

Anticipating and Combating Community Decay
and Crime in Washington, DC, and
Cleveland, Ohio, 1980-1990

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ICPSR 6486

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ANTICIPATING AND COMBATING COMMUNITY DECAY AND CRIME
IN WASHINGTON, DC, AND CLEVELAND, OHIO, 1980-1990

(ICPSR 6486)

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Washington, DC: The Urban Institute [producer],
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Consortium for Political and Social Research
[distributor], 1995.

REQUEST FOR INFORMATION ON USE OF ICPSR RESOURCES

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DATA DISCLAIMER

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SUMMARY

The Urban Institute undertook a comprehensive assessment of communities approaching decay to provide public officials with strategies for identifying communities in the early stages of decay and intervening effectively to prevent continued deterioration and crime. Although community decline is a dynamic spiral downward in which the physical condition of the neighborhood, adherence to laws and conventional behavioral norms, and economic resources worsen, the question of whether decay fosters or signals increasing risk of crime, or crime fosters decay (as investors and residents flee as reactions to crime), or both, is not easily answered. Using specific indicators to identify future trends, predictor models for Washington, DC, and Cleveland were prepared, based on data available for each city. The models were designed to predict whether a census tract should be identified as at risk for very high crime and were tested using logistic regression. The classification of a tract as a "very high crime" tract was based on its crime rate compared to crime rates for other tracts in the same city. To control for differences in population and to facilitate cross-tract comparisons, counts of crime incidents and other events were converted to rates per 1,000 residents. Tracts with less than 100 residents were considered nonresidential or institutional and were deleted from the analysis. Washington, DC, variables include rates for arson and drug sales or possession, percentage of lots zoned for commercial use, percentage of housing occupied by owners, scale of family poverty, presence of public housing units for 1980, 1983, and 1988, and rates for aggravated assaults, auto thefts, burglaries, homicides, rapes, and robberies for 1980, 1983, 1988, and 1990. Cleveland variables include rates for auto thefts, burglaries, homicides, rapes, robberies, drug sales or possession, and delinquency filings in juvenile court, and scale of family poverty for 1980 through 1989. Rates for aggravated assaults are provided for 1986 through 1989 and rates for arson are provided for 1983 through 1988.

GENERAL STUDY OVERVIEW

STUDY IDENTIFICATION

ANTICIPATING AND COMBATING COMMUNITY DECAY AND CRIME IN WASHINGTON, DC, AND CLEVELAND, OHIO, 1980-1990

Adele Harrell and Caterina Gouvis

The Urban Institute

Award No. 91-IJ-CX-K016

KEY WORDS

Community decline, crime rates, future trends, models, reactions to crime

PURPOSE OF THE STUDY

The Urban Institute undertook a comprehensive assessment of communities approaching decay to provide public officials with strategies for identifying communities in the early stages of decay and intervening effectively to prevent continued deterioration and crime. The assessment consisted of three parts: (1) a survey of innovative local programs designed to combat neighborhood decay and crime conducted with the Police Executive Research Forum, (2) a review of the literature to identify research findings on preventing decay and crime and promising areas of future research, and (3) the analysis of the predictive validity of alternative indicators of community decay. Out of the third segment came the data prepared for this data collection. Existing theories reflect considerable disagreement over the temporal sequence between decay and crime. Although community decline is a dynamic spiral downward in which the physical condition of the neighborhood, adherence to laws and conventional behavioral norms, and economic resources worsen, the question of whether decay fosters or signals increasing risk of crime, or crime fosters decay (as investors and residents flee as reactions to crime), or both, is not easily answered.

METHODS

STUDY DESIGN

Using specific indicators to identify future trends, predictor models for Washington, DC, and Cleveland were prepared, based on data

available for each city. The models were designed to predict whether a census tract should be identified as at risk for very high crime and were tested using logistic regression. The classification of a tract as a "very high crime" tract was based on its crime rate compared to crime rates in other tracts in the same city. The models use crime as the dependent variable, i.e., the outcome of social and economic distress at prior time-points and breakdowns in public order and violations that undermine the physical maintenance and quality of life in the neighborhood, controlling for earlier crime rates. The eight predictors of high crime risk used in this study comprise four general groups. The first group is the prior crime rate for the offense. The second group includes indicators of breakdown in public order and the presence of illegal activity harmful to neighborhood environment, including the drug arrest rate, the delinquency rate, and the rate of confirmed or suspected arson incidents. The third group reflects factors related to the maintenance of social control by a stable population with sufficient resources and a common interest in protecting the area. This includes an index of family poverty, the presence of public housing, and home ownership. The fourth group is comprised of the percentage of lots zoned for commercial use, representing access to situations that increase opportunities for certain crimes. Dichotomous variables were created to compare the highest-rate tracts to all others and used as dependent variables in the prediction equations. Because the accuracy of prediction would vary depending on the number of tracts in the "very high crime" group, alternative definitions grouped the worst 10 to 30 tracts in multiple tests of each model. To control for differences in population and to facilitate cross-tract comparisons, counts of crime incidents and other events were converted to rates per 1,000 residents. In Washington, DC, tract population for interim years was estimated by using the change in city population from 1980 to 1990 to revise the 1980 tract population (average per year proportion change in population times the number of years since 1980). Also, the Washington, DC, data were aggregated by 1970 tract boundaries because some agencies did not shift their geographic coding to 1980 Census tract boundaries for several years and so did not reflect instances where a single tract was divided into two tracts as the population expanded. Tracts with less than 100 residents were considered nonresidential or institutional and were deleted from the analysis. In Washington, DC, 12 tracts were deleted and in Cleveland, 10 tracts were deleted.

SOURCES OF INFORMATION

Data for Washington, DC, were provided by the District of Columbia Office of Planning, Police Department, Office of Criminal Justice Plans and Analysis, and the Division of Research and Statistics of the District of Columbia Commission of Public Health. Data for Cleveland were provided by the Center for Urban Poverty and Social Change, Mandel School of Applied Social Sciences, Case Western Reserve University.

SAMPLE

The two cities, Washington, DC, and Cleveland, Ohio, were selected because data could be provided on multiple indicators for multiple years between 1980 and 1990.

RESPONSE RATES

Not applicable.

DATE(S) OF DATA COLLECTION

1992

SUMMARY OF CONTENTS

DESCRIPTION OF VARIABLES

Washington, DC, variables include rates for arson and drug sales or possession, percentage of lots zoned for commercial use, percentage of housing occupied by owners, scale of family poverty, presence of public housing units for 1980, 1983, and 1988, and rates for aggravated assaults, auto thefts, burglaries, homicides, rapes, and robberies for 1980, 1983, 1988, and 1990. Cleveland variables include rates for auto thefts, burglaries, homicides, rapes, robberies, drug sales or possession, and delinquency filings in juvenile court, and scale of family poverty for 1980 through 1989. Rates for aggravated assaults are provided for 1986 through 1989 and rates for arson are provided for 1983 through 1988.

PRESENCE OF COMMON SCALES

None

UNIT OF OBSERVATION

census tract

EXTENT OF PROCESSING

Checks for undocumented codes were performed by ICPSR. Missing data codes were standardized and the data were reformatted by ICPSR. ICPSR also produced a codebook and generated SAS and SPSS data definition statements for this collection.

EXTENT OF COLLECTION

This data collection contains two data files, a machine-readable codebook, and SAS and SPSS data definition statements.

FILE SPECIFICATIONS

PART NUMBER: 1
PART NAME: Washington, DC Data
FILE STRUCTURE: rectangular
CASE COUNT: 139
VARIABLE COUNT: 43
RECORD LENGTH: 260
RECORDS PER CASE: 1

PART NUMBER: 2
PART NAME: Cleveland Data
FILE STRUCTURE: rectangular
CASE COUNT: 193
VARIABLE COUNT: 92
RECORD LENGTH: 673
RECORDS PER CASE: 1

PART NUMBER: 3
PART NAME: Codebook for All Parts and User Guide
RECORD LENGTH: 79

PART NUMBER: 4
PART NAME: SAS Data Definition Statements for Washington, DC, Data
RECORD LENGTH: 75

PART NUMBER: 5
PART NAME: SAS Data Definition Statements for Cleveland Data
RECORD LENGTH: 75

DISKETTE USER INFORMATION

The file sizes for the diskette version of this study are listed below. If all of the files are loaded onto a hard drive, approximately 250,000 bytes of disk space will be required.

Compressed Files

DA6486.P1	36,418 bytes
DA6486.P2	130,275 bytes

Documentation

The Codebook and User Guide file requires approximately 56,000 bytes of disk space. The SAS and SPSS data definition statements require approximately 44,000 bytes of disk space.

RELATED PUBLICATIONS

Harrell, Adele, and Caterina Gouvis. "Research on Community Decay and Crime: A Review and Recommendations." Washington, DC: The Urban Institute, 1994.

Weisel, Deborah, Caterina Gouvis, and Adele Harrell. "Strategies for Addressing Community Decay and Crime: Practice and Theory." Washington, DC: The Police Executive Research Forum, 1994.

Harrell, Adele, and Caterina Gouvis. "Predicting Neighborhood Risk of Crime" (Final Report). Washington, DC: United States Department of Justice. National Institute of Justice, July 1994.

FINAL REPORTS AND OTHER PUBLICATIONS

Final reports and other publications describing the original research conducted with the data in this collection are available from the National Criminal Justice Reference Service (NCJRS) at: NIJ/NCJRS, Box 6000, Rockville, MD 20850, 800-851-3420.

DATA COMPLETENESS REPORT

This report corresponds to the data file: DA6486.P1

Table 1: Distribution of Variables by Percentage of Missing Values*

=====

Variable Name and Label (Total cases=139)	Percent of Cases with Missing Values
--	---

53.5% (23 of 43 variables) have 0% Missing Values

0.0% (0 of 43 variables) have > 0% - 1% Missing Values

2.3% (1 of 43 variables) have > 1% - 3% Missing Values

2.3% (1 of 43 variables) have > 3% - 5% Missing Values

34.9% (15 of 43 variables) have > 5% - 10% Missing Values

BURGR83	# BURGLARIES PER 1000 RESID, 1983	5.0%
DRUGR88	# ARR FOR DRUG S/P PER 1000 RESID, 1988	5.0%
ROBR83	# ROBBERIES PER 1000 RESID, 1983	5.0%
HOMR83	# HOMICIDES PER 1000 RESID, 1983	5.8%
ARSR80	# ARSONS PER 1000 RESID, 1980	7.2%
ASSR80	# AGG ASSAULTS PER 1000 RESID, 1980	7.2%
AUTR80	# AUTO THEFTS PER 1000 RESID, 1980	7.2%
BURGR80	# BURGLARIES PER 1000 RESID, 1980	7.2%
HOMR80	# HOMICIDES PER 1000 RESID, 1980	7.2%
RAPR80	# RAPES PER 1000 RESID, 1980	7.2%
RAPR83	# RAPES PER 1000 RESID, 1983	7.2%
ROBR80	# ROBBERIES PER 1000 RESID, 1980	7.2%
ARSR83	# ARSONS PER 1000 RESID, 1983	7.9%
AUTR83	# AUTO THEFTS PER 1000 RESID, 1983	7.9%
ASSR83	# AGG ASSAULTS PER 1000 RESID, 1983	8.6%

7.0% (3 of 43 variables) have > 10% - 20% Missing Values

DRUGR80	# ARR FOR DRUG S/P PER 1000 RESID, 1980	10.8%
DRUGR83	# ARR FOR DRUG S/P PER 1000 RESID, 1983	12.2%
PFAMR80	SCALE OF FAMILY POVERTY, 1980	14.4%

=====

*Variables individually listed only if greater than 5% missing values.
Data does not contain skip patterns or skip patterns are not reflected
in the data as coded.

DATA COMPLETENESS REPORT

This report corresponds to the data file: DA6486.P2

Table 2: Distribution of Variables by Percentage of Missing Values*

=====

Variable Name and Label (Total cases=193)	Percent of Cases with Missing Values
--	---

88.0% (81 of 92 variables) have 0% Missing Values

4.3% (4 of 92 variables) have > 0% - 1% Missing Values

7.6% (7 of 92 variables) have > 1% - 3% Missing Values

=====

*Variables individually listed only if greater than 5% missing values.
Data does not contain skip patterns or skip patterns are not reflected
in the data as coded.

CODEBOOK FOR ICPSR 6486

ANTICIPATING AND COMBATING COMMUNITY DECAY AND CRIME IN
WASHINGTON, DC, AND CLEVELAND, OHIO, 1980-1990

PART 1: WASHINGTON, DC DATA

PLEASE NOTE: The "M" between the code and the code label indicates
the code has been designated as a missing value.

NAME	VARIABLE LABEL	BEG COL	END COL	FMT
TRACT	CENSUS TRACT NUMBER, CORRESPONDING TO 1970 CENSUS DEFINITIONS	1	4	F4
ARSR80	NUMBER OF ARSONS PER 1000 RESIDENTS IN WASHINGTON, DC, 1980 9.9999 M Missing	5	10	F6.4
ARSR83	NUMBER OF ARSONS PER 1000 RESIDENTS IN WASHINGTON, DC, 1983 99.9999 M Missing	11	17	F7.4
ARSR88	NUMBER OF ARSONS PER 1000 RESIDENTS IN WASHINGTON, DC, 1988	18	24	F7.4
ASSR80	NUMBER OF AGGRAVATED ASSAULTS PER 1000 RESIDENTS IN WASHINGTON, DC, 1980 99.9999 M Missing	25	31	F7.4
ASSR83	NUMBER OF AGGRAVATED ASSAULTS PER 1000 RESIDENTS IN WASHINGTON, DC, 1983 99.9999 M Missing	32	38	F7.4
ASSR88	NUMBER OF AGGRAVATED ASSAULTS PER 1000 RESIDENTS IN WASHINGTON, DC, 1988	39	46	F8.4
ASSR90	NUMBER OF AGGRAVATED ASSAULTS PER 1000 RESIDENTS IN WASHINGTON, DC, 1990	47	54	F8.4
AUTR80	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN WASHINGTON, DC, 1980 999.9999 M Missing	55	62	F8.4
AUTR83	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN WASHINGTON, DC, 1983 999.9999 M Missing	63	70	F8.4

NAME	VARIABLE LABEL	BEG COL	END COL	FMT
AUTR88	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN WASHINGTON, DC,, 1988	71	78	F8.4
AUTR90	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN WASHINGTON, DC, 1990	79	86	F8.4
BURGR80	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN WASHINGTON, DC, 1980	87	94	F8.4
	999.9999 M Missing			
BURGR83	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN WASHINGTON, DC, 1983	95	102	F8.4
	999.9999 M Missing			
BURGR88	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN WASHINGTON, D.C, 1988	103	110	F8.4
BURGR90	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN WASHINGTON, D.C, 1990	111	118	F8.4
DRUGR80	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN WASHINGTON, DC, 1980	119	126	F8.4
	999.9999 M Missing			
DRUGR83	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN WASHINGTON, DC, 1983	127	134	F8.4
	999.9999 M Missing			
DRUGR88	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN WASHINGTON, DC, 1988	135	142	F8.4
	999.9999 M Missing			
HOMR80	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN WASHINGTON, DC, 1980	143	148	F6.4
	9.9999 M Missing			
HOMR83	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN WASHINGTON, DC, 1983	149	154	F6.4
	9.9999 M Missing			

NAME	VARIABLE LABEL	BEG COL	END COL	FMT
HOMR88	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN WASHINGTON, DC, 1988	155	160	F6.4
HOMR90	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN WASHINGTON, DC, 1990	161	167	F7.4
RAPR80	NUMBER OF RAPES PER 1000 RESIDENTS IN WASHINGTON, DC, 1980	168	173	F6.4
	9.9999 M Missing			
RAPR83	NUMBER OF RAPES PER 1000 RESIDENTS IN WASHINGTON, DC, 1983	174	179	F6.4
	9.9999 M Missing			
RAPR88	NUMBER OF RAPES PER 1000 RESIDENTS IN WASHINGTON, DC, 1988	180	186	F7.4
RAPR90	NUMBER OF RAPES PER 1000 RESIDENTS IN WASHINGTON, DC, 1990	187	192	F6.4
ROBR80	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN WASHINGTON, DC, 1980	193	200	F8.4
	999.9999 M Missing			
ROBR83	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN WASHINGTON, DC, 1983	201	208	F8.4
	999.9999 M Missing			
ROBR88	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN WASHINGTON, DC, 1988	209	216	F8.4
ROBR90	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN WASHINGTON, DC, 1990	217	224	F8.4
PCLOT80	PERCENTAGE OF LOTS ZONED FOR COMMERCIAL USE IN WASHINGTON, DC, 1980	225	226	F2
PCLOT83	PERCENTAGE OF LOTS ZONED FOR COMMERCIAL USE IN WASHINGTON, DC, 1983	227	228	F2
PCLOT88	PERCENTAGE OF LOTS ZONED FOR COMMERCIAL USE IN WASHINGTON, DC, 1988	229	230	F2
PCTOWN80	PERCENTAGE OF HOUSING UNITS OCCUPIED BY OWNERS IN WASHINGTON, DC, 1980	231	232	F2

NAME	VARIABLE LABEL	BEG COL	END COL	FMT
PCTOWN83	PERCENTAGE OF HOUSING UNITS OCCUPIED BY OWNERS IN WASHINGTON, DC, 1983	233	234	F2
PCTOWN88	PERCENTAGE OF HOUSING UNITS OCCUPIED BY OWNERS IN WASHINGTON, DC, 1988	235	236	F2
PUBDUM80	PRESENCE OR ABSENCE PUBLIC HOUSING UNIT IN WASHINGTON, DC, 1980	237	237	F1
	0 Absence			
	1 Presence			
PUBDUM83	PRESENCE OR ABSENCE PUBLIC HOUSING UNIT IN WASHINGTON, DC, 1983	238	238	F1
	0 Absence			
	1 Presence			
PUBDUM88	PRESENCE OR ABSENCE PUBLIC HOUSING UNIT IN WASHINGTON, DC, 1988	239	239	F1
	0 Absence			
	1 Presence			
PFAMR80	SCALE OF FAMILY POVERTY, 1980	240	246	F7.4
	9.9999 M Missing			
PFAMR83	SCALE OF FAMILY POVERTY, 1983	247	253	F7.4
	9.9999 M Missing			
PFAMR88	SCALE OF FAMILY POVERTY, 1988	254	260	F7.4
	9.9999 M Missing			

NOTE: With the exception of drug crimes, crime rates are incidences reported to the police. Drug crime rates are arrests, not incidences.

CODEBOOK FOR ICPSR 6486

ANTICIPATING AND COMBATING COMMUNITY DECAY AND CRIME IN
WASHINGTON, DC, AND CLEVELAND, OHIO, 1980-1990

PART 2: CLEVELAND DATA

PLEASE NOTE: The "M" between the code and the code label indicates
the code has been designated as a missing value.

NAME	VARIABLE LABEL	BEG COL	END COL	FMT
TRACT	CENSUS TRACT NUMBER	1	4	F4
CAGGRR86	NUMBER OF AGGRAVATED ASSAULTS PER 1000 RESIDENTS IN CLEVELAND, 1986	5	11	F7.4
CAGGRR87	NUMBER OF AGGRAVATED ASSAULTS PER 1000 RESIDENTS IN CLEVELAND, 1987	12	18	F7.4
CAGGRR88	NUMBER OF AGGRAVATED ASSAULTS PER 1000 RESIDENTS IN CLEVELAND, 1988	19	25	F7.4
CAGGRR89	NUMBER OF AGGRAVATED ASSAULTS PER 1000 RESIDENTS IN CLEVELAND, 1989	26	32	F7.4
CAUTOR80	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN CLEVELAND, 1980	33	41	F9.4
CAUTOR81	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN CLEVELAND, 1981	42	49	F8.4
CAUTOR82	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN CLEVELAND, 1982	50	57	F8.4
CAUTOR83	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN CLEVELAND, 1983	58	65	F8.4
CAUTOR84	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN CLEVELAND, 1984	66	73	F8.4
CAUTOR85	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN CLEVELAND, 1985	74	81	F8.4
CAUTOR86	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN CLEVELAND, 1986	82	89	F8.4
CAUTOR87	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN CLEVELAND, 1987	90	97	F8.4
CAUTOR88	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN CLEVELAND, 1988	98	105	F8.4

NAME	VARIABLE LABEL	BEG COL	END COL	FMT
CAUTOR89	NUMBER OF AUTO THEFTS PER 1000 RESIDENTS IN CLEVELAND, 1989	106	113	F8.4
CARSR83	NUMBER OF ARSONS PER 1000 RESIDENTS IN CLEVELAND, 1983	114	120	F7.4
CARSR84	NUMBER OF ARSONS PER 1000 RESIDENTS IN CLEVELAND, 1984	121	127	F7.4
CARSR85	NUMBER OF ARSONS PER 1000 RESIDENTS IN CLEVELAND, 1985	128	134	F7.4
CARSR86	NUMBER OF ARSONS PER 1000 RESIDENTS IN CLEVELAND, 1986	135	141	F7.4
CARSR87	NUMBER OF ARSONS PER 1000 RESIDENTS IN CLEVELAND, 1987	142	148	F7.4
CARSR88	NUMBER OF ARSONS PER 1000 RESIDENTS IN CLEVELAND, 1988	149	155	F7.4
CARSR89	NUMBER OF ARSONS PER 1000 RESIDENTS IN CLEVELAND, 1989	156	162	F7.4
CBURGR80	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN CLEVELAND, 1980	163	170	F8.4
CBURGR81	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN CLEVELAND, 1981	171	178	F8.4
CBURGR82	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN CLEVELAND, 1982	179	186	F8.4
CBURGR83	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN CLEVELAND, 1983	187	194	F8.4
CBURGR84	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN CLEVELAND, 1984	195	202	F8.4
CBURGR85	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN CLEVELAND, 1985	203	210	F8.4
CBURGR86	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN CLEVELAND, 1986	211	218	F8.4
CBURGR87	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN CLEVELAND, 1987	219	226	F8.4
CBURGR88	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN CLEVELAND, 1988	227	234	F8.4

NAME	VARIABLE LABEL	BEG COL	END COL	FMT
CBURGR89	NUMBER OF BURGLARIES PER 1000 RESIDENTS IN CLEVELAND, 1989	235	242	F8.4
CDRUGR80	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN CLEVELAND, 1980	243	249	F7.4
CDRUGR81	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN CLEVELAND, 1981	250	256	F7.4
CDRUGR82	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN CLEVELAND, 1982	257	263	F7.4
CDRUGR83	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN CLEVELAND, 1983	264	270	F7.4
CDRUGR84	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN CLEVELAND, 1984	271	278	F8.4
CDRUGR85	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN CLEVELAND, 1985	279	286	F8.4
CDRUGR86	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN CLEVELAND, 1986	287	294	F8.4
CDRUGR87	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN CLEVELAND, 1987	295	302	F8.4
CDRUGR88	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN CLEVELAND, 1988	303	310	F8.4
CDRUGR89	NUMBER OF ARRESTS FOR DRUG SALES OR DRUG POSSESSION PER 1000 RESIDENTS IN CLEVELAND, 1989	311	318	F8.4
CHOMR80	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN CLEVELAND, 1980	319	324	F6.4
CHOMR81	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN CLEVELAND, 1981	325	331	F7.4
CHOMR82	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN CLEVELAND, 1982	332	337	F6.4

NAME	VARIABLE LABEL	BEG COL	END COL	FMT
CHOMR83	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN CLEVELAND, 1983	338	343	F6.4
CHOMR84	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN CLEVELAND, 1984	344	349	F6.4
CHOMR85	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN CLEVELAND, 1985	350	355	F6.4
CHOMR86	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN CLEVELAND, 1986	356	361	F6.4
CHOMR87	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN CLEVELAND, 1987	362	367	F6.4
CHOMR88	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN CLEVELAND, 1988	368	373	F6.4
CHOMR89	NUMBER OF HOMICIDES PER 1000 RESIDENTS IN CLEVELAND, 1989	374	379	F6.4
CRAPER80	NUMBER OF RAPES PER 1000 RESIDENTS IN CLEVELAND, 1980	380	386	F7.4
CRAPER81	NUMBER OF RAPES PER 1000 RESIDENTS IN CLEVELAND, 1981	387	393	F7.4
CRAPER82	NUMBER OF RAPES PER 1000 RESIDENTS IN CLEVELAND, 1982	394	400	F7.4
CRAPER83	NUMBER OF RAPES PER 1000 RESIDENTS IN CLEVELAND, 1983	401	407	F7.4
CRAPER84	NUMBER OF RAPES PER 1000 RESIDENTS IN CLEVELAND, 1984	408	414	F7.4
CRAPER85	NUMBER OF RAPES PER 1000 RESIDENTS IN CLEVELAND, 1985	415	421	F7.4
CRAPER86	NUMBER OF RAPES PER 1000 RESIDENTS IN CLEVELAND, 1986	422	428	F7.4
CRAPER87	NUMBER OF RAPES PER 1000 RESIDENTS IN CLEVELAND, 1987	429	435	F7.4
CRAPER88	NUMBER OF RAPES PER 1000 RESIDENTS IN CLEVELAND, 1988	436	442	F7.4
CRAPER89	NUMBER OF RAPES PER 1000 RESIDENTS IN CLEVELAND, 1989	443	449	F7.4

NAME	VARIABLE LABEL	BEG COL	END COL	FMT
CROBRR80	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN CLEVELAND, 1980	450	457	F8.4
CROBRR81	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN CLEVELAND, 1981	458	465	F8.4
CROBRR82	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN CLEVELAND, 1982	466	473	F8.4
CROBRR83	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN CLEVELAND, 1983	474	481	F8.4
CROBRR84	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN CLEVELAND, 1984	482	489	F8.4
CROBRR85	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN CLEVELAND, 1985	490	497	F8.4
CROBRR86	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN CLEVELAND, 1986	498	505	F8.4
CROBRR87	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN CLEVELAND, 1987	506	513	F8.4
CROBRR88	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN CLEVELAND, 1988	514	521	F8.4
CROBRR89	NUMBER OF ROBBERIES PER 1000 RESIDENTS IN CLEVELAND, 1989	522	529	F8.4
CDELR80	NUMBER OF DELINQUENCY FILINGS IN JUVENILE COURT PER 1000 RESIDENTS IN CLEVELAND, 1980	530	536	F7.4
CDELR81	NUMBER OF DELINQUENCY FILINGS IN JUVENILE COURT PER 1000 RESIDENTS IN CLEVELAND, 1981	537	543	F7.4
CDELR82	NUMBER OF DELINQUENCY FILINGS IN JUVENILE COURT PER 1000 RESIDENTS IN CLEVELAND, 1982	544	550	F7.4
CDELR83	NUMBER OF DELINQUENCY FILINGS IN JUVENILE COURT PER 1000 RESIDENTS IN CLEVELAND, 1983	551	557	F7.4
CDELR84	NUMBER OF DELINQUENCY FILINGS IN JUVENILE COURT PER 1000 RESIDENTS IN CLEVELAND, 1984	558	564	F7.4

NAME	VARIABLE LABEL	BEG COL	END COL	FMT
CDELR85	NUMBER OF DELINQUENCY FILINGS IN JUVENILE COURT PER 1000 RESIDENTS IN CLEVELAND, 1985	565	571	F7.4
CDELR86	NUMBER OF DELINQUENCY FILINGS IN JUVENILE COURT PER 1000 RESIDENTS IN CLEVELAND, 1986	572	579	F8.4
CDELR87	NUMBER OF DELINQUENCY FILINGS IN JUVENILE COURT PER 1000 RESIDENTS IN CLEVELAND, 1987	580	587	F8.4
CDELR88	NUMBER OF DELINQUENCY FILINGS IN JUVENILE COURT PER 1000 RESIDENTS IN CLEVELAND, 1988	588	595	F8.4
	999.9999 M Missing			
CDELR89	NUMBER OF DELINQUENCY FILINGS IN JUVENILE COURT PER 1000 RESIDENTS IN CLEVELAND, 1989	596	603	F8.4
CPFAMR80	SCALE OF FAMILY POVERTY, 1980	604	610	F7.4
	99.9999 M Missing			
CPFAMR81	SCALE OF FAMILY POVERTY, 1981	611	617	F7.4
	99.9999 M Missing			
CPFAMR82	SCALE OF FAMILY POVERTY, 1982	618	624	F7.4
	99.9999 M Missing			
CPFAMR83	SCALE OF FAMILY POVERTY, 1983	625	631	F7.4
	99.9999 M Missing			
CPFAMR84	SCALE OF FAMILY POVERTY, 1984	632	638	F7.4
	99.9999 M Missing			
CPFAMR85	SCALE OF FAMILY POVERTY, 1985	639	645	F7.4
	99.9999 M Missing			
CPFAMR86	SCALE OF FAMILY POVERTY, 1986	646	652	F7.4
	99.9999 M Missing			

NAME	VARIABLE LABEL	BEG COL	END COL	FMT

CPFAMR87	SCALE OF FAMILY POVERTY, 1987	653	659	F7.4
	99.9999 M Missing			
CPFAMR88	SCALE OF FAMILY POVERTY, 1988	660	666	F7.4
	99.9999 M Missing			
CPFAMR89	SCALE OF FAMILY POVERTY, 1989	667	673	F7.4
	9.9999 M Missing			

NOTE: With the exception of drug crimes, crime rates are incidences reported to police. Drug crime rates are arrests, not incidences.

Appendix A

NEIGHBORHOOD DECAY INDICATORS

Housing Stock Variables	Decrease in Median House Price Decrease in Median Contract Rent Increase in Housing Vacancy Increase in Percent Renters Lag/Decrease in Assessed Valuation Increase in Code Violations Increase in Abandoned Buildings Decrease in Building Permits Listing Time of For-sale Housing Increase in Property Tax Delinquencies Increase in Insurance Rates Housing Subdivisions Decrease in Sales Volume
Locational Variables	Increase in Trashed Vacant Lots Presence of Blighted Structures Increase in Street Traffic
Social Indicators	Increase in Reported Arsons Increase in Fire Alarm Calls Increase in Housing Evictions Increase in Female-headed Households Decrease in Labor Force Participation Decrease in Median Incomes Increase in Property Crime Rates Increase in Violent Crime Rates Number of Police Responses Decrease in Resident Organizations Decrease in Neighborhood Confidence Increase in Local Truancy Rates Decrease in School Completions Increase in One-Person Households Increase in Public Assistance Recipients Increase in Utility Payment Delinquencies
Economic Indicators	Increase in Low Value-added Business Increase in Business Turnover Increase in Commercial Vacancies Decrease in Retail Sales

Appendix B

VARIABLE DESCRIPTIONS

Most variables were measured on a calendar year basis. However, food stamp and AFDC counts, housing variables, and land use in Washington were measured for tax years from July 1 to June 30.

INCIDENTS OF AGGRAVATED ASSAULT, BURGLARY AND ROBBERY PER 1000 RESIDENTS

Police reports on the incidents of these index crimes using Uniform Crime Reporting definitions were converted to rates per 1000 population by dividing by the Census tract population. In Washington, robbery, burglary, and aggravated assault rates were not available for 10 tracts in 1980 and 1983. For Cleveland, aggravated assault rates were missing for 1980 and 1983.

CONFIRMED OR SUSPECTED ARSONS PER 1000 RESIDENTS

The number of arson incidents reported by the police was converted to the rate per 1000 residents and used as a proxy for physical decay. Arson rates were not available for Cleveland in 1980.

ARRESTS PER 1000 RESIDENTS FOR DRUG SALES OR POSSESSION

The number of arrests for drug offenses (possession or sales) was converted to the rate per 1000 residents and used as a proxy for drug activity in the area.

DELINQUENCY PER 1000 RESIDENTS

This indicator, available only for Cleveland, is the number of unruly and delinquency filings in the juvenile court (any charge for youth ages 12 through 18) converted to a rate per 1000 residents. (The rates are based on estimates of the number of residents of all ages, because tract estimates of the juvenile population were not available.) This indicator was not available for Washington.

SCALE OF FAMILY POVERTY

The family poverty scale was calculated by summing the Census tract's standard scores on average number of AFDC recipients, average number of food stamp recipients, percentage of births to mothers age 19 and younger, and percentage of births to unmarried women. (For Cleveland, the AFDC variable was cases, not recipients.) Results of principal component analysis indicated that these four variables consistently loaded on a single factor with weights of .77 or higher in all years for both cities. Unit weights were used because the resulting scales

SCALE OF FAMILY POVERTY (cont.)

scored as high on internal reliability and predictive power and have the advantage of simpler computation for subsequent planning use. The internal consistency of the scale was high in both cities for all years (alpha = .92 to .94 in Washington and .90 to .93 in Cleveland).

PUBLIC HOUSING

A dichotomous variable indicating the presence or absence of any public housing units was created from tax records maintained by the city planning office. This indicator was not available for Cleveland.

PERCENTAGE OF HOUSING OCCUPIED BY OWNERS

This indicator was calculated by the number of housing units occupied by owners divided by the total number of housing units. This indicator was not available for Cleveland.

PERCENTAGE OF LOTS ZONED FOR COMMERCIAL USE

Commercial land use was measured by the percentage of lots in each tract which were zoned for commercial use. This indicator was not available for Cleveland.

Appendix C

GENERAL PREDICTION MODELS

For Washington, DC, the general prediction model can be stated as:

$$Y_t = b_0 + b_1 CR_{t-1} + b_2 AR_{t-1} + b_3 DR_{t-1} + b_4 FP_{t-1} + b_5 HO_{t-1} + b_6 PH_{t-1} + b_7 CL_{t-1} + e_t$$

Where: Y = high risk tract vs. other
 CR = crime rate
 AR = arson rate
 DR = drug arrest rate
 FP = family poverty rate
 HO = owner occupancy
 PH = public housing
 CL = commercial lots

For Cleveland, the general prediction model is:

$$Y_t = b_0 + b_1 CR_{t-1} + b_2 AR_{t-1} + b_3 DR_{t-1} + b_4 FP_{t-1} + b_5 DE_{t-1} + e_t$$

Where: Y = high risk tract vs. other
 CR = crime rate
 AR = arson rate
 DR = drug arrest rate
 FP = family poverty rate
 DE = delinquency rate

The performance of these "full" models is compared to models in which the crime rate at the start of the time period is the only predictor. The comparison is used to assess the contribution of additional indicators to the ability to identify locations at risk of very high crime rates.