interactive maps with zoom-in to specific records and zoom-out to aggregated data by location		✓
Generate UCR Summary Data from the NIBRS data to produce comprehensive state-wide view on crime		✓
Crime Trend Dashboard for long term trending analysis of crime at state and jurisdictional levels		✓
Additional predefined reports		✓
Integrate with single sign-on systems		✓



ABOUT BEYOND 20/20

Beyond 20/20 provides those working with complex data sets with tools to verify, transform, aggregate, and distribute data. Our customers increase data relevance and value, obtain more timely answers, discover new insights and opportunities, and outperform operational objectives using our solutions.

NIBRS and Crime Data Expertise

The data modeling experts at Beyond 20/20 have helped states manage NIBRS data with Crime Insight Reporting (formerly known as Crime Perspective) since 2004. Crime Insight is built upon our combined expertise in crime statistics, UCR, NIBRS, data modeling and statistical analysis.

In recognizing significant architectural deficiencies in most state repository systems, Beyond 20/20 launched the Crime Insight Repository in 2013 to make crime data collection and management easier and more useful. By housing the data in a multi-dimensional structure and pairing it with well-designed, user-friendly interfaces, far more detailed, relevant and complex analysis becomes possible—and far more efficient.

Future-Confident Technology

Beyond 20/20 has designed Crime Insight to give you confidence in the technology. That's why Crime Insight:

- integrates seamlessly into your state's existing infrastructure, no matter what you choose to implement: the Repository, the Reporting, or both together
- uses an open architecture and standard industry tools for adaptability to changing requirements over time, including the NIBRS definition (both FBI and state-specific elements)
- remains technologically "unlocked" so that you are not restricted to a specific vendor