



ICPSR 4545

Development of Crime Forecasting and Mapping Systems for Use by Police in Pittsburgh, Pennsylvania, and Rochester, New York, 1990-2001

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Data Documentation



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Original Documentation from the Principal Investigators

Documentation Notes

Documentation

Section 4 of our final report, *Development of Crime Forecasting and Mapping Systems for Use by Police*, is devoted to describing the collection, organization, and processing of our sample data. This short document provides only a brief summary of the data as available for research by others.

Accompanying data sets are aggregated space and time series data for several crimes in Pittsburgh, Pennsylvania, and Rochester, New York. See the accompanying documents:

- *DataDictionary.xls* for definitions of variables.
- *Statistics.xls* for the number of observations, means, standard deviations, minimums, and maximums for all crime count variables.
- *FirstLastFiveObs.xls* for the first five and last five observations in each data set.

The data are unadjusted (for days per month) monthly time series for four geographies: 1990 census tracts, police car beats, an aggregation of police car beats called beats plus, and police precincts. We refer to an individual tract, car beat, etc. as a district. There are eight multivariate time series tables, stored as comma separated value (.csv) files, one for each geography and city:

PghCarBeat.csv	RochCarBeats.csv
PghCarBeatPlus.csv	RochCarBeatsPlus.csv
PghPrecincts.csv	RochPrecincts.csv
PghTracts.csv	RochTracts.csv

where Pgh = Pittsburgh and Roch = Rochester.

The rows are monthly observations by district. The columns are crime counts by month and district. Variable names are included in the tables, including district, year, month, and several crime types. Crimes are counts of police offense reports, except for C_Drugs and C_Shots in the Pittsburgh data sets which are 911 calls for service.

By agreement with the Pittsburgh Bureau of Police, the Rochester Police Department, and the Carnegie Mellon University Internal Review Board, we are not allowed to release the individual report, point data. All that can be made available are the aggregate space and time series data.

The GIS folder of the available data has subfolders for Pittsburgh and Rochester. The Pittsburgh subfolder has additional subfolders: Maps and ContiguityMatrices. Maps has shapefiles for each of the four geographies, plus a shapefile for the boundary of the city. ContiguityMatrices has rooks-case contiguity matrices for each geography created using SpaceStat and the polygon shapefiles of the Maps folder. Each contiguity matrix was hand checked and adjusted for barriers—mainly rivers. Finally, the Pittsburgh folder has an ArcView 9.0 project file, AllGISLayersPittsburghArcGIS9.mxd, that has relative paths and opens with all geographies displayed. The same structure and discussion holds for Rochester.

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Original Documentation from the Principal Investigators

GIS Data Dictionary

Attribute	Definition
First attribute	Unique ID for the observation unit's geography: tract, beat number, beat plus number, precinct number
YEAR	Year in format YYYY; e.g., 1990
MONTH	Month number: 1 to 12
C_DRUGS	CAD drug calls
C_SHOTS	CAD shots fired calls
AGGASS	Aggravated assaults
ARSON	Arson
ASSPRID	Assaults by prisoners
ASSOFFC	Assaults on officers
BURGLARY	Burglaries
CMIS	Criminal mischief
DISCONDUCT	Disconduct
DRUGS	Drug offense
DRNKDRIV	Drunken driving
EMBEZZLE	Embezzlement
FAMVIOL	Family violence
FORGERY	Forgery
FRAUD	Fraud
GAMBLING	Gambling
LARCENY	Larceny
LIQVIOL	Liquor violation
MVTHEFT	Motor vehicle theft
MURDMANS	Murder/manslaughter
NEGMANSL	Negligent manslaughter
PUBDRUNK	Public drunkenness
RAPE	Rape
ROBBERY	Robbery
RUNAWAY	Run away
SIMPASS	Simple assault
STOLPROP	Receiving stolen property
TRESPASS	Trespassing
VAGRANCY	Vagrancy
VANDAL	Vandalism
WEAPONS	Weapons charges
PROSTITN	Prostitution
SEXOFF	Sex Offense
VCI	Violent Crime Index = Arson + CMIS + DISCONDUCT + SIMPASS + C_DRUGS + C_SHOTS
P1V	Part 1 violent crimes = AGGASS + MURDERMANS + NEGMANSL + RAPE + ROBBERY
P1P	Part 1 property crimes = BURGLARY + LARCENY + MVTHEFT + ROBBERY