WEB-BASED CRIME DATA RESOURCES AT THE NCOVR DATA CENTER

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CURRENT CAPABILITIES

With support from the National Science Foundation, the Data Center of the National Consortium on Violence Research (NCOVR) at Carnegie Mellon University provides web access to a number of data collections relating to violent offending and victimization. Currently the collection includes:

- **UCR** police agency data on offenses and arrests for years since 1980,
- **SHR** incident-based reports of homicides since 1980,
- **NIBRS** incident-based reports since 1997,
- **NCVS** national victimization survey data since 1973, and
- **Census** data for 1980 and 1990 from the STF3A ("long form") and STF1A ("short form") datasets for summary levels from census block groups to national totals.

While violent offending has been a substantive focus of NCOVR, understanding the shared and distinctive features of violence often involves comparisons between violent and non-violent behaviors. So NCOVR data resources include the full range of offending types available in each data collection.

Two web-based tools are available for accessing the data. Oracle's Discoverer® application is a menu driven query tool that allows users to customize an extract file to include user selected variables and impose conditions on desired records. Cognos Powerplay® provides flexible access to data "cubes". Users can manipulate these cubes to aggregate or disaggregate data and focus on particular areas of interest. Query capabilities are also available for extracting variables and records from the underlying data set. Users only need an internet connection and standard browser to access the data with either tool.

EXISTING DATA RESOURCES AT NCOVR

Exhibits 1 to 12 illustrate NCOVR's current web-based data resources for UCR offense and arrest data. The UCR offense and arrest cubes offer several important enhancements to published UCR data. By combining data from all years since 1980 the offense and arrest cubes provide easy access to trends at any level of disaggregation. The data also include the richer crime type details reported by police but only published for national totals. For offenses, these include features like weapon type in aggravated assaults and robberies, separate counts for simple assaults, forced entry or not in burglaries, and vehicle type in motor vehicle thefts. Multiyear data on offenses and arrests from all reporting police agencies are available in single dynamic data cubes that can be easily manipulated to meet distinctive user needs.

The NIBRS cube in Exhibits 13 to 16 focuses on dimensions salient in violent incidents. Other planned cubes will focus on incidents involving property and public order offenses, the various costs of crime for different offense types, and participants in crime incidents. The NCOVR cubes overcome the formidable barriers to access for NIBRS data posed by the complex hierarchy of record types. Cubes establish links across related records to provide easy access to summary counts by time for years, quarters and months, and by geography for the nation, US regions, states, counties, and individual police agencies.

After users customize their data tables they can save that structure for future use or sharing with other users. Once saved, a user can obtain the same table format from the original or updated data. The results in customized tables can also be exported in csv or pdf format for use in other computer applications or printing. Queries that extract records from the underlying database can also be saved as a query script or the records themselves can be exported in a variety of formats suitable for use in other applications or printing.

SAMPLE SCREEN DISPLAYS FROM NCOVR'S UCR OFFENSE DATA CUBE

Exhibit 1 provides direct access to the various national crime data collections available from NCOVR. Users can access the Cognos data cubes or use the Discoverer query tool from this web page. Users log in automatically as _guest_ users (password = _ncovr_) or may use their personal user account. Personal accounts are available at no charge and provide users with capabilities for saving their work on the NCOVR server for their own future use or sharing with other users.

Exhibit 2 shows the default table in the UCR Offense cube. [The UCR Offenses Monthly Data (with Population) cube is available in the "UCR Offenses (Return A)" newsbox area.] This cube opens with annual total counts of actual offenses recorded by police agencies reporting to the FBI's Uniform Crime Reporting Program aggregated for US regions and the nation. The available data dimensions are: time (years and months), geography (US regions, states, counties, and individual police agencies) and population group (city size classes). The available measures are counts of actual offenses for each crime type reported by police to the UCR program.   Users can select the dimensions to be displayed in rows and columns and select the level of aggregation/disaggregation in crime types, time and geography they want to view in a table or chart. The tables and chart in Exhibits 3 to 8 all derive directly from the same dynamic cube for offenses shown in Exhibit 2.

Exhibits 3 and 4 illustrate the flexibility of the cube in displaying UCR offense data.   First the basic cube in Exhibit 2 was manipulated to replace columns with the crime count and population measures. By inserting calculations in the columns we can obtain crime rates per 100,000 population.   Exhibit 3 presents crime rates at a fairly detailed level of disaggregation in crime types. In Exhibit 4, we nest columns to display rates for different population groups in the columns.

Exhibit 5 applies the Hide/Show tool to the dynamic table in Exhibit 4 to display offense rates for different crime types. Property and violent rates are currently hidden. Moving these to "Visible Categories" displays alternative offense types in the dynamic table. Exhibit 6 uses the Chart tool to graph trends in violent offense rates derived from the dynamic table in Exhibit 4. In Exhibit 7 we filter the detailed crime rates in Exhibit 3 to report annual offense rates only for cities with populations from 100,000 to 249,999. Other options allow users to vary the time and geography dimensions to display counts or rates by month, state, county and individual police agencies.

Exhibit 8 displays the full array of crime types available in the UCR offense cube. The available crime types provide a more detailed picture of the types of serious crimes reported to police. Currently published tables in the annual report of Crime in the US only provide detailed breakdowns by weapon type, forced entry and type of vehicle for

national totals. These features of offenses are available at all levels of aggregation for individual police agencies, population groups, counties, states and US regions in the NCOVR cube.

SAMPLE SCREEN DISPLAYS FROM NCOVR'S UCR ARREST DATA CUBE

Exhibits 9 displays the default table in the UCR arrest cube. [The UCR Monthly Arrests with Population cube is available in the "UCR Arrests (ASR)" newsbox area.] This cube opens with annual total counts of arrests recorded by police agencies reporting to the FBI's Uniform Crime Reporting Program aggregated for US regions and the nation. The available data dimensions are: time (years and months), geography (US regions, states, counties, and individual police agencies), population group (city size classes), and offense type. The available measures are counts of arrests by demographic attributes of arrestee. Users can select the dimensions to be displayed in rows and columns and select the level of aggregation/disaggregation in arrestee attributes, time and geography they want to view in a table or chart. The tables and chart in Exhibits 10 to 12 all derive directly from the same dynamic cube of arrests shown in Exhibit 9.

Exhibits10 to 12 illustrate the flexibility of the cube in displaying UCR arrest data. First the basic cube in Exhibit 9 was manipulated to replace columns with the arrest count and population measures. By inserting calculations in the columns we can obtain arrest rates per 100,000 total population. Exhibit 10 presents arrest rates for total arrests. In Exhibit 11, we filter total arrests in Exhibit 9 to report annual arrest rates only for violent crime types. Other filter options allow users to vary time and geography dimensions to display counts or rates by month, state, county and individual police agencies. As in the offense data, we could also use the nest columns tool (not shown) to display the various population groups for any of the demographic breakdowns available in the arrest measures.

[Note, the original UCR offense and arrest data have different structures. Offense data include all crime types as different fields on the same monthly agency record. Arrest data include each crime type on a separate record. We chose to maintain the original structures when creating the data cubes. This leads to differences in the strategies used to obtain crime-type-specific offense and arrest rates—relying on the hide/show tool to isolate specific crime types in the offense data, and using the filter tool to isolate individual crime types in the arrest data].

Exhibit 12 is the most ambitious illustration of the transformations available to users for reshaping the presentation of arrest data starting from the single dynamic data cube in Exhibit 9. First, we replace columns with the arrest counts and population measures (as shown in Exhibit 10) and then successively move down levels in the demographic attributes of arrestees and use the hide/show tool to isolate arrests by sex for juveniles and adults. We then insert calculations to obtain the arrest rates per 100,000 total population for male and female juveniles and adults shown in the table columns in Exhibit 12.

To obtain a simple comparison of changes in rates over time, we use the insert calculation tool in the row data to obtain average annual rates during the decades of the 1980s and 1990s. Another insert calculation provides the percent change in arrest rates from the 1980s to 1990s. Finally, we use the chart tool to display the contrasting arrest rates by sex between the 1980s and 1990s in a clustered bar graph. The split view tool

located among the options displays both the table and graph results in Exhibit 12. The filter tool applied to crime types allows us to focus specifically on arrests by sex for violent crimes in Exhibit 12. Working within the same table structure, we could filter the results to display other crime types or isolate specific geographic areas, or replace columns to display arrests for other demographic attributes. The results in Exhibit 12 highlight the doubling in female arrest rates for violent offenses between the 1980s and 1990s. The increase for males is less than half that observed for females.

Exhibit 12 is an excellent example of the power and flexibility that dynamic data cubes provide users for dramatically transforming data displays. Starting in a web environment with the default cube table in Exhibit 9, a user can in a matter of minutes interactively transform the table structure to explore a wide array of user-designed alternatives. The alternatives available to the user are limited only by the variables and levels of disaggregation built into the original data cube.

SAMPLE SCREEN DISPLAYS FROM NCOVR'S NIBRS DATA CUBE

NCOVR also provides the same flexible access to NIBRS data. Exhibit 13 displays the default table in the current NIBRS incident summary cube. [The NIBRS Incident Summary Cube (with Population) cube is available in the "NIBRS Data Cubes" newsbox area.] This cube opens with annual total counts of incidents recorded by police agencies reporting to the FBI's National Incident Based Reporting System aggregated for US regions and the nation.

The available data dimensions are: time (years and months), geography (US regions, states, counties, and individual police agencies), population group (city size classes), participant demographics and number for victims and offenders, offense type (most serious charge), and other incident features contributing to victim danger (involvement of weapons, strangers, and victim injury). Users can select the dimensions to be displayed in rows and columns and select the level of aggregation/disaggregation in time, geography, incident and participant attributes they want to view in a table or chart. The tables in Exhibits 14 to 16 all derive directly from the same dynamic cube of NIBRS incidents shown in Exhibit 13.

In Exhibit 14 we replace rows with number of offenders and replace columns with number of victims. To improve the comparison between multiple and single offender incidents we replace the measure of incident counts by % of row totals. Incidents involving multiple offenders are five times more likely to involve multiple victims than are incidents with single offenders.

In Exhibit 15 we use the nest rows tool to explore differences in the influence of weapons in multiple and single offender incidents. Insert calculations produce summary weapon variables, and the hide/show tool suppresses detailed weapon types and leaves the newly calculated weapon summary variables. Multiple victims are more likely in incidents where offenders have weapons in both multiple and single offender incidents. Type of weapon is more important in incidents involving single offenders than in those with multiple offenders.

Exhibit 16 uses the nest columns tool to examine injury outcomes for victims. By changing the measures from % of row total to % of row subtotals we can examine differences in victim injury in single and multiple victim incidents. Victims are more likely

to be injured in incidents that involve "other weapons" than in incidents with guns or no weapon. Presence of multiple victims increases the chance of victim injury when there are multiple offenders (41% vs. 28%), but has no effect in single offender incidents (39% vs 38%).

The examples in Exhibits 14 to 16 illustrate the enormous flexibility and power of dynamic cubes for exploring complex patterns of offending in data that has not previously been available in a user-friendly format. Users can interactively change variables, explore interactions among several variables, and filter data by time, geography and incident and participants attributes.

FUTURE ENHANCEMENTS

Several enhancements are planned to enrich existing data resources. Some of these can be readily implemented with available resources. Others will require additional resources to support development and implementation.

Adjustments for Non-Reporting. Currently UCR data include only offense and arrest data reported by police to the FBI. The next generation of Cognos cubes will include both reported counts and straightforward adjustments for incomplete reporting by some agencies during an annual reporting cycle. An even more ambitious goal—that will require additional resources—involves developing more sophisticated adjustments that will accommodate both incomplete and missing agency reports.

Linking UCR, NIBRS and Census Data. For the most part, each data collection stands alone. We intend to exploit natural bases for linking—both within and across distinct data collections. Because of the consistent data structures employed over time within the FBI crime data series, we have already brought multiple years of data together into coherent databases that combine all years since 1980 and all reporting agencies. Similarly the victimization surveys fall broadly into several distinct multi-year studies that share common survey and sample designs. These will be made available as multi-year linked databases. We are also exploring possibilities for identifying a core of common variables (or concepts) that cross several distinct NCVS series. These would be the basis for establishing cross-study links for a restricted subset of measures.

Shared place and time dimensions also provide natural bases for establishing links across the various FBI and Census databases. We have already established links in our Oracle databases between the UCR arrests for designated demographic groups and the 1990 decennial census to provide detailed population counts for the same demographic groups by place (city) and county. These links need to be enhanced to include other census years (2000 and 1980), and to incorporate linked census data into UCR and NIBRS data cubes. Additional population attributes could also be included to reflect varying socio-economic conditions across jurisdictions.

Additional NIBRS and NCVS Special Topic Cubes. Current NCOVR cubes for NCVS and NIBRS data are limited to incident counts and focus on features of incidents and participants especially relevant to violent offending. The core cubes will be expanded to include cubes that that are organized around property crimes, costs of crime to victims, and offender and victim participants.

<u>Specialty Cube Reports</u>. We also plan to develop a collection of standard "reports" that will be of interest to policy and practitioner communities. These will provide users with preformatted tables organized around special topics. While preformatted to a standard table or chart layout, the content of the reports will be dynamically linked to data cubes. Content will be automatically updated as the cubes themselves are updated with new or corrected data. Users will also have the flexibility to determine which observations will be included. One example of these reports is a table comparing offense or arrest activity for a user-defined set of "comparable" police agencies. "Comparable" agencies might include geographical neighbors (e.g., in the same MSA or county), or agencies that serve jurisdictions comparable in size and socio-economic makeup (e.g., in the same population group). Users can determine and save their set of comparable agencies by filtering the data on any of the attributes available in the underlying cube. Only the qualifying agencies will contribute data to the final report.

<u>Geographical Tools.</u> Geographical location is one of the key dimensions underlying most NCOVR datasets. Providing mapping capabilities to display these data would be a natural extension. This will require additional resources to obtain and implement GIS databases and web-based mapping software, but is technically feasible.

DATABASE TECHNOLOGIES

The traditional solution to data sharing is through data archives or repositories that are similar to libraries. The mission is to archive a broad range of datasets. The data are typically held as text or statistical application files and users download an entire dataset. However, the structure of the data is often complex, involving multiple related respondents or other supplementary data, and varying data elements for subjects/cases within the same data module. Web-based, advanced database management systems are removing many of the obstacles to using complex data sets by providing tools that allow users easy access to the variables and cases of interest and permit linkages among multiple data sets.

The NCOVR Data Center takes full advantage of the internet and advanced relational database management system (DBMS) technology from Oracle to store data. Users can access the data through Cognos® data cube software and the Oracle Discoverer® tool. Both software products involve continuing operating costs for original licensing and annual maintenance fees that provide access to technical assistance and software patches and upgrades.

Cognos® provides access to "power cubes" built from NCOVR's web-based datasets to allow users to flexibly explore patterns in the data. The "power cubes" are multi-dimensional tables that focus on a specific theme. The user can easily change the dimensions displayed and filter the contributing data through a graphical "drag-and-drop" user interface. Users also can drill down through the cubes to examine the underlying data in greater detail (e.g., for counties within states, or cities within counties).

The Cognos® software is completely browser based and does not require any additional software on the user's machine. This eliminates the need for end users to have their own database tool set to perform complex analyses to summarize and synthesize the data. Trends, associations, and anomalies can be explored within the multidimensional structure of the cube. The web-based capabilities of Cognos® software also allow groups of analysts to work securely, in a collaborative manner, over great distances.

Offering a perfect complement to the Cognos® software, the web-based Oracle Discoverer® is an ad-hoc query and analysis tool for accessing advanced relational databases. This tool facilitates user access to data needed for statistical analyses. The Discoverer® tool also adds value to individual datasets by allowing users to join separate data sets based on common links among them. Common geography and time elements generally provide the common links across NCOVR datasets. For example, homicide data users are able to link with the 1990 Census STF3A data based on geographic identifiers for state, county, and tract in both data sets. This allows researchers to dynamically augment individual record data with community context variables such as population density or income obtained from census data.

Another significant advantage of the Oracle Discoverer® tool is that it allows the user to easily access subsets of variables and records without downloading the entire dataset and then processing it through user-created data preparation programs. Users consider it one of the best query tools on the market in terms of ease of use, performance, and overall satisfaction.

DISTINCTIVE CAPABILITIES OF NCOVR DATA CENTER (NDC)

Carnegie Mellon has unique qualifications to develop the dynamic web-based data-sharing infrastructure requested by the FBI-GPO. First, we have an operational data center that performs many of the functions requested by FBI-GPO. This data center was not developed to be a large repository or archive, but was intended from inception to be a dynamic data resource providing easy and flexible access to the research and practitioner communities. Existing capabilities of the NCOVR Data Center will serve as the platform on which to develop FBI-GPO resources.

Carnegie Mellon also offers a team of experienced professionals who together have all the necessary experience and skills to tackle the problems posed by request-for-information. Capabilities of the CMU team include:

- Experience in successfully planning, managing, and executing large-scale information systems.

- Information technology expertise in applying state-of-art computer technology to store, document and access large data sets.

- Domain and technical expertise for working with data providers and users on the substantive and technical aspects of the databases and in structuring data sets to meet the substantive needs of users from the crime and justice research, policy and practitioner communities.

- Data security expertise in selecting the appropriate measures to protect human subject privacy and experience with linking security technology to open-source data access.

- Proven track record in implementing and maintaining a program of effective outreach to current and potential users.

Exhibit 1.   Current Web-Based Data Resources Available from NCOVR Data Center

http://www.ncovr.heinz.cmu.edu/docs/Data_Docs/Direct_access_data_cubes_and_discoverer.htm

Access NCOVR Data Sets Using *Cognos* Cubes or *Oracle Discoverer Query Tool*

Logon To Cognos Using Personal Account

Note: After access below, please click logon as guest. To open a personal account please contact Jerone Porter (412) 268-4005.

Available Data Sets	Connect Using Cognos Cubes	Connect Using Oracle Discoverer Query Tool
NCVS: National Crime Victimization Surveys	*Data Cube Connection*	*Discoverer Connection*
NIBRS: National Incident Based Reporting System	*Data Cube Connection*	*Available through Cognos Only*
UCR (Uniform Crime Reports) UCR Arrests (Age, Sex, Race)	*Data Cube Connection*	*Discoverer Connection*
UCR Offenses (Return_A)	*Data Cube Connection*	*Discoverer Connection*
UCR Homicides (Supplementary Homicide Reports)	*Data Cube Connection*	*Discoverer Connection*
UCR Population	*Data Cube Connection*	*Discoverer Connection*

Access data in Cognos® data "cubes"

Access data through Oracle Discoverer® query tool

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Exhibit 2.   Basic UCR Offense Cube—Dynamic Table Provides Annual Count of Offenses Reported by Police Agencies to FBI's Uniform Crime Reporting Program—Summary Counts in US Regions and National Total   (Currently, data do not include adjustments for incomplete and non-reporting police agencies.)

Available in <u>UCR Offenses Monthly Data Cube (with Population)</u> located in "UCR Offenses (Return A)" Newsbox

UCR Monthly Offense Data Cube

All Years ▾   National Total ▾   Population Groups ▾   MEASURES ▾

UCR Offense Monthly Data Cube
- All Years
- National Total
- Population Groups
- MEASURES
  - Total All Crimes
  - Population Covered
  - Property Offenses
    - Burglary
    - Larceny
    - Motor Vehicle Theft
  - Violent Offenses
    - Assaults
      - Aggravated Assaults
      - Simple Assaults
      - Other Assaults
      - Assaults Total
    - Murder/Manslaughter
    - Rape
    - Robbery

Total All Crimes as values	East North Central	East South Central	Middle Atlantic	Mountain	New England	Pacific	Possessions	South Atlantic	West North Central	West South Central	National Total
1980	2,439,630	609,625	2,236,133	786,012	702,630	2,540,717	0	2,398,487	872,370	1,357,084	13,942,688
1981	2,394,671	594,915	2,185,839	798,548	660,932	2,534,452	0	2,433,097	870,182	1,371,618	13,844,254
1982	2,269,133	591,402	2,077,436	779,503	636,819	2,487,345	0	2,347,116	799,765	1,508,816	13,497,335
1983	2,253,269	540,127	1,917,009	754,458	588,371	2,358,562	0	2,173,289	759,543	1,465,641	12,810,269
1984	1,941,841	525,174	1,836,226	761,173	572,591	2,353,225	0	2,203,227	738,065	1,512,189	12,443,711
1985	2,206,144	545,758	1,875,179	833,107	595,736	2,471,402	0	2,399,254	770,073	1,680,446	13,377,099
1986	2,359,812	587,681	1,931,278	873,987	601,333	2,681,632	0	2,611,641	822,230	1,922,424	14,392,018
1987	2,327,098	595,920	1,986,769	857,266	631,493	2,666,246	0	2,704,638	853,244	1,997,403	14,620,077
1988	2,314,308	487,036	2,069,848	878,512	641,187	2,765,810	0	1,759,305	857,146	2,048,947	13,822,099
1989	2,378,131	622,877	2,119,089	902,419	639,576	2,800,176	0	2,985,293	901,940	2,093,180	15,442,681
1990	2,566,087	660,790	2,171,018	938,612	659,270	2,853,039	0	3,168,546	885,600	2,118,793	16,021,755
1991	2,574,637	683,672	2,160,392	932,685	647,336	2,968,429	0	3,259,423	819,904	2,179,167	16,225,645
1992	2,520,942	677,365	2,057,661	930,662	627,328	3,032,936	0	3,329,360	909,220	2,087,969	16,173,443
1993	2,134,197	738,349	1,973,163	929,335	609,731	2,993,042	0	3,324,174	823,355	2,047,140	15,572,486
1994	2,146,038	759,031	1,974,058	998,584	598,353	2,970,268	0	3,380,780	831,086	2,013,922	15,672,120
1995	1,882,720	787,016	1,851,523	1,067,835	598,076	2,849,488	0	3,394,219	864,930	2,029,215	15,325,022
1996	1,854,598	735,789	1,702,180	1,024,842	578,222	2,660,902	0	2,779,733	844,235	2,069,651	14,250,152
1997	1,771,539	736,996	1,579,457	1,065,605	508,156	2,560,893	0	3,425,023	833,366	2,027,949	14,508,984
1998	1,630,012	738,464	1,495,570	1,005,809	509,677	2,361,540	0	3,338,866	811,859	1,944,136	13,835,933
1999	1,681,763	764,136	1,379,655	956,434	498,441	2,125,533	0	3,013,176	773,202	1,903,325	13,095,665
2000	1,670,544	783,012	1,365,096	977,210	500,477	2,145,810	0	3,064,270	860,164	1,932,652	13,317,235

Available dimensions and measures in UCR offense data: <u>Years</u> disaggregate to months. <u>National Total</u> disaggregates to US regions, states, counties and individual police agencies. <u>Population Group</u> disaggregates to city size classes. <u>Crime type</u> measures disaggregate from major offense categories to detailed crime types.

Exhibit 3.   UCR Offense Rates by Crime Type—Dynamic Table Provides Annual Rate per 100,000 Population for Offenses Reported by Police Agencies to FBI's Uniform Crime Reporting Program—National Totals (Currently, data do not include adjustments for incomplete and non-reporting police agencies.)

(Table derives directly from basic offense cube in Exhibit 2.)
Available in UCR Offense Rates by Crime Type located in "UCR Offenses (Return A)" Newsbox.

UCR Monthly Offense Data Cube

|◄ ◄◄ All Years ▼ National Total ▼ Population Groups ▼ MEASURES ▼   ▷▷ ▷|

MEASURES as values	Total All Crimes	Population Covered	Total Rate per 100,000 Pop	Burglary Rate	Larceny Rate	Motor Vehicle Theft Rate	Indx Property Offenses	Indx Property Rate	Agg Assault Rate	Murder Rate	Rape Rate	Robbery Rate	Indx Violent Offenses	Indx Violent Rate
1980	13,942,688	231,474,859	6,023.414	1,586.010	3,000.096	471.709	11,707,571	5,057.815	276.406	9.694	34.742	234.641	1,285,805	555.484
1981	13,844,254	235,369,484	5,881.924	1,538.465	2,944.744	442.219	11,592,954	4,925.428	265.616	9.231	33.660	239.925	1,290,844	548.433
1982	13,497,335	238,157,864	5,667.390	1,392.811	2,895.127	429.986	11,236,108	4,717.924	265.025	8.560	31.794	223.066	1,258,535	528.446
1983	12,810,269	237,576,126	5,392.069	1,278.944	2,745.812	410.294	10,536,618	4,435.049	261.828	7.895	32.433	208.620	1,213,483	510.776
1984	12,443,711	239,702,015	5,191.325	1,192.369	2,632.990	404.272	10,138,508	4,229.630	265.938	7.287	33.367	188.515	1,186,783	495.108
1985	13,377,099	242,436,828	5,517.767	1,236.974	2,787.189	445.996	10,837,312	4,470.159	291.499	7.634	35.516	203.651	1,305,039	538.301
1986	14,392,018	244,887,150	5,877.000	1,289.155	2,884.597	489.655	11,420,087	4,663.408	332.450	8.208	34.629	219.595	1,456,792	594.883
1987	14,620,077	247,654,317	5,903.421	1,265.356	2,934.198	507.373	11,656,906	4,706.926	334.774	7.871	33.959	206.209	1,443,360	582.812
1988	13,822,099	250,243,089	5,523.469	1,119.588	2,722.628	520.053	10,916,276	4,362.269	317.966	7.385	31.270	193.172	1,375,817	549.792
1989	15,442,681	252,748,130	6,109.909	1,207.391	2,996.466	604.106	12,152,035	4,807.962	363.696	8.251	34.307	225.521	1,596,800	631.775
1990	16,021,755	253,268,027	6,326.008	1,164.200	3,022.849	629.002	12,197,515	4,816.050	402.373	8.990	37.270	247.905	1,764,109	696.538
1991	16,225,645	256,655,124	6,321.964	1,170.368	3,020.924	630.808	12,376,167	4,822.100	409.035	9.333	38.007	263.727	1,848,182	720.103
1992	16,173,443	259,585,913	6,230.478	1,098.390	2,915.295	605.485	11,990,714	4,619.170	416.178	8.865	38.719	255.234	1,866,413	718.996
1993	15,572,486	262,435,643	5,933.830	1,006.250	2,759.704	570.235	11,379,705	4,336.189	407.382	8.916	33.676	244.127	1,821,570	694.102
1994	15,672,120	264,955,897	5,914.992	953.314	2,752.602	556.473	11,293,449	4,262.388	399.573	8.373	35.166	227.176	1,775,967	670.288
1995	15,325,022	267,428,288	5,730.516	894.401	2,733.416	520.217	11,093,015	4,148.034	380.131	7.615	32.738	208.110	1,681,038	628.594
1996	14,250,152	270,350,716	5,270.987	814.048	2,563.990	472.878	10,410,980	3,850.916	338.602	6.650	30.439	186.479	1,519,829	562.169
1997	14,508,984	272,319,706	5,327.923	822.963	2,564.837	469.527	10,504,262	3,857.327	317.689	6.216	31.275	175.410	1,444,901	530.590
1998	13,835,933	274,716,938	5,036.432	770.999	2,407.961	425.486	9,902,024	3,604.446	310.544	5.726	30.098	155.730	1,379,351	502.099
1999	13,095,665	276,863,763	4,730.003	690.651	2,280.182	388.924	9,301,951	3,359.757	282.564	5.175	28.467	140.086	1,263,306	456.292

Cognos Cube Tool Bar

Exhibit 4.   UCR Offense Rates by City Size—Dynamic Table Provides Annual Rate per 100,000 Population for Offenses Reported by Police Agencies to FBI's Uniform Crime Reporting Program—National Totals   (Currently, data do not include adjustments for incomplete and non-reporting police agencies.)

(Table derives directly from basic offense cube in Exhibit 2.)
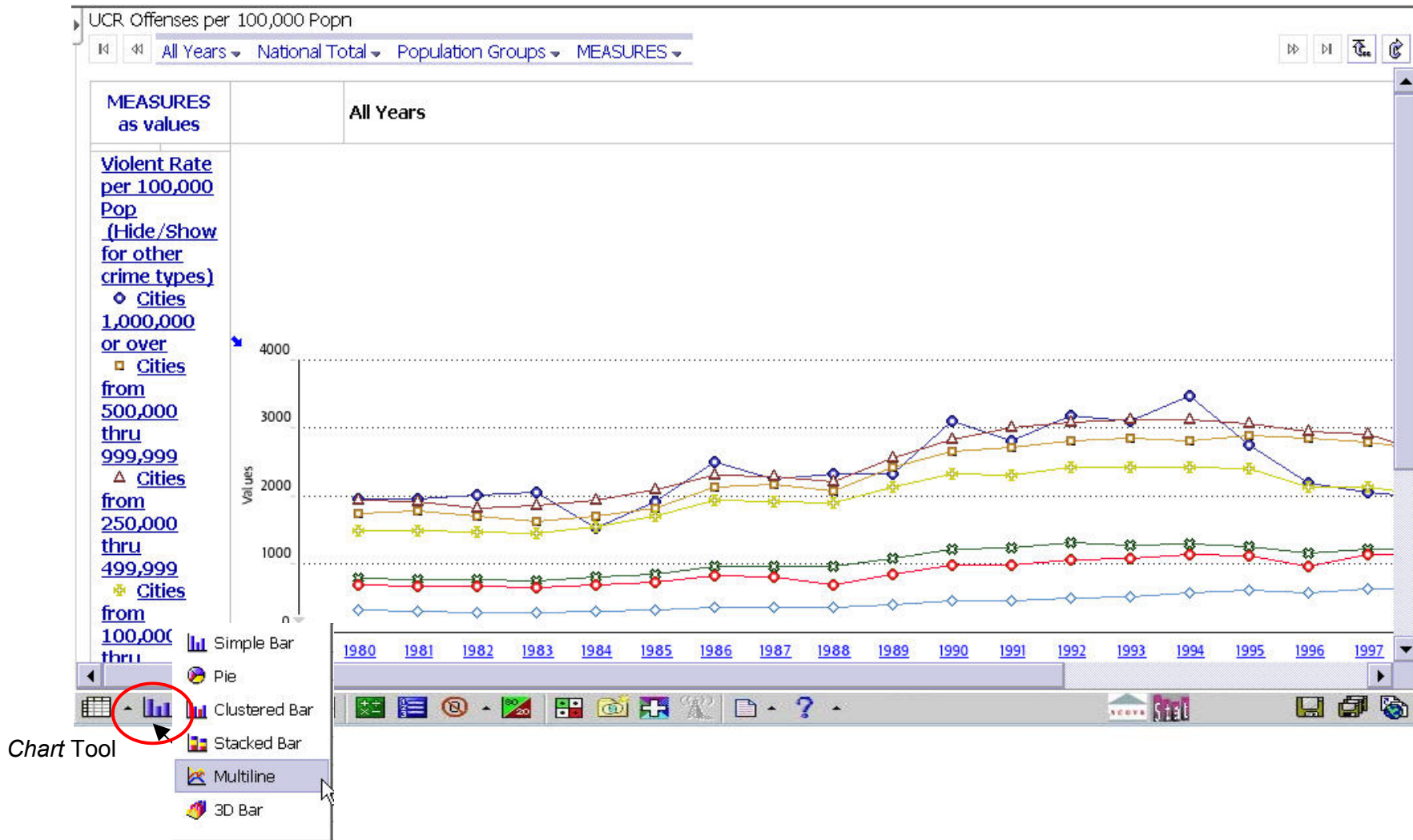Available in UCR Offense Rates by City Size located in "UCR Offenses (Return A)" Newsbox.

UCR Offense Monthly Data

- All Years
- National Total
- Population Groups
- MEASURES

UCR Monthly Offense Data Cube

All Years ▾   National Total ▾   Population Groups ▾   MEASURES ▾

Total Rate per 100,000 Pop (Hide/Show for other crime types)

MEASURES as values	Cities 1,000,000 or over	Cities from 500,000 thru 999,999	Cities from 250,000 thru 499,999	Cities from 100,000 thru 249,999	Cities Under 100,000	Non-MSA Counties	MSA Counties
1980	9,297	9,747	10,441	9,396	5,957	2,312	4,681
1981	9,182	10,075	10,246	9,324	5,753	2,154	4,393
1982	9,509	9,715	9,764	9,020	5,469	2,004	4,174
1983	9,279	8,983	9,166	8,380	5,091	1,846	3,871
1984	7,434	8,966	9,348	8,227	4,991	1,806	3,791
1985	9,013	9,357	10,148	8,654	5,170	1,846	3,975
1986	10,081	10,026	10,806	9,250	5,412	1,908	4,237
1987	9,740	10,243	10,948	9,253	5,470	1,923	4,234
1988	10,233	9,693	10,147	8,596	5,110	1,854	3,508
1989	10,007	10,917	11,451	9,585	5,606	2,042	4,419
1990	11,082	11,134	11,262	9,507	5,841	2,123	4,513
1991	10,553	11,012	11,780	9,387	5,858	2,130	4,570
1992	10,173	10,814	11,394	9,434	5,783	2,125	4,432
1993	9,895	10,669	11,264	9,076	5,325	2,054	4,284
1994	9,778	10,217	11,202	8,984	5,329	2,100	4,326
1995	8,617	10,622	10,775	8,834	5,160	2,228	4,200
1996	7,864	10,157	10,549	8,299	4,756	2,069	3,612
1997	7,471	9,565	9,910	7,998	4,844	2,190	4,123
1998	6,895	9,195	9,130	7,490	4,628	2,106	3,846

Cognos Cube Tool Bar

Exhibit 5.   UCR Offense Rates by City Size—Use *Hide/Show* Tool to Select Crime Types in Dynamic Table of Annual Rate per 100,000 Population for Offenses Reported by Police Agencies to FBI's Uniform Crime Reporting Program—National Totals (Currently, data do not include adjustments for incomplete and non-reporting police agencies.)

(Table derives directly from basic offense cube in Exhibit 2.)
Available in <u>UCR Offense Rates by City Size</u> located in "UCR Offenses (Return A)" Newsbox

Hide/Show Tool

Exhibit 6.   UCR Offense Rates by City Size—Use *Chart* Tool to Display Trends in Annual Rates of Violent Offenses by City Size—National Totals for Offenses Reported by Police Agencies to FBI's Uniform Crime Reporting Program (Currently, data do not include adjustments for incomplete and non-reporting police agencies.)

(Chart derives directly from dynamic table of rates in Exhibit 4.)
Available in <u>UCR Offense Rates by City Size</u> located in "UCR Offenses (Return A)" Newsbox

Chart Tool

Exhibit 7.   UCR Offense Rates by City Size—Use *Filter* Tool to Display Rates for Cities with Populations from 100,000 to 249,999 in Dynamic Table of Annual Rate per 100,000 Population for Offenses Reported by Police Agencies to FBI's Uniform Crime Reporting Program—National Totals.   (Currently, data do not include adjustments for incomplete and non-reporting police agencies.)

(Table derives directly from basic offense cube in Exhibit 2.)
Available in <u>UCR Offense Rates by City Size</u> located in "UCR Offenses (Return A)" Newsbox

Filtered Population Group

MEASURES as values	Total All Crimes	Population Covered	Total Rate per 100,000 Pop	Burglary Rate	Larceny Rate	Motor Vehicle Theft Rate	Indx Property Rate	Agg Assault Rate	Murder Rate	Rape Rate
1980	1,334,515	12,780,990	10,441.406	2,849.185	4,791.468	814.483	8,455.135	512.018	20.468	82.701
1981	1,282,387	12,516,241	10,245.784	2,763.769	4,767.630	740.094	8,271.493	509.051	19.527	79.856
1982	1,264,452	12,949,921	9,764.168	2,496.316	4,706.222	699.217	7,901.755	526.204	16.911	74.672
1983	1,226,428	13,380,315	9,165.913	2,257.750	4,353.627	653.370	7,264.747	510.235	15.022	74.019
1984	1,323,338	14,155,902	9,348.313	2,210.845	4,440.452	710.820	7,362.117	533.700	14.178	76.823
1985	1,439,105	14,180,847	10,148.230	2,359.598	4,811.328	831.375	8,002.301	576.341	15.161	81.716
1986	1,519,924	14,066,068	10,805.607	2,481.468	4,966.192	988.592	8,436.252	649.649	17.880	83.812
1987	1,594,132	14,560,674	10,948.202	2,403.797	5,182.033	1,007.550	8,593.380	604.148	14.388	77.167
1988	1,360,403	13,406,959	10,146.992	2,085.961	4,732.721	1,058.764	7,877.446	599.592	13.784	71.142
1989	1,589,902	13,884,947	11,450.544	2,318.079	5,184.723	1,313.041	8,815.842	720.269	15.931	75.535
1990	1,707,223	15,159,450	11,261.774	2,073.499	4,933.345	1,348.532	8,355.376	779.204	18.160	81.797
1991	1,694,938	14,388,776	11,779.584	2,165.028	5,114.452	1,425.451	8,704.931	843.644	19.474	85.810
1992	1,661,998	14,586,818	11,393.835	1,997.214	4,835.373	1,399.291	8,231.878	833.575	18.633	82.561
1993	1,656,256	14,704,007	11,263.977	1,888.587	4,730.602	1,438.893	8,058.082	869.470	22.191	77.530
1994	1,589,663	14,190,798	11,202.069	1,766.053	4,823.259	1,414.269	8,003.581	854.427	21.140	73.414
1995	1,542,890	14,319,428	10,774.802	1,621.014	4,703.666	1,298.543	7,623.223	795.220	20.106	70.645
1996	1,528,382	14,488,004	10,549.293	1,584.069	4,700.427	1,236.264	7,520.760	763.577	18.001	70.645
1997	1,474,324	14,876,795	9,910.226	1,457.512	4,336.525	1,139.049	6,933.086	602.751	15.151	63.125
1998	1,345,263	14,733,874	9,130.409	1,338.684	4,060.541	1,018.768	6,417.993	617.740	12.800	57.412

Left tree panel:
- UCR Offense Monthly Data Cube
  - All Years
  - National Total
  - Population Groups
    - Possessions (Puerto Rico, Guam, Ca
    - Cities 1,000,000 or over
    - Cities from 500,000 thru 999,999
    - Cities from 250,000 thru 499,999
    - Cities from 100,000 thru 249,999
    - Cities from 50,000 thru 99,999
    - Cities from 25,000
    - Cities from 10,000
    - Cities from   2,500
    - Cities under 2,500
    - Non-MSA Counties
    - Non-MSA Counties
    - Non-MSA Counties
    - Non-MSA Counties
    - Non-MSA State Po
    - MSA Counties 100,000 or over
    - MSA Counties from 25,000 thru 99,
    - MSA Counties from 10,000 thru 24,
    - MSA Counties under 10,000
    - MSA Counties State Police
    - 7B
  - MEASURES

Context menu:
- Replace Rows
- Replace Columns
- Filter
- Nest Rows
- Nest Columns
- Find...

Toolbar: UCR Monthly Offense Data Cube | All Years ▼ National Total ▼ Cities from 250,000 thru 499,999 ▲ MEASURES ▼

Exhibit 8.   Detailed Crime Types Available in UCR Offense Cube

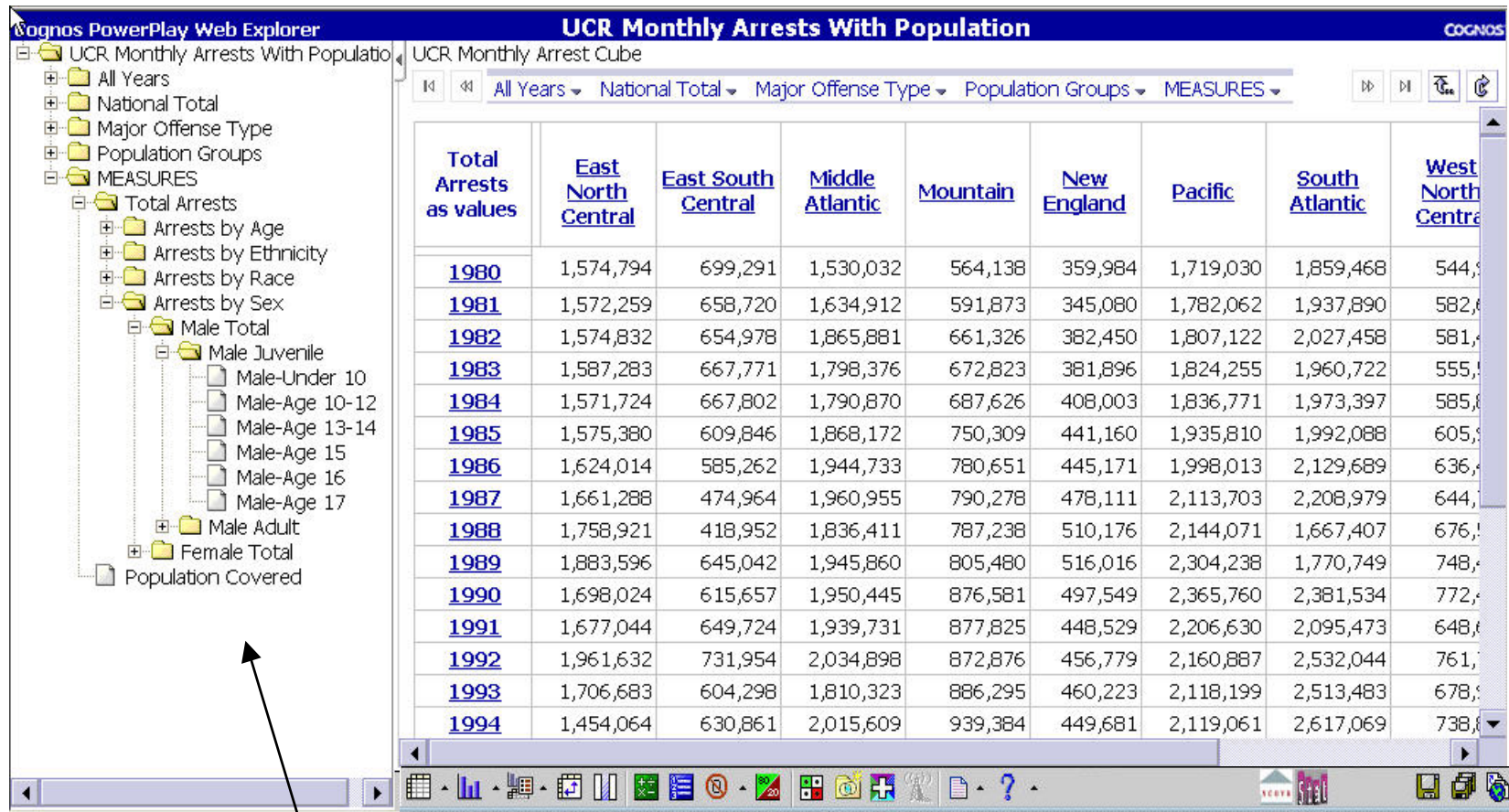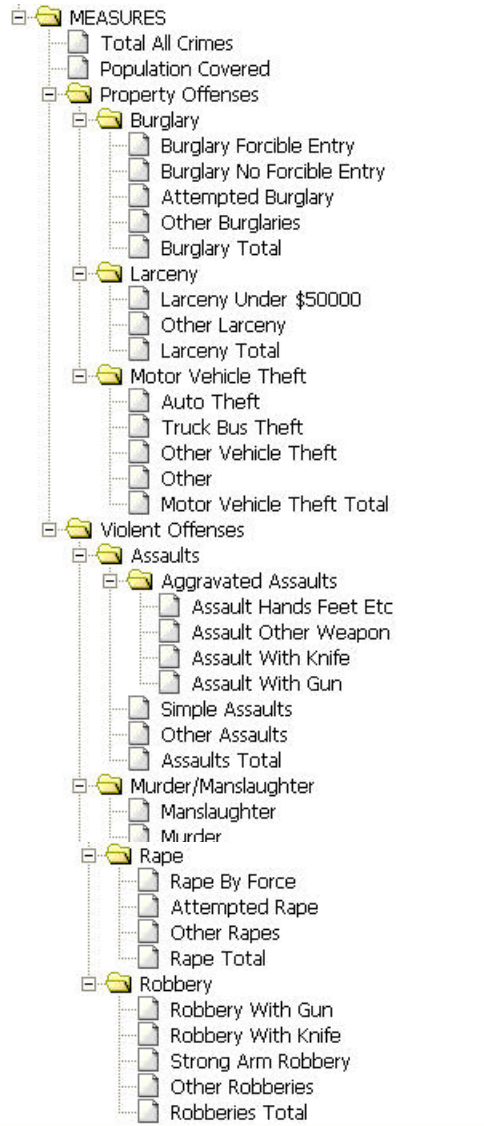November 2004

Exhibit 9   Basic UCR Arrest Cube—Dynamic Table Provides Annual Count of Arrests Reported by Police Agencies to F   BI's Uniform
             Crime Reporting Program—Summary Counts in US Regions and National Total   (Currently, data do not include adjustments
             for incomplete and non-reporting police agencies.)

             Available in UCR Monthly Arrests with Population located in "UCR Arrests (ASR)" Newsbox

Measures provide demographic specific arrests counts.

Exhibit 10.   UCR Arrest Rates—Dynamic Table Provides Annual Rate per 100,000 Total Population for Arrests Reported by Police Agencies to FBI's Uniform Crime Reporting Program—National Totals

(Table derives directly from basic arrest cube in Exhibit 9.)
Available in <u>UCR Arrests with Rates</u> located in "UCR Arrests (ASR)" Newsbox

Cognos PowerPlay Web Explorer	UCR Monthly Arrests With Population		coc
⊟ ⌷ UCR Monthly Arrests With Population	◁ UCR Monthly Arrest Cube		
⊞ ⌷ All Years	I◁ ◁I All Years ▾ National Total ▾ Major Offense Type ▾ Population Groups ▾ MEASURES ▾ ▷▷ ▷I 🔒		
⊞ ⌷ National Total			
⊞ ⌷ Major Offense Type	**MEASURES as values**	**Total Arrests**	**Population Covered**	**Rate per 100,000**
⊞ ⌷ Population Groups				
⊟ ⌷ MEASURES	1980	9,930,152	202,437,397	4,905.295
⊟ ⌷ Total Arrests	1981	10,360,091	204,255,742	5,072.117
⊞ ⌷ Arrests by Age	1982	10,946,091	204,924,946	5,341.512
⊞ ⌷ Arrests by Ethnicity	1983	10,813,045	210,273,252	5,142.378
⊟ ⌷ Arrests by Race	1984	10,867,604	213,108,604	5,099.561
⌷ Juvenile-Asian	1985	11,128,678	216,821,383	5,132.648
⌷ Juvenile-Black	1986	11,511,872	218,179,422	5,276.333
⌷ Juvenile-Indian	1987	11,629,003	217,305,159	5,351.462
⌷ Juvenile-White	1988	11,061,709	205,823,626	5,374.363
⌷ Adult-Asian	1989	11,984,892	210,047,137	5,705.811
⌷ Adult-Black	1990	12,652,548	216,818,028	5,835.561
⌷ Adult-Indian	1991	12,007,130	205,969,212	5,829.575
⌷ Adult-White	1992	13,075,685	220,631,159	5,926.491
⊟ ⌷ Arrests by Sex	1993	12,367,690	207,954,310	5,947.311
⊟ ⌷ Male Total	1994	12,607,403	215,327,182	5,854.998
⊟ ⌷ Male Juvenile	1995	12,733,076	211,291,307	6,026.313
⌷ Male-Under 10	1996	12,085,033	199,283,634	6,064.238
⌷ Male-Age 10-12				
⌷ Male-Age 13-14				
⌷ Male-Age 15				
⌷ Male-Age 16				
⌷ Male-Age 17				
⊞ ⌷ Male Adult				
⊞ ⌷ Female Total				
⌷ Population Covered				

Measures provide demographic specific arrests counts.

Exhibit 11.   UCR Arrest Rates—Use Crime Type *Filter* in Dynamic Table to Display Annual Rate per 100,000 of Total Population of Arrests Reported by Police Agencies to FBI's Uniform Crime Reporting Program—National Totals for Violent Crimes

(Table derives directly from basic arrest cube in Exhibit 9.)
Cube UCR Arrests with Rates available in "UCR Arrests (ASR)" Newsbox

Filtered Crime Type

Filter Data by Crime Type

Exhibit 12.   UCR Arrest Rates by Sex—Use *Split View* Tool to Display Table and Chart for Annual Rate per 100,000 Total Population of Arrests Reported by Police Agencies to FBI's Uniform Crime Reporting Program—National Totals for Violent Crimes

(Table and chart derives directly from basic arrest cube in Exhibit 9.)
Available in <u>UCR Arrests with Rates</u> located in "UCR Arrests (ASR)" Newsbox
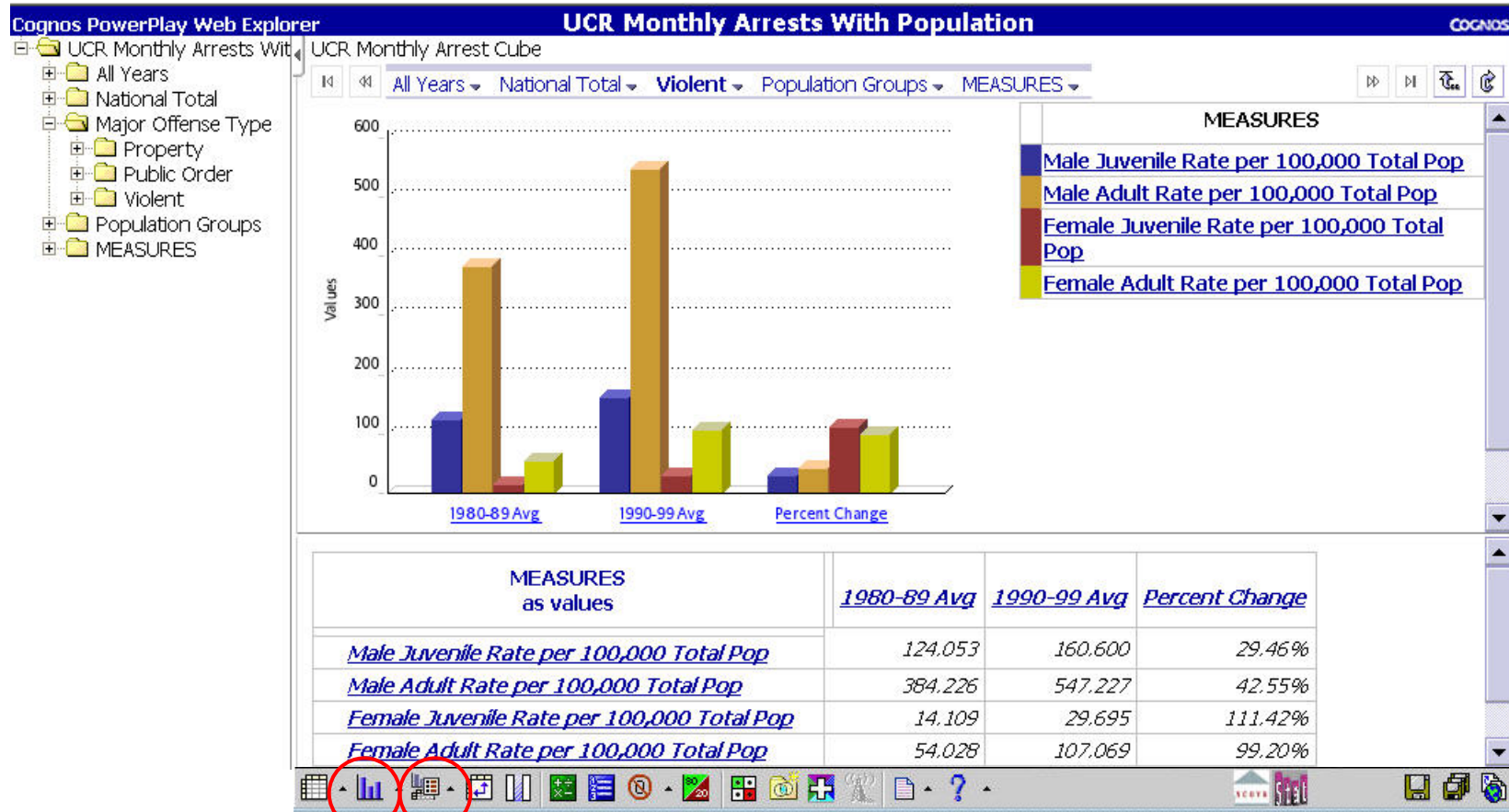
Chart Tool
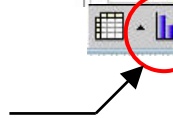
Split View in Display Options

Exhibit 13.   Basic NIBRS Incident Summary Cube—Dynamic Table Provides Annual Count of Incidents Reported by Police Agencies to FBI's National Incident Based Reporting Program—All Reporting Agency Counts in US Regions and National Total   (There are very few instances of incomplete reporting — < 12 months per year — by NIBRS participating agencies.)

Available in <u>NIBRS Incident Summary Cube (with Population)</u> located in "NIBRS Data Cubes" Newsbox

Incident and Participant Attributes

Exhibit 14.   NIBRS Incidents—Use *Replace Columns* and *Replace Rows* Tools to Display Presence of Multiple Offenders and Victims in Dynamic Table of Count of Incidents Reported by Police Agencies to FBI's National Incident Based Reporting Program—All Reporting Agency Totals. Replace Counts with Alternate Measure *as % of Row Total*. (There are very few instances of incomplete reporting — < 12 months per year — by NIBRS participating agencies.)

(Table derives directly from basic NIBRS incident cube in Exhibit 13.)
Available in NIBRS Incident Summary Cube (with Population) located in "NIBRS Data Cubes" Newsbox

Exhibit 15.   NIBRS Incidents—Use *Nest Rows* Tools to Display Weapons in Multiple and Single Offender Incidents in Dynamic Table of Count of Incidents Reported by Police Agencies to FBI's National Incident Based Reporting Program—All Reporting Agency Totals. *Insert Calculation* to distinguish guns from other weapons. *Hide/Show* to suppress detailed weapon types.   (There are very few instances of incomplete reporting — < 12 months per year — by NIBRS participating agencies.)

(Table derives directly from basic NIBRS incident cube in Exhibit 13.)
Available in NIBRS Incident Summary Cube (with Population) located in "NIBRS Data Cubes" Newsbox

Incident Count as % of row total			Single Victim	Multiple Victims	Total Victims
Multiple Offenders		Gun + Other Weapon	15.21%	84.79%	100.00%
		Gun Only	40.48%	59.52%	100.00%
		Knife + Other Weapon (No Gun)	15.91%	84.09%	100.00%
		Knife Only	49.37%	50.63%	100.00%
		Other + Personal Weapon (No Gun, No Knife)	16.78%	83.22%	100.00%

Calculations

Operation:
Add

Calculation name:
Any Gun

Includes categories:
Gun + Other Weapon
Gun Only
Knife + Other Weapon (No Gun)
Knife Only
Other + Personal Weapon (No Gun, N

Select All   Clear All

☐ Number:

OK   Cancel

Insert Calculation...
Hide Selection
Hide/Show...
Agent
Explain
Create Custom Subset

Incident Count as % of row total		Single Victim	Multiple Victims	Total Victims
Multiple Offenders	Any Gun	36.88%	63.12%	100.00%
	Other Weapon	40.23%	59.77%	100.00%
	No Weapon	78.19%	21.81%	100.00%
	Weapon	74.73%	25.27%	100.00%
Single Offender	Any Gun	83.67%	16.33%	100.00%
	Other Weapon	89.81%	10.19%	100.00%
	No Weapon	95.69%	4.31%	100.00%
	Weapon	95.37%	4.63%	100.00%
Total Offenders		93.73%	6.27%	100.00%

Exhibit 16.   NIBRS Incidents—Use *Nest Columns* Tool to Display Victim Injury Outcomes in Multip   le and Single Victim Incidents in Dynamic Table of Count of Incidents Reported by Police Agencies to FBI's National Incident Based Reporting Program—All Reporting Agency Totals. Replace Measure *as % of Row Total* with Alternate Measure *as % of Row Subtotals.* (There are very few instances of incomplete reporting — < 12 months per year — by NIBRS participating agencies.)

(Table derives directly from basic NIBRS incident cube in Exhibit 13.) Available in <u>NIBRS Incident Summary Cube (with Population)</u> located in "NIBRS Data Cubes" Newsbox

Incident Count as % of row total		Single Victim			Multiple Victims			Total Victims
		Y	N	Victim Injury	Y	N	Victim Injury	
Multiple Offenders		34.27%	36.88%	12.40%	50.72%	63.12%	100.00%
		28.88%	40.23%	24.31%	35.46%	59.77%	100.00%
		75.18%	78.19%	3.15%	18.66%	21.81%	100.00%
		71.38%	74.73%	4.47% 20.80%	25.27%	100.00%
Single Offender		74.37%	83.67%	2.12%	14.21%	16.33%	100.00%
	Other Weapon	33.78%	56.03%	89.81%	3.93%	6.27%	10.19%	100.00%
	No Weapon	6.34%	89.35%	95.69%	0.70%	3.60%	4.31%	100.00%
	Weapon	7.06% 88.31%	95.37% 0.80%	3.83%	4.63%	100.00%
Total Offenders		6.76% 86.97%	93.73% 1.10%	5.18%	6.27%	100.00%

(dropdown menu: as values / as % of row total / as % of row subtotals / as % of column total / as % of column subtotals / as % of grand total)

NIBRS Incident Summary Cube

Incident Count as % of row subtotals		Single Victim			Multiple Victims		
		Y	N	Victim Injury	Y	N	Victim Injury
Multiple Offenders	Any Gun	7.07%	92.93%	100.00%	19.64%	80.36%	100.00%
	Other Weapon	28.21%	71.79%	100.00%	40.68%	59.32%	100.00%
	No Weapon	3.85%	96.15%	100.00%	14.43%	85.57%	100.00%
	Weapon	4.49%	95.51%	100.00%	17.69%	82.31%	100.00%
Single Offender	Any Gun	11.11%	88.89%	100.00%	12.97%	87.03%	100.00%
	Other Weapon	37.61%	62.39%	100.00%	38.53%	61.47%	100.00%
	No Weapon	6.63%	93.37%	100.00%	16.35%	83.65%	100.00%
	Weapon	7.40%	92.60%	100.00%	17.37%	82.63%	100.00%
Total Offenders		7.21%	92.79%	100.00%	17.47%	82.53%	100.00%