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BENIGN NEGLECT AND PLANNED SHRINKAGE

DANIEL P. MOYNIHAN AND BENIGN NEGLECT

Not an arsonist at first glance, Daniel Patrick Moynihan burned down poor neighborhoods in cities across the country as surely as if he had doused them in kerosene and put a match to them. In January 1970, as President Nixon's advisor on urban and social policy, he sent the famous memo to the President which advised a stance of "benign neglect" and, key to this stance, used data on fire alarms and fires in New York City forwarded to him by the New York City/Rand Institute. Indeed, files obtained under a Freedom of Information Act lawsuit showed extensive correspondence between Moynihan and the Fire Project staff of the Rand Institute.' Fueled by the letters back and forth, Moynihan enthusiastically parroted the Rand misinterpretation of these data and gave the impression that a huge proportion of the alarms were "arson." Perhaps he was merely projecting his own intentions. In fact, alarms include fires in buildings, fires in means of transportation, fires in outdoor rubbish piles, emergencies requiring fire companies, false alarms, and emergencies to which other services have not responded in a timely fashion. Fires in buildings form only a portion of total alarms, and proven arson, even in slums, has never exceeded a small proportion of these. Moynihan's misrepresentation labeled the poor people of NewYork as lawless, pathological, and irredeemably locked into an antisocial behavior pattern.

The pathology Moynihan diagnosed from the picture of widespread "arson" led logically to his prescription for benign neglect and his broadcasting of the myth that large cities inherently cause social pathologies and should he made smaller. In recent years, Moynihan has reinterpreted what he meant by benign neglect, but in 1970 in the context of Nixon's Southern strategy and Spiro

Agnew's rhetoric, "benign neglect" could only have meant taking resources from poor urban minority communities. The actions of the Nixon Administration toward these communities included shifting money from the inner cities to the suburbs via block grants, dismantling the Model Cities programs, and violating the civil rights and civil liberties of organizations and individuals.

Since, to Moynihan, pathologies express themselves as malicious false alarms or arson, "benign neglect," when applied to fire service, meant not answering alarms in poor minority neighborhoods. In line with this philosophy, in 1978, Moynihan, as U.S. Senator, opposed federal housing construction efforts in the South Bronx burned-out zone by concluding: "People in the South Bronx don't want housing or they wouldn't burn it down. It's fairly clear that housing is not the problem in the South Bronx."'

The complete text of Moynihan's "benign neglect" memo was printed in the NewYork *Times* in January 1970. [3] Particular sections of this explosive document bear reproducing:

> You are familiar with the problem of crime. Let me draw your attention to another phenomenon, exactly parallel and originating in exactly the same social circumstances: Fire. Unless I mistake the trends, we are heading for a genuinely serious fire problem in American cities. In New York, for example, between 1936 and l969 the over-all fire-alarm rate more than tripled from 69,000 alarms to 240,000. These alarms are concentrated in slum neighborhoods, primarily black. In 1968, one slum area had an alarm rate per square mile 1 3 times that of the city as a whole. In another, the number of alarms has, on an average, increased -f4 per cent per year for seven years.

> Many of these fires are the result of population-density. But a great many are more or less deliberately set. (Thus, on Monday, welfare protectors set two fires in the New York State Capitol.) Fires are in fact a "leading indicator" of social pathology for a neighborhood. They come first. Crime, and the rest, follows. The psychiatric interpretation of fire-setting is complex, but it relates to the types of personalities which slums produce. (A point of possible interest: Fires in the black slums peak in July and August. The urban riots of 1964-1968 could be thought of as epidemic conditions of an endemic situation.) t. .

> The time may have come when the issue of race could benefit from a period of "benign neglect."The subject has been too much talked about. The forum has been too much taken over to hysterics, paranoids, and boodlers on all sides. We may need a period in which Negro progress continues and racial rhetoric fades. The Administration can help bring this about by paving close attention to such progress-as we are doing-while seeking to avoid situations in which extremists of either race are given opportunities for martyrdom, heroics, histrionics, or whatever. Greater attention to Indians, Mexican-Americans and Puerto Ricans would be useful.

In this now-infamous memo, poor blacks and their families are portrayed as

pathological, hate-filled, alienated and racist. Because of segregation, he also attributes racism to young educated middle-class blacks. They "catch" racism and other pathologies from their poor schoolmates and thereby become antisocial. According to the memo, the social pathologies of the poor blacks stem largely from female-headed households, and the antisocial behavior of the young black males "helps shape white racial attitudes," rather than the reverse.

The Rand Institute's correspondence with Moynihan provided the basis for his assertions that fires were the result of social pathology. Among the documents sent to Moynihan was Appendix B, [4] entitled *Incidence of Fire Alarms,* which gave Movnihan much of the wording for his memo's section on fire and arson. Appendix B blames a "substantial number of incidents" on behavior and asserts, "Among the most rapidly increasing alarm types in slums are false alarms and deliberately set fires." Alarm incidence is termed "an accurate and timely indicator of neighborhood physical and social conditions" and a "leading indicator of social change."

Rand paid great attention to racial composition of high-incidence and low-incidence areas: "These high-incidence neighborhoods are heavily Negro and Puerto Rican, mostly poor, with large numbers of poorly maintained and abandoned buildings. The neighborhoods unshaded, and shaded light blue and yellow [low-incidence areas], are overwhelmingly white and `middle class."'

Unsubstantiated statements in Appendix B accuse poor nonwhites of frequent arson. The authors asserted that set fires were almost as numerous then as "the traditional business of a fire department residential and commercial fires, brush fires, accidents, and the like." "Typically, such `nuisance' incidents do not arise out of carelessness or unavoidable accidents, but rather are the product of opportunity to create an incident and someone's desire to do so."These "nuisance incidents" are listed as fires in vacant buildings, abandoned cars, and rubbish piles. All are labeled as deliberately set without substantiation. In point of fact, many fires in abandoned buildings, cars, and large piles of rubbish are not deliberately set but can arise in a number of accidental Nays. The Rand Appendix also never acknowledged the existence of landlord and business-owner arson. All arson is laid at the door of poor nonwhites, and nearly all fires are labeled arson.

Arson as an idea caught on in the late 1970s and became a political tool. Tenant groups and their allies pushed landlord arson as the big fire issue, and arson task forces were formed. The landlords and their allies made a big deal of tenant arson and arson-for-revenge or gang punishment. Huge amounts of time and money were drained by these efforts. Resources were made available to "fight arson" but not, unfortunately, to fight fires.

ROGER STARR AND PLANNED SHRINKAGE

"Planned shrinkage" was the New York City expression of Moynihan's "benign neglect." A form of triage, it dictated the withdrawal of essential services from sick neighborhoods which were seen as unable to survive or undeserving of survival.These services ranged from libraries to fire service to public transportation. Of course, the neighborhoods diagnosed as "sick" were all poor and nonwhite.

Roger Starr first articulated the theory of "planned shrinkage" in *Urban Choices: The City and its Critics* in 1966. [6] At that time, Starr had been executive director for a decade of the Citizens' Housing and Planning Council, a bogus "citizens' group," funded and governed by the real-estate industry. Starr cast himself as the rational, reality-based debunker of myths, prominent among them the "myth" of American community. He sneered at the thought of Americans 1969 living in communities. Consider the following quotes from the book's edition:

> Yet, no matter how lightly the word is used, the overtones of community refuse to die out, lending to the place or persons referred to, a significance they never earned.The overtones of the word suggesta that, ti hake created not described, their own thrown down their swords and spears; safety, but a web of love and kindness, understanding the word
> is sacrilege to tamper with. The careless abuse o *community* leads away
> from an understanding of the differences between people occupying a geographical area, and towards a veneration for kinship that may not even exist. The unearned veneration blocks changes that may, on other counts, be highly desirable.

> (pp 41-2)

> Provided only that a certain homogeneity of social class and income can be maintained, American communities can be disassembled and reconstituted about as readily as freight trains. (p 43)

> Since they have no property, their only marketable asset is hardship in a society pledged to eliminate that hardship which it is unable to ignore. Because this hardship is described to social workers and community organizers who are constitutionally disposed to believe the people they are listening to, and whose luck it is to listen only to the downtrodden and disadvantaged, it seems an immoral suggestion that some of the people displaced by urban renewal might just be exaggerating the sense of deprivation that they feel over their "lost homes." (p 46)

> We have advocated the continuation of urban renewal, in the course of which we may displace poor people to make room for middle-class people; and all in the hope of producing racially integrated models. We have recommended an increase in public housing on which we propose to spend far more money than ever before, urging extravagance as the way to provide more interesting design. We have urged dangerous flexibility in the civil-service system to provide stimulants for improved architectural design. We have urged taking an indeterminate number of children away from the homes of their natural parents or parent, to raise them in new,

small,' pioneering institutions. We have conceded that some human city problems cannot be solved at all with knowledge now in hand. We have urged the expenditure of tremendous sums of federal money on sewerage systems and treatment plants. We have-condoned the construction of new automobile highways that will destroy people's homes in the course of construction, and have scoffed at the possibilities of a greatly improved rapid transit system. (p 258)

These necessarily lengthy and numerous quotes reveal the ideology and techniques behind the selling of "planned shrinkage." He told a plausible story, a sheer fabrication, a theatrical selling of snake oil laced with poison. By denying the existence of the community social fabric and by evoking dysfunctional poor families, he helped provide the intellectual basis for massive demolition of the housing of the poor.

Roger Starr's ideology of sick communities did not become policy until 1976 when he was Mayor Beame's Commissioner of Housing Preservation and Development. Eventually, the outcry from black communities forced him from office, but by that time planned shrinkage had long been implemented and made part of municipal government culture.

A 1976 New York *Times* article characterizes Roger Starr's planned shrinkage proposal'

The aim of such a policy, in the opinion of Roger Starr, the Housing and Development Administrator, would be to hasten the population decline already begun in these neighborhoods so that, ultimately, further cutbacks in city services could be concentrated in a limited rnumi>yr of areas.

This approach would be more efficient in the long run than continuing to "thin out services"-including police, firefighting, and subway services-in many areas across the city, according to Mr. Starr, who is urging consideration of the planned-shrinkage approach.

These recommendations on their face appear reasonable and humane, merely attempts to minimize the pain of service cuts required by municipal fiscal crises. They did not take into account, however, the huge numbers of people still living in these targeted neighborhoods-even after the burnout of the Bronx below Fordham Road, about as many people lived there as twice the population of Buffalo. And Starr also disingenuously pretended that "planned shrinkage" had played no role in the initial loss of population from these neighborhoods. In fact, what he proposed in 1976 was the coup de grace to neighborhoods which were victims of previous implementation of "planned shrinkage."

Particularly desirable in Stair's eyes was not repairing or rebuilding damaged housing. He urged letting the land lie vacant until a new use could arise. Among the new uses which he mentioned was industry.

Susan Roberts pulled together the sociology and urban studies literatureibn the concept of the city and the neighborhood life cycles and showed how this unproved notion led to "benign neglect" and "planned shrinkage." In short, the life-cycle concept depicts cities and especially neighborhoods as organisms which grow, mature, age, and die. "Benign neglect" is a hands-off policy which allows neighborhoods to die on their own and proscribes resuscitation but allows unchanged levels of service. "Planned shrinkage" is a more aggressive policy of triage which actively looks for sick neighborhoods and pulls services from them to free the resources for healthy neighborhoods. Because the decline of a neighborhood is natural and inevitable, good public policy takes it into account and uses it. Because it is deemed natural and inevitable, no one seems responsible and nothing can be done to reverse it.

By 1969, legal urban renewal had come to a standstill because of entrenched resistance. Clearance of the housing of the poor had to proceed by other means, and "planned shrinkage" was that tool.

CLEARING LAND FOR INDUSTRY

In 1967, the Institute for Urban Studies of Fordham University published a report *(A Profile of the Bronx Economy)* with recommendations for "amelioration of the business climate in the Bronx." After noting the job losses, the report zeroed in on space availability as the crucial limitation for business and industry. Great was the lamentation: only 1 % of the land was in light industry and only 1.6% in heavy industry. Moreover, the available plots were small and scattered. It asked the razing of the homes of 2,500 people in the South Bronx and their displacement into public housing to make way for industry. It called for relaxation of the zoning laws and of the building codes. It trumpeted the priority of industry over housing in land use conflicts. It called for designation of the South Bronx as a redevelopment area. [8]

In 1969, the New York City Department of Planning in its Master Plan for New York City described the South Bronx:

> It is an area of turbulence and change.... Frequent tenement fires force residents to move and leave gutted buildings or vacant lots. Residential densities are high, averaging 85 dwelling units an acre. Four-story walkups on 60-by-100 lots house as many as 21 families. Most of the housing-grim, crowded tenements-is concentrated between 134th Street and Bruckner Boulevard.

> The majority of residents are black and Puerto Rican. Mobility is high. Between 1960 and 1965, 64 percent of the black families in the Bronx and more than 75 percent of its Puerto Rican families moved. An estimated two-thirds to three-quarters of the dwelling units in the district will be vacated over the next five years.

can act as change occurs.

> "The South Bronx will be designated for industrial renewal, permitting the City to acquire small vacant parcels and empty buildings and to assemble sites large enough for growing manufacturing concerns. This would prevent the reoccupation of worn-out industrial buildings and lot-by-lot fixing up or replacement of burned-out tenements. [9]

Zones in Brownsville-East New York and East Harlem also received the "industrial" designation. Thus, one motivation for destroying the housing of large poor communities was to get land for industry. Again, the downturn in industry and the deindustrialization of New York was described as a natural phenomenon, divorced from both the national and global processes of which the loss of industry in the City was a local expression, and from the previous decades' policies of removing industry from Lower Manhattan. The burden of reviving industry in New York would fall on the poor who h44 the dubious taste to live on land that industry "needed."

CONTAGIOUS URBAN DECAY

Very early in their work, the Rand Institute staff had discovered that fires in poor neighborhoods had become a contagious disease on the housing stock. As the areas of high fire incidence spread, fire incidence rose within those areas. The Rand Fire Project staff knew by 1969 that the pattern of fire incidence in New York City had changed fundamentally. The fires ate away the housing in typical contagious pattern. [10]

Furthermore, in 1970, the Division Chief of the South Bronx, Charles Kirby, issued a report on the fire trends and background conditions in the South Bronx, arguing for the importance of new companies added just two years before in dealing with this rise in fire incidence. Under a workload arbitration, the Uniformed Firefighters Association and the Uniformed Fire Officers Association, under the leadership of a joint task force called the FLAME Committee, had forced the opening in 1968 of 16 fire companies in the ghetto neighborhoods, usually as second sections of existing overworked companies. The arbitration covered both engines and ladders. The Kirby Report noted that the opening of these companies would allow the City time to address the socioeconomic forces behind the growing fire incidence and its geographic spread, but it didn't stop there:

> The major increases in fire companies recently added to the Bronx will assist in absorbing a large part of the expected fire rise. These units will also afford a

greater flexibility of Bronx operations.... These are capable administrative decisions and help us face our problems but not our causes.

As has been said `trend is not destiny.' If we learn from examples of the past, a great part of the expected fire rise can be averted. To do so rehabilitation must move forward at a greater rate than decomposition. Sanitation facilities in the Bronx must be brought up to a level that exists in Manhattan; for example, the nonstructural-to-structural-fire figures in the 1 1 th Battalion are close to I -to-2 while slum areas of the Bronx are over 2-to- I .... There are many more physical and social changes which must be planned to reverse the fire trend. If these are beyond the fiscal capabilities of the City or inequitable with our economic structure, it does not relieve us completely of our obligation to point up problems as we see and forecast them. For this reason, I would recommend that a very high ranking member of the Department be a full-fledged member of all New York City agencies dealing with Housing, Redevelopment and similar functional groups.

It has been said that the major part of funds in the City should be allocated to improvement of social conditions of the poor. The actual fires and the constant threat of fire must surely be a devastating horror to people required to live in houses in a deteriorating neighborhood. We also know that fire is a large component of the decay cycle and we can suspect that it adds to the uneasiness and insecurity of the poor. After years of fire experience, fire prevention and fire investigation, I feel that it can be said that rather than being accidental, fire is largely a social problem and the Bronx has and will have its share of such problems.

Moynihan and Rand, who called fire a social indicator may seem to echo Kirby, who called fire a social problem. Yet "social" means quite different things in the two uses of the word. Moynihan and Rand accused the poor of arson and mischief, but Kirby saw sanitation, housing, and economic development as part of the social environment determining fire incidence and pattern.

The pace of urban decay suddenly increased with the 1968 rise of fire contagion (the simultaneous rise of fire incidence and spread of area of high fire incidence).   Besides fire, another phenomenon destroyed homes in poor neighborhoods, namely building abandonment. By 1969, the most densely crowded neighborhoods, against intuition and logic, also hosted a growing number of empty building shells and partially occupied buildings. In most of these "deaths," the landlord simply walked away, stopping all maintenance and not paying the superintendent who, understandably, would also walk away when the paychecks stopped. Because a report isn't filed every time a landlord walks, the way a report is filed every time even one fire company responds to an alarm, the incidence and geography of building abandonment went undescribed until the late 1970's. The studies of Michael Dear in Philadelphia, [11] John Odland in Indianapolis, [12] and The Women's City Club in New York" revealed that building abandonment had become another contagious destroyer of the housing stock.

Dear described the contagious abandonment process in detail:

> The process of abandonment as it operates in space. . .suggests an initial scattering of abandoned structures, characterized by the occurrence of many small groups of abandoned houses. With the passage of time, this pattern is intensified; the broad scatter is maintained, although the small groups now contain a greater number of structures. A two stage process is clearly suggested; the initial abandonments occur and later consolidation follows.... It suggests a 'leader- follower' sequence which resembles the propagation of a plant species or the diffusion of information. It is essentially a contagious sequence.... Only in very rare instances were larg[e] groups of abandoned buildings returned to the market....

> . . .[O]nce abandonment has begun it is likely to be very difficult to stop. It may become almost a selfsustaining process under the force of contagion...

It wasn't until 1970, when Owen Mortiz reported in the New York *Daily News* on the extent of building abandonment in the City ghettoes that the problem appeared on the urban-issues map. Neal Hardy, then Assistant City Housing Administrator, suddenly called for more federal funding to combat abandonment and predicted that sound areas would become "ghost-towns" as abandonment spread." So it was clear that by 1970, the City knew about both fire and building abandonment contagion.

HOW RAND GUTTED THE
FIRE DEPARTMENT OF NEW YORK CITY

Let us now turn our attention to the men and women of the NewYork City-Rand Institute who, like the Rand Corporation technicians who gave us the false "body counts" and strategies for winning the Viet-Nam War, blandly manipulated fire death data, company response times, and fire-related destruction. Let us consider the actions of the behind-the-scenes, unaccountable team of technocrats from the NewYork City Rand Institute and the Fire Department: Bernard Gifford, Ed Ignall, Peter Kolesar, Warren Walker, Ed Blum, Grace Carter, Homer Bishop, and John T. O' Hagan.

If a medical device or drug is to be marketed, the Food and Drug Administration requires proof that the proposed treatments actually work and that they pose minimal risk to life and health. For public-policy prescriptions, no such tests are required. And this made the Rand fire-policy experiment possible. Nearly any plausible-sounding scheme can govern the fate of millions of people.

In medical treatment, efficacy is measured by how well the treatment returns a function or functions to normal. "Normal" is defined as a level and form of function characteristic of the healthy population. Sometimes defining which

ringing on the line. But you don't get an immediate dispatcher's voice. You have to wait until the dispatcher presses a button at the other end of the line and speaks. Most citizens don't know this, and many leave the box before the dispatcher speaks. In this way, many no-voice alarms occur which receive only one-engine responses!

Traffic noise makes these boxes nearly impossible to use rapidly. The dispatcher may speak to the caller but the caller has to say, "What? I can't hear you."Then they go another round while the dispatcher asks where the fire is yet again. Of course, when English is not the caller's primary language, turning in a fire alarm over these boxes can be a lengthy process. Although Spanish-speaking dispatchers are assigned to every shift, now significant portions of the population speak Chinese, Russian, Arabic, Haitian Creole, and many other languages which the dispatchers cannot accommodate quickly.

Very early on, it was clear that the ERS boxes attract false alarms. In an early experiment on the middle-class West Side of Manhattan, the number of false alarms zoomed specifically at the locations where the electromechanical fire-boxes had been replaced by the ERS alarm boxes. Rand staff disguised this problem by labeling the false alarms "diverted alarms", and recommended rapid installation in the ghettoes.'[s] Everywhere ERS boxes were installed, false alarm rates mushroomed.[19]

The idea behind the ERS boxes seemed logical: if someone can describe the situation to the fire dispatcher, the dispatcher can then send the appropriate number of each kind of company. If a single garbage can is on fire, one engine company could be dispatched to control the fire easily. In fact, legislators from the ghetto neighborhoods receiving the boxes were told that this method of turning in alarms would increase company availability. But the reverse was true: internal New York City-Rand Institute documents point to the ERS and its associated reduced response policies as mechanism for closing ghetto fire companies.[20]

By the end of 1975, standard response had been reduced to two engines, two ladders, and a chief; a bizarre system of non-standard response policies further reduced response to alarms in ghetto neighborhoods at certain times or under certain circumstances; a system of exchanging unfamiliar companies from less busy neighborhoods with familiar ghetto companies further reduced *ective* response; and a rise in no-voice ERS alarms due to expanded replacement of pull boxes with ERS boxes led to an increase in one-engine responses." All of these changes translated into a higher frequency of inadequate initial responses to ghetto alarms.

The second major service change Rand shaped was the closing and permanent relocation of many fire companies (ten percent of the total), changes which

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largely reduced firefighting resources in poor, minority, overcrowded, high fire-incidence neighborhoods with very old housing. Table 2-1 lists the companies closed and moved in the several waves of cuts from 1972-1991. Figure 2-1 shows the 59 community districts of New York City and the traditional neighborhoods they comprise. As can be seen, the great majority of companies lost were from the traditionally poor neighborhoods. Those in white or integrated middle-class neighborhoods were often reopened.

The pattern of fire companies in the City in 1971 reflected the pattern of fires. The densest company placements arose in areas of the most frequent large fires in multiple dwellings. Failure to control fires in neighborhoods of multiple dwellings was serious: at best, it meant the destruction of large numbers of dwelling units; at worst, it would allow massive conflagrations in which many square blocks burned at once and firefighters could control further spread only by dynamiting a firebreak and thereby destroying even more dwelling units. Even without the knowledge that structural fires had become contagious in 1968, the Department knew from history that failure to provide rapid and adequate response to alarms risked both the housing stock and the lives of citizens and firefighters. Yet, the policy of planned shrinkage dictated running those risks, and Rand provided the pseudoscientific justification for cutting responses and cutting companies.

RAND'S DEADLY PSEUDOSCIENCE

The most complicated mathematical function in the two models which determined the shape of fire service in New York after 1972 is the square root. The Fire Department and Rand Institute represented these models to the citizenry as the latest, most innovative systems analysis-too complicated for citizens to understand. The sole criteria for closing or moving fire companies were response time and response distance. Response time was defined by Rand as the duration between the closing of the firehouse door and the arrival of the unit at the alarm box. Response distance was the simple geometric and geographic Euclidean map distance between the firehouse and the alarm box.[22] Response time is calculated in the Resource-Allocation Model as follows:

$$r_i = k \cdot \sqrt{\frac{A_i}{C_i - U_i}}$$

In words: response time in area i (r) is a constant (k) times the square root of area i (A) divided by the number of companies in area i (C) minus the

function indices to use as measures of efficacy arouses debate among the researchers, but the indices chosen must be tied to a real-life measure such as length of survival after treatment compared with length of survival without treatment, or level of disability after treatment compared with level of disability without treatment.

One of the first important decisions of the Rand Fire Project staff precluded the use of "global" measures of fire-service efficacy. "Global" measures include frequency and severity of fire damage, frequency of civilian fire fatalities and injuries, frequency and severity of firefighter injuries and line-of-duty deaths, and frequency and severity of domino effects where servicing of multiple fires during a single time frame causes slightly later fires to grow larger because of the Fire Department's inability to respond to the alarms swiftly and adequately. Instead, the staff decided to use "internal" measures: average response times of fire companies and average availabilities (the percent of time during which the company is not traveling to alarms or working at incidents).' This decision proved key to all that occurred later.

After choosing these limited measuring tools in 1969, the Fire Project undertook review of two policies: response policy and number and placement of companies. Let us first consider response policy which involves the number and kind of companies sent to alarms. In 1969, an alarm would receive a standard response of three engines, two ladders, and a battalion chief. That year, the Rand staff instituted scaled-back responses to alarms from fireboxes with high rates of false alarms (called "adaptive response").[16] Rand's aim was for stations to send nothing at certain times of day, but the firefighters objected, so, depending on how heavy fire traffic was, various less-than-standard numbers of companies were sent.

The scaling-back of response was also rapidly expanded through installation of voice fireboxes in place of the old simple pull-lever boxes. The new fireboxes were first placed in the South Bronx, East Harlem, and Brownsville. In time, all ghettoes received the Emergency Reporting System (ERS) boxes, and eventually all of Manhattan, the Bronx, and Brooklyn had them. The policy for these boxes was that if voice contact was not made between the person turning in the alarm and the fire department dispatcher, only one engine was sent. Policy was eventually changed so that during peak alarm periods, nothing was sent to no-voice alarms.[17]

The boxes were never truly independently evaluated (see the preface for a brief discussion of the Riverside Research Institute evaluation). Most people did not know how to use them and were not educated about them. They seem to behave like telephones in that when you press the activating button, you get

The Firehouse-Siting Model would look at each area on the Resource-Allocation Model's "hit list" and estimate average travel times for the area before any cuts and after hypothetical cuts and redrawing of the remaining companies' service areas to fill the service hole(s). The company whose removal resulted in the lowest average travel time of the hypothetical removals would be the one to be closed or permanently relocated.

Both Rand models contain many flaws of early ecological models: simplistic assumptions, omission of other simultaneous impacts, baseless assigning of a value distribution to a phenomenon, and the combination of an inadequate data base with inappropriate analysis and interpretation of the data. Table 2-2 contrasts Rand's simplistic assumptions with the complicated realities. Table 2-3 lists some of the neighborhood-specific variables Rand omitted from its models as well as typical workload policies which confounded the models. Finally, table 2-4 includes many of the policy changes in New York City from 1972-1976 which increased firefighting time per fire- or real-fire-alarm rate. Each of the factors in these tables held the potential for affecting company availability, velocity, distance, and effective service-area geometry.

The models projected only the time required to get from the firehouse to the alarm box, not to the burning building, and certainly not to the first stream of water on the fire. The difference in time between arrival at the alarm box and the first stream of water on a fire may range from two to ten minutes. Table 2-5 highlights the differences between fighting a fire in a tenement and fighting one in a one-family home. Longer additional times characterize overcrowded, poor neighborhoods, for obvious reasons, and the potential for both loss of life and loss of homes is greater in these areas than in others, partly because of fire-spread rate and partly because of the greater fuel loads due to the overcrowding.

"RAND LACKED REAL DATA"

To implement even these simple models, Rand should have acquired real data. The Resource-Allocation Model depended on the system of hazard regions and the seven hazard classes. The classes are:

1. valuable commercial
2. fireproof high-rise office
3. large industrial with lumberyards and oil tanks
4. high-density high fire-hazard residential

5. lower-density less-hazardous residential

6. mixed multi-story and one- or two-story frame

7. one- or two-story frame

Assignment to the classes allegedly depended on the fire and explosion hazards presented by the neighborhoods. Yet when the neighborhoods assigned by Rand to the same hazard class are considered, the data on which these class assignments were based aren't obvious. East Flatbush in Brooklyn and Astoria in Queens were placed in the same hazard class as Riverdale in the Bronx although the prevalent housing types, population densities, and presence of special hazards such as oil-tank farms were quite different in the three neighborhoods. Greenwich Village and Chelsea-Murray Hill (wealthy areas) were placed in hazard class 1 (valuable commercial) although the buildings and population densities were similar to the Westside and Inwood. The data on the likelihood and potential severity of fire and explosion hazard in the various neighborhoods were either not acquired, or not used properly for an objective hazard classification.

Rand's hazard regions were vast and so heterogeneous as to be essentially meaningless. The classification scheme failed to take spatial heterogeneity into account and led to underservice of areas of greater-than-average fire-incidence ("hot spots") within each region. Fire service cannot be designed for either geographic or temporal averages.

The only real data Rand acquired was firefighting-unit response time. In order to develop the formulae for the Firehouse-Siting Model, time and distance data were needed. Rand timed 2,000 responses by 15 units." That sounds like a lot of data. However, eleven of the fifteen were in Lower Manhattan below 14th Street and two each in Brooklyn and Queens. Thirteen were ladder trucks and two battalion-chiefs' cars. No data were acquired on engines. Thus, both the geography and the unit types failed to sample the City properly.

What Rand then did with this non-representative data further guaranteed that whatever model was developed could not adequately serve the neighborhoods: Rand smoothed the data by plotting average response times against distance. This kind of smoothing is only acceptable during the exploratory phase of data analysis to get the basic underlying shape of the data. It is not an acceptable basis on which to build a prescriptive model for a life-support-system-like fire-control service. The Fire Department itself had timed several units just before Rand intruded into the scene and had seen that the velocity and response time of each timed unit depended on time of day and season and on incidents, accidents, and **events** which change traffic-flow rate. [29]

The entire Rand system of allocating fire-control service for New York City in

the early-to-mid-1970's involved averaging and suboptimalization. Hazard regions of below-average response time for their classification were targeted for cuts by the Resource-Allocation Model; these response times were averaged over huge, hazard regions which were in reality nonhomogeneous both in their demand for I fire control service and in their potential for serious fire spread and explosion. This model used average and peak-average availabilities and never the smallest credible availability or smallest historic availability. The Firehouse-Siting Model was based on average response times for given distances and yielded average travel times for an area. Creation of a system based on such averages is not acceptable even for something as frivolous as delivery of beauty-parlor supplies, let alone - delivery of fire-control service, for the simple reason that any area above average will be underserved. By the statistical Law of Large Numbers, if there are a large number of areas (over 200 engine response areas, for example), approximately half of the areas will be at least slightly above average and some will be outside the broad crest of the "bell-shaped" curve (well above average). Rand's use of averages in this way ensured gross underservice to a large number of neighborhoods. **In** particular, all neighborhoods at the boundaries of fire-company response areas necessarily suffered underservice due to their above average distances.

Rand's use of these models also ensured that the neighborhoods with the densest placement of firefighting resources would be the losers. These neighborhoods had dense resources because of the historic and projected demand for fire service, based on global measures such as fire incidence, lives lost, households de-hQiksed, and firefighter workload. The Rand models, based largely on calculated internal measures of fire service, prescribed policy and actions opposite to those prescribed by the analysis of global measures.

The Rand staff itself knew that what they were doing was both bad policy science and unethical. In 1972 or 1973, Rand's Ed Ignall wrote an undated memo to ten people in the Rand Fire Project and the Fire Department (Arthur Swersey, Richard Urbach, Ken Rider, Mei Ling, Joan Held, Elmer Chapman, Frank Ronan, Homer Bishop; Ed Blum, and Hope Wong) with copies to seven other Rand or Fire Department staff members of note (Grace Carter, Warren Walker, Pete Kolesar, Jack Hausner, Tom Crabhill, Sandy Stevenson, and Rae Archibald) in which he proposed using actual fire records which report property damage and correlating the damage with the response distance. He wanted to construct the relationships between distance and damage with 1968-1969 data and validate them with 1970-71 data. Uneasy with the Resource-Allocation Model and purely internal measures of fire service, he asked the essential question: what is a minute of response time worth?

Ignall listed difficulties in relating damage to distance:

First: we do not have response times. The best we can do are Euclidean distances

Second: we do not have good measures of the extent of fire when fire companies arrive....

Third: Delays in discovering fires are sometimes long, sometimes short....

Fourth: Some fires grow quickly, others grow slowly....

He discussed in great detail how local conditions influence unit speed and how a unit is not always in its house when its alarm comes in. He concluded: "Effects like these can cripple a naive approach to estimating the value of response time."Then he further detailed local conditions which may influence the speed with which alarms are turned in.

Thus, although nearly everyone of importance within the Rand Fire Project and the Fire Department knew of the technical and ethical objections to use of calculated average response time and of the need to correlate it with some global measure of fire service, fire-company permanent relocations and closings proceeded on the basis of the unvalidated Resource Allocation Model and, later, on the unvalidated Firehouse Siting Model. The Resource Allocation Model provided the sole basis for the first round of fire-company eliminations and permanent relocations in November 1972. The affected companies (Table 2. 1) served high fire incidence, overcrowded, poor minority neighborhoods such as Brownsville and the South Bronx. Both rounds of cuts in 1974 also relied solely on the Resource-Allocation Model and again targeted the neighborhoods in greatest need of fire-control service. Rand Institute and the Fire Department seduced many local minority politicians, such as then Manhattan Borough President Percv Sutton into supporting the cuts by telling them that the ERS fireboxes would make up for the reduced resources by allowing more efficient use of the remaining resources and by "proving" that the resource reduction would not reduce response time significantly. This proof relied solely on constructions of response time by the Resource-Allocation Model. Because of the antipathies between minority communities and the uniformed services, laying off firefighters did not receive much resistance from local politicians who lumped firefighters together with police.

The 1975, 1976, and 1988-89 cuts relied on both the Resource-Allocation and the Firehouse-Siting Models. Again, the great majority of the cut or moved companies lay in poor minority neighborhoods, but a few were in integrated areas in the process of gentrifying. Some of these integrated neighborhoods, unlike the resource-poor neighborhoods before them, had the political clout and the nose for "something

rotten" to fight the cuts and to enlist experts to expose the inadequacies of the Rand models and their implementation. Thus, the only fire companies reopened were those closed in the post-1974 rounds of cuts and were primarily in racially integrated areas of economic diversity that promised gentrification.

HUD EXPERIMENTS ON HUMAN POPULATIONS

By 1974, the Rand Institute had achieved close ties with the U.S. Department of Housing and Urban Development (HUD) and received grants for creation and refinement of models such as the Firehouse-Siting Model. In return, the models were turned over to HUD to "sell" to municipalities. Another thinktank, Public Technologies Inc., had developed similar models for emergency service deployment under HUD funding, which were also "sold" to municipalities. [30]

The message from HUD to the cities was "Less is more." Cities learned how to target minority neighborhoods and break civil-service unions behind a shield of equations and graphs which "proved" that emergency service would not suffer from the resource reductions. A large number of cities bought into these models and implemented them: Denver, Wilmington, Hartford, Yonkers, Jersey City, St. Louis, Hoboken, Tacoma, Washington, and Tampa, and others. The City Hall of Jersey City burned down after implementation of the models, as did major portions of its poor neighborhoods.

This HUD approach continued through the Nixon, Ford, and Carter administrations and beyond. Under the Democratic administration of Jimmy Carter, the Assistant Commissioner of HUD for Science and Public Policy was Donna Shalala, who later became the Secretary of Health and Human Services in the Clinton Administration. In the mid-1970s, Dr. Shalala had been the director of the Municipal Assistance Corporation, the New York State entity which oversaw the budget cuts during the New York city fiscal crisis of 1975. She had encouraged Fire Department cuts along with cuts in garbage collection and housing-code enforcement (all interacting to accelerate destruction of low-cost housing) and espoused the idea of the City as a laboratory for innovative sweeping experiment in government and services. According to a 1982 *Report of the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research,* never in her brief tenure at HUD did Dr. Shalala acknowledge that the public policies which she promulgated and implemented could constitute experiments on human populations:

> The Department of Housing and Urban Development (HUD) is the only other
> Federal agency conducting research with human subjects that does not have formal

regulations for the protection of human subjects. In HUD's initial response to the Commission's inquiry, Donna Shalala (Assistant Secretary for Policy Development and Research) stated that except for a study co-sponsored with HEW, involving the testing of an aversive additive in paint to deter children from eating paint chips, HUD `has never sponsored any human-subject or biomedical studies.' Moreover, Dr. Shalala challenged the statement in the National Commission's report that HUD's 'housing- allowance experiment' constituted research with human subjects. [31]

When confronted with criticisms of the inadequate fire-service models being sold to municipalities by HUD, Shalala's response was:

> The Rand work has been recogdized by awards from several professional societies. The Office of Policy Development and Research has had the Rand work independently evaluated. These evaluations found the research of high quality and useful for some local government decision-makers. [32]

She also had the Urban Institute perform a routine hatchet job on the criticisms, and because a seemingly technical "answer" was rendered, she decided to put the issue to bed. The models promoted by Shalala continued their mass destruction. Indeed, Alan Sieael, Director of HUD's Division of Community Development and Management Research, wanted no discussion of the quality of the Rand work by policy and decision-makers and wrote to us in 1976: "Concerning the final issue of the models' scientific quality, I believe the proper forum for challenging scientific quality exists in organizations of technical and scientific peers." [33] Thus did HUD dispose of the troublesome question of the potential harm of its prescribed treatments for sick cities.

The Rand/HUD experiment on human subjects makes the famousTuskegee Institute study on syphilis seem humane and small_ The Rand/HUD team would directly and indirectly kill thousands and permanently disable millions of metropolitan residents across the country.