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URBAN POLICY FRONTIERS

New thinking about how to
improve housing, transportation,
child welfare, and policing

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ABOUT THE MANHATTAN INSTITUTE

The Manhattan Institute for Policy Research develops and disseminates new ideas that foster greater economic choice and individual responsibility. Since 1977, the institute has helped change the United States and its cities for the better: welfare reform, tort reform, proactive policing, and supply-side tax policies are at the heart of MI's legacy.

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FOREWORD

**Howard Husock, Vice-President, Research and Publications
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Cities, when they are healthy, are associated with economic dynamism: new products and services, new styles and fashions. But thriving cities are built on effective local governments—which themselves should always be on the lookout for new and effective ways to provide essential services.

In this, the third collection of essays on such new approaches to essential city services, the Manhattan Institute’s state and local policy team casts a wide net. Based on talks given at its annual Urban Policy series, we look, as we have in previous collections, at housing and transportation. We look, too, at one of the social services that many local jurisdictions provide: protection for children in danger of abuse, and at the core service of any government jurisdiction, law enforcement.

Our guiding principle throughout is this: even as the goals of public, and publicly regulated services, remain similar, the means and methods employed to fulfill them should constantly be re-examined.

So it is that Alex Armlovich, a Manhattan Institute adjunct fellow and graduate student at Harvard’s Kennedy School, describes the potential of an Uber- or Lyft-type approach to bus transportation, already emerging in select cities. New York City architect Mark Ginsberg builds on an essential new insight—that housing types are no longer aligned with the size of American households—to sketch a picture of “micro-units” for small households, and the zoning and building codes that can make them possible. A related insight comes from London’s Nicholas Boys Smith, who urges those discouraged by “not in my backyard” resistance to new housing development, to

use traditional low-rise and street grid design to defuse it. Renowned criminologist George Kelling adds to his long record of ideas that have revolutionized American policing with an essay that provides a new way of thinking about the thorny issue of when and how police should use their authority—and force. University of Pennsylvania’s Richard Gelles, like Kelling a thought leader in a controversial field, takes child protective services across the U.S. to task for failing to focus on the safety of children themselves. Although pessimistic about change, he calls on social services programs to look to predictive analytics as a guide to intervention in the most dangerous cases.

Local needs and problems inevitably vary. It’s our hope, however, that this collection of essays can provide specific new approaches and serve as catalysts for fresh thinking. The health of cities requires it.

CHAPTER 1

SMALL IS BEAUTIFUL: MICRO-UNITS CAN HELP MAKE NYC HOUSING AFFORDABLE

Mark Ginsberg, *Curtis + Ginsberg Architects, LLP*

With J. Russell Beaumont, *Curtis + Ginsberg Architects, LLP*

Introduction

The populations of many large cities across the U.S. are at an all-time high,¹ and there is a shortage of affordable housing as rent and property values increase faster than incomes.² The problem is particularly acute in New York. The National Low Income Housing Coalition (NLIHC) ranked the state as the country's fourth-least-affordable rental housing market,³ and the Council for Community and Economic Research ranked New York City (with an estimated population of 8.5 million) as having the most expensive cost of living in the U.S.⁴

Measures need to be taken throughout the U.S. to increase the housing stock, ensure that housing is affordable, and increase the variety of housing options that are available to better accommodate shifting demographics. This paper argues that these goals can be achieved in New York City by strategic changes to zoning, density, and building-code requirements to allow for smaller units, shared units, and other alternative housing arrangements.

The Mismatch Between Supply and Demand

There are approximately 3.13 million households in New York City.⁵ According to research by the nonprofit Citizens

Housing and Planning Council (CHPC), the makeup of these households varies widely (*Figure 1*).⁶

Figure 1. Household Populations in NYC

Household Type	Percentage of Population	Number of Households
Single person living alone	32.44	1,015,000
Couple (married or unmarried) with no children	16.13	505,000
Nuclear family (couple with children)	16.73	521,000
Single parent with children	8.97	281,000
Nonrelatives sharing	7.28	228,000
Adult relatives sharing	18.46	578,000
Total		3,128,000

Source: CHPC, Making Room household model, using data from the U.S. Census Bureau, 2015 American Community Survey

The physical characteristics of occupied housing in NYC reveal a discrepancy between the available housing stock and the city’s demographic profile (*Figure 2*).

Figure 2. Dwellings by Number of Bedrooms in New York City

Household Type	Percentage	Number of Units
Studio	8.0	250,300
One Bedroom	29.9	935,600
Two/Three Bedrooms	54.5	1,702,300
More than Three Bedrooms	7.7	241,000

Source: U.S. Census Bureau, 2011–2015 American Community Survey

For example, while 32% of households are single people and another 16% are couples without children who could comfortably rent or own studios or one-bedroom apartments—for a total of 48%—only 38% of occupied apartments are of this type. That’s a potential 10% deficit. But shared housing—unrelated and related adults (who are not couples) currently living together—represents a latent demand for single-person housing. If we assume that these individuals would prefer to live in their own units, the total deficit of small

apartments (studios and one-bedrooms) could be as high as 35%.⁷ Based on CHPC research, 87% of shared units show the presence of a single person who, in theory, needs a small space. Furthermore, there is very likely a gross undercount of shared units. A survey by two nonprofits several years ago estimated that there are 114,000 illegal units in New York City.⁸

The shortage of appropriately-size and affordably-priced housing is further illustrated by the percentage of NYC residents who can rent an apartment in a new development with middle or even low land costs. To estimate this, we came up with a rough but realistic calculation, based on rule-of-thumb pricing for construction costs, financing, and profit margins and compared it with income data from the U.S. Census Bureau's American Community Survey (ACS).

First, we estimated the costs associated with building new housing units in NYC, including land, construction, labor, and financing. We then looked at data from the ACS to determine what percentage of households could afford a new unit based on a determination by the U.S. Department of Housing and Urban Development (HUD) that affordable rent be no more than 30% of monthly adjusted income.⁹ We further broke this down based on household income by household size to understand how household size affects affordability. For example, a five-person household cannot share a unit with fewer than three bedrooms without being considered overcrowded (the legal determination of overcrowding is examined in more detail below.)

According to our calculations (for more detail, see *Figures 10* and *11*), 25% of *all* NYC households can afford a new one-bedroom apartment, and 18% of *renter* households can meet such rent with 30% of their income. When rental households are broken down by size, these numbers vary significantly. About 16% of the city's single-person renter households can afford a newly built studio, while only 10% can afford a new one-bedroom unit. Similarly, 31% of two-person renter households can afford a studio, while 25% and 18% can afford one- and two-bedroom apartments, respectively. Affordability is an even greater problem for larger households. If a six-person renter household were to occupy a newly built three-bedroom apartment,

only 6% of six-person renter households could afford to pay rent with 30% or less of their income.

Though our numbers are a rough estimate of new development costs, they suggest that less than one-fifth of single-person renter households (30% of all NYC households) are able to rent a new studio unit affordably. Second, 3+ bedroom apartments are particularly unaffordable, with less than 9% of all renter households able to afford a newly built three-bedroom unit. Given that single-person households and couples without children account for 48% of all NYC households, why do 64% of the housing units have two or more bedrooms?

One factor may be the assumptions that informed planning policy in the past half-century. In 1950, 78% of households consisted of a married couple with children. Since then, there has been a steady decline in the nuclear-family household. By 1989, the percentage of this type of household dropped to 56%, and by 2013, to 46%.¹⁰ Despite this decline, NYC density regulations and parking requirements encourage the construction of larger, family-size units.

Density factors in the NYC Zoning Resolution limit the number of units *in a building*, essentially establishing that the minimum *average* unit size be somewhere between a studio and one bedroom. For multifamily buildings, the density factor is 680 square feet (sf) per unit. Using a loss factor of 20%,¹¹ the minimum average net unit size of a finished apartment is approximately 544 sf, which is between a typical studio and one bedroom. A crucial point: the Zoning Resolution density regulations require a building's average unit size to be 680 sf, over twice the size of a modern "micro-unit"—a residential unit of about 300 sf.¹² These regulations essentially prevent the construction of buildings of primarily small or micro-units, as larger units are required to offset the floor area of smaller units so that the average unit size in a building exceeds the minimum. Thus, new housing developments cannot legally provide a high concentration of small units.

Parking requirements also influence the type of units that are built—by creating an increased cost to developers providing smaller units. For new residential buildings in New York City, parking re-

quirements are determined by the number of units in a building, as opposed to the number of bedrooms. This means that a building consisting of large units requires fewer parking spaces than a building of the same size that has been divided into small units, even though both buildings can house about the same number of people. This is especially significant, given that the cost to build off-street parking in NYC can cost upward of \$50,000 per enclosed parking space.¹³ In addition, the ability for a developer to recoup the capital used to build parking influences how much it is willing or able to provide. In affordable and low-cost housing, residents are less likely to own a car and less likely to pay for off-street or private parking facilities.¹⁴

It should be noted that the core of Manhattan (areas below 110th Street on the west side of Central Park and below 96th Street on the east side) imposes a parking maximum rather than a minimum, a restriction added in 1982 to reduce air pollution in the congested city center.¹⁵ According to 2015 ACS data, Manhattan also has significantly higher concentrations of studios and one-bedroom apartments (**Figure 3**). The parking maximum, which effectively removed the parking “minimum,” is likely one of several factors contributing to this.

Figure 3. NYC Housing Units by Borough

Number of Bedrooms	Bronx	Brooklyn	Manhattan	Queens	Staten Island
0	6.7%	6.1%	15.6%	5.0%	2.2%
1	33.4%	27.6%	39.3%	24.8%	14.4%
2–3	54.8%	57.6%	41.4%	60.4%	65.5%
4+	5.1%	8.8%	3.8%	9.7%	17.9%

Source: U.S. Census Bureau, American FactFinder

Los Angeles provides an example of how to modify parking requirements. The city’s zoning code adjusts parking requirements per bedroom, such that studios require one space, one-bedroom units require one-and-a-half spaces, and two-or-more-bedroom units require two spaces.¹⁶ Though the parking per unit required in Los Angeles exceeds what is required in NYC (because it is a more car-dependent city), a room-based parking requirement model could

alleviate the small-unit parking penalty that is indirectly imposed by the NYC Zoning Resolution.

The Options

New York City, as well as other cities, has three ways to ameliorate a shortage of affordable housing:

- The city could use “up-zoning” to enable greater residential density, such as by a higher floor area ratio (FAR).¹⁷ New York is pursuing this avenue but with mixed results. Up-zoning often meets resistance because people do not want to see change in their neighborhood.
- New units can be built on undeveloped land, even in cities limited by political and geographic boundaries. For example, NYC could allow building over railyards and highways, creating development potential over existing, often publicly owned, infrastructure. The authors’ architecture firm recently studied building over a railroad cut in the Bronx.¹⁸ There is available land in the areas around New York, but transportation, politics, regulations, and other issues have limited density increases in the ring around the city.
- Cities could find ways to house more people in the same space. This can be done by creating smaller, more efficient units, or having people share larger units. This strategy is the focus of this paper.

Small Living Units: Past Controversies and Present Considerations

Small, affordable units have long been part of the housing stock in high-density cities, but they can lead to unsafe, unhealthy, or dangerous living conditions. Tenement housing for poor workers and immigrants in NYC in the late 19th and early 20th centuries, for example, was often overcrowded and the living conditions unsafe. Single Room Occupancy (SRO) buildings and hotels provided low-cost rooms with shared bathrooms and kitchens through much of the 20th century but were marred by bad management practices and poorly maintained facilities.

Despite SROs' unsavory reputation, Brian Sullivan and Jonathan Burke have shown that they served a crucial role as an affordable housing option; in fact, they represented more than 10% of NYC's housing stock in the 1950s.¹⁹ The prevalence of SROs as a low-cost housing option "intensified connections between 'SRO housing,' 'bad housing,' and the poor."²⁰ Racial undertones also surrounded the discussion and eventual demolition of SROs because, particularly after World War II, there was an influx of minorities into SRO housing.²¹

Beginning in the 1960s, NYC created tax and financial incentives that encouraged landlords to convert SRO buildings into apartments. By the late 1980s, more than 100,000 low-cost SRO units had been removed from the market. The loss of this housing contributed to the increasing homelessness crisis, and, in 1985, the government attempted to reverse its policy, first by removing the incentives for conversion, and then by placing a temporary ban on the conversion of SROs.²² Currently, NYC's SRO policies are contradictory—they do not allow the construction of new for-profit SRO buildings but strongly discourage the conversion of existing SROs. In addition, nonprofit developers for the past 25 years have been allowed to build new SRO and mini dwelling units with city and state support if they provide supportive services.²³ SRO housing units in the "bad old days" were substandard not necessarily because of the amount of space but because of the quality of the buildings, shared living facilities, and maintenance. A successful SRO housing policy would hinge on management practices. So-called supportive SRO housing achieves this by requiring newly constructed SRO housing to include social services for residents—which inherently require more management by specialized staff. Supportive housing, moreover, is run by nonprofit institutions that specialize in helping those in precarious situations. If well-maintained SRO units are, in fact, livable, for-profit SRO units with adequate management might be reintroduced as an affordable housing option.²⁴

Affordability Considerations

With housing construction costs growing at a faster rate than both housing costs and incomes, the nation's

housing affordability gap continues to increase. SROs are just one example that can help address this.²⁵ Micro-units have the potential to alleviate this problem, primarily because they cost less to build per unit, allowing developers to charge a lower rent per unit while still maintaining a profit in private developments. Meanwhile, current demographic trends suggest that the size of families will continue to decline, as will the corresponding demand for large apartments. A study by CBRE Global Investors, a real-estate investment company, predicted that by 2025, only 10% of new households in the U.S. will have children and only 25% of all households will have children.²⁶ If this prediction is accurate, the current mismatch between housing stock and demand could worsen unless many more small units are built.

It should be noted that newly constructed micro-housing may not directly address affordability. In NYC, for example, many micro-units are marketed to young professionals with high-end convertible furniture, generous amenities, and prime locations. Studio apartments (ranging from 265 sf to 360 sf) at Carmel Place, a new micro-unit project by nArchitects, offer 22 units that are affordable, but the remaining market-rate units start at about \$3,000 a month. This implies an annual income of about \$120,000 if the rent is to represent 30% of the renter's income.²⁷ Even so, market-rate micro-units could relieve upward pressure on rents by increasing the overall housing supply and by providing young singles with a housing option that reduces the burden on other housing stock.

Health

Smaller apartments do raise the risk of overcrowding—which has been associated with psychological stress, especially in children—in numerous studies.²⁸

HUD defines overcrowding as any dwelling unit that has more than two people per bedroom.²⁹ By this standard, NYC has a real problem. In a 2015 report, city comptroller Scott Stringer noted:

New York City's overall crowding rate, which includes rental and ownership housing units, rose to 8.8% in 2013, compared to 7.6% in 2005—a proportional increase of 15.8%. The City's crowding rate is more than two and a half times the national crowding rate of 3.3%.³⁰

One hopes that the creation of more units would reduce overcrowding, but modified density requirements should be coupled with increased enforcement of regulations to prevent the unhealthy effects associated with overcrowding.

Accessibility Requirements

For most housing, a building must comply with the Federal Fair Housing Act and the New York City Building Code. With the 2014 update of the New York City Building Code, the two standards are largely in alignment. Accessibility codes affect minimum unit sizes because they require minimum door and hall sizes, as well as clearances at doors, appliances, and fixtures that allow mobility-impaired individuals to comfortably and safely navigate a space. **Figure 4** shows a bathroom and kitchen layout for a 270-sf micro-unit that approaches the minimum possible size while complying with accessibility codes, which we see as a given condition. In addition to the standard bathrooms, our

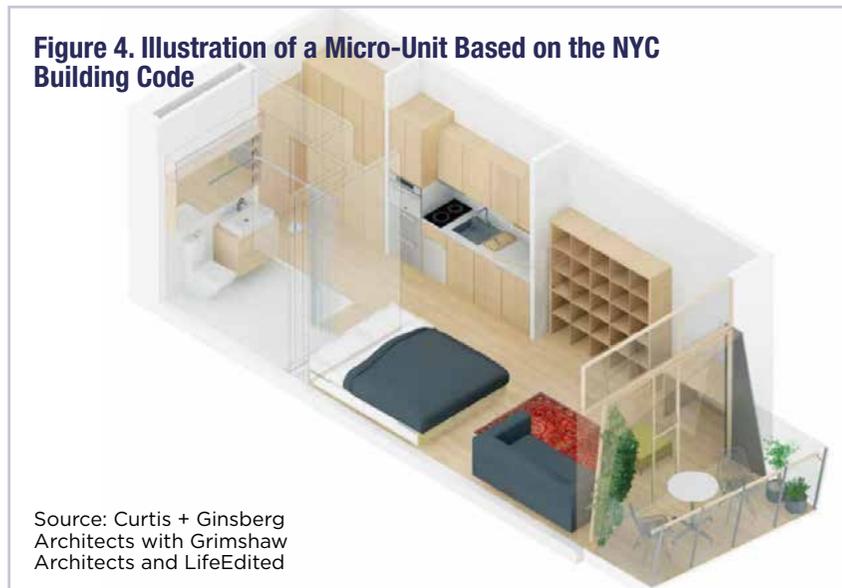


Figure 5. Merging the Shower and Toilet Spaces Reduces the Floor Area in a Small Unit

Source: Curtis + Ginsberg Architects LLP



firm developed a slightly smaller bathroom that merges the shower and the toilet spaces (**Figure 5**). This unit shows that careful design would allow living units considerably below the city zoning’s current 680-sf average per unit, while meeting accessibility requirements.

Small Unit Design and Management

The design in Figure 4 is one of many that are possible. Another apartment design has been developed by Graham Hill, founder of LifeEdited. This unit is located in lower Manhattan in a typical apartment building (**Figure 6**). The space is designed to comfortably house two people, accommodate a dinner party of up to 12 people, and could even sleep two additional guests within 420 square feet.³¹

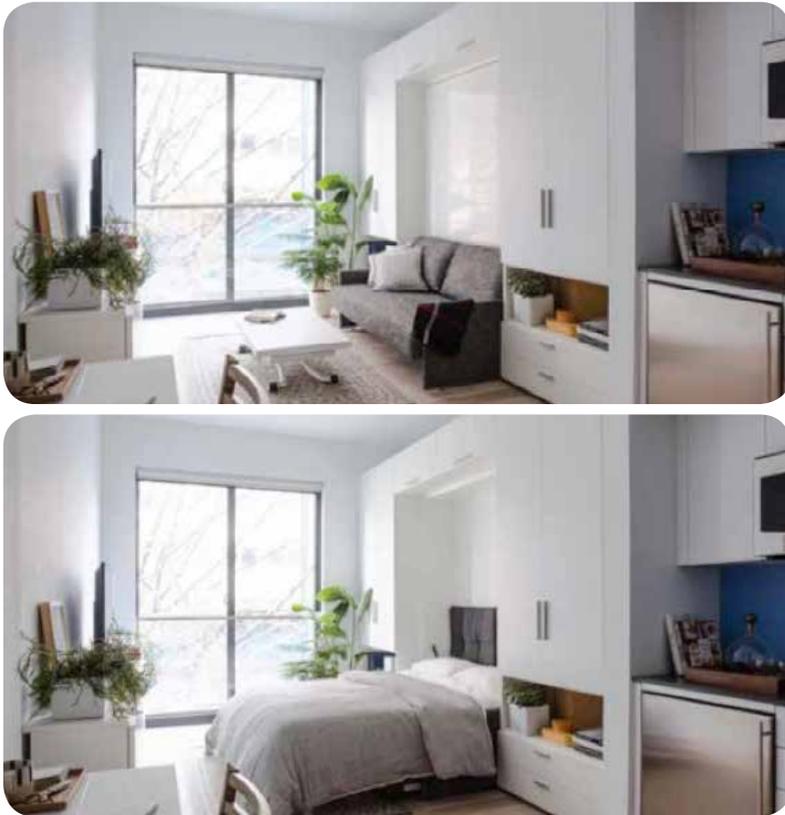
The recent “adAPT NYC” competition hosted by the New York City Department of Housing Preservation and Development (HPD) allowed the city to create a special zoning exception to allow for experimental micro-housing units, which resulted in Carmel Place, a project mentioned earlier. Carmel Place features 260-sf to 360-sf studio units with convertible furniture and community spaces (**Figure 7**).³² Recent college graduates, who are accustomed to small and shared spaces, could adapt to such a micro-unit more readily. People who spend part of their week in another city, or who spend weekends elsewhere, may greatly prefer the affordability of a micro-unit to a hotel. At an institutional level, supportive housing in New York has successfully provided small units of just over 300 sf for singles populations, typically with special needs and supportive services. As with supportive housing,

Figure 6. LifeEdited's 420-Square-Foot Apartment in NYC



Source: LifeEdited.com

Figure 7. A Micro-Unit in Carmel Place, NYC



Source: nArchitects

we believe that with small units, the amenities outside the unit become more important to the success of the building and the unit.

Legal Perspective

Three regulations define the minimum room size in NYC:³³ the New York City Housing Maintenance Code, the New York City Building Code, and the New York State Multiple Dwelling Law. Their main requirements are that every apartment has a living room of 150 sf³⁴ and a minimum of 80 sf per person in the case of multiple occupants³⁵ and that each room conforms to certain minimum required

dimensions. Within these constraints—and including the addition of cooking, bathing, and circulation spaces—design studies by the authors’ architectural firm indicate that the minimum unit size under current law is approximately 270 sf.

Figure 12 in the **Appendix** summarizes our findings for minimum unit sizes in many other cities.³⁶ Overall, the habitable area requirement of a minimum of 150 sf per apartment in New York City does not seem to be out of line with other U.S. cities. However, the parking and density regulations in the NYC Zoning Resolution, discussed earlier, prevent the construction of entire buildings to this density.

If these requirements are intended to prevent the development of uninhabitable apartments by establishing minimum unit sizes, the requirements are redundant and are already established by the habitable area requirement. If the density requirements are intended to prevent increased population density, the requirements are likely outdated; in many cases, population density would not change drastically if the limits were removed, given the area per person requirements and how units are shared and occupied. The density requirement duplicates the requirements of the state’s Multiple Dwelling Law, the NYC Building Code, and the city’s Housing Maintenance Code. Updating the Zoning Resolution’s density requirement would allow for the construction of new buildings with a higher proportion of small units.

HPD also has design standards for apartments that establish the minimum unit size, room size, and room dimensions. Until recently, a studio had to be slightly over 400 sf to meet the standards. In 2016, the standards were modified such that a unit could be designed in 350 sf. HPD’s standard for supportive housing allows for units of about 310 sf, or what we would call a mini-dwelling unit. As previously noted, these design standards also require that 10%–15% of the building be community and/or social-services spaces.³⁷ In the Zoning Resolution, buildings that provide housing and social services are considered nonprofit entities with sleeping accommodations, which allows the city to waive the density requirements and/or lower the parking requirement.

How Small Should We Go?

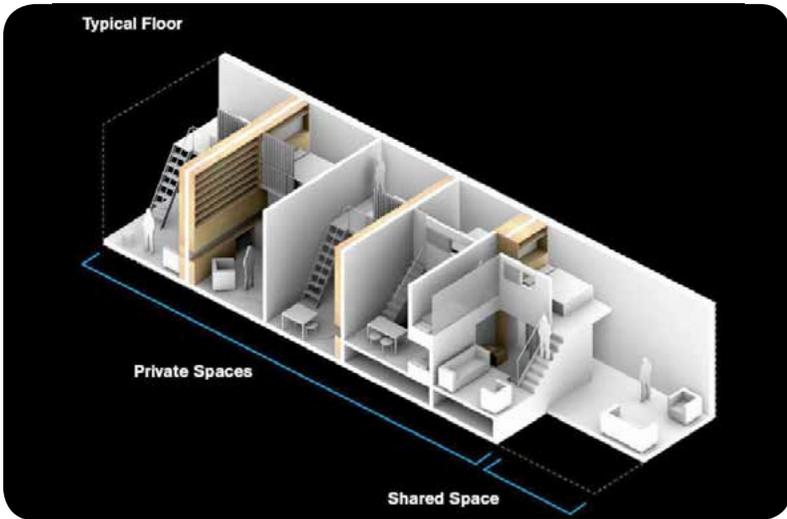
CHPC has organized two studies—*One Size Fits Some* and *Making Room*—and one exhibition on small units in developed countries. In addition to looking at the U.S., small-housing-unit projects in Germany, Spain, and Japan were studied. Azby Brown, an architect in Tokyo, analyzed Japanese living spaces from 150 years ago, explaining that three-fourths of the urban population in Japan lived in 105-sf living spaces that utilized shared cooking and hygiene facilities,³⁸ much like current SRO units. Architect Vicente Guallarte presented projects from Valencia, Spain, including one that incorporated generous shared spaces to give a 270-sf unit an effective living space of 807 sf.³⁹

The studies make clear that sharing spaces and resources is an essential part of living in small spaces. The smaller the space one lives in, the more options one needs outside this space, such as a shared lounge, balcony, exercise room, or community room. These amenities allow people to successfully live in less space because it provides options to spend time in larger spaces that are still semiprivate and familiar.

Another option that could facilitate smaller living units is to accompany small units with shared household accessories, as was proposed by Graham Hill for the NYC adAPT competition team in collaboration with Curtis + Ginsberg Architects, Jonathan Rose Companies, and Grimshaw.⁴⁰ For items that people use infrequently but that require large amounts of space to store (such as extra chairs, tables, large pots for cooking big meals, and tools), a communal storage space filled with shared items could reduce the need for individual storage closets. Current trends for digital storage and devices could also reduce spatial needs for apartments. Forty years ago, listening to music required vinyl records and a turntable, which took up space. Now one's entire recorded music library can be saved on a storage device the size of a key; TVs used to be very large but now are flat and take up about the same space as a large painting on a wall. Instead of keeping paper documents, one can file them electronically, eliminating the need for file cabinets. In short, technology allows us to reduce the amount of storage space we need.

Another consideration: designers tend to think about living spaces in two dimensions: living spaces, furniture, and rooms are drawn in plan and the space above and below them are assumed to be devoted to that use. As a result, space below or above a couch, for example, might not be utilized to its full potential. However, if

Figure 8. Micro-Lofts for Single Adults



Source: Peter Gluck in CHPC's Making Room study

we look at how living spaces, storage spaces, or equipment can be stacked vertically, our understanding of how living spaces can be arranged changes. Architect Peter Gluck designed micro-loft studio units with tall ceilings and mezzanines (kitchenettes and bathrooms on the ground level in the space below the mezzanines) and shared communal spaces (*Figure 8*).

Given these considerations, we believe that it is possible to design a much smaller apartment than is currently allowed by density requirements or financially reasonable, given parking constraints—but one that still meets current building code requirements. In New York City, at least one habitable room of 150 sf is required, excluding the bathroom and kitchen areas. However, to meet the additional requirement of 80 sf per person, living rooms should be designed to be 160 sf, so that two people have the option to share the unit legally. As noted, the smallest code-compliant apartment permitted in New York City is about 270 sf. We think that this is about the minimum size that should be permissible for reasonable habitation for a full apartment. In the case of SROs, units could be as small as 150 sf, since bathrooms and kitchens are shared.⁴¹

Next Steps

NYC's parking requirement discourages smaller units by making them costlier. Yet there are a few possible fixes. One already being implemented is the "Transit Zone" exclusion, which allows affordable housing developments to waive parking requirements if they are built near mass transit.⁴² Another approach is not to require parking but to allow it if potential renters desire or demand it. For many developments, especially in lower-density areas and areas not well served by mass transit, the developer tends to build more than the required parking, since people will not purchase or rent without a parking space. A more politically palatable solution would be for parking to be calculated by the number of bedrooms, as is done in Los Angeles, which would make developments with small units more feasible to build.

There is a certain point beyond which a lower unit size does not significantly reduce cost. Bathrooms and kitchens are the most ex-

pensive rooms to build in a new apartment, so there is a base price associated with an apartment of any size. While this price floor is dependent on a range of factors, our cost estimates suggest that a studio in a new development built to today's size requirements can be afforded only by a person earning at 140% of Area Median Income (AMI).⁴³ One benefit of micro-units is that more units can be built on a piece of land, lowering the per-unit land cost. Encouraging the production of micro-units may not immediately or directly provide affordable housing. However, micro-units may free up older, more affordable units or become more affordable as micro-unit buildings age and become more widespread.

Additional Solutions

Apart from small units, there are two related ways of increasing the number of apartments without building more or larger buildings: shared units and basement units.

Shared units have become ubiquitous in New York City. Typically, younger singles or low-income singles will rent or purchase an apartment together, allowing them to find a relatively affordable housing option by taking an apartment designed for a family and sharing it. Shared units also enable a higher density because one unit of 600 sf is occupied by two individuals, resulting in an effective 300-sf unit per person. Our firm has produced studies for apartments that take advantage of this by developing a shared two-bedroom micro-unit that allows for some privacy between two unrelated tenants that share common spaces (*Figure 9*).

By law, shared units are limited to three unrelated people living together.⁴⁴ This limitation is rarely enforced and, according to a court ruling in California, may even be illegal.⁴⁵ Regulations covering minimum area per person and room size seem to cover basic density requirements. Allowing more than three unrelated people to live together in a shared situation should be permitted, but it also needs to be controlled and inspected more consistently by the regulatory agency to ensure that no unsafe conditions are created, such as overcrowded units or room subdivisions that block fire escapes.

Legalizing basement apartments⁴⁶ could also increase urban housing options. Early this year, CHPC released a study on the conversion

Figure 9. A Two-Bedroom Micro-Unit



Source:
Curtis + Ginsberg

of single-family houses into two-family residences in NYC.⁴⁷ The study was based on homes that are not affected by the Multiple Dwelling Law, which applies to all buildings with three or more units. It also was limited to locations where the additional apartment does not require an additional parking space or where it was expected that there was an additional parking space available, because of the parking requirement discussed earlier.

Within these limits, the study showed that there were 12,000–38,000 units that could be created or legalized. If cellars with adequate light and ventilation for living spaces were included, up to 210,000 units could be converted into legal units. If two-unit buildings were permitted to convert to three units with some relief from the Multiple Dwelling Law, more units would be available. Following the suggestions of the study would not lead to a direct increase in housing units in NYC, as many of the houses included in the survey have already been illegally converted into dwelling units. In these instances, the focus should be legalizing units, since this is important for safety and for homeowners to obtain financing for the conversion, which can occur only with a legal unit.

Legalizing basement units would also permit the creation of acces-

sory units, sometimes called “granny flats.” These are apartments within a house that allow families to support aging members while maintaining a degree of privacy and separation. Finally, simplified regulations that allow for basement units would enable homeowners to benefit from a legal rental income.

Conclusion

Given the mismatch between NYC’s household types and housing supply, regulations should be modified to allow greater flexibility in housing options. Modifications would legalize currently illegal housing that meets building codes and the Zoning Resolution—such as basement apartments, subdivided apartments, and apartments shared by more than three unrelated people—but that does not satisfy zoning requirements.

Legalization would likely make life safer for occupants and first responders. Currently, public officials often look the other way on illegal housing, since vacating it would force many residents into the shelter system. It would be far better to bring this housing out of the shadows. There is also a need for more research establishing acceptable minimums without adversely affecting physical and mental health.

In New York City, we recommend the following:

- The maximum number of people sharing an apartment should be removed (or increased) from the Zoning Resolution, the NYC Building Code, the (state) Multiple Dwelling Law, and the Housing Maintenance Code. The new rule should reside in one place.
- Density requirements in the Zoning Resolution should be removed or reduced, so that units that meet building codes and provide healthy living environments are not prohibited.
- Parking requirements should be modified so as not to penalize small units; for example, parking requirements could be based on the number of bedrooms.
- New for-profit SRO buildings with clear and enforceable requirements for maintenance and common facilities should be permitted and encouraged.

Regulations that do not need adjustment include:

- One room in each apartment shall be 150 habitable sf
- 80 habitable sf per person shall be provided in an apartment
- Minimum room dimensions
- Accessibility codes

Ultimately, these recommendations aim to increase the diversity of housing options available in NYC and to facilitate the construction of units that are sized according to the needs of the city’s shifting demographics. In NYC and other large cities, this means increasing the amount of studio and one-bedroom units for the increasing population of singles and childless couples.

We understand that the politics of implementing density changes

Figure 10. New Apartment Costs and Affordability in NYC Area

LOW-COST LAND SCENARIO (\$50 per gross apartment sf)				
Apartment Costs	0 BR	1 BR	2BR	3BR
Gross apartment size	562 sf	750 sf	1,000 sf	1,200 sf
Total hard costs (\$300 per sf)	\$168,600	\$225,000	\$300,000	\$360,000
Total soft costs (28% of hard costs)	\$47,208	\$63,000	\$84,000	\$100,800
Land costs per gross sf	\$28,100	\$37,500	\$50,000	\$60,000
Total development costs	\$243,908	\$325,500	\$434,000	\$520,800
Financing (85% @ 5.2%)	\$1,139	\$1,519	\$2,026	\$2,431
Operating costs	\$748	\$748	\$748	\$748
Net cash-on-cash return (10%)	\$305	\$407	\$543	\$651
Total monthly costs	\$2,191	\$2,674	\$3,316	\$3,830
Total annual costs	\$26,298	\$32,092	\$39,798	\$45,962
Income needed to rent at 30%	\$87,659	\$106,974	\$132,659	\$153,206
All NYC households	3,129,160	3,129,160	3,129,160	3,129,160
Meets income threshold	1,018,641	779,944	570,816	436,660
%	33	25	18	14

Source: Authors’ calculations

and parking requirements is difficult, particularly when people believe that the quality of their neighborhoods or lives will deteriorate. Still, our recommendations are not intended to radically change density and parking amenities. Rather, they aim to make the current effective density of the city legal and to remove barriers that prevent the construction of housing that more closely resembles the demographic profile of NYC's population.

We thank David Dixon, Sarah Watson, and Frank Braconi for offering their expertise to this paper; and Graham Hill for providing images of his work. We also thank the NYU Furman Center for its assistance with data and comments. Finally, we thank the Citizens Housing and Planning Council, whose Making Room initiative serves as the basis for much of this paper.

Figure 10. Continued

	MID-COST LAND SCENARIO (\$75 per gross apartment sf)			
Apartment Costs	0 BR	1 BR	2BR	3BR
Gross apartment size	562 sf	750 sf	1,000 sf	1,200 sf
Total hard costs (\$300 per sf)	\$168,600	\$225,000	\$300,000	\$360,000
Total soft costs (28% of hard costs)	\$47,208	\$63,000	\$84,000	\$100,800
Land costs per gross sf	\$42,150	\$56,250	\$75,000	\$90,000
Total development costs	\$257,958	\$344,250	\$459,000	\$550,800
Financing (85% @ 5.2%)	\$1,204	\$1,607	\$2,143	\$2,571
Operating costs	\$748	\$748	\$748	\$748
Net cash-on-cash return (10%)	\$322	\$430	\$574	\$689
Total monthly costs	\$2,275	\$2,785	\$3,464	\$4,008
Total annual costs	\$27,296	\$33,424	\$41,573	\$48,092
Income Needed to rent at 30%	\$90,985	\$111,413	\$138,577	\$160,308
All NYC households	3,129,160	3,129,160	3,129,160	3,129,160
Meets income threshold	970,753	733,472	529,522	396,583
%	31	23	17	13

Appendix

We estimated the average cost per square foot of new construction in the NYC area to be \$300, based on Mark Ginsberg’s experience in managing an architecture firm. In addition to this hard cost, we assumed 28% soft costs (architects’ and legal fees, project management, etc.). We factored in monthly operating costs based on the New York City Rent Guidelines Board 2016 Income and Expense study⁴⁸ and estimated financing for a 30-year amortizing mortgage at

Figure 11. Apartment Affordability by Size of Renter Households, NYC

Renter Households	LOW-COST LAND SCENARIO (\$50 per gross apartment sf)			
	0 BR	1 BR	2BR	3BR
With 1 member	763,808			
Meets income threshold	118,685	79,054	54,713	39,780
%	16	10	7	5
With 2 members	593,993			
Meets income threshold	186,748	147,583	106,685	82,847
%	31	25	18	14
With 3 members	341,588			
Meets income threshold	96,396	71,761	47,117	34,079
%	28	21	14	10
With 4 members	232,566			
Meets income threshold	60,533	44,156	31,318	20,794
%	26	19	13	9
With 5 members	115,235			
Meets income threshold	27,644	17,503	9,915	7,723
%	24	15	9	7
With 6 members	54,444			
Meets income threshold	13,143	7,658	4,303	3,270
%	24	14	8	6

Source: Authors’ calculations

5.2% interest. We assumed a 10% cash-on-cash profit for the developer. We applied the per-sf costs over standard sizes for zero-, one-, two-, and three-bedroom apartments to estimate what a range of newly constructed units cost (**Figure 10**).⁴⁹ Next, we looked at the rentals necessary to compensate the developer for his costs and earn a competitive return on his capital. We calculated the income necessary to pay these rents (with housing costs pegged to 30% of income) and displayed the number and percentage of NYC households that could afford these units. For

Figure 11. Continued

Renter Households	MID-COST LAND SCENARIO (\$75 per gross apartment sf)			
	0 BR	1 BR	2BR	3BR
With 1 member	763,808			
Meets income threshold	110,055	72,361	51,378	35,132
%	14	9	7	5
With 2 members	593,993			
Meets income threshold	178,466	138,606	98,246	74,922
%	30	23	17	13
With 3 members	341,588			
Meets income threshold	91,661	65,816	43,122	31,079
%	27	19	13	9
With 4 members	232,566			
Meets income threshold	57,517	40,881	27,287	18,685
%	25	18	12	8
With 5 members	115,235			
Meets income threshold	26,153	16,678	8,915	7,192
%	23	14	8	6
With 6 members	54,444			
Meets income threshold	11,347	6,261	4,017	2,588
%	21	11	7	5

example, the household income necessary to afford a new studio unit is \$87,659. There are 512,815 such rental households in NYC, 24% of the total, that meet this income threshold.

Figure 12. Minimum Square Footage of Housing Units, Select U.S Cities

City	UNIT TYPE	MINIMUM AREA (1 Occupant)	MINIMUM AREA (2 Occupants)	MINIMUM AREA (3 Occupants)
Boston	Apartment	150	100 per occupant	--
	SRO	80	60 per occupant	--
San Francisco	Apartment	120 LR + 70 BR + K + RR	120 LR + 70 BR + K + RR	120 LR + 70 BR + K + RR
	Efficiency Dwelling	220	220	250
Seattle	Small Efficiency Dwelling Unit	150 LR/K + RR (234-sf example unit shown in official city document)	150 LR/K + RR (234-sf example unit shown in official city document)	120 LR + 70 BR + K + RR
	SRO	130	150	250
New Orleans	Apartment	120 LR + 70 BR	120 LR + 100 BR	120 LR + 150 BR + 80 DR
	Efficiency Unit	120 + facilities	220 + facilities	320 + facilities
Los Angeles	Efficiency Living Unit	220 + RR + Storage	220 + RR + Storage	220 + 100 + RR + Storage
	SRO			
Miami	Apartment	150	250	350
	Boarding Room	70	100	150
Chicago	Apartment	180	180	--
	SRO	70 minimum per habitable room		

Source: Authors' calculations

Figure 12. Continued

NOTES	SOURCE
Required for "habitable rooms": every room or enclosed floor space used or intended for living, sleeping, cooking, or eating purposes, excludes bathrooms/storage.	Massachusetts Sanitary Code
Requirement includes all floor area measured from interior of exterior wall. Additional 100 sf is required for each occupant over in excess of two.	City and County of San Francisco Department of Building Inspection
Required for habitable rooms: every room or enclosed floor space used or intended for living, sleeping, cooking, or eating purposes; excludes bathrooms/storage.	City of Seattle Department of Construction and Inspections
Efficiency Units must be provided with storage, cooking, and bathing facilities.	City of New Orleans Code of Ordinances
Required for Habitable Rooms: every room or enclosed floor space used or intended for living, sleeping, cooking, or eating purposes, excludes bathrooms/storage.	Los Angeles County Code
Rooms must be at least 80 sf or 50 sf per occupant. Boarding rooms must provide cooking/bathing facilities for each 6 persons.	Miami Dade Code of Ordinances
Density requirement stipulates average unit size to be greater than 500 sf, no more than 50% of units in a building may be "efficiency units."	Municipal Code of Chicago

Endnotes

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CHAPTER 2

COMMUNITY POLICING IN THE 21ST CENTURY: A FRAMEWORK FOR MEASURING PERFORMANCE

George L. Kelling, Ph.D.

Gatherine M. Coles, J.D., Ph.D.

Introduction

A contentious narrative has developed that takes as its starting point the issue of race and policing, ranging from profiling, bias, inappropriate use of force, why, where, and how police focus their activities, as well as the safety of police officers. Recent events throughout the country do not represent the first flare-up of antagonism between police and African-Americans. In the background lurks a history of police as legal instruments supporting slavery, the Black Codes, Jim Crow, and *de facto* discrimination. Within memory are major eruptions during the 1960s; outbreaks of violence following the 1991 beating of Rodney King by Los Angeles police officers; and in the last few years, riots following police shootings in Ferguson, Baltimore, Milwaukee, and other cities. Several factors—a cluster of police killings of unarmed African-American men, over-imprisonment, and, arguably, the overuse of stop, question, and frisk—gave rise to the Black Lives Matter (BLM) movement.

Except for a small but noisy group of extremists (some of whom argue that African-American neighborhoods should be de-policed), police and reformers share at least one area of broad agreement: police must move, without equivocation, into community policing. For police, this is an acknowledgment of the need for renewal and revitalization of efforts to reshape policing conceptualized and initiated during the 1980s and 1990s.

For reasons beyond the scope of this paper, these efforts were sidelined during the first decades of the 21st century: the early movement toward community policing simply did not “stick” in many communities. The loss was significant, leading to the growth in mistrust between police and members of local communities that underlies so many of the violent events referred to above.

An important factor contributing to the marginalization of community policing was the failure of many departments to develop evaluation systems (of individual officers, units, and the department as a whole) that would have reinforced the strategic shift to this new policing strategy. Such processes and plans could have provided the tools for community members and police to work together to address the most salient issues facing them regarding crime and quality of life.

This paper¹ presents a framework for evaluating policing functions by which a community’s citizens, social and political leaders, and policymakers can hold police accountable for carrying out their duties in accord with legal and societal values and commensurate with local goals; for performing effectively and efficiently; and for achieving established outcomes, both crime- and noncrime-related. Implicit in the framework is the assumption that a police department must be able to demonstrate an understanding of local crime problems and concerns, knowledge of best practices in policing for addressing particular problems, and determination of their appropriate use in the local context. Police should also be held responsible for carrying out creative, effective problem solving to reduce and prevent crime and maintain public order and security.

The discussion that follows is organized into the following sections. The first section describes briefly how the business of policing

developed in America over the past century and examines related attempts to develop independent performance measures for police through the 1980s. Despite their demonstrated inadequacy and problematic nature, many elements of policing from this period persist, and related performance measures are still utilized today.

The second section chronicles the maturation of community policing, beginning in the 1990s. This concept—which is built around establishing ties and working closely with citizens and community groups to better prevent and deter crime—required the development of new police tactics and strategies. These changes required rethinking how to measure police performance and accountability.

The third section proposes a framework for assessing and measuring performance based on policing functions (determined within a specific community), policing outputs (activities and best practices carried out to achieve the goals), and outcomes of policing.

The Evolution of Policing and Police Performance

A model for understanding the development of policing and measuring related police performance was developed by George Kelling (coauthor of this paper) and Mark Moore and is now widely accepted in academic as well as police circles.² The model divides the history of policing into three eras, each governed by a particular strategy: the political era (1840s–1920s), the reform (aka Progressive) era (1920s–1970s), and community policing (1980s–present).³ As used here, a strategy describes police organizations with reference to seven categories: source of authority; function or mission (the “business” of policing); organizational structure; relationships of police with the external environment; police efforts to manage the demand for their services; tactics (police activities and programs); and measurable outcomes. Performance measures were developed to reflect the prevailing strategy of policing during each era. In this section, we examine briefly the two strategies that governed American policing up to the 1980s, when the current strategy, community policing, began to develop.

Policing During the Political Era

When police were introduced in the U.S. during the mid-19th century, they were overlaid on the existing structures of local government. Unlike in England, where, for over a century, the national political and social elite debated how cities like London should be policed, the U.S. debates were conducted in the smoke-filled rooms of City Halls. Here, police were first established locally; with few exceptions, national and state police in America entered later, as early 20th-century developments. “From the outset,” historian Robert M. Fogelson notes, “most Americans had a firm belief that the police should be controlled by local officials and organized along municipal lines.”⁴ Just as cities were divided into wards controlled by local politicians, police departments were organized along district or precinct lines corresponding to those wards. Fogelson described these early American police departments as “adjuncts” to the political machines that dominated most cities from the late 19th century and into the 20th century.⁵ Ward leaders (“bosses”) selected district police captains, as well as most local police officers. It was therefore not surprising that, in Irish communities, most police were Irish; in Jewish communities, most police were Jews; in Italian neighborhoods, most were Italians; and so forth.

In terms of their functions, police departments during this period were catchall organizations providing the services that politicians and their constituents demanded, from housing the homeless to cleaning streets. Ward leaders handpicked police and local ward commanders and decided police priorities, which laws police were to enforce, and how order was to be defined. Police accountability was specific and strict: they were to please citizens, ensuring that ward leaders remained in office; failure for police likely meant loss of their patronage jobs. Certainly, police were expected to respond to crimes and maintain order, but the ultimate test of their efficacy was to assist ward bosses in holding on to their positions.

Police During the Reform (or Progressive) Era

Reformers, mostly outside policing and especially clergy, railed against police during the latter decades of the 19th century; but it was

not until police leaders allied with political progressives early in the next century that the powerful ties between police and political machines were broken. For reformers, political influence and control were at the core of all that was wrong with American policing—corruption, inefficiency, and ineffectiveness. One way to free police from control by local politicians was to develop “scientific” measures of performance that police could use in appealing directly to the public for support. The Uniform Crime Reports (UCR), developed by the International Association of Chiefs of Police (IACP) in 1929, and newly created annual reports published by police departments that highlighted these crime statistics, were viewed as early means by which police would achieve this independence. Other mechanisms included instituting tenure for chiefs of police, civil service for employees, and tactics to put police out of reach of potentially corrupting citizens.

The UCR included seven crimes: murder, nonnegligent homicide, forcible rape, burglary, aggravated assault, larceny, and motor-vehicle theft; arson was added in 1979. The U.S. Department of Justice, with IACP support, took over compiling and reporting the UCR in 1930, assigning the task to the Bureau of Investigation (later, under J. Edgar Hoover, the Federal Bureau of Investigation).

The UCR were meant to provide a baseline against which police departments could measure crime trends over time, as well as a basis for comparison among cities. Yet the UCR had, and have, shortcomings. First, they use self-reported data that are vulnerable to manipulation throughout police organizations. Second, citizens never report a large proportion of crimes. Third, the UCR record only serious crime; misdemeanors are ignored. Finally, what UCR data tell us is not always clear. Suppose, for example, departments improve how they handle the victims of rape. As this becomes well known, victims who previously would not have reported a rape might now be more inclined to do so. Thus, UCR data could reflect increases in reported rape even though the actual number of rapes might decline. Nonetheless, to this day, the UCR remain an important metric in evaluating police departments and units.

The move to reform police led to a major change in their mission: police became law-enforcement officers whose business was

addressing serious crime. According to this model, incarceration, or criminals' fear of getting caught, would deter crime or, at least, keep it under control. Police functions shifted from providing a broad array of services for citizens to identifying and apprehending criminals by arresting them during a criminal act or after a criminal investigation. As cars became more ubiquitous, police used them—first to go from beat to beat to patrol by foot, and later, patrolling in cars to create a sense of police omnipresence that supposedly would reassure citizens and deter criminals. With car radios and home telephones more common, rapidly responding to calls for service became a keystone of police. Response times, as well as the number of times patrol cars passed neighborhood “hazards” (saloons, schools, etc.), were added to the UCR and processing metrics (such as arrest) as benchmarks by which departments were evaluated.

Architects of these changes saw policing as a relatively simple set of tasks that resulted in straightforward and predictable actions by officers. After a crime was committed, police would go to the scene. If an offender was present, they would make an arrest. If an offender was not present, the attending officer would collect whatever evidence or information was available and turn it over to a detective for investigation. The detective would clear the case and, if it was strong enough, turn it over to a prosecutor. For O. W. Wilson, who was considered the last word on policing from the late 1930s to the 1960s, day-to-day police work was akin to that of a typist working from a manuscript: reflexive, simple, and routine.⁶

In sum, during the reform era, the tools that police used were arrests, citations, and clearances; and police were evaluated according to levels of serious crime, as well as the number of arrests, citations, and clearances. Arrests, citations, and clearances then became the second set of major metrics used to evaluate departments, units, and individual officers. Like the UCR, these measures had problems. Chief among them: the legal definition of arrest can vary widely among states and agencies, while definitions of case clearance can vary widely by organization. Moreover, strong emphasis on obtaining arrests and citations can lead to data manipulation and encourage overcriminalization of target groups or specific crime problems. Finally, these metrics are records of police activities, rather than outcomes.

By the mid-20th century, police departments and their overseers had developed five basic performance metrics: UCR, arrests, citations, clearances, and response time. All fit the strategy in place during this era: a focus on felonies and the deterrence tactics of preventive patrol by automobile, rapid response to calls for service, and criminal investigation. To this day, they remain important indicators of police performance and will continue to be important in the future.

In 1967, President Lyndon Johnson's Commission on Law Enforcement and the Administration of Justice published "The Challenge of Crime in a Free Society,"⁷ an influential report that gave formal recognition and validation to the form and substance of policing described above and helped perpetuate it for decades. Three elements of the report are of special interest. First, the report put forward a theory of crime causation and prevention that would dominate criminology, criminal justice, and policing for at least 30 years and would also dominate much academic thinking about crime and criminal justice to this day. At its core was the idea that crime is caused by poverty, racism, and social injustice, and can be prevented only by ameliorating these problems. Second, the report led to start-up funding for academic criminal-justice programs throughout the U.S. that, to a great extent, perpetuated the commission's thinking. Third, and most relevant, the report largely endorsed the law-enforcement view of policing: while police could improve in a variety of ways, especially with the recruitment of minorities, the challenge was essentially to do better what was already being done. The commission's view of crime causation and prevention largely reflected the progressive law-enforcement strategy of police: crime is prevented through social engineering, and police respond when prevention fails.

Nevertheless, the law-enforcement strategy of policing as it was carried out in the U.S. was already beginning to collapse. The riots of the 1960s revealed pervasive resentment of the police in the black community. The strategy also revealed lack of preparedness on the part of police to deal with broad-based dissent. More generally, crime began an unrelenting surge in the 1960s that continued through the 1980s, threatening or destroying the quality of life in city after city.

Research into police tactics suggested that preventive patrol and rapid response to calls for service had little beneficial impact on urban life and little effect on citizen safety, fear of crime, or crime itself. Research into police functioning demonstrated that, although police identified themselves as law-enforcement officers, they actually did little law enforcement; that police at all levels had enormous discretion and used it regularly; and that police routinely provided a wide array of public services, ranging from maintaining order to resolving disputes, even though most were unrecognized and unacknowledged.⁸ In short, by the end of the 1970s, American policing was struggling to find its identity—nothing seemed to work, and police were at odds with substantial portions of the public.

Early Stages of Community Policing

During the 1980s, police began reconsidering their strategy, and their efforts became identified with the transition to community policing. The new strategy urged police to reach out to various communities and institutions to gain, at a minimum, their consent to be policed; recognized that even within the same city, different neighborhoods have different problems; and adopted a new mission of policing far broader than its previous role as the front end of a criminal-justice system focused on arresting and processing offenders.

Two major contributors to this evolution were Herman Goldstein's work on problem solving;⁹ and James Q. Wilson and George L. Kelling's "broken windows" thesis.¹⁰ Goldstein argued that the incidents to which police respond represent problems such as drunken driving and domestic abuse (rather than discrete incidents) and should be treated as such. Wilson and Kelling argued that neighborhood disorderly behavior and conditions are sequentially linked to fear of crime, citizen abandonment of public spaces, serious crime, and urban decay—hence, police should take disorderly conditions and behavior seriously and deal with them. In sum, community policing emphasized work in neighborhoods, collaboration with public- and private-sector institutions and organizations to identify and solve neighborhood problems, and decentralized decision making regarding priorities and solutions.

The problem with early community policing, as practiced during the 1980s, was twofold. First, the constraining idea that crime could be prevented only through massive social change continued to dominate popular and professional thinking about policing. Second, community policing failed to capture the vision and commitment of line police officers. For them, community policing was “soft” or “feel good” policing, more akin to social work than the crime fighting they thought that they were getting into. All this changed in the 1990s, however, as community policing grew into a full-fledged new strategy that dominates police thinking today.

Community Policing Comes of Age

During the 1990s, America’s political and policing landscape changed considerably. In New York and other cities, “tolerating the intolerable,” to use Norman Podhoretz’s phrase describing urban disorder and crime, no longer was acceptable.¹¹ A demand for order expressed itself politically, resulting in the election of mayors like Rudy Giuliani—a conservative in an overwhelmingly liberal metropolis. Police departments unveiled a new strategy that produced crime declines unmatched in recent history. Overthrowing the previously accepted view that crime could be prevented only through massive social, economic, and political change, police could now claim to be more than law-enforcement officers whose lone responsibility was to respond to crime after it had occurred. By the end of the 20th century, a community-policing strategy that would replace the progressive/reform strategy emerged.

At the forefront of this transformation was a new generation of police leadership, most educated under the federal Law Enforcement Education Program. This program recognized the failure of the law-enforcement strategy, as well as the promise of ideas such as problem solving and “broken windows.” These new police leaders moved from reactive law-enforcement policing to crime prevention, developing new tactics to reduce crime.

When William Bratton took over the New York Police Department (NYPD) in 1994, he immediately demanded that precinct captains produce double-digit declines in crime. To facilitate and

monitor this goal, he established CompStat, an interactive control mechanism in which captains met regularly with their superiors and peers to present and discuss their specific crime problems and plans for managing them. CompStat was essentially a crime analysis/accountability system that traced the progress of individual precincts in achieving substantial reductions in crime. It required mid-management to understand the nature of problems in specific geographical areas and to craft creative responses to these problems; and it set consequences for mid-management's achievements or failures.¹²

New York City's experience broke the mold: NYPD's actions represented new and renewed concepts in American policing, the importance of which is hard to exaggerate. Furthermore, NYC's success suggested to prudent politicians and policymakers alike that police departments were shortchanging many U.S. cities and that police possessed untapped potential to provide more value to cities than they had during past decades. Other cities adopting the new strategy had similar results. In Boston, for example, police collaborated with other justice-agency partners in Operation Cease Fire to dramatically reduce youth gang violence in the mid-1990s.¹³ In San Diego, police took the national lead in developing a problem-solving methodology.

From such examples, it is clear that characterizing community policing as "soft" fails to recognize the inherent aggressiveness of police problem solving and crime-prevention activities, as well as the potential impact on felony crime.¹⁴ For good or ill, the progressive/reform model of policing was relatively nonintrusive in urban life: basically, police sat back, waited for something to happen, and then responded. Community policing, on the other hand, attempts to anticipate security breakdowns and crime opportunities and interfere with their progression; officers are in constant touch with citizens in local neighborhoods; and police work closely with partners in other justice agencies and in the private sector, with everyone bringing information, knowledge, and resources to bear on problems in particular areas. A range of crime-prevention tactics is available to police. Restoring order (using a broken-windows approach) to prevent crime, as was done in the New York City subways, is just one example.¹⁵ "Hot-spot" policing is another.¹⁶

Nonetheless, the NYPD success produced enormous controversy: To what extent was the NYPD responsible for the city's remarkable crime drops? Were crime data manipulated? Was CompStat too rough on district captains? How replicable was the NYPD experience, including CompStat? These controversies still rage, and research on them continues. While a basic principle of CompStat—strict accountability for performance—lay at the heart of an incipient revolution in policing, it also opened up a new set of challenges for measuring police tactics and outcomes in the community-policing strategy. The NYPD's experiences brought issues of performance, goal setting, “bottom lines,” “stretch goals,” accountability, benchmarking, and balanced scorecards to the forefront of police strategic management.

The best of American policing today incorporates into the community policing strategy a wide array of tactics and practices effective in preventing and reducing crime. Community policing itself comprises three basic elements. One is a geographic, rather than functional, organization;¹⁷ analysis and management of problems such as carjacking or aggressive panhandling within a geographical and social context; and assumption of joint responsibility by police and community interests for setting problem-solving priorities and managing, resolving, and solving problems. An important caveat: no particular program or tactic—say, foot patrol—constitutes community policing; rather, community policing is a department-wide strategy.¹⁸ Within this framework, police can, and should, be held accountable for their knowledge and use of best practices, as well as their demonstrated record in achieving and maintaining minimum levels of security.

A Scheme for Measuring and Improving Police Performance

With the dominant paradigm in American policing today based upon a community policing model, a framework for evaluating police performance must begin by identifying and assessing the relationship between the local community and its police department: What does the community expect of its police? How is police accountability to citizens in the community to be ensured, thereby maintaining the

legitimacy that police need to perform their work? Equally important yet often not identified so clearly is the burden that citizens themselves share with police for maintaining the quality of life and safety.

Working with the community does not mean that police should cater to every community or sector whim. Rather, police must learn to manage demand. When communities, particular neighborhoods, or local groups espouse values and priorities that are trivial or even alien to constitutional, legal, and moral principles—as they surely do at times—police must be able to say no to requests for police action that departs from those principles or that lies clearly outside appropriate policing functions. Nevertheless, police responses to community interests and involvement in working with them to address quality of life and crime problems should be, insofar as possible, encouraging, positive, and receptive.

With community concerns paramount as community policing has come of age, police leaders face new questions: How do we measure crime prevention? Fear reduction? The quality of police problem solving? The effectiveness of police collaboration with citizens or other justice-agency partners? Answering such questions has gained urgency, given the challenges to police that have arisen as a result of the cluster of police shootings and recent riots in Ferguson, Baltimore, Milwaukee, and elsewhere. Properly evaluating police performance and measuring outcomes should enable a community and its police department to determine current levels of police effectiveness; suggest how and where the police might improve; and develop, or restore, citizen confidence and trust in the police.

Measuring Outputs: What Should Police Do and How Should They Do It?

In light of the strategic shifts that constitute community policing, Mark Moore of Harvard University and his colleagues set out to identify the functions of police that are valued by a community.¹⁹ They propose seven dimensions of police performance and suggest seven related outcomes, with corresponding measures:

- Reduce crime and victimization
- Call offenders to account (initiate justice processes)²⁰

- Reduce fear and enhance personal security
- Guarantee safety in public spaces
- Use financial resources fairly, efficiently, and effectively
- Use force and authority fairly, efficiently, and effectively
- Satisfy citizens' demands and achieve public legitimacy

The first four represent goals and outcomes that police seek to achieve—and essentially define what are appropriate police functions. The last three pertain to specific resources that police require (force, finances, credibility, trust, and legitimacy) to carry out their work.

This list does not imply that every police department will look or perform the same, nor does it mean that the outcomes that all communities demand and expect from their police departments will be identical. The needs and expectations of various cities, neighborhoods, and communities will not be monolithic—and it is ultimately the community that should identify and prioritize police functions. Even such basic features as minimum acceptable levels of security and maximum tolerable levels of violence will vary: within one city or county, demands may vary considerably from neighborhood to neighborhood (from reducing street prostitution, to street-corner drug dealing, to illegal parking, to gang activity and homicides), and from police district to police district. Therefore, leaders and citizens within a particular city, district, or precinct will prioritize by emphasizing certain perceived dimensions of police performance and encouraging or insisting that police establish related policing goals and performance benchmarks and outcomes over (or even to the exclusion of) others.

To the work of Moore and others, we add an intermediate step that we consider critical to improving policing: identifying an organized set of benchmarks and best practices that should constitute policing outputs. Outputs comprise those activities and services performed by police as they attempt to effect outcomes or goals. They include routine activities plus innovative problem-solving efforts, and they should employ best practices recognized in policing today.

Police are still in the early stages of developing many best prac-

tices. Throughout the 1970s, police and researchers learned more about what didn't work than about what did. Regarding crime prevention, a core function, only in the mid-1990s did policing begin to create a portfolio of tactics and activities that offered the promise of predictable results. Even then, some of what was considered the best research provided results that could not be replicated. The most egregious example was the Minneapolis Domestic Violence Experiment, which found that arresting an assailant produced outcomes superior to those obtained from offering advice and counsel or asking the assailant to leave for eight hours.²¹

The Minneapolis experiment had an enormous impact on public policy. Yet three subsequent replications of the study failed to support its findings. Consequently, in our attempt below to identify best practices as benchmarks, we counsel readers to be cautious. Some of these practices are solidly supported by experimental research; others by correlational studies; others still by reflected-upon experience. It is beyond the scope of this report to weigh the value of all these practices. Police departments will need to do so before adopting them.

In what follows, we identify and discuss some benchmarks and best practices related to each performance function and corresponding outcome. It is not an exhaustive list; the field is changing as we write. Instead, it is a select inventory of available outputs applicable to one or more functions of police. We organize them according to categories that Moore and his colleagues have set out as dimensions of police performance and desired outcomes.

1. Reduce Crime and Victimization

Police have available at least six methods for reducing crime and victimization. Although they are distinct, effective crime prevention often includes a combination of them working in tandem.

- **PRESENCE.** A sense of strong police presence is established through foot and bicycle patrols, regular participation in neighborhood and community activities, and other activities that increase the number of police contacts with citizens.

- **PERSUASION.** Perhaps the best example of successful persuasion of offenders to desist from their criminal behavior by police has been the work of David Kennedy in Boston and other communities, known as “cease fire” or “pulling levers.”²² This approach has been tailored for work with chronic offenders, gangs, drug dealers, and gang “wannabes.” It emphasizes joint police, prosecution, and community confrontation of repeat offenders to spell out consequences for continued predatory behavior—and forceful moves to hold offenders accountable if they persist.
- **MAINTAINING ORDER.** This practice is most commonly identified as “broken windows.” It is based on the idea that a causal relationship exists among disorderly behaviors and conditions, breakdown of community controls, and serious crime.
- **PROBLEM SOLVING.** Problem solving routinely involves police in partnerships and collaboration with representatives of other justice agencies, private-sector groups, and private citizens, working together to identify and understand the contours of specific problems in their particular community and crafting a combination of law-enforcement and extra-law-enforcement solutions.
- **LAW ENFORCEMENT.** Law enforcement overlaps with the next broad category, “initiating justice processes” (calling offenders to account). Still, it is a basic preventive measure that operates through incarceration and primary (an imposed punishment will deter an offender’s future crimes) and secondary (the punishment of others as an example) deterrence.
- **REMINING OTHERS OF THEIR RESPONSIBILITIES.** Because police operate 24 hours a day and are distributed throughout cities, they are in a position to identify problems for which other agencies are responsible and should take action, collaborating with police where appropriate—for example, on issues such as zoning, liquor control, probation and parole violations, private security, and health- and safety-code violations.

2. Initiate Justice Processes

Although some of the police mechanisms that we identify may appear to be outcome measures, the focus here is on processes or activities involved, rather than numbers attained.

- **ARRESTS.** Arrests are the first step in criminal-justice processing. They are associated with booking, the formal police method of processing offenders. We expect that arrests should be reasonable and based on probable cause. Booking should be done rapidly and thoroughly, to be fair to those arrested and to get the arresting officer back on the street as soon as possible.
- **CLEARANCES.** Clearance rates indicate crimes solved by police. They can be an indicator of police productivity and a basis for holding police units and departments accountable. Clearance rates vary considerably by crime type, with homicide usually being the crime most often cleared and burglary the least often cleared.
- **CONVICTIONS.** Convictions (achieved by plea bargaining or a jury verdict) are an indirect measure of the degree to which police provide prosecutors with cases that have been investigated legally and that are thorough enough to meet the threshold of probable cause. This measure should include a determination of whether investigators are attempting to employ best practices, as well as the extent to which detectives are involved in CompStat-like practices to identify local problems and develop solutions rather than using a case-by-case approach. It should also consider if detectives routinely share information with patrol and special-unit officers.

3. Reduce Fear and Enhance Personal Security

Strong evidence suggests that five sets of activities (often overlapping) reduce fear. The first four—presence, maintaining order, problem solving, and reminding organizations and citizens of their responsibilities—have been noted. But there is one other that should be mentioned:

- **INCREASING SELF-DEFENSE CAPACITY.** A substantial body of research, going back to the 1930s, suggests that even poor neighborhoods that are effectively organized can contribute to crime prevention, order, and the reduction of fear. Some neighborhoods have always been able to maintain low fear levels; others need help organizing but have a latent capacity to maintain order and safety. Still others need massive police assistance to remove criminals and restore order; but once this is achieved, they can protect themselves.

4. Guarantee Safety in Public Spaces

Public spaces include parks, streets, sidewalks, commercial areas, malls, schools, public-transit facilities (train and bus stations), and roadways. Activities to achieve the goal of public safety include police patrols; programs aimed at reducing street prostitution, drug use, or graffiti; partnering with business-improvement district representatives and private-security forces in commercial areas (as is common in midtown Manhattan and Seattle); and traffic enforcement on major thoroughfares.²³ Dangerous driving practices are a major problem in many neighborhoods, and traffic enforcement can be used for a variety of purposes, including guaranteeing public safety, especially in residential neighborhoods where traffic enforcement is often ignored by patrol officers.

5. Use Financial Resources Fairly, Efficiently, and Effectively

While many budget practices are routine, carrying them out properly is an important indicator of excellence in policing.²⁴ They include, but are not limited to:

- **DEPLOYMENT.** The allocation of personnel and resources to neighborhoods or geographical areas is determined by various factors, including crime levels, calls for service, population patterns, geographical characteristics (rivers, expressways, or other boundaries), and determination of different neighborhoods' capacities for self-defense, including the availability of private security.

The current best deployment practice has at least two characteristics that, at times, conflict. First, it is flexible and quickly changing, depending upon shifting problems and other criteria. Second, it attempts to retain as many permanent patrol assignments as possible to ensure that officers remain in areas long enough to become familiar with them and be familiar to residents and users of the area. At times, both values are sought by having special units deployed flexibly and patrol officers deployed permanently.

- **BUDGET COMPLIANCE.** Agencies should use cost-control measures to stay within their budgets—an oft-ignored administrative process. Since personnel costs constitute the overwhelming portion of any police budget, the best practice is monthly reporting on expenditure levels against the portion of the budget year that has passed.
- **OVERTIME.** Misuse of overtime is widespread across police agencies, and it is often used for activities with little impact on agency goals. The best practice is to assign approximately 75% of overtime funds to geographic (district and precincts) and unit (tactical) commanders, who are held accountable through real-time overtime expenditure monitoring, often through CompStat.
- **CIVILIANIZATION.** Many police departments use police officers to do jobs for which they are not qualified, such as developing computer systems. The best practices are to civilianize all staff positions for which police powers are not required, which lowers costs and allows the use of specialized skills.

6. Use Force and Authority Fairly, Efficiently, and Effectively

These best practices can serve as internal benchmarks (among patrol units within a department) and external benchmarks and as outcome and output benchmarks. We propose:

- **VALUE-BASED GUIDELINES THAT SHAPE OFFICERS' DISCRETIONARY DECISIONS ABOUT WHEN AND HOW TO USE FORCE.** This highly discretionary police activity, while rarely used, is still in need of value-based guidelines.

- **AN EASILY ACCESSIBLE CITIZEN COMPLAINT SYSTEM.** Complaints must be courteously and promptly accepted in locations accessible to, and easily identified by, citizens. Having a complaint system available via the Internet is an essential part of any serious attempt to make such a system easily accessible.
- **MECHANISMS FOR INFORMAL AND FORMAL RESOLUTION OF COMPLAINTS AGAINST POLICE.** Many, if not most, complaints have to do with impolite or caustic police behavior, and most citizens would be happy with a simple apology. Care must be taken, however, to ensure that police departments do not apply pressure to avoid formal complaints and that those received are handled professionally.
- **SPEEDY RESOLUTION OF ALL COMPLAINTS.** Delays will lead to decay of citizen confidence that they are receiving fair treatment. For officers, pending complaints often result in bad assignments or delays in promotion.
- **TRAINING.** Officers need the verbal and tactical skills to defuse conflicts whenever possible; training to do so should be linked to departmental values and guidelines.
- **QUALITY DEBRIEFING.** Police departments have been reluctant to debrief their experiences in handling crisis events. Yet they have much to learn by doing so. For example, lessons learned from debriefing the 1999 Columbine school massacre taught police that they couldn't wait for special units in an active shooting situation.
- **MONITORING TROUBLESOME OFFICERS.** Evidence shows that a small number of officers are responsible for a large percentage of cases in which charges of police brutality and abuse are brought. Departments should set up a monitoring system to identify such officers, attempt to find means through which their behavior can be changed, assign them to low-conflict jobs, or terminate their police employment.

7. Satisfy Citizens' Demands and Achieve Public Legitimacy

Since the 1960s, a critical issue for police in servicing citizens' demands has been dealing with 911 calls. The evidence regarding 911 is strong: rapid response to calls for service provides little benefit in solving problems or preventing crime. (This does not refer to rapid response for fire departments or emergency medical service but only to police service.) Nonetheless, rapid response has been institutionalized as a police service, and managing it is essential for all police departments.

The second issue of crucial importance today is establishing police legitimacy with crime victims, offenders, and the broader community. Police have found many avenues for developing credibility with citizens. Nevertheless, establishing legitimacy with citizens has been a special problem in minority communities. Part of this issue is historical, part a residue of cultural tradition. More recently, two problems have complicated it: (1) police use of force, especially deadly force; and (2) claims that too many people, especially members of minority groups, are incarcerated, along with the role that many believe police have played in these incarcerations.

Regardless, we have many examples of police departments that were once seriously at odds with neighborhoods and communities but that now enjoy supportive, relatively harmonious, relations with diverse communities. Los Angeles is an example of such a turn-around; Boston is another.²⁵ We have learned from Los Angeles that police can restructure their relationship with communities while aggressively working to lower crime rates. Indeed, the good news is that reducing victimization and restoring order are a prerequisite for establishing police legitimacy.

Benchmarks for achieving legitimacy with the public include:

- **VALUE STATEMENT.** A clear set of value statements that emphasize understanding, patience, and helpfulness toward the public without officers being manipulated to pursue inappropriate goals or actions.
- **CALL-MANAGEMENT SYSTEM.** First, although officers should

rush to emergency calls, the tradition of staying in automobiles so that officers can immediately respond to calls for service should end. Riding around in cars and waiting for calls is not good police work. Second, the idea that good police response is responding to *all* calls by sending a car is wasteful. In Milwaukee, for example, officers on light duty (because of injury or illness) handle a substantial portion of calls by telephone. Citizen approval of police service delivered in this fashion is quite high.

- **SHAPING CITIZEN DEMANDS.** Police should actively educate citizens about the services they offer, as well as alternative public and private services, such as mental health or addiction clinics. Police should not focus on sloughing off police responsibilities but should offer a means for citizens to obtain better or more appropriate services more quickly.
- **TRANSPARENCY.** Frequent contact with citizens and opening up police business, to the extent possible, is key. In Los Angeles, for example, portions of many CompStat meetings were open to neighborhood residents and interested citizens (discussions of confidential matters, such as suspects, were not open). Officers can regularly update citizens on activities in their neighborhoods at association meetings. And the Internet offers many more opportunities for transparency.

In policing, process often should, and often does, take precedence over outcomes. Put another way, good police work is work conducted properly. This emphasis is especially significant because American police operate within a constitutional and legal framework that appropriately constrains their exercise of power and authority. If, for example, we examine the value of calling offenders to account, how an arrest is made or an investigation conducted is ultimately more important than obtaining a specific outcome.

Measuring outputs presents particular problems in policing. We discuss the issue only briefly here. Take foot patrol in mixed-use neighborhoods (residential and small businesses that serve local residents). Research shows that fear is substantially reduced when officers patrol on foot during one shift per week. We also know that fear

of crime increases when foot patrol stops.²⁶ Yet we have no idea of what benefits, if any, would result if foot patrol were to be increased beyond tested levels; nor do we know how far we could reduce the “dosage” of foot patrol before seeing a loss in impact. Thus, almost without exception, we can define or describe outputs—and usually measure their impact—with relative certainty. But we can say little quantitatively about their dimension or scope.

Ongoing documentation of outputs by police departments and making them available to public scrutiny is important, whether the activity is routine and familiar, or is a new best practice being adopted and implemented for the first time. Particular problem-solving projects often are worthy of a formal evaluation to determine whether they should continue and what adjustments are appropriate along the way.

Police should also regularly debrief their operations and make the results public. Most departments are extremely reluctant to do so, especially when operations go bad, preferring instead to deny problems or play the blame game. Yet learning from mistakes and making them public, so that others can learn from them, too, is as important as learning from successes.

Measuring Outcomes

Over time, police have accrued sets of police-outcome measures: originally, pleasing citizens and politicians; later, clearly defined law-enforcement metrics; and, most recently, complex and subtle measures, like fear reduction and creating feelings of public safety and security. Each set reflects a particular policing strategy. All have flaws, too. Some, such as UCR, are readily available but can be manipulated and are hard to interpret. Others, such as victimization surveys, provide a relatively reliable picture of what they measure but are expensive and require skills to administer that are not typically found in police departments. Nonetheless, these are the tools available, and we must do the best that we can with them.

Further complicating the issue is the variation in problems that police address across and within cities, as well as in the priorities of citizens. Different cities not only have different problems but differ-

ent tolerance levels for certain kinds of behavior. Comparing Milwaukee and San Francisco with regard to levels of disorder (as a possible outcome measure for reducing fear and guaranteeing safety) is simply not feasible. Milwaukee has traditions of orderliness quite alien to San Francisco's traditions of freedom of expression. Likewise, comparing districts within a city is problematic.

To measure outcomes, we must begin with citizen priorities about what is important in a city or district; add to this the problems that the area/district confronts based on additional sources (police data can reveal problems that citizens may not be aware of); identify the means used to deal with the problem (best practices); and, finally, select outcome data sources that pertain to the problem(s) of the area and that are feasible, given the resources available. We will end up with a mix of outcome measures particular to a city or district, all of which are likely to have shortcomings. Still, the mix of measures allows for cross-verification ("triangulation") and greater confidence in the reliability of the indicators. A few years ago, a dispute arose when a researcher charged that NYPD precinct commanders altered UCR data to get positive results. Several observers were quick to point out that victimization data correlated highly with the UCR data in critical dimensions, thus cross-verifying the findings.²⁷

Next, we present some measures and measurement issues associated with policing outcomes, again organized according to the dimensions of valued police functions/outcomes set forth by Moore et al.²⁸

1. Reduce Crime and Victimization

- **UNIFORM CRIME REPORTS.** Two indicators, homicide and car theft, are generally considered reliable and accurate and could be used as benchmarks across police departments. Otherwise, UCR have limitations for measuring performance. They measure only reported and recorded crime and are vulnerable to manipulation. Likewise, an increase in certain types of offenses could indicate that more people are willing to report crimes like rape because of the improvement of police handling of such crimes.

- **VICTIMIZATION SURVEYS.** Victimization surveys (surveys of a random sample of a given population) provide a more accurate picture of crime levels and also provide a check on the UCR. They are, however, expensive to conduct and have shortcomings as well (under- and overreporting).

2. Initiate Justice Processes

- **ARRESTS.** We discuss, above, the problems with using arrest as an output indicator. The same concerns arise in using it to measure outcomes. Definitions of arrest vary among jurisdictions. Using arrest as a sign of productivity can lead to overcriminalization, especially of minority populations. This characteristic can weaken the value of arrests as a benchmark for comparing different police organizations. With proper guidance, however, arrests can be an important internal benchmark (within departments).
- **CLEARANCES.** Clearances are vulnerable to the same definitional problems as arrests. Moreover, clearances can be manufactured by officers or units—for example, if a unit or officer offers to trade lessening the charge or recommending leniency in sentencing in exchange for the offender accepting responsibility for additional crimes (such as burglaries). Clearances are probably more reliable for internal (within departments) rather than external (between departments) benchmarking.
- **CONVICTIONS.** Convictions and other forms of case handling, such as plea bargaining, have potential as outcome measures. However, given that such processes are largely under the control of prosecution—and that many prosecutors are unwilling to take cases to court that are not a near-certainty to win—convictions can be more reflective of prosecutorial policies than police performance.

3. Reduce Fear and Enhance Personal Security

- **ATTITUDINAL SURVEYS.** Like victimization surveys, attitudinal surveys can provide information about levels of fear in

communities that could be used for internal and external (if the surveys and methodologies coincide) benchmarking. Although expensive, attitudinal surveys cost less than victimization surveys. The former can measure reported attitudes and behaviors (purchase of weapons, etc.).

- **FOCUS GROUPS AND OTHER FEEDBACK SOURCES.** These include neighborhood associations, crime-watch groups, and small-business owners.
- **SOCIAL AND ECONOMIC INDICATORS.** There is some overlap here with category 4, below. Measures might include real-estate data indicating the number of people moving in to a neighborhood, as opposed to leaving it; the number of businesses and financial institutions opening and closing; and whether businesses such as restaurants, athletic clubs, recreation facilities, and grocery and drug stores stay open in the evening.

4. Guarantee Safety in Public Spaces

- **COUNTS OF PUBLIC USAGE.** Observers can count, and revenues can register, the increased or decreased use of public spaces (public transportation, parks, zoos, public toilets, sidewalks, malls, etc.).
- **TRAFFIC RECORDS.** Traffic records can provide data about collisions, deaths, injuries, and other damage.
- **PROPERTY VALUES AND RENTAL COSTS.** Real-estate, tax, and other records can be used to determine the impact of crime and fear (or lack thereof) on property and commercial interests.

5. Use Financial Resources Fairly, Efficiently, and Effectively

Department data could be reviewed to determine if desirable outcomes were achieved for the various benchmarks spelled out in the previous section, including cost per citizen, deployment efficiency and fairness, scheduling efficiency, budget compliance, overtime expenditures, and civilianization.

6. Use Force and Authority Fairly, Efficiently, and Effectively

- **ANALYSIS OF CITIZEN COMPLAINTS.** Such an analysis would examine the substance, numerical trends in, and promptness with which complaints are handled.
- **OBSERVATIONS OF COMPLAINT PROCESS.** One method of evaluating such a process is to walk several people, perhaps actors, through the complaint process and record their experiences.
- **SETTLEMENTS IN LIABILITY SUITS**
- **POLICE SHOOTINGS**
- **REVIEW OF GUIDELINES AND TRAINING MATERIAL**
- **REVIEW OF RECORDS OF DEBRIEFINGS**

7. Satisfy Citizens' Demands and Achieve Public Legitimacy

- **RESPONSE TIMES.** Departmental data are readily available. However, given our understandings about the efficacy of rapid response, such data provide only limited information about the effectiveness of the police response.
- **EVALUATION OF ALTERNATIVE RESPONSES TO CALLS FOR SERVICE.** Follow-up telephone interviews can be conducted relatively inexpensively with citizens who have called for service.
- **SURVEYS AND INTERVIEWS WITH POLITICAL AND ORGANIZATIONAL ELITES.** These surveys would provide information about the level of credibility of, and trust in, the police department. Departments could also use surveys of citizens' attitudes toward the police and police practices.

We have presented performance measures for police that have accrued over the decades, with most data flawed or at least having obvious weaknesses. Our proposed solution to this problem is to use multiple data sets for the purpose of triangulation (cross-verifica-

tion). Moreover, we recognize the typical pluralism and variation by district and city in urban problems that citizens and police confront. The solution to this problem lies in tailoring outcome measures to localities. Our strongest recommendation, however, is to use outcome measures in combination with data gathered to assess policing outputs and their relationships with citizens and partners in the community.

Conclusion

We propose that cities and their police departments develop: (1) a research and development capacity for searching out the best policing practices and outcome measures in light of the problems that they identify and seek to address; and (2) a formal measurement process, as well as a capacity for ongoing documentation, monitoring, assessing, and feeding back information for adjustment purposes during implementation of programs and processes. Constant monitoring and feedback are essential to facilitate achievement of goals and improvement in police performance, and they allow for timely, ongoing adjustment of priorities and processes.²⁹

These are important capacities—ideally, in-house—for police departments to possess. Some police departments have formed successful partnerships with universities or research organizations to carry out the second of these functions, as well as to assist periodically in conducting community surveys and formal evaluations of policing activities on various scales.³⁰

Police leaders now enjoy a rapidly developing inventory of best practices that can be drawn upon to improve the performance of the men and women charged with policing their community. Ultimately, police leadership must be answerable for the conduct of police performance, for instituting a measurement system that ensures police accountability to the local community, and for the achievement of established goals/outcomes.

Endnotes

1. The authors and the Manhattan Institute thank the Goldwater Institute for authorizing a redrafting of a report on measurement of police performance that it originally commissioned in 2016. Nick Dranias, then a program officer at the Goldwater Institute, made substantive contributions to the original report.
2. George L. Kelling and Mark H. Moore, "The Evolving Strategy of Policing," U.S. Department of Justice, National Institute of Justice, *Perspectives on Policing* 4 (Nov. 1988).
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6. O. W. Wilson, "Basic Police Policies," *The Police Chief* (Nov. 1956): 28-29. *The Police Chief* is a publication of IACP.
7. "The Challenge of Crime in a Free Society," President's Commission on Law Enforcement and Administration of Justice, Feb. 1967.
8. For a summary of this research, see George L. Kelling and Catherine M. Coles, "The Failure of Past Policing Strategies," in idem, *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities* (New York: Free Press, 1996), pp. 70-107.
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12. For a full description of the CompStat process and implementation, see Jon M. Shane's three-part article: "Compstat Process," *FBI Law Enforcement Bulletin* 73, no. 4 (Apr. 2004): 12-21; "Compstat Design," no. 5 (May 2004): 12-19; and "Compstat Implementation," no. 6 (June 2004): 13-21. For a description of a CompStat-like process in the private sector, see Robert Simons, "Control in an Age of Empowerment," *Harvard Business Review* (Mar.-Apr. 1995), pp. 80-88.
13. David M. Kennedy, "Pulling Levers: Chronic Offenders, High-Crime Settings, and a Theory Prevention," *Valparaiso University Law Review* 31, no. 2 (1997): 449-84.
14. George L. Kelling and William H. Sousa, Jr., "Do Police Matter?: An Analysis of the Impact of New York City's Police Reform," Manhattan Institute (Dec. 2001).
15. In early 1990, after an earlier failed attempt to restore order in the city's subways, the New York City Transit Authority hired William Bratton to head the Transit Authority Police Department—then an independent police agency of approximately 3,600 officers. Order was restored, and crime began to decline in the subway almost immediately after Bratton took charge. For a detailed account, see Kelling and Coles, *Fixing Broken Windows*, chap. 4.
16. Anthony A. Braga, "Hot Spots Policing and Crime Prevention: A Systematic Review of Randomized Controlled Trials," *Journal of Experimental Criminology* 1, no. 3 (Sept. 2005): 317-42.
17. Functional police organizations are centralized and structured around tactics—patrol, criminal investigation, special units, administration, etc. Priorities and methods are centrally controlled. Geographical police organizations are decentralized and structured around city geography, with each area (precinct/district) providing complete police services based on local problems.
18. Kelling and Moore, "The Evolving Strategy of Policing."
19. Mark H. Moore et al., *Recognizing Value in Policing: The Challenge of Measuring Police Performance* (Washington, DC: Police Executive Research Forum, 2002);

Mark H. Moore and Anthony Braga, *The “Bottom Line” of Policing: What Citizens Should Value (and Measure!) in Police Performance* (Washington, DC: Police Executive Research Forum, 2003). Their list does not imply that every police department will look or perform the same, nor does it mean that the outcomes that all communities demand and expect from their police departments will be identical.

20. Calling “offenders to account” is a misleading phrase. Taken literally, it implies that police should move beyond investigation and arrest to achieve justice on their own. Clearly, this is not what Moore and his colleagues intend. We think that the phrase refers to initiating the full process of holding offenders accountable for their actions. Through the rest of this paper, we therefore substitute the phrase “initiate justice processes” for “calling offenders to account.”
21. Lawrence W. Sherman and Richard A. Berk, *The Minneapolis Domestic Violence Experiment* (Washington, DC: Police Foundation, 1984).
22. See Kennedy, “Pulling Levers.”
23. Kelling and Coles, *Fixing Broken Windows*, chaps. 4 and 6.
24. We thank Robert Wasserman, a police consultant, for his advice on this section.
25. See Christopher Stone, Todd Foglesong, and Christine M. Cole, “Policing Los Angeles Under a Consent Decree: The Dynamics of Change at the LAPD,” Program in Criminal Justice Policy and Management, Working Paper Series, Harvard Kennedy School (May 2009); Anthony A. Braga and Christopher Winship, “Partnership, Accountability, and Innovation: Clarifying Boston’s Experience with Pulling Levers,” in *Police Innovation: Contrasting Perspectives*, ed. David Weisburd and Anthony A. Braga (Cambridge: Cambridge University Press, 2006), pp. 171–87.
26. The Newark Foot Patrol Experiment (Washington, DC: Police Foundation, 1981).
27. See “Just Like in ‘The Wire,’ Real FBI Stats Are ‘Juked,’” *Mother Jones*, June 19, 2012.
28. To restate, we use Moore’s seven dimensions of the police performance and some of his elaborations on them. As readers will note, we have added materials to his original conceptualizations.
29. Mark H. Moore and Anthony A. Braga, “Measuring and Improving Police Performance: The Lessons of Compstat and Its Progeny,” *Policing: An International Journal of Police Strategies & Management* 26, no. 3 (2003): 439–53.
30. See, e.g., Beth A. Sanders and Marc L. Fields, “Partnerships with University-Based Researchers,” *The Police Chief* (June 2009): 58–61. One of the best-known partnerships has taken place with the Chicago CAPS program. See Wesley G. Skogan and Lynn Steiner, “Community Policing in Chicago, Year Ten: An Evaluation of Chicago’s Alternative Policing Strategy,” Chicago Community Policing Evaluation Consortium and Institute for Policy Research, Northwestern University, Jan. 2004; and Wesley G. Skogan, *Police and Community in Chicago: A Tale of Three Cities* (New York: Oxford University Press, 2006).

CHAPTER 3

CREATING AN EFFECTIVE CHILD WELFARE SYSTEM

Richard J. Gelles, *University of Pennsylvania*

Introduction

If the nation had deliberately designed a system that would frustrate the professionals who staff it, anger the public who finance it, and abandon the children who depend on it, it could not have done a better job than the present child welfare system.

The indictment that opens this paper could have been written anytime in the past few months or years in the United States. It could have been written in New York City, for example, after the death of Zymere Perkins in September 2016, or Jaden Jordan in November 2016, or Bianca Abdul in March 2017, or the grievous injury to Kadiha Marrow in April 2017.¹

New York's child welfare agency is not the only one that could be criticized for failing to protect children. In Los Angeles, four former L.A. County social workers are to stand trial for the 2013 death of eight-year-old Gabriel Fernandez. The four were supposed to protect the boy, who was in the care of his mother and her boyfriend. But Fernandez was found tortured to death—burned, shot with BB pellets, and doused in pepper spray.²

In my own city of Philadelphia, 17 individuals were convicted of, or pled guilty to, a range of charges, from third-degree murder to perjury, in the starvation death of 14-year-old Danieal Kelly.³ Among the 17 individuals were:

Dana Poindexter, Department of Human Services (DHS) intake worker convicted of child endangering, recklessly endangerment, and perjury. Sentenced to two and a half to five years in prison.

Laura Sommerer, DHS social worker: pled guilty to child endangerment. Sentenced to four years' probation.

Julius Murray, caseworker for the social-services contractor MultiEthnic Behavioral Health: pled guilty to involuntary manslaughter, conspiracy, and child endangerment. Also convicted of health-care fraud. Sentenced to four to eight years in prison for manslaughter, conspiracy, and endangerment; sentenced to 11 years in prison for health-care fraud.

Mickal Kamuvaka, MultiEthnic Behavioral Health CEO: convicted of involuntary manslaughter, child endangerment, perjury, criminal conspiracy, and forgery. Sentenced to 17.5 years in prison.⁴

The inability to protect endangered children is not limited to large urban centers. In Rhode Island, the state Department of Children, Youth and Families admitted that, in April 2016, nearly two-thirds (63%) of its kinship placement homes were unlicensed. Unlicensed homes can put children at risk, as kin (relatives) who provide foster care have not completed the required training. In North Dakota, five-year-old Amanda Froistad was sexually abused and then killed by her father, even though reports of suspected maltreatment were filed in both South Dakota and North Dakota. Unbelievably, each state's child protective service agency said that it was the other state's responsibility to carry out the investigation—and no investigation was conducted up to the time of Amanda's death.⁵

What makes the opening statement of this paper even more disturbing is that it was not written in 2017, or 2016, or even 2000. It is a conclusion that was reached by the U.S. National Commission on Children in 1991.⁶

Changes and improvements have occurred in the American

child welfare system in the last 25 years, but what was true a quarter-century ago is true today: the American child welfare system is still a frustrating, dysfunctional system that cannot ensure that the children who most need protection will be safe.

What is to blame? The usual suspects have all been rounded up, and still the system fails to protect children. Government has responded to tragedies with more funding and increases in staff, forming blue-ribbon commissions, replacing administrators, reorganizing agencies, and even changing the names of agencies—but there are no significant changes in the capacity to protect children and ensure their well-being. The same lame excuses are offered—for example, “the child fell through the cracks”—and the tragedies continue.

Having been in the field of child welfare for four decades, I have spoken and written often about the failings of the child welfare system. But until now, I have never been so bold as to state the following: *Either we do not want to truly protect children and ensure their safety and well-being, or we do not know how to protect children and ensure their well-being.*

Typically, I dismiss the complaint about insufficient funding as one of the “usual suspects” rounded up to explain the system’s shortcomings. But as I will explain below, there is one legitimate reason to take up the issue of funding, not necessarily because it is inadequate but because laws that rigidly limit how funding is used do restrict child welfare systems’ effectiveness.

We Do Not Want to Protect Children

Let me begin with my most controversial statement: we do not really want to truly protect children. It is based on a number of key points. First, parental rights have priority in child and family jurisprudence. A series of Supreme Court decisions—from *Smith v. Organization of Foster Families for Equality and Reform*, 431 U.S. 816 (1977), to *Santosky v. Kramer*, 455 U.S. 745 (1982)—limits the state’s ability to intervene in the raising of children by their parents, and it sets a high bar for states that wish to terminate parental rights. Nor is this wrong. Upholding parents’ liberty interest to raise their children without unwarranted government interference is appropri-

Figure 1. The Child Maltreatment Pyramid, 2015



ate, as is a high bar for terminating parental rights.

Federal law also bolsters parental rights. The Adoption Assistance and Child Welfare Act of 1980⁷ primarily provides states with funds for out-of-home placement but includes the requirement that states make “reasonable efforts” to keep children with their birth parents or safely reunify children from out-of-home placement prior to seeking to terminate parental rights.

The actual functioning of the child protective service system illustrates how low the likelihood is that a child who is suspected of being the victim of maltreatment will actually be placed in foster care (**Figure 1**). Despite anecdotal critiques that child protective service agencies are too quick to remove children from homes,⁸ the data indicate that the vast majority of reports and the majority of substantiated reports of child maltreatment do not result in the removal of a child from his or her parents.

Last and perhaps most important, the culture of the American child welfare system sees parents as the clients and family preservation as the core goal of child protective services. Law professor Elizabeth Bartholet, in two key publications,⁹ summarizes how, for the past three decades, advocates, policymakers, foundations, and agency administrators have privileged supporting and preserving parents

over the safety of children.

To be fair, those on the side of family preservation hold fast to the value that children do best when raised by their birth parents and close family members. And to bolster the value of family preservation, members of what Bartholet refers to as the “racial disproportionality movement”¹⁰ use data on the race of children removed from their families as a club to try to limit such removals.

The second approach of the family-preservation advocates is to continue rolling out ever new interventions, such as Intensive Family Preservation Services, Family Group Conferencing, and Alternative Response with claims that such interventions can both preserve families and ensure the safety of children. By the time there are data to disprove the claim of effectiveness of a family preservation intervention, a new intervention is rolled out with the same claims.¹¹

A final mainstay of the effort to preserve families is the claim that, with adequate resources and if done properly, child welfare agencies can preserve families as well as ensure the safety of children.

Anecdotal evidence, such as the cases that open this paper, disproves the claim that families can be preserved and children kept safe. The claim violates the laws of probability theory: it is impossible to both reduce false positives (concluding that a child is at risk of abuse when the child is not) and false negatives (concluding that the child is safe when the child is at risk). Choosing the parent as client can significantly disadvantage the safety of the child. Choosing the child as client reduces parental rights. Child welfare agencies must choose the errors that they are willing to tolerate.

By focusing on the parent as the client of the child welfare system and privileging parents’ rights, child welfare systems *in practice* hold children’s development hostage while waiting and hoping that parents will engage in services and that the services will be effective. This system chooses not to ensure the safety and well-being of children in harm’s way.

We Do Not Know How to Protect Children

Undoubtedly, many will push back strongly, even in anger, against my claim that the American child welfare system as a whole

does not want to protect children. My second argument is that child welfare systems do not know how to protect children.

Decision Making

While billions of dollars are spent on supporting children in foster care and services to assist parents—including parenting classes and drug-treatment programs—the most important component and task of the child welfare system in the United States is decision making. I envision the child welfare system as a series of nine gates that begins with the decision to report suspected child abuse and ends with the decision to close the case—through a reunification (the most common outcome) or by termination of parental rights.

No matter how skilled and experienced the decision maker, the actual tools that are available for decision making are not remotely up to the task. In the vast majority of cases and in the vast majority of decisions—decisions as to whether to report a case of suspected maltreatment, whether to substantiate the report, whether to remove the child from the home, and how to close the case—the main tool is clinical judgment. What we know about clinical judgment is that its accuracy is no better than chance, and it introduces bias, such as racism and classism, into the decision-making process.¹²

While there have been some modest advancements in developing actuarial tools for assessing safety and risk and to inform decisions, the child welfare field continues to be reluctant to replace clinical judgment with any of them.

The most recent development in decision making is predictive analytics,¹³ or “big data.” Predictive analytics holds much greater promise of improving child welfare decision making than do clinical judgment, consensus risk assessment, and older forms of actuarial risk assessment such as structured decision making. But the child welfare field is slow to embrace this tool. The major concern is profiling: critics worry about minorities and poor families being unfairly profiled by statistical tools—although, of course, such families are already profiled by clinical judgment. Since predictive analytics validates the algorithms with actual data, initial biases will be factored out over time. Nonetheless, the child welfare field, with few excep-

tions (Allegheny County, Pennsylvania, and Los Angeles County), seems to prefer the bias of clinical judgment to the potential of predictive analytics.¹⁴

Prevention and Intervention

Currently, the best-tested and validated tool available to the child welfare system for the prevention of child maltreatment is the Nurse-Family Partnership, which involves trained nurses making home visits to low-income mothers who have no previous live births.¹⁵ The visiting nurses have three goals: (1) to improve the outcome of the pregnancy by helping women with prenatal health; (2) to improve the child's health and development by helping parents provide more sensitive and competent child care; and (3) to improve the parental life course by helping parents plan future pregnancies. David Olds and his colleagues have spent nearly three decades evaluating the effectiveness of the Nurse-Family Partnership program, including three separate random clinical trials with different populations. The program has positive effects: fewer childhood injuries and ingestions that may be associated with child abuse; and fewer substantiated reports of child maltreatment by participating parents.¹⁶

The child welfare system has developed an extensive menu of interventions. Almost every case file I have reviewed requires parents to attend parenting classes. As a large proportion of caregivers who become involved in the child welfare system have substance abuse issues, substance abuse treatment is a standard intervention. Intensive Family Preservation Services, Family Group Conferencing, and Alternative Response (all mentioned in the previous section) are common interventions. Their singular problem is the lack of empirical evidence meeting the normal standards of scientific evidence that these interventions reduce the risk of child maltreatment and keep children safe.

While there are many documents about evidence-based practice in child welfare,¹⁷ very few interventions are truly evidence-based. Among the most widely discussed, evaluated, and effective interventions are MultiSystemic Therapy (MST) and Triple P (Positive Parenting Program).

One takeaway from a review of evaluated as well as unevaluated interventions and prevention programs is that the focus is primarily on the impact of the intervention on the parent or caregiver. Few of the interventions are designed for or test for the impact of the evaluation on the safety and well-being of children. Again, the parent-as-client bias pervades the development of tools for intervention and prevention (with the nearly unique exception of Nurse-Family Partnerships). The implicit assumption for the interventions and evaluations is that if an evaluation allows a child to remain with his or her birth parents, the intervention is a success. Safety and well-being, and even achieving developmental potential, become subordinate goals.

Over the past decade, the child welfare field has endeavored to develop effective, evidence-based practices. Progress is slow, as would be expected, given the time it takes to develop, test, and replicate random clinical trials. But it is still fair to say that an evidence-based toolbox for child welfare practitioners is relatively sparse.

The scarcity of good tools is partially due to the time it takes to develop them. But it is also related to the resources available for development and testing.

The “Insufficient Funding” Red Herring

Without question, the first and most consistent “suspect” rounded up to explain a child welfare agency’s or system’s inability to protect children is lack of funding. Although numerous funding streams flow into the child welfare system, including Medicaid, Temporary Assistance to Needy Families, and Social Service Block Grants, the most substantial funding streams are Title IV-B and Title IV-E of the (amended) Social Security Act of 1935.¹⁸ The Family Preservation and Support Program was added to Title IV-B in 1993. Now called “Promoting Safe and Stable Families,” this provision of Title IV-B is the most recent source of funding for child welfare interventions. According to the U.S. Children’s Bureau:

The primary goals of Promoting Safe and Stable Families (PSSF) are to prevent the unnecessary separation of children from their families, improve the quality of care and services to children

and their families, and ensure permanency for children by reunifying them with their parents, by adoption or by another permanent living arrangement. States are to spend most of the funding for services that address: family support, family preservation, time-limited family reunification and adoption promotion and support.¹⁹

A total of \$381.3 million was allocated to the states in fiscal year 2016 in the form of block grants.

The second significant source of federal funding—and by far, the most substantial—is Title IV-E of the Social Security Act. Title IV-E, created in 1980, is targeted exclusively for the costs of placing children into foster care, administering agencies that place and supervise children, and training the workforce that manages foster care placements. For fiscal year 2016, a combined \$15 billion in state and federal funds were allocated for out-of-home placement (half the funds are federal, and half are state).

So we have more than \$15 billion in federal and state funds to deal with the problem of child maltreatment. But only the tiniest amount of funding—less than \$500 million—can be used for prevention and treatment, and those funds are based on a parent-as-client model of intervention with reunification and family preservation as core goals. The largest budget is reserved for and strictly limited to supporting children in out-of-home care.

The real problem dogging the U.S. child welfare system is not insufficient funds but insufficient flexibility in how the existing funds may be used. Because many foster family agencies are dependent on the administrative costs provided under Title IV-E, it creates a perverse incentive that punishes foster care agencies for having unfilled foster care beds. No wonder child welfare administrators, even as they complain about insufficient funds, resist changes in Title IV-E funding.

A plausible change could create greater flexibility: the Family First Prevention Services Act failed to pass the U.S. Senate in 2016 and was reintroduced in January as H.R. 253, the Family First Prevention Services Act of 2017.²⁰ This bill would transform the open-ended entitlement of Title IV-E into a block grant and provide more flexibility in funding for state child welfare agencies. It would

also provide funds for evidence-based interventions. Not surprisingly, there is opposition to the bill from parent advocates as well as institutions that would lose funding under the new funding system for Title IV-E.

Is the Child Welfare System Capable of Changing?

I often tell my social-work students who want to work in the child welfare system the standard child welfare joke: “How many social workers does it take to change a lightbulb?” “One, if the lightbulb sincerely wants to be changed.” I first raised the point of this joke 20 years ago.²¹ Most of our child welfare interventions would work only for those parents and caregivers who are ready for change. The stark reality is that caregivers who maltreat their children are no more willing to change their behaviors than are smokers, or those who are overweight, or those of us who should use sunscreen but don’t.

Child welfare systems are no more ready and willing to change than their clients. Class action suits, civil tort actions resulting in multimillion-dollar settlements, and pervasive press coverage of tragedies have yet to substantially influence the values and function of child welfare systems. Even changes in the laws have had mostly modest impacts. The Adoption and Safe Families Act of 1997²² did seem to result in an increase in adoptions out of the foster care system (from 37,000 in 1998 to 50,400 in 2014) and a decrease in the average time that children spend in foster care (from 32.5 months in 1998 to 20.8 months in 2014).

The law also had an “aggravated circumstance” provision, which allows states or counties to bypass reasonable efforts to keep families together and go directly to the termination of parental rights if a court determines that aggravated circumstances exist. Examples of aggravated circumstances:

- Abandonment, torture, chronic abuse, and sexual abuse. The parent murdered another child of the parent.
- The parent committed voluntary manslaughter of another child of the parent.

- The parent aided or abetted, attempted, conspired, or solicited to commit such a murder or voluntary manslaughter.
- The parent committed a felony assault that resulted in serious bodily injury to the child or another child of the parent.
- The parental rights of the parent to a sibling of the child were terminated involuntarily.

Unfortunately, the aggravated circumstances provision of the law is rarely applied by child welfare systems.²³

There is certainly reason to be pessimistic about the American child welfare system. Still, change is possible. The crucial problems are: agreeing on who the proper client of the system should be, how to improve decision making, and eliminating the perverse incentive of current foster care funding. The essential solutions, in my judgment, are to focus on the child as the client, to make the child's safety and well-being the goal of the system, and to abandon clinical judgment as the basis for critical and life-and-death decisions. An overdue revision of Title IV-E of the Social Security Act will free up billions of dollars for the child welfare system.

In the end, the lightbulb still must sincerely want to be changed: that will remain the challenge for systems that cling to the belief that parents are the most important clients.

Endnotes

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14. For a more complete discussion, see Gelles, *Out of Harm's Way*, chap. 5.
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16. See Harriet Kitzman et al., "Enduring Effects of Prenatal and Infancy Home Visiting by Nurses on Children: Follow-Up of a Randomized Trial Among Children at Age 12 Years," *Archives of Pediatrics & Adolescent Medicine* 164, no. 5 (2010): 412-18; and John Eckenrode et al., "Long-Term Effects of Prenatal and Infancy Nurse Home Visitation on the Life Course of Youths: 19-Year Follow-Up of a Randomized Trial," *Archives of Pediatrics & Adolescent Medicine* 164, no. 1 (2010): 9-15. The Patient Protection and Affordable Care Act of 2010 (aka Obamacare) included \$1.4 billion in funding for Nurse-Family Partnerships.
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CHAPTER 4

LEARN HOW TO LOVE THE NIMBY AND BUILD MORE HOMES

Nicholas Boys Smith, *Create Streets*

Introduction

Create Streets¹ is a London-based social enterprise that is part of a movement trying to help solve many of the problems responsible for Britain's chronic housing shortages. In a nutshell: the movement challenges government planning authorities and industry practice whose notions of what is desirable or permissible are outdated at best and, at worst, startlingly at variance with—even contemptuous of—what people really want. We are starting to change the question from “How do we build more homes?” to “How do we make new homes more popular?” Only by learning how to love the NIMBY phenomenon can the U.K. overcome popular resistance to, and rejection of, unwanted designs and build enough homes in which NIMBYs' children can live.

The incident that confirmed my resolution to leave a secure, well-paid job as a banker and set up Create Streets happened over four years ago at the Aylesbury Estate² in South London, a few miles from Westminster. Built between 1963 and 1977, the Aylesbury Estate is a brutalist series of concrete slab blocks providing 2,750 units of mostly public housing. At the time she moved in, one young mother commented: “It's like a prison, isn't it, all concrete.”³ The Aylesbury

Estate has long enjoyed a grim reputation for social isolation and the stark failures of modernist town planning.⁴

One morning, a local community organizer asked me to spend a few hours with a group of largely Eritrean and Somali mums on the estate, together with an urban designer. There were plans to regenerate (rebuild) the estate, and we'd been asked to help residents think about what they would like done, independently of the formal planning and design process.

We showed the residents pictures of housing in New York, Paris, and London, all carefully chosen to be at higher densities than those of the estate and yet lower-rise, more beautifully and carefully articulated, and better connected with the wider neighborhood. Their emotional reaction in favor of that built form, of beautiful places, was formidable. "Why can't we build streets like that?" one resident asked.

Later, another incident brought dramatically home just how wide the gap was between what most people like and what the British design, planning, and housing process seems able to provide. In January 2015, Create Streets participated in a short study of how community engagement had been run for an estate regeneration in East London. The process had been one of what one might term responsive consultation ("This is what we're proposing—what do you think?") rather than true engagement ("What do you like?"). The requirements of the local plan and of a labyrinth set of rules had trumped true resident preferences. Meanwhile, commercial analysis sent back the same message: "Build as much as you can. So constrained is supply that we can sell anything that you can build many times over."

The tenants had therefore never been asked what they liked best and what they most wanted. The advisor to the tenants (paid for by their charitable landlord) was surprised when this issue was raised. "Why do you ask those questions?" he wanted to know. We asked because the answer from tenants was a stunningly emphatic preference for traditional streets with small private gardens. "Terraced houses just like in the old days ... the old terraced houses were fabulous ... we had little yards and we'd talk over the back fences ... you could

pop over the road... such a strong community.” (“Terraced house” is British English for what Americans call a “row house.”)

The architect of the East London estate had said that maximizing open space and river views had driven the entire design. When we asked tenants if they would trade some of this for a more conventional urban form, the answer was a resounding yes. Given the size of the estate and the densities being targeted, something much closer to the apparent preference of the community would have been possible (four- or five-story terraces of narrow houses and flats) but had not been considered. The architect explained to us, in the presence of senior government officials, that he had not been able to meet residents’ preference for streets of terraced houses: “Of course we couldn’t do that; we wouldn’t have got planning [permission] ... The council would have insisted on open spaces. You just can’t build houses like that anymore, all the space standards, all the rules.”

In Britain and elsewhere, the unpopularity of new buildings, design assumptions, the resistance to development, constrained land supply, high prices, well-intentioned but unhelpful rules, and market overinterpretations of these rules have led to a noxious cocktail of a collapsing planning system and a failing housing market with vertiginous barriers to entry.

New homes are not popular. Amazingly, two-thirds of British adults say that they would never consider buying one, and only 21% say that a new home is their preferred option.⁵ Hardly surprisingly, we don’t build enough. The politics just isn’t there.

A crucial step in rectifying this situation is to start building the kind of homes in which real people want to live. For the right type of home on the right type of street in the right type of neighborhood, people will fall in love with, argue for, and buy homes at much higher densities and at a higher price. Government needs to understand this reality, not subvert it. We need to learn to love the NIMBY and accommodate the preferences of tenants and potential homeowners.

What Do People Like?

It’s a commonplace among designers that style is purely a mat-

ter of unknowable personal taste, with the sophisticate's preference for burnished steel as valid as (indeed, more valid than) the *petit bourgeois* liking for sash windows or red bricks. But what most people do like architecturally is hardly unknowable; rather, it is remarkably predictable. In every survey of British preferences that we have conducted or have been able to find, there is a strong, very strong, or overwhelming preference for what might be termed a more historically referenced style. People seem to care far more about a "sense of place" (buildings should fit in with their surroundings) than a "sense of time" (buildings must stand for today's zeitgeist).

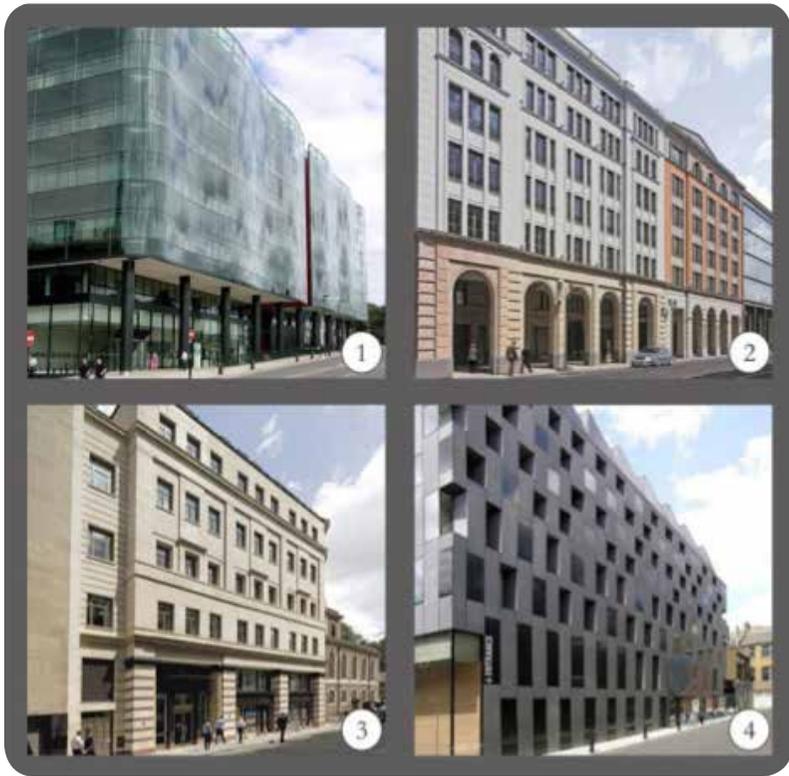
In 1989, 99% of the letters sent to Prince Charles, in response to his antimodernist television program "Vision of Britain" (later published as a book), were supportive.⁶ A 2001 BBC list of "Britain's Worst Buildings" was entirely composed of modernist or postmodernist tower and slab blocks dating from the 1960s to the present day.⁷ A 2004 list of the 10 worst and 10 best buildings in Britain spontaneously given by a sample of 2,000 also listed no recent building in the "Best Buildings" list and named exclusively recent buildings among the 10 worst buildings list.⁸ A 2005 survey found very similar opinions.⁹

This evidence is consistent with other data over many years. Research from 1994 found that 67% would "prefer an older-looking property or copy of an older design." In 1997, the Halifax Building Society interviewed 302 intending and recent house buyers: only 12% wanted to buy a "more innovative and up-to-date in appearance" new house. A 1998 survey asked if "old styles are right for new houses" and "new houses should not imitate old houses": 63.5% thought that old styles were right for new houses, and 15.5% did not; 54% thought that new houses should imitate old houses, and 25% did not.¹⁰

None of these questions or surveys (and I could cite more) had any visual prompts, so different respondents will have interpreted them differently. Nevertheless, they paint a not-inconsistent picture of 60%–80% support for a less self-consciously assertive approach to design.

The only way of overcoming uncertainties in the use of vocabulary is to use pictures. At least five pieces of recent research have

Figure 1. Stylistic Preferences for Commercial Buildings



Source: Adam, “Architectural Preferences in the UK”

used selected visual material to assess architectural preferences—all with consistent results.¹¹

For example, a 2005 YouGov survey asked 1,042 respondents to select a preferred nonresidential building from a choice of four, in answer to the question: “Please imagine a new building is planned to be built near where you live. Four different designs are proposed. Please look at the designs below. Which one would you most like to be built near you?” The illustrations (*Figure 1*) show new buildings of a similar height, size, and orientation to the street. The results: 77% of respondents who selected a design chose traditional archi-

Figure 2. The Impact of Design on Support for New Building



ecture (2 and 3); and 23% chose contemporary buildings (1 and 4).

A 2015 Ipsos-MORI poll commissioned by Create Streets asked respondents if, in principle, they supported the building of new homes on brownfield land (previously developed but now vacant) near where they lived. The poll found that 64% of adults supported the building of new homes locally on brownfield land, and 14% opposed. Respondents were then shown five photos illustrating different types of housing (**Figure 2**). For each, they were asked if they would support or oppose the building of 10 similar-style homes in their local area. The most conventional in form, style, and building materials won 75% and 73% support. Less conventional, more innovative homes won 23% and 34% support. Designs that respond to people’s preferences can materially change support for new homes. Among the 14% who opposed building “in principle,” half changed their mind for the most popular design option.¹²

Why the preference for more traditional design? Research that Create Streets conducted in 2014 for the Prince’s Foundation for

Building Community (based on participants in British community-engagement projects over 15 years) implied strongly that most of us crave a “sense of place” that, many feel, most contemporary housing just fails to provide.¹³

These visual preferences are not necessarily for low-density housing. For example, in survey work that we carried out in 2014 (a favorite-streets survey), respondents opted, almost without exception, for higher-density terraced streets over more suburban forms.¹⁴ When the British real-estate firm Savills calculated the potential housing numbers from a conventional, street-based approach with the regeneration of postwar housing estates, it estimated an *increase* of 54,000 to 360,000 new homes while keeping all existing social tenants on site.¹⁵ And in the right place for the right urban form, people will pay more for higher densities.

What Will People Pay For?

Pricing data corroborate research on architectural preferences. The Halifax house-price data series shows that the prices of “traditional” pre-1919 homes in a “conventional” street format in the U.K. have risen 54% faster since 1983 than their post-1960s equivalents.¹⁶ This is even more marked in high-growth areas such as London and the South East. The prices of “traditional” pre-1919 homes in a “conventional” street format in London have risen by 1,284% since 1983. Their more modern contemporaries rose by half as much. Older homes are worth 50%–70% more as well.¹⁷ Meanwhile, research by a housing firm shows how historic parts of London in well-connected, high-density terraced streets and squares are more valuable, all other things being equal, than areas that are not.¹⁸ An analysis by a British bank in 2005 calculated that the premium paid for living in a pre-1900 property, compared with a 1945–59 property, ranged from 8% to 34%. By contrast, properties built in the 1960s and 1970s sold at a discount to the postwar price. New buildings sold at a 12% premium.¹⁹

British architectural preferences are not peculiar. A recent Dutch study by Edwin Buitelaar and Frans Schilder showed the effects that various architectural styles had on house prices.²⁰ Its data

set comprised 60,000 housing transactions from 1995 to 2014 in 86 urban extensions built across the Netherlands.

The styles analyzed were grouped and defined as “neo-traditional,” “referring to traditional,” and “nontraditional,” based on the shape of the building, composition of the facade, and details. If all three were traditional, the style was categorized as neo-traditional; if one or two were missing, it was categorized as “referring to traditional.” If none of the elements were present, it was categorized as “nontraditional.” Two architects performed the analysis.

The results were quietly compelling. The models suggest that significant and predictable price premiums were associated with the two “retro” styles, compared with the nontraditional one. This was true even though many designers regard the Dutch housing markets as far more contemporary and less conservative than the British housing market.²¹ The analysis showed that:

- Pure neo-traditional houses sold at a premium of 15% to non-traditional housing
- Houses that referred to traditional design sold at a premium of 5% to nontraditional housing
- The price premium of neo-traditional designs did not reflect residents’ higher incomes
- For smaller, less valuable houses, the price premium of neo-traditional over nontraditional housing was slightly higher than for larger houses
- Various tests and evidence taken from Dutch builders strongly implied that the build costs were not higher and that higher costs could not be the reason for the higher prices of more traditional homes

Other studies have also shown a strong association between design features of a home that might be expected to reflect more conventional design and higher values. For example, Richard Cebula’s 2009 study of detached homes (known as single-family homes in the U.S.) sold in Savannah, Georgia, from 2000 to 2005 found that the use of bricks or stucco as a building material was associated with 24% and 35% value increases over the wood and aluminum alter-

natives. This was notably more than adding another bedroom (6%), bathroom (10.5%), private courtyard (17%), or pool (17%).²²

Of course, values are not just a function of architectural style but of wider urban form. How are buildings and space associated? Are there conventional urban blocks with clear backs and fronts? Our forthcoming literature review finds that most people will pay more for a well-connected property away from noise, pollution, and one-way streets and within walking distance of greenery and other local amenities. Retail shops with ready pedestrian access add value. So do good schools—sometimes astonishingly so. In the right market, luxury towers can add value—sometimes huge value—within this framework. However, they can also be unpopular and reduce livability and neighborhood value.²³ Their economics hitherto have been questionably sustainable outside expensive developments with very high land values in central locations. Locally referenced vernacular architecture certainly can and probably does add more value. This value uplift can be significant and, in the limited research to date, is more significant than views over water.²⁴

Studies in the U.S. and the U.K. have found that consumers, particularly prosperous consumers, are normally willing to pay a premium to live in a higher-density “new urbanist” development, compared with a more normal and lower-density suburban development. The premium per unit can be substantial. For example, Charles Tu and Mark Eppli studied the price premium related to what they termed “traditional neighborhood development,” compared with conventional suburban developments.²⁵ Their research focused on detached homes in three American developments: Kentlands in Maryland, Laguna West in California, and Southern Village in North Carolina. They analyzed 5,350 housing transactions using hedonic regression. These developments were chosen because they had built at least 150 homes by 1997, had no or very few second-home owners, and could be contrasted with more typical newly built lower-density suburbs. The confident conclusion was that “the price premium for new urbanist housing exists across geographic areas,” though to differing degrees. In Kentlands, the price premium was 14.9%; in Laguna West, 4.1%; and in Southern Village, it was 10.3%.

Other research has echoed these findings. In a 2003 study, researchers analyzed 48,070 detached house prices in Washington County, Portland, Oregon.²⁶ They controlled for location, public service levels, physical attributes of a home (number of bedrooms, overall size), proximity to greenery, and socioeconomic variables (though those were not found to be significant). They found a \$24,255 premium (over 15%) for homes in the (new urbanist) Orenco Station neighborhood, compared with a standardized suburban neighborhood representing an aggregate of all other Washington County developments, despite the fact that typical lots were smaller in Orenco—on average, 3,500 square feet, compared with 8,675 square feet elsewhere.

Higher density, in other words, can sell at a premium for new developments. Can the same pattern emerge for historic cities? It can. We are currently conducting a major analysis project into predictable correlations between urban form, poverty, and value in six British cities. We have been able to source “big data” (more than 160,000 data points) on items such as the presence of greenery, the nature of the street pattern, the age of buildings, transport connections, the proximity of high-quality green space, traffic levels, and the proximity of buildings of historical interest. We are finding, particularly strongly for London, very predictable associations between older, quite high-density areas with a finely grained street pattern with high valuations and lower levels of poverty.

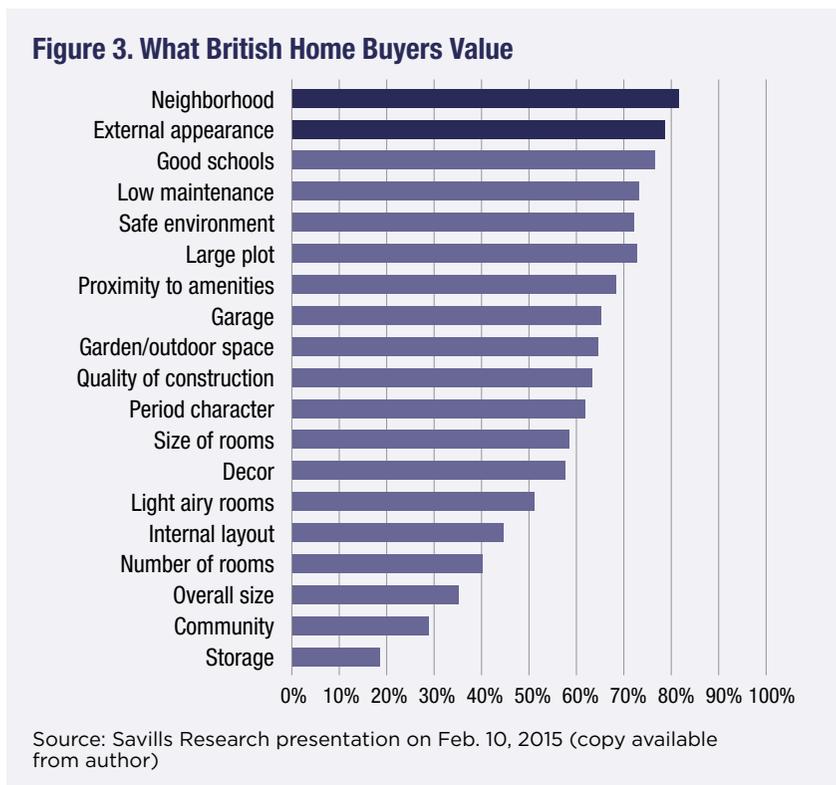
Areas with the highest levels of poverty are those with a high population density but also a high proportion of unbuilt land—the “blocks in space,” Le Corbusier–influenced urban form that was prevalent, particularly in Europe, for much of the postwar period. An analogous pattern emerges for sales values. London neighborhoods with a high “intersection density” (a measure of more conventional streets and shorter urban blocks) command value premiums of nearly 12%, all else being equal. Proximity to protected heritage buildings or a high proportion of pre-1900 buildings is associated with value premiums of 10% and 12%, respectively—again, holding other factors constant.²⁷

It is dangerous to get into causation too confidently, but what

Londoners like and will pay for is very clear. Older buildings in old-fashioned street patterns with fairly high (though not astronomical) densities are reliably associated with higher sales values. Most theories and analyses of economic geography focus on connectivity and green space. They argue that value is primarily a driver of centrality, access to income, and access to green space. Our research does not disagree that these factors are important but finds that, certainly at a neighborhood level, the nature of the urban form and of buildings can be equally, or more, important.

Can Design Make You Happy?

Prospective home buyers care enormously about what a neighborhood looks like and about the external appearance of a house. Research into British preferences by Savills found that those were the top two factors on their list—followed by good schools (*Figure 3*).



But why do people care? Do popular design and a more conventional urban form make you happier? Or are house buyers making a huge mistake? The current architectural consensus is that they are and that people overestimate the importance of architecture when choosing a property and estimating its likely impact on their happiness. Some research would appear to confirm this.

One study of mental health on a Greenwich housing estate, for example, did not find that “liking the look of the estate” was correlated with well-being, though the range of possible preferences was not wide.²⁸ However, if we lift our gaze a bit from the home to the neighborhood, town, or city, we get a dramatically different answer. Environmental psychologists have shown that alongside green space and soft edges, we enjoy gentle surprises and pleasant memories.²⁹ We dislike sharp edges, darkness, and sudden loud noises.³⁰ The strong preferences that most of us show for a more locationally and historically referenced architecture are therefore psychologically credible, even sensible. We choose our homes and experience the world around us emotionally as well as intellectually.³¹

In a remarkable series of studies, Yodan Rofè has conducted surveys on how people feel in certain parts of a neighborhood. Respondents are asked to rate whether they feel very good, good, bad, or very bad in certain places. The results: people felt better in the types of place with more greenery, more complicated elevations, and, yes, a more conventional form of architecture and urban form. Aligned with the findings above, there is remarkable predictability of response. Location alone, as opposed to social profile or individual tendencies, predicted 69% of responses. Personal preferences or background colored responses but did not drive them.³² The potential effect of the beauty of urban areas on health, behavior, and happiness is also starting to emerge. In one recent American study, pedestrians in front of an “active” and attractive facade were nearly five times more likely to offer assistance to apparently lost tourists than were those in front of an inactive and ugly facade.³³ In a recent British project, researchers at the University of Warwick have taken advantage of the power of crowd-sourcing to gauge 1.5 million ratings of the “scenicness” of 212,000 pictures. These findings were then compared to self-reported health from the 2011 census. Importantly, researchers

found that the “differences in reports of health can be better explained by the ‘scenicness’ of the local environment than by measurements of greenspace.”³⁴ One researcher commented:

*This is a fascinating finding. Just because a place is green does not compel us to feel better on its own. It seems to be that the beauty of the environment, as measured by scenicness, is of crucial importance. Our results suggest that the beauty of our everyday environment might have more practical importance than was previously believed. In order to ensure the wellbeing of local inhabitants, urban planners and policymakers might find it valuable to consider the aesthetics of the environment when embarking upon large projects to build new parks, housing developments or highways. Our findings imply that simply introducing greenery, without considering the beauty of the resulting environment, might not be enough.*³⁵

The research team also noted that beauty and attractive aesthetics seemed to be more than a matter of fields and trees: “Our colour analysis also reveals that scenicness does not simply constitute large areas of green. Indeed, we find that the most scenic areas do not contain the most greenery, but rather contain high proportions of blue, grey and brown.”³⁶ A range of American surveys have also found strong links between the perceptions of a place’s physical beauty and overall place happiness, attachment to the city, community satisfaction, and physical and mental health.³⁷

More research will help us understand this phenomenon, but from the evidence to date on popularity, environmental psychology and “scenicness,” and health and emotions, I conclude that architecture and perceptions of beauty really do matter.

A wider study of the links between urban form and well-being finds strong evidence of a sweet spot between the extremes of outer suburbia and uber-density. Well-connected walkable streets nearly always at human scale, with green space interwoven throughout, with variety within a pattern, and with at least a good proportion of the architecture seeming as though it belongs locally tend to correlate with people being happier, walking more, knowing more of their neighbors, and not feeling stressed or oppressed by their surroundings. Any politician, planner, developer, or architect who says otherwise is wrong.³⁸

What Will People Support in Practice?

This is why the fairly conventional tastes of most of us are so relevant: the public will support development far more readily if they like the look of it. Most people know what they like, actively look for it, and will pay more for it. They also seem to be happier walking through and living in a city or neighborhood that they aesthetically like. Proposing more conventionally conceived and designed housing is nearly always more popular with the general public—sometimes spectacularly so.³⁹

In a 2004 survey of residents' views about the redevelopment of the failed 40-year-old Packington Estate, 91% of respondents wanted no development greater than five stories, 81% opposed proposals to build up to eight stories, and 86% wanted a new development to reinstate the traditional street pattern.⁴⁰ In 2007, over 80% of residents of one of the iconic British multi-

Figure 4. Mount Pleasant Proposals



Source: Illustration by Francis Terry of Francis Terry Associates, for Create Streets

story housing developments, Robin Hood Gardens, wanted them pulled down.⁴¹ In 2007, the chairwoman of the tenants' association of the Aylesbury Estate in South London, also scheduled for demolition and for rebuilding with more flats and multistory housing, commented: "I'd rather live in a council house."⁴² Of course, many other factors influence local views of estate regeneration, including the economic offer to tenants and the honesty of consultation. The proposed process for moving from old to new homes also plays a crucial role in garnering or not garnering support.⁴³ But people's preference for conventional design and form still shines through.

In 2012, the East London Community Land Trust, consulting on how to develop the site of a former hospital, St. Clements, near Mile End, found a clear preference from the members for conventional houses in conventional streets.⁴⁴ One objection made in cases such as Affinity Sutton's (foolish) 2016 attempt to demolish the Edwardian Sutton Estate in Chelsea was the preference to keep the existing buildings over the proposed new development (with 350 signatures of protest versus only about 25 supporters).

Create Street's own experience working with communities in London revealed consistently strong opposition not to development per se but to the type of very large and very high buildings that increasingly typifies London building and regeneration. We have found strong support for more conventional, street-based developments. An example: in summer 2014, the Mount Pleasant Association asked 258 residents to compare a "blocks in space" design for the Mount Pleasant site in central London with our more conventional and street-based approach (**Figure 4**). There was 99% preference for the higher-density streets-based approach backed up by many of the verbal responses we received. As one neighbor put it: "The whole of London would fight for Mount Pleasant Circus."⁴⁵

Over the last three years, Create Streets has helped several London communities conduct a range of polls to discern local preferences for built form in their neighborhoods. The results

are consistent and further demonstrate with sharp clarity that medium-rise developments can secure not just the passive acceptance but the active support of London communities:

- In March 2015, in a survey of 147 residents near Oval in central London, 92% wanted streets and squares of the local areas to act as a template for development, and only 8% agreed that the modernist high-rise towers along the river should be the template. The survey reported that 91% wanted any development to be eight or fewer stories. Only 9% supported the development of higher than nine stories.⁴⁶
- In July 2015, in a survey of 184 residents in Kingston in South West London, 83% supported a development of a town center site at nine or fewer stories. Only 17% supported development higher than 10 stories. More generally, there was 88% preference for a “typical” London neighborhood as opposed to a high-rise or modern shopping center, and 88% preference for the historic parts of Kingston.⁴⁷
- In 2016, in a survey of 711 respondents in Wimbledon in South West London (over 1% of the local population), 96% liked historic brick buildings or Portland stone buildings best. Seventy-eight percent wanted necessary development to follow a tightly grained network of small streets and public spaces. In contrast, only 3% wanted to see large and high buildings with large open spaces. Only 1% wanted development to be focused on large shopping centers. Eighty-six percent of respondents wanted new development to be terraced flats above shops (55%) or mansion blocks above shops (31%). Ninety-one percent of respondents wanted a height limit for Wimbledon Town Centre at up to four or up to seven stories.⁴⁸

It is worth reemphasizing that the built form that these communities are exponentially strongly preferring are not low-density or inappropriate for cities. Finely grained, medium-rise urban forms of streets and terraced (or row) houses and flats can easily reach very high densities of 80–220 homes per hectare.⁴⁹ People will support density; they just won’t support some types of density.

The “Design Disconnect”: Men Are from Mars, Professionals Are from Venus

Nearly all design and planning professionals in the U.K. would disagree with, or question the relevance of, nearly everything written or referenced in this paper so far. We have come to the “design disconnect” between professionals and the rest of us.

In 1987, a young psychologist was conducting an experiment into how repeated exposure to an image changed perceptions of it. A group of volunteer students were shown photographs of unfamiliar people and buildings and were asked to rate them in terms of attractiveness. Some volunteers were architects, and some were not. During the experiment, a fascinating finding became clear. While everyone had similar views on which people were attractive, the architecture and nonarchitecture students had diametrically opposed views on what was or was not an attractive building. The architecture students’ favorite building was everyone else’s least favorite, and vice versa. The disconnect became more extreme with experience. The longer that architecture students had been studying, the more they disagreed with the general public on what constitutes an attractive building.⁵⁰

The young psychologist was David Halpern, who now heads the British Cabinet Office Behavioural Insights team. More than two decades later, he is very clear that “architecture and planning does not have an empirical, evidence-based tradition in the sense that ... sciences would understand. There are very few studies that ever go back to look at whether one type of dwelling or another, or one type of office or another, has a systematic impact on how people behave, or feel, or interact with one another.”⁵¹

If Halpern is right, the process of a professionally derived borough plan, of planning consent and of expert design review, is the worst way imaginable to build our towns and cities. The very act that confers value on a site (the granting of planning permission) is a process whose key players are likely to be the worst judges of what people want or like in the built environment.

But is Halpern still right? Perhaps more than two decades of mar-

ket pressure since the state largely removed itself from house-building in the U.K. has obliged the profession to value what its clients, not their training, appreciate. A glance at the criteria of architectural prizes is not reassuring. Few, if any, place value on evidence of popularity or provable correlations with well-being. Certainly, the Royal Institute of British Architects' prizes specifically demand evidence on sustainability but not on what members of the wider public think.⁵² A 2004 study into attitudes toward housing conducted for the Joseph Rowntree Foundation found that nearly 60% of the public disliked flats. Only a little over 20% of "experts" shared that view.⁵³ Peer-reviewed surveys have found that architects fail to recognize that their understanding of good housing may not be shared by residents, consistently disagreeing with the general public on matters of good versus bad design and unable to predict the public's real preferences.⁵⁴

Create Streets conducted an informal poll on social media and found a sharp and important distinction between what non-design specialists and design specialists would like to see built: 25% of supporters of two options that were more popular worked in planning, architecture, or creative arts; 46% of supporters of two less popular options worked in planning, architecture, or creative arts. People are from Mars. Professionals are still from Venus.⁵⁵

The melancholy implication of this is that architectural awards are a good indicator of popularity—but only if you invert them. We are aware of nine architectural or planning prizes awarded to the two least popular options. We are not aware of any architectural or planning awards garnered by the most popular option.

The preferences of too many in the design and planning establishment palpably influence what actually happens. In a 2014 design meeting for a major London site, the "traditional" built form of conventional developments was openly ridiculed and dismissed as unworthy of discussion, even though it is what the public most likes.⁵⁶ Similarly, at a 2015 meeting of senior officials and architects at which Create Streets was present, the director of Housing and Regeneration at an important London borough spoke (without apparent irony) of the "horrid Edwardian streets that most of us live in" and complained of "dreary terraces."

When a senior and respected decision maker not only disagrees with the vast majority of the public but is openly contemptuous of their views, it must be time to ask if the whole public procurement and planning prioritization process needs dramatic rebuilding from the bottom up. Certainly, in public-sector design competitions for city-center development and estate regeneration, marks are routinely (and, in our experience, always) awarded materially for “innovation of design.” In at least two cases that we are aware of, this was despite the explicit request from councillors that a more conventional, even traditional, design would be more appropriate.

Innovation is not necessarily a bad thing; often it is excellent, especially in technology and construction. But purely aesthetic innovations imposed on people against their wishes are hard to square with any notion of democracy.

Conclusion

Where does this analysis lead us? Nearly all societies have some sort of planning regulation—London has since at least the 12th century.⁵⁷ And this is for very good reasons. What person A does on the land he owns next to person B can materially affect person B. Managing this is a legitimate role for the state. At any rate, as a statement of fact, it is a role that most states find themselves undertaking. The trick is to do it in a way that does not choke off supply or popular support for new housing.

The British approach has spectacularly failed to accomplish this except by propping up supply with more state-building than most other countries find necessary. The modern British planning system is unashamedly 1940s socialist in intent. But it has been very common law in its implementation (endless nuance and case law on what is and is not acceptable in an ever multiplying and evolving set of circumstances)—arguably the worst of all possible combinations.

Seventy years of the British legal system, with its multitude of applications, appeals, precedents, and judgments, has produced a system that combines a view on nearly everything and utters certainty on nearly nothing. Many regard this as a good thing. It is certainly very English and very “flexible” (a word used with pride in many

planning or design seminars). It also means that what can be built on a plot of land (density, design, use) is far more open to debate and judgment than in many other countries.⁵⁸

This matters because it increases planning risk. The problem is not planning per se; it is unpredictability. How much you can pay for land is uncertain, and what you can build on it is uncertain. In many cases, whether you can build is uncertain. What you need to spend to find out and “win” planning permission (a telling use of words) is a major cost. All this creates highly nontrivial barriers to entry to development, far greater than many landowners or developers face in other countries, including in parts of the U.S.

In the U.K., Create Streets⁵⁹ is trying to change the argument from one in which the free-market Right attacks the concept of planning and the statist Left attacks the concept of private developers to one where both accept the idea that some sort of planning control is a fact of life and instead start asking, “How can we make the system more popular, more accessible, and more predictable in what it permits?” How do we solve the design disconnect, and what type of new housing would minimize NIMBYism? How do we efficiently discover and adumbrate popular preferences at the local level so as to create a fast track through the planning system? We are arguing that the planning system needs to get better at systematically understanding what local people like and embedding this simply and visually into the local codes for an area.⁶⁰

Why do codes need to be visual? Some designers, planners, and developers have increasingly found that setting out ideas about how streets, pavements, blocks, and building facades will work visually, as opposed to verbally, aids clarity and makes it much easier for communities and nonspecialists to feed in their ideas and preferences—to say “what things will look like round here” and “what type of streets and homes” we want to build.

These visualizations can be done in various ways and with differing levels of detail. They are often (but not always) known as pattern books, form-based design codes or protocols, and sometimes as design guides. Pattern books or design codes define all or some of the range of possible plots scales, shape, materials, layouts, urban forms,

street, and style of all development in a certain area. Advocates have made several key arguments in favor of pattern books and design codes, including:

- They are easier for laymen to comprehend, permitting more effective community engagement and consensus.
- Being so clear, they permit greater certainty of delivery and outcome to any community and also to landowners and investors.
- They make it easier to deliver “variety within a pattern” by permitting a range of builders, architects, and designers to work within a consistent framework (“one code, many hands”), which should lead to better places and higher values.
- Greater potential variety enables smaller firms and, indeed, self-builders to take a more substantial role.

Many of these arguments appear to be true. A 2006 U.K. government assessment of 15 design codes contrasted to four noncoded approaches, conducted by Matthew Carmona of University College London, found that “where codes are being implemented on site, schemes have been delivering enhanced sales values and increased land values.”⁶¹

In addition, the rapidly growing capacity of technological and online tools (for image-enhanced online polling and the like) is making it ever easier and cheaper to discover local preference and to understand and set popular local templates.

Finally, the government is listening.⁶² In a recent major British Government Housing Strategy document (a so-called White Paper), the British government accepted much of our underlying analysis and logic. There were proposals to encourage, support, and fund local communities to work up better visual tools for what they like and won’t like, and to embed these into local plans to permit more certainty about what could and could not be delivered in light of such documents.

Create Streets is starting to work with the U.K. government and with some local councils and communities to implement this vision. We hope shortly to be designing an online visual poll on behalf of

a London borough as to what residents do and don't like in their streets and buildings. To the best of our knowledge, it will be the first one ever carried out by the public sector in the U.K.

Much of the way of thinking about cities and facades that we are starting to push onto the political agenda is derived from America. For example, the modern renaissance of pattern books is largely American. They have been championed by bodies such as the Form-Based Codes Institute.⁶³

There are now more than 400 form-based codes in U.S. and Canadian cities. In 2010, Miami became the first major U.S. city to replace its historical zoning code with a form-based code; Cincinnati and El Paso have done likewise. An official in Nashville commented:

*Nashville has adopted form-based codes for over 30 districts, corridors, and neighborhoods. The direct result has been an increase in property values and a much greater desire to develop in areas with form-based codes due to the certainty that the code provides the developer and the community.*⁶⁴

Ben Derbyshire, incoming president of the Royal Institute of British Architecture, said that “it is actually quite difficult to design streets which are streets in the sense that citizens will recognise.”⁶⁵ It is time to put that right.

Endnotes

1. Based in London, Create Streets researches the links between built form and well-being, long-term economic value, and public support for new housing. It works with British community groups, public and private landowners, developers, and investors to put their work into practical application.
2. A housing estate is roughly comparable with what in the U.S. is called a housing development. The residences in a housing estate might be private or public. In Britain, they are disproportionately blocky and high-rise.
3. "Our Streets," a BBC series. The woman quoted appeared in the first episode, broadcast on June 13, 2012.
4. See Nicholas Boys Smith and Alex Morton, *Create Streets: Not Just Multi-Storey Estates* (London: Policy Exchange and Create Streets, 2013), pp. 41-43.
5. See Royal Institute of British Architects, *Improving Housing Quality: Unlocking the Market* (London: Royal Institute of British Architects, 2009), p. 8; Home-OwnersAlliance, "In the Rush to Build More Homes—Worry That New Homes Standards Are Slipping," June 17, 2015.
6. HRH Prince of Wales, *A Vision of Britain: A Personal View of Architecture* (London: Doubleday, 1989), p. 9. Of the remaining 1%, half were qualified in their support and half were opposed.
7. Boys Smith and Morton, *Create Streets*, p. 28.
8. Robert Adam, "Architectural Preferences in the UK—A Digest of Recent Research," p. 1 (n.p., 2005; available on request).
9. Lynsey Hanley, *Estates—An Intimate History* (London: Granta Books, 2007), p. 118.
10. Adam, "Architectural Preferences," pp. 1-3.
11. See Nicholas Boys Smith, *Heart in the Right Street* (London: Create Streets, 2016), sec. 9.8, for information on all of them.
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13. See Prince's Foundation for Building Community, "Housing Communities: What People Want," 2014.
14. Create Streets, Pop-Up Poll, May 2014.
15. Savills Research Report to the Cabinet Office, "Completing London's Streets," Jan. 7, 2016, p. 4.
16. Lloyds Banking Group, Halifax House Price Index, accessed Dec. 2013.
17. Ibid.
18. Savills Research, Residential Development, "Spotlight on Development Layout," Nov. 2010.
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23. Boys Smith, *Heart in the Right Street*, pp. 80-85.
24. See Nicholas Boys Smith, Alessandro Venerandi, and Kieran Toms, *Beyond Location: Understanding the Economics of Place in the Human City* (forthcoming, 2017).

25. Charles C. Tu and Mark Eppli, "An Empirical Examination of Traditional Neighborhood Development," *Real Estate Economics* 29, no. 3 (Fall 2001): 485-501.
26. Yan Song and Gerrit-Jan Knapp, "New Urbanism and Housing Values: A Dis-aggregate Assessment," *Journal of Urban Economics* 54, no. 2 (Sept. 2003): 218-38.
27. Boys Smith, Venerandi, and Toms, *Beyond Location*.
28. Annette Chu, Alice Thorne, and Hilary Guite, "The Impact of the Physical and Urban Environment on Mental Well-Being," *Mental Health* 120, no. 12 (Dec. 2006): 1117-26.
29. W. Richard Walker, John J. Skowronski, and Charles P. Thompson, "Life Is Pleasant—and Memory Helps to Keep It That Way!" *Review of General Psychology* 7, no. 2 (June 2003): 203-10.
30. Daniel Kahneman, Ed Diener, and Norbert Schwarz, eds., *Well-Being: Foundations of Hedonic Psychology* (New York: Russell Sage Foundation, 1999); Charles Montgomery, *Happy City: Transforming Our Lives Through Urban Design* (New York: Farrar, Straus and Giroux, 2013), p. 30.
31. See Sarah Robinson and Juhani Pallasmaa, eds., *Mind in Architecture: Neuroscience, Embodiment, and the Future of Design* (Cambridge, MA: MIT Press, 2015). On the role of emotion in choosing homes, see Royal Institute for British Architecture, "The Way We Live Now," 2012, pp. 4-5, 10-12.
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33. Happy Seattle, Editable Urbanism Project, Mar. 2015.
34. Chanuki Illushka Seresinhe, Tobias Preis, and Helen Susannah Moat, "Quantifying the Impact of Scenic Environments on Health," *Nature*, Scientific Reports 5 (Nov. 2015).
35. Seresinhe, quoted in Sarah Knapton, "Beautiful Urban Architecture Boosts Health as Much as Green Spaces," *Daily Telegraph*, Dec. 28, 2015.
36. Seresinhe, Preis, and Moat, "Quantifying the Impact of Scenic Environments."
37. Boys Smith, *Heart in the Right Street*, p. 97.
38. See *ibid.* for a wider summary of the links between built form and well-being.
39. Nicholas Boys Smith, *A Direct Planning Revolution for London?* (London: Create Streets, 2016), pp. 7-10.
40. Packington Estate planning brief, Appendix 4, Jan. 12, 2005. The most popular spontaneous feedback to the survey was a request to prevent any building higher than four stories.
41. Cited in Graham Stewart, *Robin Hood Gardens: The Search for a Sense of Place* (London: Wild Search, 2012), p. 16.
42. A council house is a home at a submarket rent owned by the local public authority. Jean Bartlett, cited in Jon Kelley, "Estate of the 70s Divided by Its Future," BBC News, July 12, 2007.
43. Flora Neville, "Is It Right to Regenerate Down?" CreateStreets.com, May 2, 2015. In our experience, the design and type of development can and often does play a key role in winning support for estate generation. See also David Halpern and John Reid, "Effect of Unexpected Demolition Announcement on Health of Residents," *British Medical Journal* 304 (May 9, 1992): 1229-30.
44. From a private conversation.
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46. Create Streets, Little Oval.
47. Survey carried out for Kingston Residents Alliance by Create Streets.
48. Create Streets, Friends of Wimbledon Town Centre Survey.
49. Boys Smith, *A Direct Planning Revolution for London?*
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51. Christian Jarrett, "An Interview with David Halpern," *The Psychologist* 24, no. 6 (June 2011): 432–34.
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53. Stephen Platt, William Fawcett, and Robin de Carteret, *Housing Futures: Informed Public Opinion* (York, England: Joseph Rowntree Foundation, 2004), p. 40.
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56. Private information. A member of Create Streets was at the meeting, which was for a public-sector client.
57. In fact, there is evidence of planning rules in the then-English capital (Winchester) back to the ninth century.
58. There are surprisingly few international comparisons of planning systems. One is Peter Newman and Andy Thornley, *Urban Planning in Europe* (London: Routledge, 1996). Create Streets has published essays on the French planning system and has a fuller analysis of planning in France in a forthcoming publication.
59. Though they may not agree with every word in this essay, a range of groups from different perspectives, including the housing charity Shelter, a growing number of YIMBY—Yes in My Back Yard—groups, the community organizers, Citizens UK, Civic Voice, the National Trust, and the Prince's Foundation for Building Community, are all trying to improve the way that communities influence what is built or to make the case for more popular building forms.
60. One way to ensure that what residents really want is embedded in designs and not just what developers and designers would like them to want is by using a "charrette" or "enquiry by design process." In a charrette, various stakeholders work together as part of one team. Planners, architects, owners, neighbors, amenity societies, and other "stakeholders" work on a valid but acceptable master plan together, over a series of days, with lots of pencils and sheets of paper. Charrettes have been described as making "community planning a combination of a town meeting and a barn raising."
61. Matthew Carmona et al., *Design Coding Practice: An Evaluation* (London: Department for Communities and Local Government, 2006), p. 14.
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63. A good presentation is on the Form-Based Codes Institute website, formbasedcodes.org.
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CHAPTER 5

HOW MICRO-TRANSIT COMPANIES CAN MAKE AMERICA'S BUSES HUM

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Introduction

Unpredictable, slow, and crowded, travel by public bus can be miserable. Little wonder that ridership is plunging in U.S. cities.¹ In New York City, ridership is down 16% since 2002, despite the city's all-time-high population.²

Not all public buses are equally inconvenient. Local buses, the most frustrating, make frequent stops, often every two blocks, and usually lack any service improvements over the 20th-century mixed-traffic streetcars that they replaced. Slightly less inconvenient are express buses, which are limited-stop, long-distance commuter buses. Rapid-transit buses, the newest, most promising variety, typically drive up to a half-mile between stops, and they feature other efficiency-enhancing improvements, including dedicated lanes, fare payment before boarding, multiple-door boarding, and traffic-signal priority at intersections.³ There is yet another solution to the woes of public buses: micro-transit.

And woes there are, starting with poor traffic management. Because congestion pricing⁴ and dedicated bus, HOV (high-occupancy vehicle), and HOT (high-occupancy toll) lanes are un-

common, buses frequently get stuck in the significant traffic that chokes most U.S. cities. Bad service is the second challenge. Public buses typically arrive infrequently, stop too frequently, board slowly because of legacy fare systems (cash, magnetic swipe cards, or even tokens), and leave wide sections of cities unserved. High costs are the third challenge. New York, for example, spends \$215 per vehicle revenue hour (the cost to run one vehicle for one hour of revenue service) on its local buses and \$419 per vehicle revenue hour on its express buses.⁵ Chariot, a “micro-transit” company discussed below, spends only about \$85 per vehicle revenue hour.⁶

Public transit reformers have focused on rapid transit as a cure for the problems that ail America’s buses.⁷ For high-ridership routes, rapid transit—if implemented with the key elements discussed above—has much to recommend it. But rapid transit won’t fix low-ridership routes, where riders already suffer most.

Transportation Network Companies

“I live right near the Metro in a high-density suburban area,” lamented economist Tyler Cowen in 2009, before the rise of car/SUV-based transportation network companies (TNCs). “Yet I don’t take the Metro to my Arlington office, which is about two minutes from a Metro stop. I’d rather do the 37-minute drive. Why? Because I stop at the supermarket and the public library on my way home at least half of the time or maybe I stop to eat at Thai Thai.”⁸

Today, TNCs, which dispatch cars through smartphone apps, make not owning a car cheaper and more convenient for urban residents than in the past (see sidebar). TNCs offer both the convenience of prescheduled, door-to-door “black cars” and the lower prices of street-hail taxis.⁹ According to their mission statements, Uber and Lyft, America’s two largest TNCs, aim to complement mass transit and reduce congestion by reducing private car ownership and boosting average vehicle occupancy.¹⁰

TNCs are predominantly used for single pickup rides. In

CAR to TNC?

Inconvenient public transport in many U.S. cities encourages residents—even those who rely on mass transit to commute to work—to own cars. TNCs may cause infrequent drivers to reconsider. In Boston, a monthly public transit pass costs \$85 (or about \$60, if purchased with tax-deductible dollars).¹¹ Meanwhile, the lowest monthly ownership cost of a car (excluding tolls and parking) exceeds \$400.¹² Thus, if coupled with a monthly transit pass, Bostonians could spend at least \$315 on TNCs per month before it would be worth buying even the cheapest car sold in the U.S.

2016, 80% of Uber's rides were single pickup.¹³ Unlike most taxis, however, TNCs have expanded their services to include rides with multiple pickups.¹⁴ With UberPool and Lyft Line, riders get a discount for sharing their ride with others going in the same direction. Prices are set before booking, based on an algorithmic estimate of the likelihood of a suitable match. Uber (Uber Commute) and Lyft (Lyft Carpool) have also piloted services in which nonprofessional drivers get reimbursed for making pickups along the route of their daily commute.¹⁵

Yet TNCs have drawbacks, too. If they lure enough public bus riders into cars, the congestion gains from fewer people owning cars will be limited by the congestion losses of more TNC vehicles on the road. TNCs may also become significantly more expensive if the subsidies that riders and drivers currently enjoy are eventually ended, dampening their appeal to the less affluent.¹⁶ And, for all their promise, TNCs, especially shared-ride TNCs, may never become more than a popular niche service. Lyft, for instance, quickly canceled Lyft Carpool because of low demand.¹⁷

Micro-Transit Companies

While TNCs have received more attention and generated more controversy, minibus-based micro-transit companies (MTCs)—as

well as TNC/MTC hybrids, such as Via¹⁸—may, in the long run, offer stiffer competition to public buses. MTCs, also through smartphone apps, cheaply connect people to minibuses going in the same direction.

Chariot, now the only pure MTC after rival Bridj folded,¹⁹ seats up to 12 passengers in its minibuses. Chariot's fixed routes and limited stops evolve over time to maximize efficiency. Seats typically can be reserved up to a day in advance. Via, on the other hand, ensures that passengers must walk only a short distance to their pickup spot (likewise, their drop-off spot is near their final destination); unlike Chariot, Via does not serve fixed routes, instead responding only to requested pickups and drop-offs.²⁰ Citymapper, a smartphone app that provides directions that exclude travel by car, has also begun a minibus service in London using data generated by users of its directions app.²¹

In addition to different types of vehicles (cars/SUVs vs. minibuses), TNCs and MTCs have different labor models. TNCs (as well as Via) partner with independent contractors, who supply their own vehicles. MTCs supply their vehicles and hire full-fledged employees.

Sophisticated algorithms allow MTCs to offer the kind of frequent service with limited stops that could make buses more appealing to affluent riders, greatly reducing the need for taxis as well as non-rapid-transit public buses. According to researchers at MIT and the University of California, 98% of the 400,000 daily (yellow) taxi trips taken in Manhattan—provided by 13,237 taxis—could hypothetically be provided by just 2,000 10-passenger vehicles, with an average waiting time of only 2.8 minutes and an average trip delay, compared with riding alone, of 3.5 minutes.²² Ideally, cities would adopt congestion pricing to efficiently allocate road space. However, even absent congestion pricing, the fact that MTCs can carry more riders per vehicle means that they will add less congestion and pollution to roads than will TNCs.

Despite the huge company valuations of Uber and other TNCs,²³ the MTC business model may rest on a more solid foundation, especially in America's denser cities. Unlike TNCs, MTCs have already proved their ability to profitably offer unsubsidized rides (in the \$3.50–\$6.00 range), in San Francisco and Austin.²⁴

MTCs could help resolve problems in private bus markets, too. Demand is strong for private shuttle buses, which help fill gaps in America's mass-transit systems.²⁵ Alas, most of America's private shuttle-bus networks operate in relative isolation, unable to build the frequency and coverage of individual operators into a cohesive network. Coordination is difficult for passengers, too: Where does this shuttle stop? When does it arrive? Which of these parallel bus lines terminate at the airport? With MTCs, such coordination challenges can be outsourced to an algorithm. Riders simply enter their destination into their smartphone. They then receive mapped directions on where and when to meet their shuttle bus, as well as their estimated arrival time.

In addition to mapping the most efficient routes, MTCs could allow companies to easily open their services to other companies. For example, New York University operates frequent shuttles—many, undoubtedly, only partially full—throughout New York that could be used by other firms, which would no longer have to run their own shuttles. Boston's GoBoston 2030 plan proposes a “consolidated smart shuttle system” to integrate that city's various uncoordinated private shuttles.²⁶ Likewise, companies could replace their own shuttles with those of an MTC. Google, say, could sponsor a Chariot route in San Francisco and subsidize a monthly pass for its employees instead of operating its own smaller, closed bus network. An entire business improvement district could even sponsor a Chariot route for its member companies.

Yet another market opportunity for MTCs is as an outsourced provider of public transit. Public transit agencies could solicit “negative-price” bidding from MTCs, where bidders compete to offer the lowest public subsidy that they would need to operate the route with specified service quality.²⁷ This could be similar to London's tendering and contracting system²⁸ but with the explicit goal of creating dynamic routes—routes that evolve in response to consumer demand, in real time in a predefined area or by the gradual evolution of fixed routes—and higher-frequency service. In such a scenario, public transit authorities would become managers, rather than operators, of the public bus infrastructure. Just as real-estate developers sponsor routes for their tenants and employers sponsor routes for their

employees, public transit agencies would sponsor service with the goals of coverage, frequency, and equity.

The gains from such a switch would be considerable. A 2016 NBER working paper estimated that outsourcing the operation of America's public buses to private firms would produce some \$5.7 billion in annual savings for local governments, and it would also create some 26,000 new bus operator jobs.²⁹ With lower fares and/or better service, "aggregate ridership would increase from 5.2 billion to approximately 6.2 billion passenger trips [per year]."³⁰

Low-ridership public buses offer excellent opportunities for experimentation with outsourcing to MTCs. Bridj unsuccessfully proposed a public-private partnership with the city of Boston after the latter canceled late-night rail service because of low demand. Bridj offered to operate a fleet of late-night minibuses for \$85 per revenue hour—36% lower than the \$132 per hour that Boston later spent on its own set of late-night buses. Bridj also promised that its dynamic routing technology would deliver 50% faster travel times than Boston's existing buses.³¹

If public buses are more convenient, they will draw more riders, generate more fare revenue, and require a lower taxpayer subsidy. Outsourcing low-ridership lines to MTCs would have the double advantage of freeing up resources to invest in rapid-transit upgrades in denser areas with high bus ridership.

The lower operating costs and efficient dispatch of MTCs also reduce the ridership threshold necessary for feasible bus service. In 2010, New York cut 34 local and express bus routes during a budget crisis,³² with only some of the routes later restored.³³ As of 2015, most of the routes that remained closed were those with fewer than 1,000 weekday riders (compared with 10,000–50,000 weekday riders for busy routes).³⁴ Under a public-private partnership, MTCs could serve these unserved areas only as frequently as demanded by riders, thereby enabling a restoration of service at far less cost to taxpayers. In other words, MTCs would do more than just make bus rides faster and more pleasant; they would also free up subsidy dollars for busy routes and expand service in poorly served areas.

For the immediate future, MTCs will mostly complement pub-

lic buses. However, their convenience and efficiency mean that they will eventually develop into serious rivals of non-rapid-transit public buses. (If the speed with which TNCs disrupted local taxi monopolies is any guide, this may happen sooner rather than later.) Chariot's monthly unlimited pass in San Francisco is \$121—more expensive than that city's monthly public transit pass but equal to the price of New York's monthly public transit pass.³⁵

Other Considerations

Rigid work rules contribute to the high cost and inefficiency of many public bus systems. According to the NBER paper cited earlier, work rules for public bus employees “work in direct opposition to the heavily peaked demand of transit service. During midday lulls, workers may be paid even when they are not driving. On the other hand, if a driver works more than an eight-hour shift—extending between morning and evening peak demand—the additional hours are compensated as over-time pay.”³⁶ Loosening such rules to better meet public demand would deliver substantial productivity gains.

Certain areas, such as affluent Nassau County on Long Island, already outsource bus service to private firms. In these places, allowing bids from MTCs is unlikely to provoke major opposition. Yet in places where powerful incumbents, including some labor unions, will fight hard to protect the status quo, MTCs that hire full-fledged employees (unlike, say, Uber, whose drivers are independent contractors) may create goodwill that could be helpful in negotiating public-private bus partnerships. Drivers for Chariot in San Francisco, for example, recently organized under the Teamsters—a potentially shrewd move, politically, by Chariot.

Many logistical challenges of outsourcing bus service to MTCs could be tackled easily. Cities, for instance, could connect existing rider accounts to MTC accounts. Chariot has had initial discussions about how to integrate San Francisco's public transit card into Chariot user accounts.³⁷ What about people without smartphones?³⁸ Cities and/or MTCs could install Internet-connected tablets—similar to New York's new LinkNYC kiosks³⁹—at existing bus stops to allow people to book rides. MTCs might also be required to offer their ser-

vices via PC (as Chariot does), as well as provide some minimum bus service in areas where on-the-ground tablets are installed.

Conclusion

Transportation network companies and micro-transit companies are making urban life cleaner and more convenient.⁴⁰ TNCs, such as Uber and Lyft, have received more media attention—and many more riders, so far—than MTCs. Yet it is MTCs, led by Chariot, that could emerge as serious rivals to public buses, just as TNCs have disrupted local taxi monopolies. MTCs could also help fix flaws in private bus markets, such as the market for shuttle buses, which is difficult to navigate and plagued by overlap.

In the short run, cities should embrace the expanded choice that MTCs offer, especially to low-income residents, who now must depend on slow, unreliable public buses or expensive taxis. This means, at the very least, swiftly licensing reputable MTCs to operate, especially in areas that are poorly served by public transit and where existing rapid transit is overcrowded.

In the long run, cities should experiment with outsourcing the operation of public buses, particularly those with low ridership, to MTCs. Doing so will unleash a virtuous cycle: better service, more riders, more revenue, and fewer subsidies. With taxpayer dollars stretching further, cities will be able to invest more in high-ridership rapid-transit bus routes.

Micro-transit companies can help usher in a golden age for buses. But they'll need further help from cities, in the form of congestion pricing and other data-driven tools that ration scarce roads to their most valued uses.

Endnotes

1. Henry Grabar, “The Astounding Collapse of American Bus Ridership,” *Slate*, July 21, 2016.
2. “Turnaround: Fixing New York City’s Buses,” *TransitCenter*.
3. Cities often miss out on the full benefits of bus rapid transit by failing to adopt all these features.
4. “Congestion pricing” is a broad term. I use it to mean “whatever pricing methods are necessary to cause free-flowing traffic at all times.” This could include HOT (high-occupancy toll)/HOV (high-occupancy vehicle) lanes, toll cordons around Central Business Districts, electronic pricing of vehicle-miles traveled inside the toll cordon, and surcharges on taxi/TNC (transportation network company) trips inside the toll cordon. See “What Is Congestion Pricing?” U.S. Department of Transportation.
5. *TransitCenter*.
6. Author’s correspondence with Chariot. Chariot offers charter vans in San Francisco, starting at \$70 per hour. Bridj bid \$85 per revenue hour for overnight service in Boston, consistent with other private bus contractors in Boston.
7. See, e.g., “Turnaround: Fixing New York City’s Buses,” *Bus Turnaround Coalition*.
8. Tyler Cowen, “A Cost-Benefit Analysis of High-Speed Rail,” *Marginal Revolution*, Aug. 27, 2009.
9. In the U.S., the major TNCs are Uber, Lyft, Gett, and Juno.
10. See, e.g., “Slugs on Earth Day,” Uber; and John Zimmer and Logan Green, “The End of Traffic,” Lyft.
11. “Fares and Passes,” *Massachusetts Bay Transportation Authority*.
12. Bengt Halvorson, “Misers’ Models: The Ten Cheapest Cars to Own,” *The Car Connection*, Feb. 22, 2013.
13. Ingrid Lunden, “Uber Says That 20% of Its Rides Globally Are Now on Uber-Pool,” *TechCrunch*, May 10, 2016.
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15. “Slugging,” or casual carpooling, has existed in limited pre-digital forms in cities with extensive HOV lanes. See, e.g., Alex Armlovich, “The Next Step in Ride-Hailing?” *City & State*, Nov. 3, 2016.
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17. Brian Solomon, “Lyft Shuts Down Carpool Commute Feature as Drivers Opt Out,” *Forbes*, Aug. 18, 2016.
18. Via is a hybrid because it uses independent contractors (as TNCs do) but has the multiple pickup features of an MTC.
19. Bridj closed its doors when negotiations collapsed on a potential partnership with Toyota. With only \$10 million in funding, Bridj could not survive and scale in the face of UberPool and Lyft Line’s enormous promotions. Still, Bridj’s failure hardly portends the failure of all MTCs. Via has raised \$137 million. And Chariot is now owned by Ford. See Adam Vaccaro and Curt Woodward, “Toyota Pullout Left Bridj Out of Gas,” *Boston Globe*, May 2, 2017.
20. Because TNCs use independent contractors while MTCs use employees, the former are, by law, limited to using cars and SUVs. In the long run, however, driverless vehicles will likely erode much of the distinction between MTCs and TNCs.
21. “CM2- Night Rider, Our First ££ Commercial Bus Route,” *Medium*.
22. Javier Alonso-Mora, “On-Demand High-Capacity Ride-Sharing via Dynamic Trip-Vehicle Assignment,” *Proceedings of the National Academy of Sciences*, Nov. 22, 2016. For computational feasibility, researchers condensed taxi pickups and drop-offs to the nearest cross-street.

23. Leila Abboud, "Uber's \$69 Billion Dilemma," Bloomberg, Mar. 16, 2017.
24. "Common Questions About Chariot," Chariot.
25. "Dollar van" shuttles, legal and illegal, have been popular in New York's "transit deserts" (areas poorly served by public buses and trains) since at least the city's 1980 mass-transit strike. Today, airport and hotel shuttles are ubiquitous. Real-estate developers often provide complimentary shuttles to and from developments. Universities provide shuttles for students and staff. Employers in Silicon Valley operate private vans to and from San Francisco.
26. "Go Boston 2030 Action Plan," Boston.gov.
27. In negative-price bidding, routes (or route territory) are put up for bid. Operators bid on the subsidy that they would require to meet the specified service quality (or the franchise fees that they would be willing to pay along profitable routes).
28. "London's Bus Contracting and Tendering Process," Transport for London.
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31. "Innovation Proposals—Late Night," Massachusetts Bay Transportation Authority, Oct. 2016.
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35. Jen Kirby, "Get Ready to Pay More for a Subway Commute," *New York*, Jan. 20, 2017.
36. Jerch et al., "Efficient Local Government Service Provision."
37. Author's correspondence with Chariot.
38. Age and information barriers, not income barriers, typically pose the great obstacles to smartphone ownership. Used smartphones are very cheap, with generic Android devices available for \$50 or less. Some companies, such as FreedomPop, offer free smartphone service on the Sprint network, with 500 texts, 200 minutes, and 500 MB of data each month. See "100% Free Mobile Phone & Internet Service," FreedomPop.
39. "Free Super Fast Wi-Fi. And That's Just the Beginning," LinkNYC.
40. "Car Sharing Increases Mobility, Decreases Greenhouse Gas Emissions," Phys.org, July 20, 2016.



“Healthy cities must both provide effective public services and a regulatory climate that nurtures new ideas and new jobs. To meet these goals, cities must overcome the inertia of outdated process and procedure, lest the dysfunction hold them back. This volume provides both reform ideas and demonstrates ways of thinking that, we hope, can spur yet more good new ideas.”

Howard Husock