

**THE  
ARCHITECTURAL  
LEAGUE**

**SPATIAL  
INFORMATION  
DESIGN  
LAB**

**Architecture  
and Justice**

Spatial Information Design Lab

Columbia University Graduate School of  
Architecture, Planning and Preservation

### Million Dollar Blocks: Justice and the City

The United States currently has more than 2 million people locked up in jails and prisons. A disproportionate number of them come from a very few neighborhoods in the country's biggest cities. In many places the concentration is so dense that states are spending in excess of a million dollars a year to incarcerate the residents of single city blocks. When these people are released and reenter their communities, roughly forty percent do not stay more than three years before they are reincarcerated.

Using rarely accessible data from the criminal justice system, the Spatial Information Design Lab and the Justice Mapping Center have created maps of these "million dollar blocks" and of the city-prison-city-prison migration flow for five of the nation's cities. The maps suggest that the criminal justice system has become the predominant government institution in these communities and that public investment in this system has resulted in significant costs to other elements of our civic *infrastructure* – education, housing, health, and family. Prisons and jails form the distant *exostructure* of many American cities today.

Have prisons and jails become the mass housing of our time? How has the war on drugs affected incarceration rates? What are the differences between crime maps and prison admission maps? What are the relationships between prison populations and poor communities? Has incarceration become a response to poverty rather than to crime? What are the relationships between jailed populations and homeless ones?

The relationships implied by these questions become evident when criminal justice data is aggregated geographically and visualized in maps. The focus shifts away from a case-by-case analysis of the crime and punishment of an individual, away from the geographic notation of crime events, and toward a geography of incarceration and return.

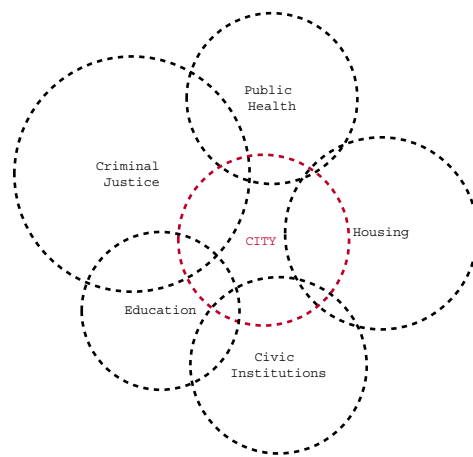
The maps pose difficult ethical and political questions for policy makers and designers. When they are linked to other urban, social, and economic indicators of incarceration, they also suggest new strategies for approaching urban design and criminal justice reform together.

## Information as Resource, Data and the City

We start with the idea that a city is not simply a collection of people or buildings but rather a network of relationships, a dynamic and often unstable assemblage of interactions and forces. Information about the elements of these networks – people, buildings and infrastructure, environment and landscape, wealth and force and effect – is constantly exchanged and produced within and between them. Information is the oxygen of the networks that make up our cities. All of us, and our surroundings, have been knowingly or unknowingly translated into data. Stored and recirculated and transformed, with and without our consent, information functions

independently of its origins, and its pattern of circulation and use is wide open – for better and worse. Information is a resource, local and global, regardless of whether the decisive factors in its use are its accessibility or its mode of presentation.

You may be a person, but you are not a citizen if you are not recorded in a database. This simple fact has given rise to an enormously complex politics of information access and visibility, closure and opacity. Civic, urban, and global networks today are formed not only of visible but also invisible information resources with concrete effects on our daily lives. Information builds and organizes most of the structures, policies, and landscapes of our cities.

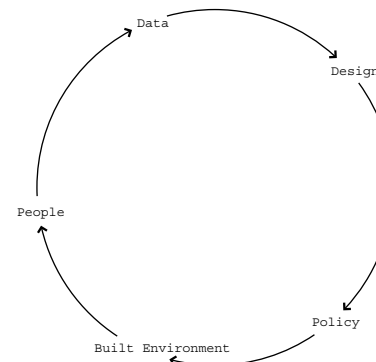


Overlapping networks form the City.

An indeterminate but powerful feedback loop is generated that links data, people, design, policy, and the multitude of spaces that constitute the built environment. As a resource, information can make visible the complex ways in which cities are organized, are built, and grow. But before we can work with data – make arguments with it, generate and resolve conflicts with it – we have to obtain it, which is often difficult, and see it, which requires its translation into visual images.

## Architecture and Justice

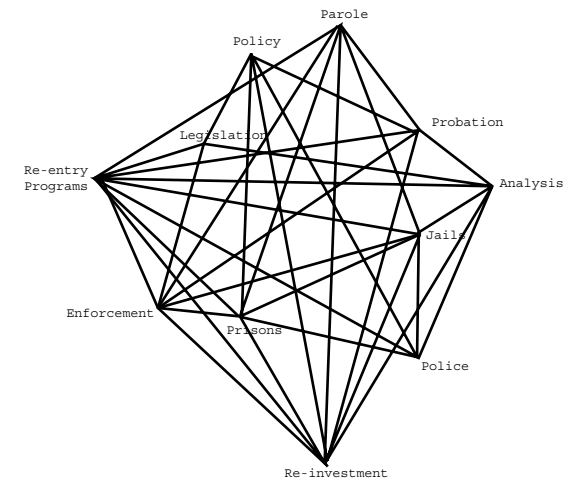
The Spatial Information Design Lab's project on *Architecture and Justice* focuses on the alarming and unprecedented growth of the U.S. criminal justice system over the last three decades.



A feedback loop is governed by information resources.

Growing with it have been vast archives of data; indeed, criminal justice in the U.S. today is a data management and mining enterprise. Criminal justice information is primarily used to regulate and organize the lives of individuals inside its system, playing its part in an institutional self-perpetuation.

Our project refocuses criminal justice information: we start from the inside of the city, rather than trying to leave it behind. Our approach is a spatial one because questions of residence and movement are at the unacknowledged heart of the criminal justice system today – where people live, where they go to prison, and where they return.

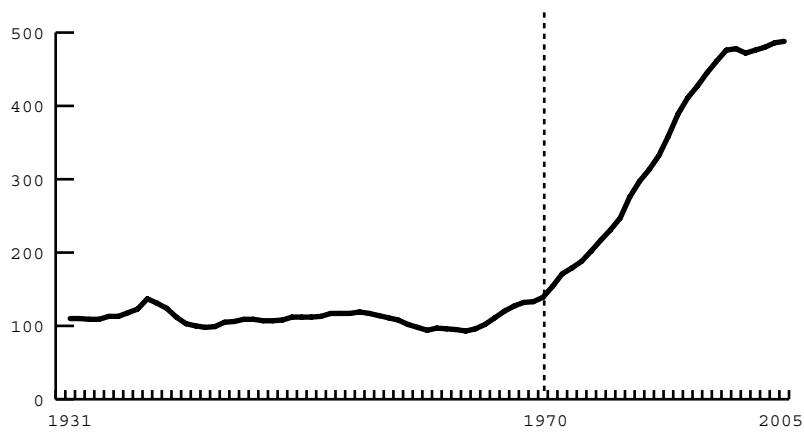
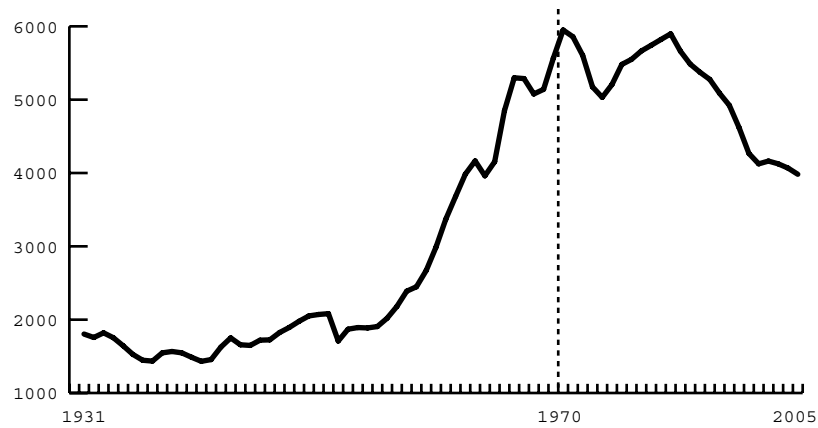


Criminal Justice policy is driven by a complex web of connected services and contingent systems.

## Why Are So Many Americans in Jail and Prison?

Since 1970 Americans have been living in an era of what some have called mass incarceration, one of the “greatest social experiments of our time” (Travis 2005.)

The crime rate in America over the course of the last century has moved up and down in a periodic wave. The corresponding rates, at which Americans have been incarcerated, look very different. In contrast to the periodic undulations of the crime rate, the incarceration rate has remained constant for most of the century. From

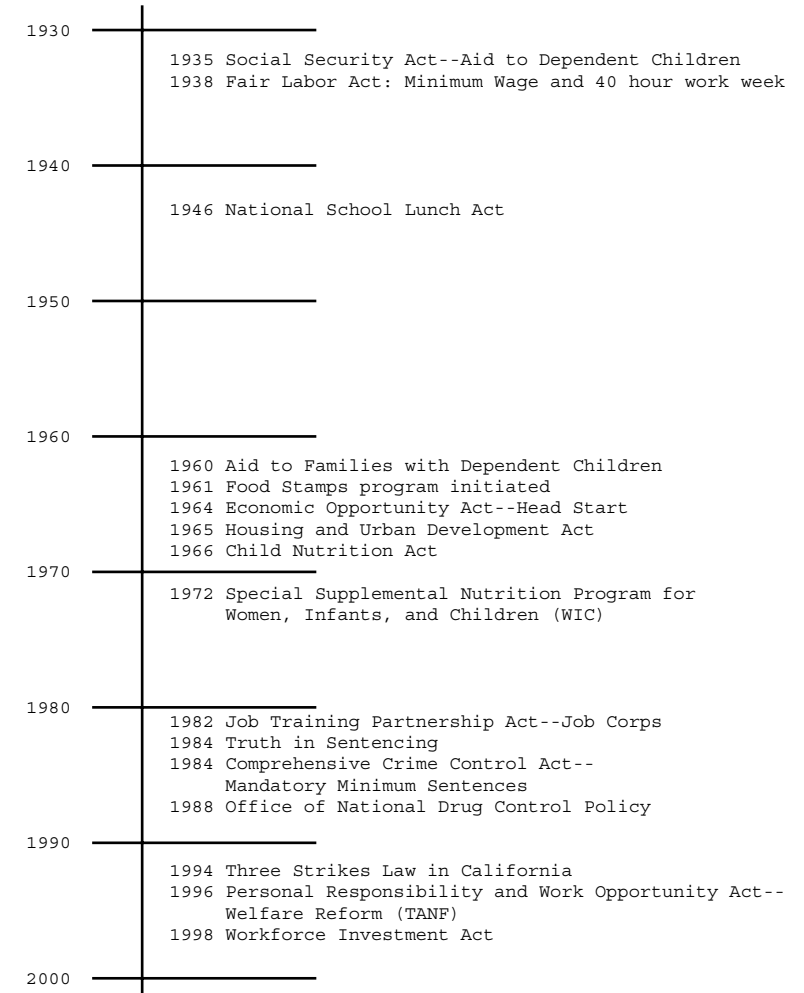


Top: Crime rates form a relatively self-consistent wave of activity.

Bottom: Incarceration rates remain relatively constant until 1970, when a radical upward trend is driven by policy.

the late 1970s, however, it has been climbing rapidly. The result has been a tenfold increase in the standing prison population, from 200,000 in 1970 to 2,000,000 in 2000. How we respond to crime is a matter of values, decisions, and policy, all the way down to the most basic questions defining what counts as a crime. In

the late 1970s and early 1980s, efforts to fight poverty were systematically replaced by the “war on drugs,” including the criminalization of most drug offenses – crime became the surrogate for poverty – and incarceration the primary response.



Poverty policy in the United States since 1900, indicated by major shifts.

## From Data to Maps

There is no such thing as raw data. Data sets are created and designed even before they are visualized. All data are collected, processed, and presented for specific purposes and perspectives, whether or not we admit or suspect it. Information and data are created relative to claims, values, and arguments, structured by the situation of their designer and the reasons for their collection.

As a result, no data and no maps are neutral, and our project is no less purposeful: we want to interrogate traditional criminal justice data through the geography of the city. What can we do with this data? What images and stories come to light when we reorganize criminal justice data to emphasize urban infrastructures, rather

than give in to the traditional forms in which crime statistics are presented and utilized?

A criminal justice data set is most commonly maintained and presented as a list. It is designed to track people as individual cases. As individuals make their way through the system, information is entered into a database and accumulates: name, crime, length of sentence, home address, and so on. Individually, the information forms a portrait of a case; aggregated, the cases create a statistical portrait of a society.

When maps are made from data like these, they often stop at the very first element: what crimes were committed and where. 'Crime maps' have played a significant role in the public discourse on cities over the last thirty years. These maps have, in fact, become one of the most prominent

instruments through which we understand and interpret our cities.

According to the National Institute of Justice(2005), "mapping crime can help law enforcement protect citizens more effectively in the areas they serve. Simple maps that display the locations where crimes or concentrations of crimes have occurred can be used to help direct patrols to places they are most needed. Policy makers in police departments might use more complex maps to observe trends in criminal activity."

Mapping the data about the location of crimes has prompted successful campaigns to transform urban policing from a reactive, calls-for-service approach to a proactive community-policing strategy focused on so-

called high-crime locations. Crime maps collect individual incidents over time to identify "hot spots," places that can become the focus of intense police – and political – attention. As the N.I.J. report puts it, candidly if rather casually: "using maps that help people visualize the geographic aspects of crime, however, is not limited to law enforcement. Mapping can provide specific information on crime and criminal behavior to politicians, the press, and the general public."

18-Jun 2:40 A.M.	HM421205	6200 BLOCK S. KIMBARK AVE.	RESIDENCE
16-Jun 10:08 A.M.	HM417358	4700 BLOCK N. SPAULDING AVE.	APARTMENT
11-Jun 8:30 P.M.	HM408837	1100 BLOCK W. JACKSON BLVD.	RESIDENCE
2-Jun 3:28 A.M.	HM388296	11600 BLOCK S. ASHLAND AVE.	RESIDENCE
31-May 1:37 A.M.	HM383920	2900 BLOCK N. SHERIDAN RD.	RESIDENCE
30-May 2:30 P.M.	HM382758	3100 BLOCK W. BYRON ST.	SCHOOL BUILDING (PUBLIC)
29-May 2:48 A.M.	HM379750	2100 BLOCK S. HARDING AVE.	RESIDENCE: PORCH/HALLWAY
29-May 12:30 A.M.	HM379786	3900 BLOCK W. MADISON ST.	SMALL RETAIL STORE
23-May 6:45 A.M.	HM367460	6600 BLOCK S. RHODES AVE.	RESIDENCE: PORCH/HALLWAY
20-May 4:14 A.M.	HM361811	900 BLOCK W. 52ND ST.	APARTMENT
19-May 9:37 A.M.	HM359905	1100 BLOCK W. 110TH ST.	RESIDENCE
16-May 8:43 P.M.	HM355107	3900 BLOCK W. DIVERSEY AVE.	APARTMENT
14-May 5:10 A.M.	HM349864	3800 BLOCK W. NORTH AVE.	RESIDENCE
11-May 2:07 A.M.	HM343234	4300 BLOCK W. WILCOX ST.	RESIDENCE: PORCH/HALLWAY
8-May 5:41 A.M.	HM337007	6200 BLOCK N. SHERIDAN RD.	RESIDENCE
4-Jul 10:13 P.M.	HM454861	5400 BLOCK W. GRACE ST.	SIDEWALK
4-Jul 8:34 P.M.	HM454500	HELLO ALL.	RESIDENCE
1-Jul 1 P.M.	HM454078	5600 BLOCK S. NASHVILLE AVE.	RESIDENCE
11-Mar 3:50 A.M.	HM225590	SO THE FINAL DRAFT VERSION OF	VEHICLE: NON-COMMERCIAL
4-Jul 10:40 P.M.	HM454929	2100 BLOCK W. CULLERTON ST.	RESIDENCE: GARAGE
3-Jul 8:02 A.M.	HM451516	IN REVIEWING IT THIS MORNING WIT	RESIDENCE: PORCH/HALLWAY
3-Jul 12:35 A.M.	HM451157	1800 BLOCK W. 51ST ST.	RESIDENCE
2-Jul 11:45 P.M.	HM451279	PLEASE HAVE A CLOSE LOOK AT TH	COMMERCIAL / BUSINESS OFFICE
2-Jul 10:59 P.M.	HM451096	9200 BLOCK S. DAUPHIN AVE.	STREET
2-Jul 8:30 A.M.	HM449799	3200 BLOCK W. WARNER AVE.	VEHICLE: NON-COMMERCIAL
1-Jul 3:13 P.M.	HM448484	1200 BLOCK N. SPRINGFIELD AVE.	STREET
1-Jul 4:20 A.M.	HM447831	7900 BLOCK N. HONORE ST.	VEHICLE: NON-COMMERCIAL
30-Jun 7:41 A.M.	HM445573	1700 BLOCK W. 47TH ST.	RESTAURANT
29-Jun 1:47 A.M.	HM443456	6600 BLOCK S. CARPENTER ST.	STREET
28-Jun 10:05 P.M.	HM443218	11100 BLOCK S. WENTWORTH AVE.	VEHICLE: NON-COMMERCIAL
28-Jun 11:07 A.M.	HM441966	1800 BLOCK S. DRAKE AVE.	VEHICLE: NON-COMMERCIAL
28-Jun 1:57 A.M.	HM441411	3000 BLOCK W. CULLERTON ST.	VEHICLE: NON-COMMERCIAL
27-Jun 5:05 A.M.	HM439509	5900 BLOCK S. ALBANY AVE.	VEHICLE: NON-COMMERCIAL
27-Jun 12:54 A.M.	HM439410	3500 BLOCK N. KEATING AVE.	VEHICLE: NON-COMMERCIAL
26-Jun 1:30 P.M.	HM438209	6300 BLOCK S. MORGAN ST.	STREET
26-Jun 11:30 A.M.	HM437995	4700 BLOCK W. MONROE ST.	SIDEWALK
25-Jun 8:12 P.M.	HM436972	1300 BLOCK S. AVERS AVE.	GOVERNMENT BUILDING/PROPERTY
25-Jun 9:51 A.M.	HM436022	1500 BLOCK N. LAWDALE AVE.	STREET
25-Jun 9:49 A.M.	HM435994	4500 BLOCK S. SPRINGFIELD AVE.	VEHICLE: NON-COMMERCIAL

Excerpt from database, [www.chicagocrime.org](http://www.chicagocrime.org)



Typical crime map, from [www.chicagocrime.org](http://www.chicagocrime.org)



Criminal events, not people, are mapped to the city.

Now imagine a map visualizing the same data set, but this time shifting the focus from the crime events to the home addresses of the people incarcerated as a result. The transformation reveals a pattern that – unless you live there – is difficult to see: the density or clustering of large numbers of imprisoned residents in very few and very small sections of the city.

With this map, we stop talking about where to deploy police resources or how to track individual prisoners for institutional purposes; instead, we begin to assess the impact of justice on a city, even a city block, and start to evaluate some of the implicit decisions and choices we have been making about our civic institutions.

Table with multiple columns containing names and addresses of New York City prisoners, with home addresses scrambled. The text is too small and dense to transcribe accurately.



Excerpt from a database of New York City prisoners with home address. [Data has been scrambled.]

Prison admissions by home address, Brooklyn, NY, 2003.

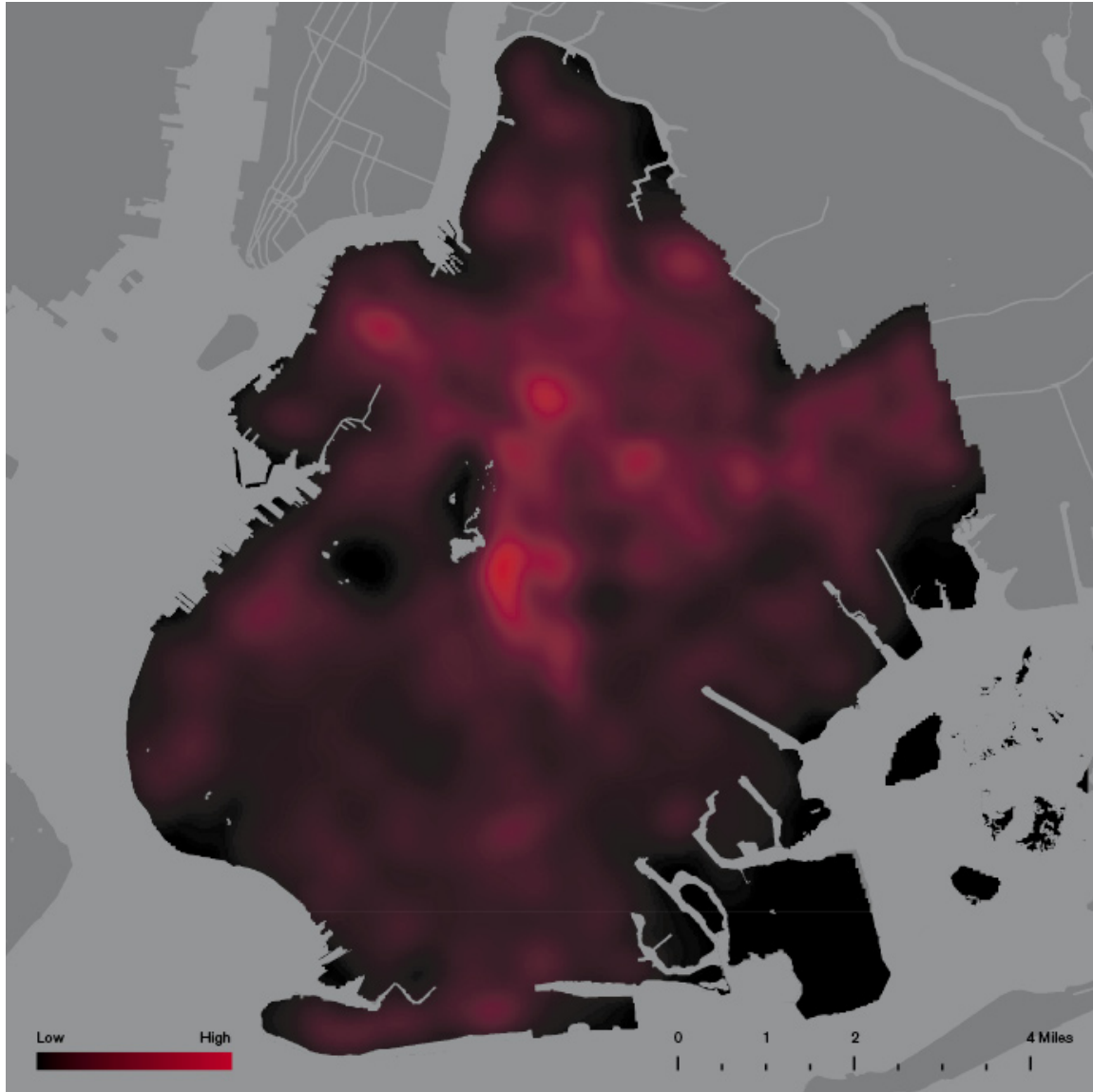
### From Crime Maps to Admissions Maps

If crime maps succeeded dramatically in mobilizing public opinion, redefining the city as a mosaic of safe and unsafe spaces, and forcing the reallocation and targeting of police resources on specific neighborhoods, the gains were short-lived. The resulting crime prevention techniques,

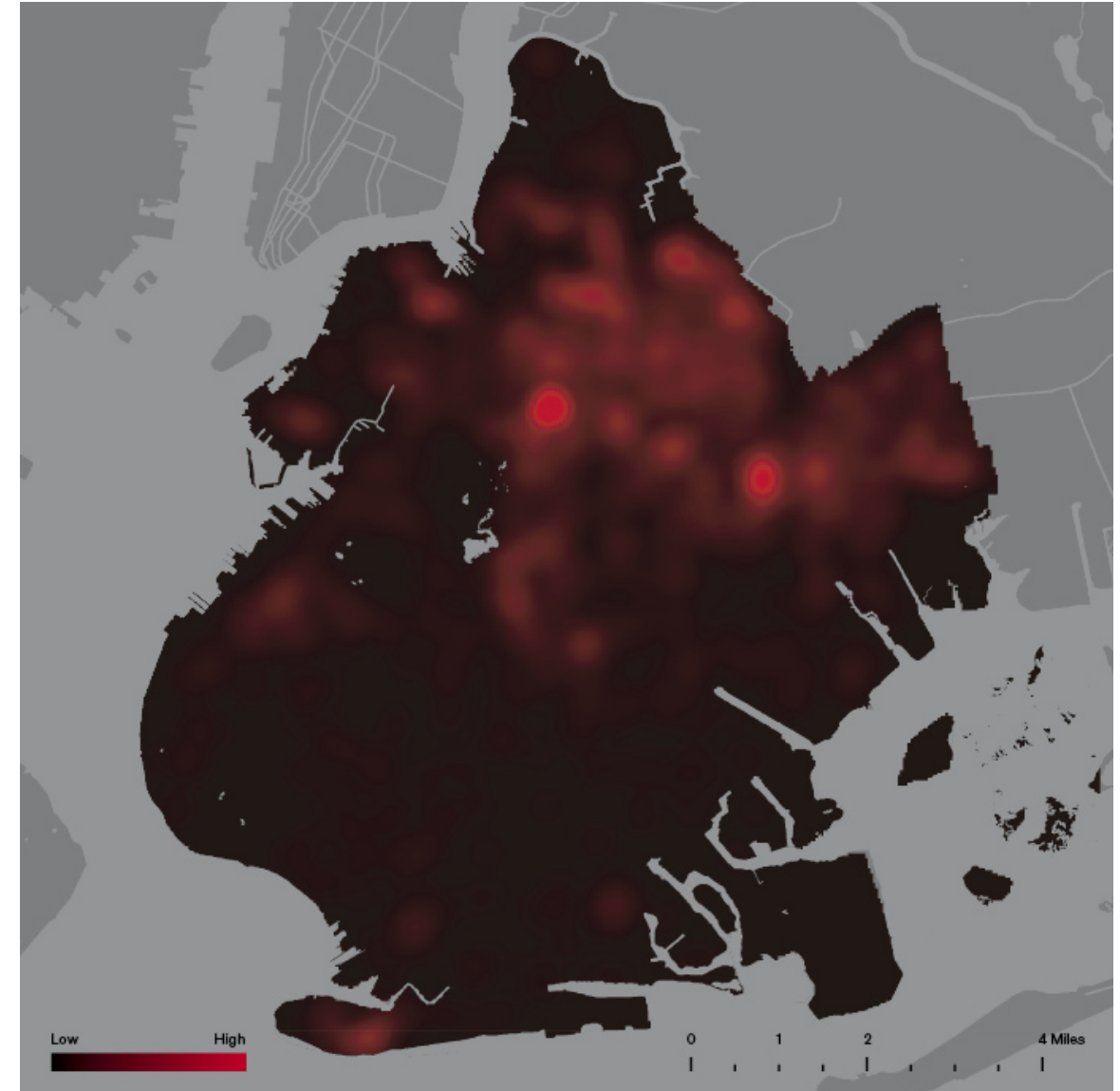
and the community-policing movement in general, soon reached the inevitable limits of any purely tactical approach. The city spaces that were targeted became safer, but too often crime incidents were simply displaced to other locations.

By focusing solely on events, the human underpinnings of crime were left largely unaffected. When we shift the maps' focus from crime events to incarceration events, strikingly different patterns become visible. The geography of prison differs in important ways from the geography of crime.

Crime happens in many different places, diffused and dispersed across the city. But the people who are convicted and imprisoned for urban crimes are often quite densely concentrated geographically.



Crime density map, Brooklyn, NY, 1998.



Prison admissions density map, Brooklyn, NY, 2003.



The crime rates in the most affected precincts are typically four times higher than the lowest. But the highest incarceration rate precincts show activity upwards of ten times higher than those of the lowest incarceration rate precincts. Like poverty, incarceration is spatially concentrated, much more so than crime.

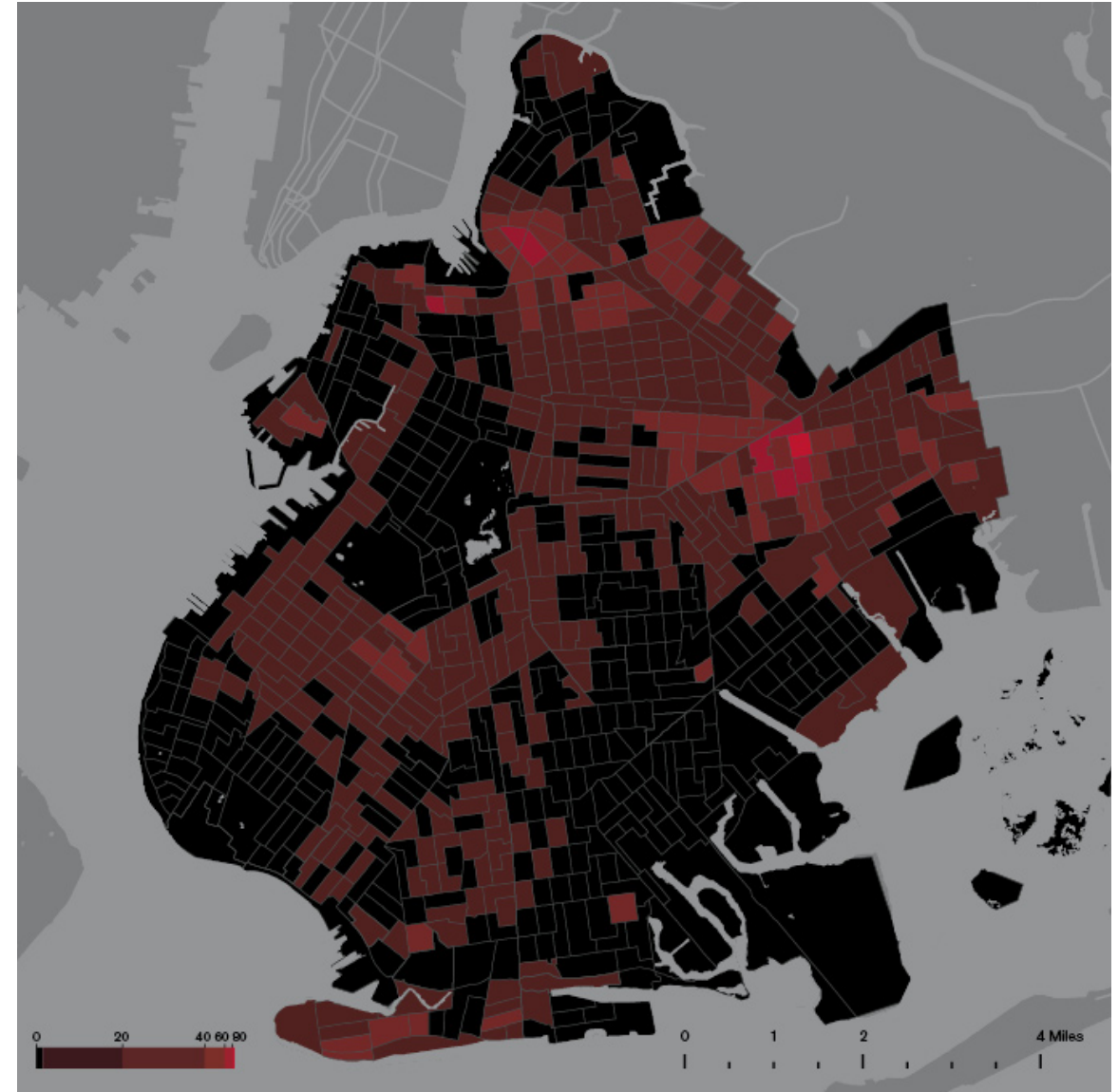
It's as if by imprisoning the residents of these neighborhoods, making them disappear from their city, we were simply mirroring the disappearance of the conversation on poverty.



Prison admissions by census tract, Brooklyn, NY, 2003.

Just as the incarceration rate tracks the eclipse of that debate, the geographical inquiry into criminal justice in the city uncovers the territory of the juxtaposition between crime and poverty. Focusing on where incarcerated people live when they are not in prison and comparing that

with poverty suggests this conjunction rather starkly. Is incarceration policy the new solution to poverty, or a new structural component?



Population living in poverty by census tract, Brooklyn, NY, 2000.

**Redefining the Problem:  
Mass Migration and Reentry**

600,000 people return from prison each year in the United States, and millions more come home from jails. About 240,000 of the released prisoners – roughly forty percent – will return to prison within three years. In and out, they come

and go, all too often simply cycling back and forth between the same places.

New maps can help us grasp this extraordinary phenomenon: prison migration and with it high-resettlement communities. When crime maps are replaced by incarceration maps, we can finally visualize the geography of a massive migration,

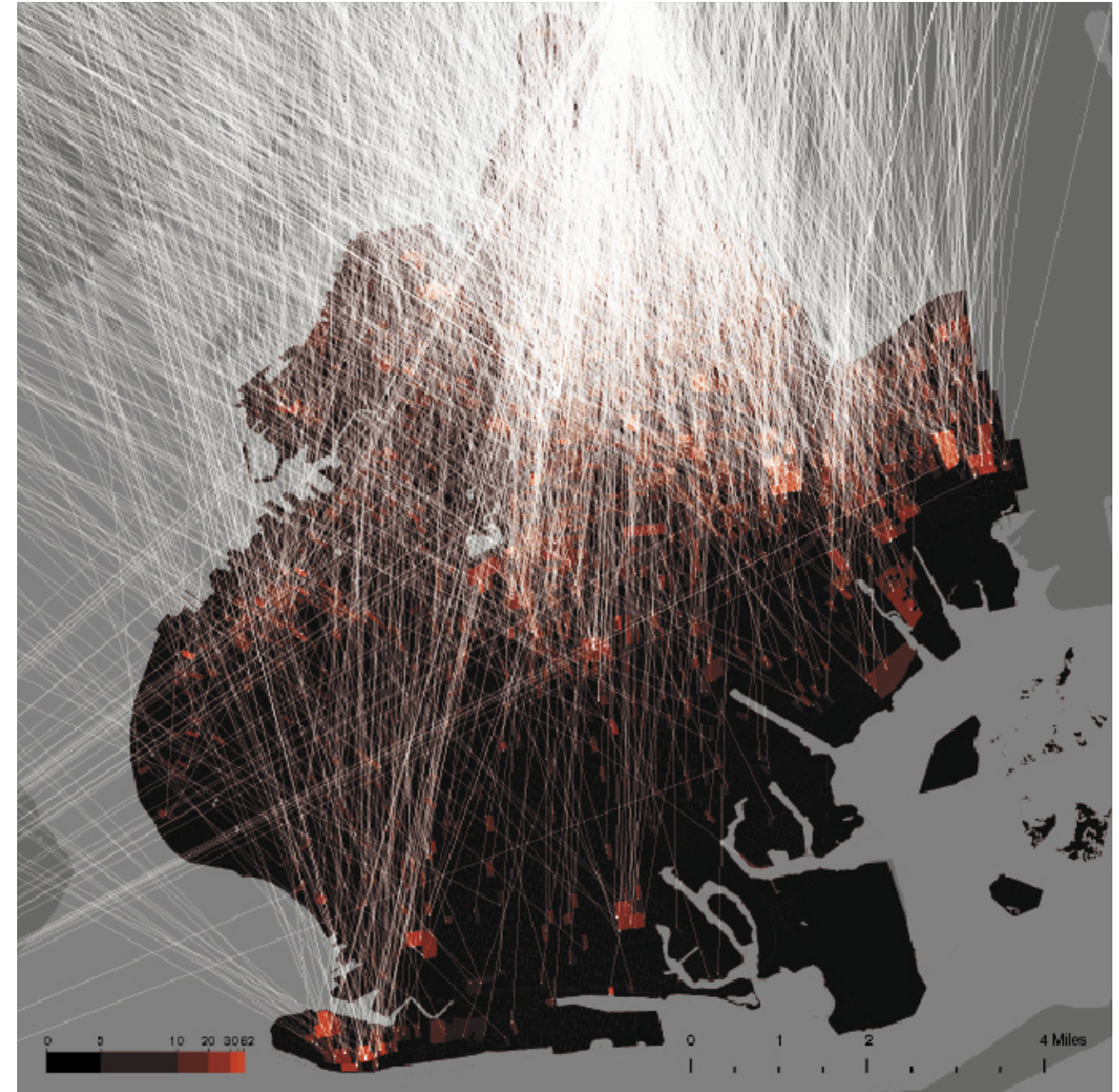


Prisoner migration patterns, Brooklyn to New York State, 2003.

the flow of people in and out of the city. We can ask whether this quiet but pervasive migration crisis isn't creating a growing class of non-citizens, concentrated in very few places in all of our major cities.

The new visualizations reveal what was previously difficult to see – the mass disappearance and reappearance of people

in the city. They focus on the systematic phenomenon of ex-prisoners' reentry and examine new institutions that respond to this structural feature of urban life. What happens to these people when they come home? We often know where they are going and what will happen. What is our responsibility to effectively resettle them, given all that we know?



Prisoner migration patterns, Brooklyn, NY, 2003.

## The Tipping Point

In this context, Jeremy Travis (2005) poses a critical challenge to designers and advocates alike: "Rather than view these new situations simply as matters of concern to criminal justice experts, [we should] analyze how our incarceration policies affect the work of practitioners, advocates and community leaders in other policy arenas" (84).

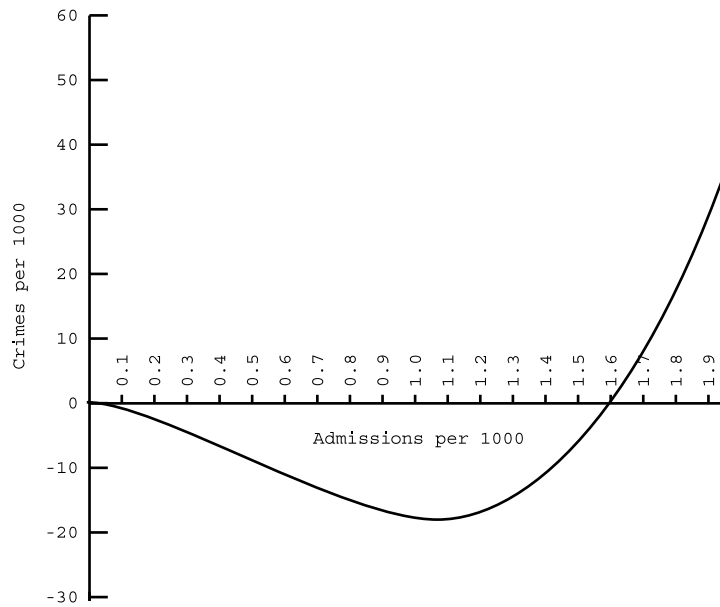
The migration cycle, which is something like a permanent or recurring refugee crisis, takes

a dramatic toll on the communities where it happens. Todd R. Clear's research (2003) suggests that communities reach a tipping point beyond which increased incarceration begins to undermine local networks and the infrastructure of everyday life. Once past that point, neighborhoods can enter a downward spiral in community viability, which, in turn, can promote an increase in crime and juvenile delinquency, and a decrease in everything from public health to housing values to political participation.

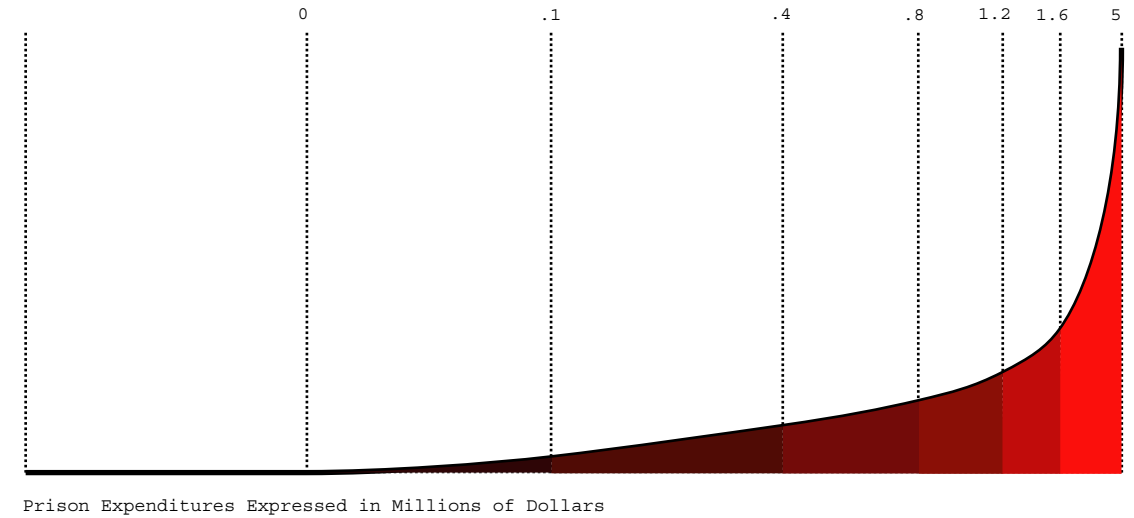
For places where prison has become the predominant government institution and incarceration is no longer a last resort, the criminal justice system ceases to function as the antonym of civil society. Instead, as the recycling of men and women between prison and home becomes an everyday fact, the institutions of everyday life are profoundly transformed. So, a policy response in one sector – incarceration as the answer to crime – has multiplier effects in other sectors: prison migration now implicates urban infrastructures and networks as diverse

as education, family, housing, health, and civic involvement.

Questions of crime become questions of the city. If the maps have exposed otherwise obscure places in the city, then advocates and designers alike are obligated to look further, to investigate the urban networks that are now more obviously implicated in the situation.



Effect of Total Prison Admissions on Crime Rate.



The resulting histogram displays what statisticians call a Power Law distribution – the largest share of the total dollars are represented by a very small share of census blocks.

## Money Maps

Measured in dollars, the criminal justice network has frequently become the most important public institution in high-resettlement neighborhoods.

The stakes and impacts of this unacknowledged investment become clearer when we make the incarceration maps slightly more complex by adding information about the actual costs of imprisonment. How much money does it cost to keep people in prison? The figures are available, and when they are correlated with the addresses of the people on whom the money is being spent, a remarkable pattern emerges.

We call them “Million Dollar Blocks,” single blocks in inner-city neighborhoods across the country for which upward of a million dollars are allocated each year to imprison its residents.

The maps now suggest a link between those places and the dollars spent (elsewhere) on their

residents. They ask us to weigh the opportunity costs – for each city block, neighborhood, or wider community – of committing those funds to recycle people through jail and prison, back home, and then (for more than a third of them) back inside again.

This pattern is visible in all too many major American cities: New Haven, New Orleans, New York City, Phoenix, and Wichita.

Money spent on criminal justice is money not spent on other civic institutions, especially in these communities. Guided by the maps of Million Dollar Blocks, urban planners, designers, and policy makers can identify those areas in our cities where, without acknowledging it, we have allowed the criminal justice system to replace and displace a whole host of other public institutions and civic infrastructures. Those neglected sectors are the very ones we have already identified as the collateral damage of the incarceration explosion – education, family,

housing, health, and civic involvement. – Now the investment pattern, and spending priorities that feed this condition become dramatically evident.

The new maps, it turns out, have induced a thought experiment and raised a fundamental question:

What if we sought to undo this shift, to refocus public spending on community infrastructures that are the real foundation of everyday safety, rather than criminal justice institutions of prison migration?

Prisoner ID	Home Address	Age	Race	Gender	Expenditure
1001	1001 W 10th St	34	W	M	\$120,000
1002	1002 W 10th St	28	B	F	\$80,000
1003	1003 W 10th St	45	W	M	\$150,000
1004	1004 W 10th St	31	B	M	\$90,000
1005	1005 W 10th St	29	W	F	\$110,000
1006	1006 W 10th St	38	B	M	\$70,000
1007	1007 W 10th St	42	W	M	\$130,000
1008	1008 W 10th St	35	B	F	\$60,000
1009	1009 W 10th St	40	W	M	\$140,000
1010	1010 W 10th St	33	B	M	\$85,000

Excerpt from a database of New York City prisoners by home address with expenditures added. [Data has been scrambled.]



Prison expenditures by census block in Brooklyn, NY, 2003, represented as dollar totals.

## Criminal Justice as Infrastructure

Data has often been used to inform policy, especially where cities – a veritable paradigm of the large complex organization that requires information if it is to be managed properly – are concerned. The “efficient city” sought to address the poverty question with information and put data to work to clear slums and level urban blight in the 1960s.

Where are we today? Are we proposing something similar? Here information is visualized in a way that exposes policy and makes it accountable to the people who have to live through its effects, the everyday networks of civil society. The maps ask and help us to look closely at each city block, where a small piece of the pattern is located. Can we experiment in the reverse direction, starting from the block and aiming for the city?

Clearly, although the Million Dollar Block is our focus, the maps indicate that we cannot answer this question at the level of the block alone.

We propose to treat prisons and jails as an urban exostructure. No matter how physically removed they are from the neighborhoods of the people they hold, they remain firmly rooted as institutions of the city, as everyday parts of life for people, impacting their homes, social networks and migrations.

An analysis of any Million Dollar Block will demonstrate how the overlapping resources of these networks conflate individuals and infrastructure, the local and the global, the close and the far, the piece and the system. Doing anything here, attempting to restructure the way the criminal justice system works, means working with contingent, dynamic and overlapping systems and collaborations between multiple agencies, tools, and techniques.

What does it mean to design policy, to design multiple policies, around a single place?

The maps are both a picture and a design strategy. The picture is an aggregate situation. The design strategy is start from the block and build, incrementally, new networks which might inform this crippled urban *infrastructure*.

In this way, these maps depart radically from the maps and statistical analyses that fueled mid-20th-century urban renewal and policing projects. The map is not a top-down view. And neither is it a bottom-up account. It is both.

Identify an area. Zoom in, and examine the specific conditions. Zoom out, and then, consider both scales at the same time. The resulting image is no longer Hard Data. It is a Soft Map that is infinitely scalable, absolutely contingent, and open to vision and, hence, revision.

Eric Cadora and Laura Kurgan



31 men, two blocks, 4.4 million dollars, Brownsville, Brooklyn, NY, 2003.  
What would you do?

## Notes

1. *The Metropolitan Area as a Racial Problem*, Morton Grodzins, 1958, University of Pittsburgh Press.
2. *What is Crime Mapping: Briefing Book*. National Institute of Justice, 2005 <http://www.ojp.usdoj.gov/nij/maps/briefingbook.html>
3. *But They All Come Back; Facing the Challenges of Prisoner Reentry*, Jeremy Travis 2005, The Urban Institute Press.
4. Todd R. Clear, Dina R. Rose, Elin Waring and Kristen Scully, "Coercive, Mobility and Crime: A Preliminary Examination of Concentrated Incarceration and Social Disorganization", *Justice Quarterly*, 20[1] Spring, 2003, pp.33-64.

Graphical Innovations in Justice Mapping is the first project of the Spatial Information Design Lab which was founded in 2004 as an interdisciplinary research unit in the Graduate School of Architecture, Planning, and Preservation at Columbia University. The project is collaboration between the Justice Mapping Center, the Spatial Information Design Lab and the JFA Institute.

### Project Team

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With special thanks to Charles Swartz of the Justice Mapping Center and to Kirtley Cameron, Eunice Kim, John Liu, Charles Miles, Brian Walker and Wian Wang, GSAPP students who contributed to this project in its initial stages.

The Spatial Information Design Lab is a think-and-action-tank at Columbia University specializing in the visual display of spatial information about contemporary cities and events. The lab works with data about space – numeric data combined with narratives and images to design compelling visual presentations about our world today. The projects in the lab focus on linking social data with geography to help researchers and advocates communicate information clearly, responsibly, and provocatively.

Spatial Information Design is a name for new ways of working with the vast quantity of statistical and other data available about the contemporary city. By reorganizing tabular data using unique visualization techniques, and locating it geographically, we try to correlate disparate items of information and picture the patterns and networks they create. Putting data on a map can open new spaces for action, and new options for intervention, as the often unseen shapes and forms of life in the city become visible

Design here is less like a tool and more like a language, a practice that shapes the outcomes and understandings of the things we do. It is not simply an aesthetic prejudice. The ways in which we present ideas and information can sometimes be even more important than the material itself, for better, or more commonly, for worse. The words and pictures we choose make a difference to the way people, including us, imagine their own possibilities of responding to what we say and do.

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