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# Making NIBRS Data Meaningful for Local Law Enforcement

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JRSA/BJA Annual Conference

Portland, Maine

October 28, 2010



# NIBRS is the “new standard” for data

- Replacement for summary UCR
- Generated from local department’s record management system
- Contains detailed information on crimes, victims, offenders, arrestees, property



# Acceptance and Implementation Issues

- After 20+ years, limited coverage
  - At the local level:
    - NIBRS requires more effort
    - Output of NIBRS data collection 'obscure'
    - Departments have limited resources (personnel, fiscal)
  - At the state and national level:
    - Typically converted to summary format
  - At the researcher level:
    - Not a lot of analysis and interpretation



# As a result....

- Not a lot of push to convert to NIBRS
- Not a great deal of analysis and interpretation
- Not much understanding of limitations, weaknesses, caveats



# What is needed

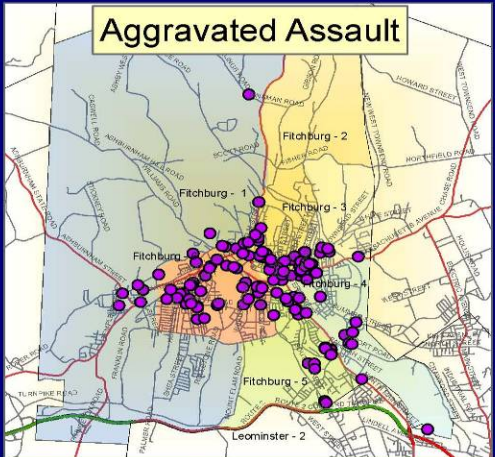
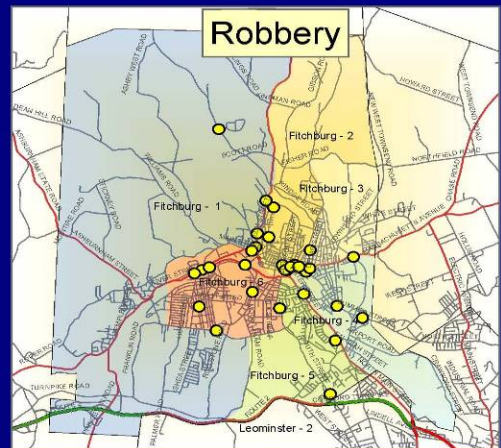
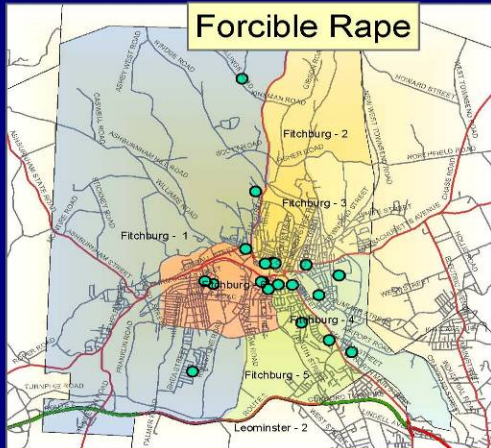
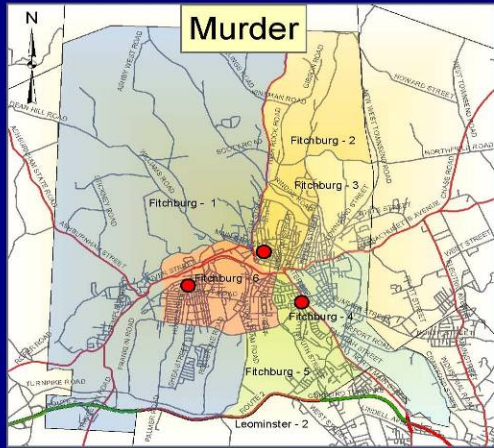
- A way to make NIBRS more meaningful for local police
- A way to present it to data collectors and data users in a more timely and useable way



# How to make NIBRS Useful – Pt 1

- Massachusetts added incident address to the data set
  - Allows mapping
  - But not a great deal of utilization at the local level





# Fitchburg - Violent Crime 2009

StudyArea	
Routes	
Blue	Fitchburg - 1
Yellow	Fitchburg - 2
Light Green	Fitchburg - 3
Light Blue	Fitchburg - 4
Light Yellow	Fitchburg - 5
Light Orange	Fitchburg - 6

Commonwealth Fusion Center  
 Massachusetts State Police, CIG  
 Source: NIBRS Data Set  
 Date: 2010-05-20  
 Projection Information:  
 Name: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001  
 Projection: Lambert Conformal Conic  
 Datum: North American 1983  
 1 inch = 1.494449 miles



Commonwealth Fusion Center  
 Crime Reporting Unit






# How to make NIBRS Useful – Pt 2

- Contracted with ‘Beyond 20/20’ to develop web presentation application
- “CrimeSOLV” – Statewide On-Line Viewer
  - ❑ Takes NIBRS data, generates data cubes
  - ❑ Comes with 30+ standard tables and charts
  - ❑ Gives users the ability to create new reports or modify existing ones



## Public reports






### Crime Report Overview

-  Statewide Crime Statistics
-  Crime Statistics by County
-  Crime Statistics by Troop






### Arrestee Data

-  Group A Arrests
-  Number of A Arrestees by Age by Arrest Offense
-  Number of A Arrestees by Type of Arrest by Arrest Offense
-  Group B Arrests
-  Number of B Arrestees by Age by Offense Type
-  Number of B Arrestees by Arrest Type by Offense Type
-  Youth Group A Arrests

### Victim Data

-  Number of Victims by Age for the State and Counties
-  Number of Victims by Age by Gender by Type of Injury
-  Number of Victims by Select Characteristics by Victim/Offender Relationship
-  Crimes Against the Elderly by County (>65 y.o.) 

### Property and Drug Crime Data

-  Property Value by Property Description
-  Drugs Report by County
-  Property Incidents by Property Description
-  Firearms - Stolen and Seized 

# How to make NIBRS Useful – Pt 2 con't

- However – this is not enough
- Most police do not have crime analysis units or trained personnel
- Most police are short-staffed
- The Beyond 20/20 application is full-featured
  - Which means –a little hard to use














# Steps Toward Meaningful Data

- The Crime Reporting Unit knows that police RMS can't 'catch' all data quality issues
  - Illogical values and nonsensical data can slip through
  - FBI can find many of these, but the turn-around time can be 6-12-18 months
- We've developed a number of Data Quality reports in CrimeSOLV:



## Quality Control Reports

-  Aggravated Assault with Questionable injury/weapon 
-  Aggravated Assault with No Injury and No Weapon 
-  Incest Victims with Incorrect Victim-Offender Relationship 
-  Statutory Rape with Victim 18 or Older 
-  Victims with Age Under 1 Year Old 
-  Victim Age/Race/Gender Missing or Over 98 Years Old 
-  Number of Group 'A' Arrestees with Unknown or Missing Age 
-  Number of Group 'B' Arrestees with Unknown or Missing Age 
-  Number of Group 'A' Arrestees less than 11 years old 
-  Drug Seizures with Unknown Measurement 
-  Stolen Aircraft 
-  Property -- Stolen Structure 
-  Property Value - Unusually High Values 

# Can NIBRS Do Crime Analysis?

- Uniform collection of data
- Easy access to multiple agency's data
- Drillthrough to case specific data
- Useful as a pointer file for further followup



## Burglary in Bristol Cnty Between Midnight - 6:00 AM

Current date: 10/7/2010 8:17:24 PM

↕ ↘ Rows 1-10 of 10 (0 Suppressed)      ↔ ↗ Columns 1-9 of 9 (0 Suppressed)

⏪ ⏩

<u>Offense Type</u> <input checked="" type="checkbox"/>		Burglary/Breaking & Entering								
<u>Measures</u> <input checked="" type="checkbox"/>		Number of Incidents								
<u>Incident Hour of Day</u> <input checked="" type="checkbox"/>		12:00am-2:59am			3:00am-5:59am			6:00am-8:59am		
<u>Incident Date</u> <input checked="" type="checkbox"/>		2006	2007	2008	2006	2007	2008	2006	2007	2008
<u>Jurisdiction</u> <input checked="" type="checkbox"/>	<u>Day of Week</u> <input checked="" type="checkbox"/>	↑ ↓	↑ ↓	↑ ↓	↑ ↓	↑ ↓	↑ ↓	↑ ↓	↑ ↓	↑ ↓
Acushnet	Friday		2		1				3	2
	Saturday				1	2	1		1	3
Dartmouth	Friday	1	3		2	2	2	2	4	1
	Saturday	4	3	3	3	2	2	6	2	3
Freetown	Friday			2	1				1	1
	Saturday	1			1			1	1	2
New Bedford	Friday	11	16	21	3	7	13	21	16	25
	Saturday	20	11	10	7	13	15	13	12	12
Westport	Friday							2	3	2
	Saturday	2	2	2	1	1		1	2	



Day of Week: Friday

↕ ↔ Rows 1-21 of 21    ↔ ↕ Columns 1-7 of 7

Incident Number ↑↓	ORI ↑↓	Incident Date ↑↓	Day of Week ↑↓	Incident Hour of Day ↑↓	Incident Clearance ↑↓	Town ↑↓
200606761	MA0031100	2006-04-28	Friday	7:00am-7:59am	Not Cleared	New Bedford
200606773	MA0031100	2006-04-28	Friday	7:00am-7:59am	Not Cleared	New Bedford
200605873	MA0031100	2006-04-14	Friday	7:00am-7:59am	Not Cleared	New Bedford
200601090	MA0031100	2006-01-20	Friday	7:00am-7:59am	Not Cleared	New Bedford
200601124	MA0031100	2006-01-20	Friday	6:00am-6:59am	Not Cleared	New Bedford
200618360	MA0031100	2006-10-13	Friday	8:00am-8:59am	Not Cleared	New Bedford
200617862	MA0031100	2006-10-06	Friday	8:00am-8:59am	Not Cleared	New Bedford
200603765	MA0031100	2006-03-10	Friday	6:00am-6:59am	Not Cleared	New Bedford
200609060	MA0031100	2006-06-02	Friday	8:00am-8:59am	Cleared by Arrest	New Bedford
200621673	MA0031100	2006-12-01	Friday	8:00am-8:59am	Not Cleared	New Bedford
200621714	MA0031100	2006-12-01	Friday	7:00am-7:59am	Not Cleared	New Bedford
200622719	MA0031100	2006-12-15	Friday	8:00am-8:59am	Not Cleared	New Bedford
200621763	MA0031100	2006-11-24	Friday	8:00am-8:59am	Not Cleared	New Bedford
200610074	MA0031100	2006-06-16	Friday	7:00am-7:59am	Not Cleared	New Bedford



# Annual Survey of Police Departments

- 307 respondents (6,027,000 population)
  - 129 say they do 'crime mapping'
  - 42 say they do 'crime analysis' (2,546,777)
    - Of these, only 20 have full-time crime analysts (1,919,000)
- This problem provides an opportunity

























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# Develop An 'Annual Report' Series



## Tables and Charts for an 'Annual Report' - Change Department to yours










































-  2007-2009 Change in Crime Volumes 
-  Crime Volume by Year 2005-2009
-  Crime Rates by Year 2005-2009
-  Number of Victims by Age
-  Group A Arrests - 2005/2009 
-  Crime Volume by Year 2005-2009 - bar chart
-  Forcible Sexual Offenses- 2005-2009 - stacked bar chart
-  Crime with Firearms - 2005/2009
-  Robberies by Year 2005-2009 - bar chart
-  Drug/narcotics violations by Year 2005-2009 - bar chart
-  Drug Seizures by Drug Type - 2007/2009
-  Burglaries by Year 2005-2009 - bar chart
-  Fraud Related Offenses by Year 2005-2009 - bar chart
-  Larceny/theft Related Offenses by Year 2005-2009 - bar chart
-  Victims of Domestic Violence 
-  Victims of Domestic Violence 2005-2009 
-  Crimes Against the Elderly - 2005--2009 

## 2007-2009 Change in Crime Volumes

Current date: 10/7/2010 8:04:27 PM

Measures: Number of Incidents

↕ ↕ Rows 1-3 of 3    ↔ ↔ Columns 1-6 of 6

 <u>Incident Date</u> 	<u>2007</u>	<u>2008</u>	<u>2009</u>	2007 - 2008 Growth %	2008 - 2009 Growth %	2007 - 2009 Growth %	
 <u>Jurisdiction</u> 	Barnstable	Barnstable	Barnstable	Barnstable	Barnstable	Barnstable	
 <u>Offense Type</u> 	    	    	    	    	    	    	    
<u>Crimes Against Person</u>	703	760	714	8.11	-6.05	1.56	
<u>Crimes Against Property</u>	2,005	2,388	1,939	19.10	-18.80	-3.29	
<u>Crimes Against Society</u>	270	270	249	0.00	-7.78	-7.78	





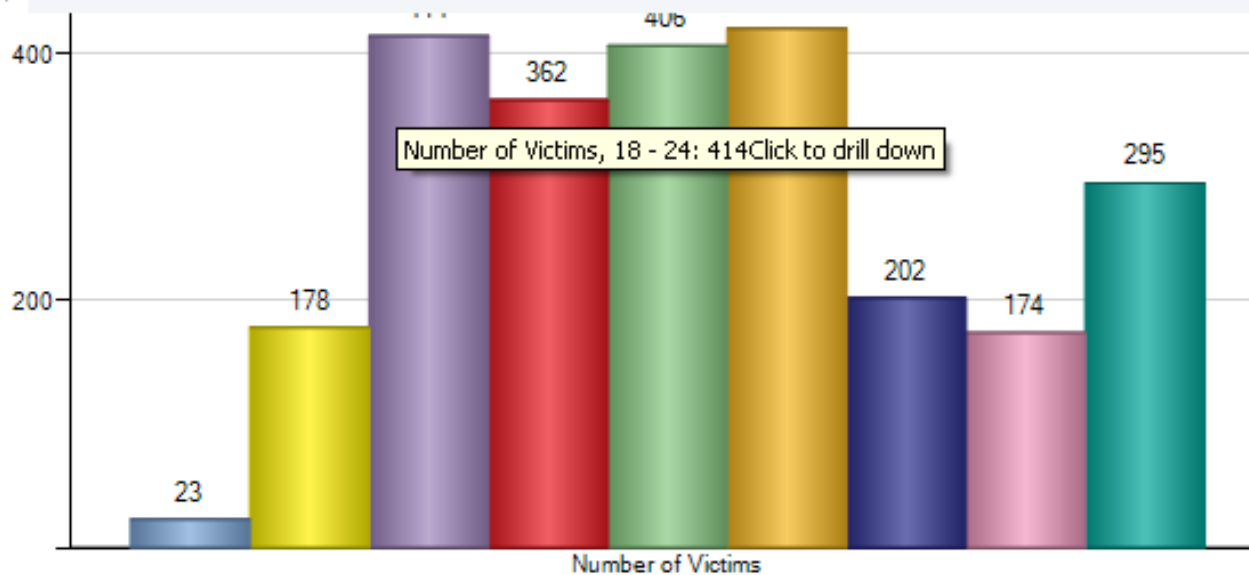
### Number of Victims by Age

Current date: 10/7/2010 8:13:43 PM

Incident Date: 2009

Jurisdiction: Barnstable

↕ ↕ Data rows 1-9 of 9    ↕ ↕ Data column 1 of 1



- Number of Victims
- Measures
- Victim Age
- Under 10
  - 10 - 17
  - 18 - 24
  - 25 - 34
  - 35 - 44
  - 45 - 54
  - 55 - 64
  - 65 and over
  - Unknown



# Conclusions:

- A statewide program is not a replacement for local analysis
- But NIBRS data provides an opportunity for state programs to offer assistance to many police agencies



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