Data Licenses and Data Documentation:
Pittsburgh Experimental Crime Hot Spot Program

The non-human subjects data described in this document do not have personal identifiers nor crime incident street addresses or point coordinates.

On February 17, 2021 Deputy Chief Thomas Stangrecki of the Pittsburgh Bureau of Police (PBP) assigned a Creative Commons-Attribution license to:

1) **aprs_study_period**, data supplied by PBP as described below
2) **field_study_patrols**, data supplied by PBP as described below

See Appendix A of this document for the license.

On November 23, 2020 researchers Dylan J. Fitzpatrick, Wilpen L. Gorr, and Daniel B. Neill assigned a Creative Commons-Attribution license to:

1) **grid**, their original dataset as listed and described below and
2) Their original data field CELL_ID in **aprs_study_period**
3) Their original data fields WEEK_START_DATE and CELL_ID supplementing the dataset the **field_study_patrols**, as listed and described below.

The dataset, **field_study_counts_by_cell_week**, also documented below and provided, is a derivative of the above datasets. This is the data that is used to produce the main results of the hot spot program

aprs_study_period (n=35,520) has crime offense data records from the Automated Police Reporting System (APRS) provided by the Pittsburgh Police Bureau for the study year. These data were input to tabulate serious violent crime, serious property crime, and victim counts in **field_study_counts_by_cell_week**. Note that these are unverified data as reported by field officers that have not been processed and verified centrally, and possibly changed in preparation for submission to the FBI as required. The same data are available online from the Western Pennsylvania Regional Data Center except that VICTIMS, DOMESTIC, and CELL_ID are added here.

CCR	HIERARCHY	OFFENSES	DATE_START	TIME_START	VICTIMS	DOMESTIC	CELL_ID
18033860	27	3743 Accidents Involving Damage to Attended Veh. or Property	2/20/2018	1730	Vic 1 AGE:53 SEX:M RACE:W	FALSE	4915
18176344	10	2701(a)(1) Simple Assault - Intent., Know., Reckless.Cause Bod. Injury / 9501 Bench Warrant / 9093 Indirect Criminal Contempt / 4914 False Identification to Law Enforcement Authorities	9/9/2018	300	Vic 1 AGE:43 SEX:F RACE:B	TRUE	2343
18199870	0	3742 Accidents Involving Death or Personal Injury	10/9/2018	1130	Vic 1 AGE:31 SEX:F RACE:W	FALSE	3696
18172939	27	3743 Accidents Involving Damage to Attended Veh. or Property	9/4/2018	2045	Vic 1 AGE:23 SEX:M RACE:W	FALSE	3696

CCR Unique ID for Pittsburgh Police offense reports

HIERARCHY FBI hierarchy code of highest ranking part 1 or part 2 crime (0=no part 1 or part 2 crime, 1=homicide, 2=rape 3=robbery, 4= aggravated assault, 5=burglary, 6=Larceny-theft, 7=vehicle theft, 8=arson, 9=forgery, 10=simple assault, 11=fraud, 12=embezzlement, 13=stolen property, 14=vandalism, 15=weapons violations, 16=prostitution, 17=sex offenses, 18=drug violations, 19=gambling, 20=family violence, 21=drunken driving, 22=liquor law violations, 23=public drunkenness, 24=disorderly conduct, 25=vagrancy, 26=other)

HIERARCHY_DESC	Name for hierarchy crime
OFFENSES	All crime offenses committed in the incident using Pittsburgh Bureau of Police crime codes
DATE_START	Start date for crime incident, mm/dd/yyyy, minimum=11/6/2017, maximum=11/4/2018
TIME_START	Start time for crime incident, military, hhmm, minimum=0, maximum=2359
VICTIMS	Demographics of victims: age, sex (M, F), race (A=Asian, B=Black, H=Hispanic, O=Other, W=White)
DOMESTIC	Flag for domestic crime
CELL_ID	Unique cell ID number

Field_study_patrols (n=24,229) has the start date/time and end date/time for patrols in treatment hot spots as well as type of proactive patrol (Neighborhood Patrol = car patrol, Police Park & Walk = foot patrol).

CALL_TYPE_FINAL_D	WEEK_START_DATE	CELL_ID	CALLCREATEDDATETIME	CALLCLOSEDATETIME	DURATION
NEIGHBORHOOD PATROL	12/4/2017	2552	12/4/2017 17:29	12/4/2017 17:30	1
NEIGHBORHOOD PATROL	12/4/2017	1850	12/5/2017 2:05	12/5/2017 2:25	19.58333333
NEIGHBORHOOD PATROL	12/4/2017	4824	12/5/2017 3:40	12/5/2017 4:13	33.31666667
NEIGHBORHOOD PATROL	12/4/2017	2658	12/6/2017 3:26	12/6/2017 3:43	16.63333333
NEIGHBORHOOD PATROL	12/4/2017	3317	12/4/2017 22:28	12/4/2017 22:40	12.1
POLICE PARK & WALK	12/4/2017	2861	12/5/2017 5:32	12/5/2017 5:46	14.21666667

CALL_TYPE_FINAL_D Final disposition call type code (initial call types from caller description of incidents may be changed by responding officers)
WEEK_START_DATE Start date of the week for treatment
CELL_ID Unique cell ID number
CALLCREATEDDATETIME Date/time start of patrol
CALLCLOSEDATETIME Date/time end of patrol
DURATION Calculated duration of patrol (minutes)

Grid (n=6,975) has the IDs and coordinates of the 500 foot x 500 foot cells from a grid covering Pittsburgh. Hot spot treatment and control areas are from this grid and identified by CELL_ID in other data sets.

CELL_ID	CENTROID_X	CENTROID_Y	XMIN	XMAX	YMIN	YMAX	ZONE
1	1339643.219	433663.2597	1339393.219	1339893.219	433413.2597	433913.2597	1
2	1338143.219	433163.2597	1337893.219	1338393.219	432913.2597	433413.2597	1
3	1338643.219	433163.2597	1338393.219	1338893.219	432913.2597	433413.2597	1
4	1339643.219	433163.2597	1339393.219	1339893.219	432913.2597	433413.2597	1

CELL_ID Unique cell ID number for 500 x 500 ft square grid cells covering Pittsburgh
CENTROID_X Horizontal centroid coordinate of cell (all coordinate data are in State Plane feet)
CENTROID_Y Vertical centroid coordinate of cell
XMIN Horizontal left coordinate of cell
XMAX Horizontal right coordinate of cell
YMIN Vertical bottom coordinate of cell
YMAX Vertical top coordinate of cell
ZONE Assigned zone number (1-6) of cell (some cells overlap two or more zones but are assigned to one zone)

field_study_counts_by_cell_week (n=362,700, with table transposed to fit on this page) has weekly data for the project study year (11/6/2017 to 11/4/2018) for all grid cells in Pittsburgh. This is the main processed data set from the research's controlled experiment, ready for modeling to estimate serious violent crimes and victims prevented in treated grid cells (hot spots) and adjacent grid cells (queen's case). The datasets **aprs_study_period.csv** and **cad_study_period.csv**, described below and provided by the Pittsburgh Police Bureau, were inputs used to compile the processed data set. Also included in the processed data set are fields indicating weeks during which grid cells were selected as chronic or temporary and treatment or control hot spots, as provided by researchers Fitzpatrick, Gorr, and Neill. Note: To reproduce the regression results in the preprint research paper, a user must multiply TREATMENT by HOTSPOT to identify which hot spots were treated; records with HOTSPOT value of 1 and TREATMENT value of 0 indicate control hot spots. There are three chronic and three temporary hot spots per police zone and week, and six police zones for a total of 36 treatment and 36 control hot spots per week.

CELL_ID	1	2	3	4
ZONE	1	1	1	1
PARTITION	1	1	1	1
TREATMENT	1	1	1	1
HOTSPOT	0	0	0	0
HOTSPOT_TEMP	0	0	0	0
HOTSPOT_CHRONIC	0	0	0	0
HOTSPOT_ADJACENT	0	0	0	0
NOT_ADJACENT	1	1	1	1
MURDER_MANSLAUGHTER	0	0	0	0
FORCIBLE_RAPE	0	0	0	0
ROBBERY	0	0	0	0
AGGRAVATED_ASSAULT	0	0	0	0
BURGLARY	0	0	0	0
LARCENY-THEFT	0	0	0	0
VEHICLE_THEFT	0	0	0	0
PATROLS_FOOT	0	0	0	0
PATROLS_CAR	0	0	0	0
P1V_VICTIMS_RACE_WHITE	0	0	0	0
P1V_VICTIMS_RACE_BLACK	0	0	0	0
P1V_VICTIMS_RACE_OTHER	0	0	0	0

DATE	Start date of week for treatment (treatment and controls cells changed each week on Mondays)
CELL_ID	Grid cell ID
ZONE	Police zone (1-6)
PARTITION	Partition number within police zone (1 or 2)
TREATMENT	=1 cell was within treatment partition of a zone, 0 if in control partition
HOTSPOT	=1 if cell is a hot spot this week (whether treatment or control), 0 if not
HOTSPOT_TEMP	=1 if cell is a temporary hot spot this week (whether treatment or control), 0 if not
HOTSPOT_CHRONIC	=1 if cell is a chronic hot spot this week (whether treatment or control), 0 if not
HOTSPOT_ADJACENT	=1 if cell is adjacent to a hot spot this week (whether treatment or control), 0 if not
NOT_ADJACENT	=1 if cell is not adjacent to a hot spot this week (whether treatment or control), 0 if adjacent
MURDER_MANSLAUGHTER	Count of stated crime during week for cell
FORCIBLE_RAPE	Count of stated crime during week for cell
ROBBERY	Count of stated crime during week for cell
AGGRAVATED_ASSAULT	Count of stated crime during week for cell
BURGLARY	Count of stated crime during week for cell
LARCENY-THEFT	Count of stated crime during week for cell
VEHICLE_THEFT	Count of stated crime during week for cell
PATROLS_FOOT	Count of Park and Walk Patrols in the week
PATROLS_CAR	Count of Neighborhood patrols in the week
VICTIMS_BLACK	Count of Black victims during week for cell
VICTIMS_WHITE	Count of White victims during week for cell
VICTIMS_HISPANIC	Count of Hispanic victims during week for cell
VICTIMS_OTHER	Count of Other victims during week for cell

Appendix A

Email messages documenting the Creative Commons-Attribution license by Deputy Chief Stangrecki

Stangrecki, Thomas Feb 18, 2021, 10:45 AM (4 days ago)

to me

Professor Gore,

I have reviewed the request and the Pittsburgh Bureau of Police will agree to a Creative Commons-Attribution license to share the requested date.

Respectfully,

Deputy Chief Thomas Stangrecki
Pittsburgh Bureau of Police
412-323-7837

Simplified data sharing request for hot spot program

Wil Gorr <gorrwil@gmail.com> Feb 17, 2021, 8:47 PM (5 days ago)

to Thomas

Dear Chief Stangrecki - Attached is a simplified data sharing request for the hot spot program. There are only two data sets that we need permission to share (the journal in which we are publishing our research requires input raw data):

aprs_study_period – has APRS crime incident (3.0) data that is already publicly available online from the Western Pennsylvania Regional Data Center except that the Bureau added victim demographics and a domestic crime indicator (true/false) for our research.

field_study_patrols – has the call type (Neighborhood Patrol or Police Park and Walk), start date/time, end date/time, duration, and coordinates at the block-level of accuracy for proactive patrols conducted at hot spots.

There are no personal identifiers or precise locations in either data set.

Sincerely - Wil

Attachment to 2/17/2021 email message from Wilpen Gorr to Thomas Stangrecki

Research Data from the Pittsburgh Experimental Crime Hot Spot Program

The peer-reviewed journal in which we wish to publish our research[1], the *Journal of Quantitative Criminology*, requires that raw data from our research be made available on a public data repository. Therefore, we researchers – Dylan Fitzpatrick, Wilpen Gorr, and Daniel Neill – request that the Pittsburgh Bureau of Police give us permission to make public two data sets from the Pittsburgh experimental hot spot study. Best would be that the Bureau assign a Creative Commons-Attribution license to the requested data (lets others freely have and use the data), the same license that the Bureau assigned to its crime incident and arrest raw data available from the Western Pennsylvania Regional Data Center (see https://data.wprdc.org/dataset/uniform-crime-reporting-data and https://data.wprdc.org/dataset/arrest-data).

Both requested datasets do not have personal identifiers or precise locations, and are from the year-long study period of November 6, 2017 through November 4, 2018:

aprs_study_period – has APRS crime incident (3.0) data that is already publicly available online from the Western Pennsylvania Regional Data Center except that the Bureau added victim demographics and a domestic crime indicator (true/false) for our research.

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[1] A preprint research paper, based on the requested data is: Dylan J. Fitzpatrick[1], Wilpen L. Gorr[2], Daniel B. Neill[3] (11/11/2020), "Policing Chronic and Temporary Hot Spots of Violent Crime: A Controlled Field Experiment", (http://arxiv.org/abs/2011.06019)
[1]University of Chicago, [2]Carnegie Mellon University, [3]New York University.

field_study_patrols – has the call type (Neighborhood Patrol or Police Park and Walk), start date/time, end date/time, duration, and coordinates at the block-level of accuracy for proactive patrols conducted at hot spots.

Details and samples of these data are on the following pages.

aprs_study_period (n=35,520)

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field_study_patrols (n=24,229)

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