The Reduction of Urban Vulnerability: Revisiting 1950s American Suburbanization as Civil Defence

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Though suburbanization in the United States during the 1950s is a well known story, scholars still consider postwar prosperity and basic desire on the part of the American people to move further away from problems of the inner city as its primary causes. While it is true that various factors contributed to phenomenal growth of the suburbs between 1945 and 1960, historians have thus far paid little attention to policymakers' fears of atomic attack as a significant factor in population dispersal. This article examines how sociologists, scientists, and other experts considered the reduction of urban vulnerability a Cold War priority, and worked to encourage dispersion of people and factories as a civil defence measure.

The post-World War II era of suburbanization in the United States was not the nation's first. The United States had always enjoyed an availability of land, and even during periods of industrial urbanization, the tendency for some to move away from the problems of the cities – crime, pollution, and so on – had existed since the colonial era. Modernization and affluence intensified suburbanization in the twentieth century, particularly during the 1920s, as technological improvements and better methods of transportation allowed people to live greater distances from their places of work.[1] However, the extent of decentralization that took place during the 1950s was unprecedented. Between 1950 and 1955, the population sections of metropolitan areas lying outside the central cities grew seven times as fast as those of central cities. The total number of people of the non-central city sections – categorized as 'rural' by the Census Bureau in 1950 and located largely at the outer borders of metropolitan areas – grew almost three and a half times as fast as the entire metropolitan population.[2] Historians generally recognize postwar suburban expansion as the result of rapid economic growth, the population boom, and affordable real estate prices, which drove people into the suburbs. Some historians further recognize that federal government policies helped facilitate the trend,

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through subsidies for suburban developments, federal spending on highway projects, and deductions for home mortgage interest payments and property taxes. But, thus far, little has been said regarding why the government was so interested in encouraging such expansion.

One explanation given is the necessity of government action in addressing the postwar housing shortage. Donald N. Rothblatt and Daniel J. Garr, and Elaine Tyler May agree that there was a 'pent up demand for housing' after deprivation during the Depression and war years.[3] At the end of the war, the United States had regained much of its economic strength, with defence-related industry providing jobs and giving Americans money to spend. At the same time, the nation was experiencing a housing shortage. Construction had slowed for economic reasons during the Depression, and materials and resources had been redirected towards the war effort during the first half of the 1940s. Contributing to the problem was wartime migration to the industrial centres, where defence-related jobs had become readily available. However, little effort had been made to promote adequate housing for the newcomers, as the nation's housing policy promoted the construction of temporary or makeshift housing.[4] When the war came to an end in 1945, federal and local governments gave some attention to urban renewal programmes, but put far more effort into new development outside urban centres. European nations and Japan saw substantial increases in city populations, as they devoted resources to rebuilding urban areas destroyed by the war. In the United States, untouched by raids during World War II, resources were spent on suburban expansion, creating a phenomenal growth during the late 1940s and 1950s, when population growth outside the central city exceeded that within the city by nearly a factor of five.[5]

Rothblatt and Garr note the influence of industrial decentralization and government programmes that encouraged suburban homebuilding (such as subsidies for mortgages and major highway or rail projects). But they stop short of explaining why government programmes related to decentralization were originally proposed.[6] Prosperity and opportunity for real estate and housing development were major factors in encouraging further economic expansion, and government programmes and agencies created since the Depression, such as the Federal Housing Administration and Housing and Home Finance Agency, naturally enhanced the government's role in this process. The federal government had become a more active player in housing policy during the Depression,

with the establishment of New Deal programmes intended to ease crises involving home ownership. Until this time, housing policy was not considered a responsibility of the federal government, rather one of municipal governments. After 1933, however, the government stepped in to halt foreclosures, encouraged housing construction and mortgage lending, and cleared slums.[7] Though each issue was addressed separately, and the government failed to develop any kind of cohesive fundamental policy, the stage was set for the federal government to take further action. Congressional legislation created the Federal Housing Administration (FHA), the Federal Savings and Loan Insurance Corporation (FSLIC), the Homeowner's Loan Corporation (HOLC), and the Reconstruction Finance Corporation (RFC), all of which would serve to facilitate home construction and individual ownership.[8]

Government and the Rise of Suburbia

By the post-World War II era, developers were well aware of the potential for government influence in housing policy, and lobbied heavily for additional legislation that would facilitate annexation and subdivision of property, and new construction. This fostered a relationship between developers and the government, helping to pave the way for postwar suburbanization, and in 1978 University of Illinois political scientist Barry Checkoway deemed this relationship critical in any examination of that process. In his article 'Large Builders, Federal Housing Programmes and Postwar Suburbanization', published in the *International Journal of Urban and Region Research*, Checkoway calls into question the customary belief that postwar suburbanization 'happened' because of prosperity and real estate availability, and was driven by the consumer. According to Checkoway:

> It is wrong to believe that postwar American suburbanization prevailed because the public chose it and will continue to prevail until the public changes its preferences. ... Suburbanization prevailed because of the decisions of large operators and powerful economic institutions supported by federal government programmes, and ordinary consumers had little real choice in the basic pattern that resulted.[9]

Checkoway's tract is instrumental in understanding the connection between housing policy and the federal government, yet he, too,

stops short of examining all the reasons why the federal government would go to such great lengths to encourage suburbanization. One tremendously important concern in the minds of federal policymakers that served as an important motive in suburbanization was that of urban vulnerability in the case of atomic attack.

An examination of the literature that appeared between 1946 and 1956 illustrates a common argument for decentralization – the reduction of urban vulnerability. After using atomic weapons in Japan and witnessing the beginning of the Cold War conflict with the Soviet Union, US experts became keenly aware of the vulnerability of its densely populated cities as targets of atomic attack, and advised that strong measures be taken to disperse urban populations. In *Homeward Bound*, May notes the Cold War 'contribution to suburban sprawl', citing the *Bulletin of Atomic Scientists* 1951 issue devoted to 'defense through decentralization', and the legislative process which shaped the Interstate Highway Act of 1956, which would facilitate evacuation in the case of atomic attack.[10]

Historians of Cold War culture are indeed more specific in their examinations of the link between suburbanization and atomic fears than are historians of the suburbs. Paul S. Boyer provides numerous example illuminating the repeated call for decentralization of the nation's cities between 1946 and 1956.[11] Margot A. Henriksen echoes this, observing that civil defence plans calling for accelerated urban dispersal

> suggested a particular atomic age rationale for the American retreat to the suburbs, and such plans helped to taint the otherwise innocent and safe quality of life in the suburbs. While the suburbs were seen as somewhat protected from the initial terrors of an atomic blast (at least until the H-bomb and its radioactive fallout revised this vision of suburb safety), they none the less reflected the insecurity of the age in their potential roses as sanctuaries for the bombed out and psychologically dislocated survivors of urban atomic war.[12]

Allan M. Winkler recognizes calls for dispersal from scientists and city planners as representative of the fear under which civil defence programmes were developed.[13]

But the connection between suggestions for dispersal and the fact that the nation became suburbanized is an even clearer one than May, Boyer, Henriksen, and Winkler describe. Their examinations of vulnerability concerns in the early Cold War, though significant, are

brief, playing a comparatively small role in their overall examinations of atomic fear. They are justified in doing so, as their subjects of study extend much further than simply suburbanization. The literature they cite serves well as a representative sample in illustrating the warnings of urban vulnerability and calls for dispersion. But the argument was far more pervasive than they indicate. It is impossible to quantify the extent to which suburbanization that took place as a direct result of government action based on fears of atomic attack on centres of concentrated population, as there were so many other factors involved. But it is important to explore the magnitude of the warnings which the government – at both the federal and local levels – was forced to acknowledge. Doing so serves to shed light on the government's role in developing programmes designed specifically to facilitate industrial and population dispersal based on fears of atomic attack.

Though the United States enjoyed comparative affluence and growth during this period, its national security met with new challenges of expanding communist ideology and advanced weaponry. Beginning with the Berlin Blockade of 1948, it appeared to US policymakers that the Soviet Union was taking steps to overrun Europe, and in September of 1949, the US detected evidence of Soviet atomic testing. These incidents, combined with the outbreak of the Korean War in 1950, laid the groundwork for a massive programme of civil defence as the United States faced the possibility of having to defend its own population.[14] The US national security that had been virtually guaranteed for a half century, largely due to strong militaries and geographic isolation, would clearly be threatened.[15] After witnessing, and in some cases causing, destruction from conventional bombing raids on Asian and European cities during the Second World War, the United States now faced possible atomic attacks on its own cities. The US conducted studies of the effects (both physical and psychological) of World War II air raids (both conventional and atomic) and applied the findings in developing American civil defence policy. In addition to concerns about physical destruction, there were concerns about panic, which might make evacuation after an attack impossible, and about the possibility of the populace turning against the government, searching for someone to blame.[16] Furthermore, experts concerned about American apathy warned that the public would not be prepared to act until it was too late.

Many of the solutions proposed supported education programmes and pre-attack preparation in the form of population dispersal.[17]

'Unless our people lift their heads from the sand, or lower them from the clouds, we may well not know what hit us when the bombs or missiles start falling', one military advisor warned in 1954. He maintained that the nation's primary challenge was 'the lack of a positive, effective, and dynamic program to unshackle the nation from its apathy'.[18] Stephen B. Withey, in his *4th Survey of Public Knowledge and Attitudes Concerning Civil Defense*, emphasized education, as motivation for preparedness was low because the public did not see atomic attack as a reality. Quoting the Civil Defense Act of 1950, which said that civil defence included 'all those activities and measures designed or undertaken to minimize the effects upon the civilian population caused or which would be caused by an attack upon the United States',[19] Withey opted for pre-attack dispersion. He argued that a primary factor in minimizing death and destruction from attack would be the reduction of target vulnerability through spacing and construction standards.[20]

Warnings had begun to surface in the immediate postwar period, and from the beginning their intensity ranged from the reserved and rational to the extreme. By 1946, noted political scientist in the field of international relations, Arnold Wolfers, warned of the imminent danger if the Soviet Union were to develop atomic technology. According to Wolfers, the US was leaving a position of geographically and economically guaranteed security for 'a kind of earthquake zone which will be rendered livable for our urban populations only by the hope and confidence that the outbreak of another war will be prevented'.[21] In response to Soviet testing, University of California, Berkeley sociologist Kingsley Davis warned that a deconcentration of the population would be necessary in order to reduce the potential number of casualties. Urbanization and industrialization had long been considered modern advantages of the western world, but the concentration of people in urban industrial areas was now considered a handicap under the threat of atomic attack.[22] Science fiction writer Robert Heinlein urged his readers to acknowledge the true '*meaning* of atomic weapons', calling for a radical plan of decentralization. In 'The Last Days of the United States', Heinlein wrote: 'The cities must go. Only villages must remain. If we are to rely on dispersion as a defense in the Atomic Age, then we must spread ourselves out so thin that we will be too expensive and too difficult to destroy.'[23]

One of the first detailed proposals for spreading out the population through more effective metropolitan planning and design came from physicist Edward Teller, known as the 'father of the H-

bomb', and two social scientists, Jacob Marshak and Lawrence Klein. In their article, 'Dispersal of Cities and Industries', published in the *Bulletin of the Atomic Scientists*, they laid out what they believed were the needs and costs of preserving the nation's future through large-scale decentralization by using space as a defence in case of nuclear attack. The *Bulletin of Atomic Scientists* had been founded in 1945 as a discussion forum for scientists aware of their role in helping to formulate public policy and as a means to educate the public. Though not all contributors agreed on the need for dispersal, the subject was a prevailing theme supported by the publication's editors. According to Eugene Rabinowitch, editor and one of the founders, 'In the absence of international control, dispersal is the only measure which could make an atomic super Pearl Harbor impossible'.[24]

According to the article by Teller, Marshak, and Klein, 'In an atomic war, congested cities would become deathtraps. ... Dispersal is costly and means great changes in our way of life. However, it is a form of defense'. They rejected complete dispersal over the nation's entire 3,000,000 square miles of inhabitable area as unnecessary, even if ideal, instead proposing clusters or linear cities:

> A considerable part of the protection provided by complete dispersal can thus be obtained even if people live in clusters, provided these are properly spaced. ... Bombs of the Hiroshima type would call for dispersal into evenly spaced towns set, say 3 miles apart. But as the destruction radius will probably become larger, larger distances between towns, and consequently, since the country's total area is limited, larger towns will be permissible. Let us assume, for example, that a single bomb could destroy an area that a thousand to ten thousand houses would occupy in case of complete dispersal. Then it will be reasonable to have towns of a thousand to ten thousand each. The amount of protection which the scheme of evenly distributed clusters can provide depends very much on their geometrical shape. 'Ribbon' or 'linear' cities are safer than round clusters.[25]

The article also called for a massive programme directed and funded by the federal government:

> Under a fifteen-year program we could relocate cities and industries in the order of urgency. ... We can assign highest priorities to the decentralization of the most important key

> industries, or we can start with the dispersal of the most vulnerable big cities . . .
>
> The method of financing will have to be the same as was used in the war, namely by taxes, bonds, or both . ... During the war we spent about $300 billion in a shorter time without increasing our stock of wealth. Under the present plan, a similar amount would be spent in rebuilding our country in a better way.[26]

In *Must We Hide?*, physicist Ralph E. Lapp also described alternatives for metropolitan design, including the Rod City (50 miles long and one mile wide), the Satellite City, and the Donut City. Though he warned that such action would 'spell the end of the metropolis as we know it', it might also solve many of the nation's ills:

> Indirectly, the atomic bomb offers a rare opportunity for greatly improving the living conditions of millions of our citizens. Our large cities have been growing larger, resulting in more crowded streets and tenement houses ...
>
> If [dispersal] is done properly, we will at the same time greatly increase our urban attractiveness.[27]

Lapp was also published in the *Bulletin of Atomic Scientists*, arguing for an adequate civil defence programme, while claiming that dispersal was the 'only really effective answer' to nuclear bombs. He added that dispersal would require years to accomplish and that 'civic leaders want defense now, not in 1960 or 1970'.[28]

By 1951, discussions of this urban nuclear danger intensified, due in part to US involvement in its war against communism in Korea, but also because of discussions surrounding the development of a hydrogen bomb.[29] The potential threat of a hydrogen bomb added substantially more fear as the estimated area at risk from one explosion grew to more than 314 square miles. For example, warned William Laurence in his book, *The Hell Bomb*, a so-called 'super bomb' dropped on the Empire State Building could cause immediate death to the majority of people living in the Bronx, Queens, Brooklyn, Jersey City, and Newark, New Jersey.[30] While it appears that his book may simply have served to plant fear in the hearts of Americans, Laurence was a noted journalist who witnessed numerous atomic tests and was present on the Nagasaki mission. Still, others sought more rational means to provide solutions. For example, in *Civil Defense in Modern War*, retired brigadier general Augustin M.

Prentiss maintained that a reasonable plan of dispersion was vital to survival of atomic attack. Evacuation plans were fundamental to civil defence programmes, but Prentiss also called for planned pre-attack decentralization of industry and the civilian population. Noting the beginning of a new trend in suburbanization, Prentiss suggested that federal, state, and municipal governments support further dispersion. In Prentiss' words: 'The future development of urban communities should not be left to circumstances, but should be guided by definite plans formulated in accordance with the basic principles of dispersion of the population and industrial activities over as wide an area as possible.[31]

Actual applications of dispersal originated with a focus on industry. Federal agencies advocated industrial dispersion, or the permanent relocation of plants, offices, and workers and their families to new sites, as the most effective defence measure against nuclear attack. The nation's industry had successfully met challenges during the two world wars, consequently strengthening the nation's economic and political base, and needed to be protected in any future war.[32]

The National Security Resources Board categorized primary targets as Type I – Industrial/Metropolitan Area (consisting of one or more industrial counties with at least 40,000 industrial workers); Type II – Industrial Area (consisting of one county or groups of contingent counties having 20,000 more industrial workers, but smaller in population density than Type I); or Type III – Metropolitan Area (central cities having a population of 50,000 or more). Type I was defined as those areas which supported concentrations of industries and populations as essential to the war effort – 'the most profitable target for an aggressor'.[33] By this time, it had become clear to an increasing number of civil defence proponents that pre-attack dispersal of industry and its related population was imperative. But it would not be a simple undertaking. Congress had already faced criticism in 1946 for attempting to relocate industry in an effort to direct economic development. Under the term 'Industrialization of Underdeveloped Areas', the postwar Congress addressed the need to bring industry to regions with large numbers of unemployed. Critics argued that Americans had historically moved to places where there were jobs, not the other way around. Yet Senate bill 1385 was 'declared to be the policy of the Congress to stimulate development and industrialization of regions and areas of the United States, including its territories and possessions, which heretofore have been without adequate industrial employment'.[34]

In his support of the bill, Secretary of Commerce Henry A. Wallace pointed to the economic benefits of growth resulting from such government action, but he also demonstrated that government support of industrial expansion would naturally result in workers following jobs into remote areas:

> Once industrialization of such an area gets underway, its development tends to gain momentum. ... Homes must be provided for workers and utilities and other community facilities must be built. The needs of the workers drawn into the area, or given larger incomes by such investment outlays in the area, expand the market for consumers' goods.[35]

Soon, however, government agencies were urging such decentralization of the nation's industries, not from a social or economic standpoint, but from the standpoint of national survival.[36] In 1947, the National Security Council developed what it referred to as a 'tentative outline of matters for consideration as they may relate to the field of internal security, and its report NSC 17/3, listing civil defence as a primary concern, noted the importance of dispersing industrial facilities.[37] And in 1950, NSC 68 called for dispersion 'to reduce vulnerability to bombing', which reportedly could 'be more efficiently accomplished through directed growth than through relocation of existing facilities'.[38] The philosophy basically held that encouraging industry to locate in safe areas would result in the people following.[39] Critics warned that in order to be truly effective, the process must be a long-range undertaking before bombing occurred.

There existed the fear among some critics that any dispersion programme might remain a 'piecemeal' one, with large metropolitan centres remaining or growing even larger. In addition, they saw obstacles to prewar dispersal in the present integration of a plant and its labour supply in any existing location and the attachment of urban dwellers to their current homes.[40] Others countered that a dispersion policy might, on the other hand, prove quite successful, resulting in protests from established urban areas which had much to lose, as an area marked for decentralization would have to pay a tremendous price by having its future growth impeded.[41] The Senate Committee on Armed Services predicted such protests, but continued to press for dispersion: 'Most cities desire to attract new industries which in effect only serves to enrich the target area. If industries are forced to disperse, cities are not only prevented from growing, but are faced

with gradual loss of their tax base, yet dispersal appears to be the only answer for reducing urban vulnerability.'[42] Val Peterson, director of the Federal Civil Defense Administration, acknowledged the value of dispersal, but argued that forcing or even encouraging industries to relocate was a politically controversial subject.[43] Critics also argued that a radical programme of dispersal, breaking up large cities into smaller industrial sites, would be financially prohibitive. However, concerns regarding the politically sensitive nature of government control outweighed cost-related arguments.

Freedom and Planning

The idea that programmes attempted directly by the government would challenge American assumptions regarding free choice was imbedded in Cold War polarization placing government control on one side and freedom on the other. According to Fred Charles Iklé in *The Social Impact of Bomb Destruction*: 'In the free world, [a dispersal program] would lead to excessive political controls and curtail our individual liberties and economic freedoms.'[44] As early as 1946, such sentiments surfaced, as experts feared government expansion of its role in developing and overseeing housing policy, considering the United States a nation of individuals who would not succumb to government mandates. According to Charles Abrams in *The Future of Housing*: 'American public attitudes demand that it be done within the framework of our democratic institutions, that private mechanisms be utilized.'[45]

Even those in support of decentralization cautioned that there would be resistance. In 1946, Bernard Brodie of the Yale Institute of International Studies warned those developing plans for decentralization that 'cities like New York and Chicago are not going to dissolve themselves by direction from the government, even if they could find areas to dissolve themselves into'.[46] A year later, Winfield W. Riefler of the Committee on Social Aspects of Atomic Energy, which was founded by the Social Science Research Council, agreed that decentralization 'would also seem to require for most of us a change in our way of life so complete as to exceed the capacity of the imagination to envisage them and to paralyze the will to adopt them'.[47] In 1949, R.E. Lapp added that the American people 'will react vigorously against any attempt to force decentralization and any premature or ill-considered program will probably meet sufficient resistance to render it useless'.[48]

The federal government created the National Industrial Dispersion Policy in August of 1951, but its power in implementation was eventually called into question. Participants in a conference conducted by the Industrial College of the Armed Forces reiterated such a position in 1954. In a paper published in *Mobilization of the National Economy in the Face of Atomic Attack*, one participant emphasized the need for pre-attack dispersion, as an attack on an urban area would mean the loss of industry and the loss of personnel needed to maintain an industrial economy: 'Unfortunately, there is no legal basis to force management compliance on such matters', he wrote. However, due to political and legal obstacles, no legislative measures to force dispersion were available.[49] Another maintained it was possible to protect the common welfare without sacrificing the American principle of individualism, stating a plan of action must be 'explained and "sold" to America':

> In a democratic system, political action follows the will of the people. Our leaders are followers rather than molders of public opinion. Our political leadership is most concerned with doing what the people want, rather than telling them what to do ... But in the history of our fair country, if ever public opinion needed molding, it is now . . . This involves telling the people, predicting what they want, and taking action before, not after, the crisis is upon us.[50]

Presidential leadership in particular was considered imperative in informing and mobilizing the public.[51]

A programme referred to as Project East River was largely responsible for promoting the idea that the federal government should be held responsible for providing leadership in developing and sustaining dispersion, not only of defence-related industry, but of non-defence industry and the general population. Requested by the Federal Civil Defense Administration (FCDA), the National Security Resources Board (NSRB), and the Department of Defense (DOD), Associated Universities undertook a serious study of the topic with the support of institutions such as Cornell, Columbia, Harvard, University of Pennsylvania, Yale, Johns Hopkins, Massachusetts Institute of Technology, and the University of Rochester, releasing its ten-volume series of reports between 1950 and 1952.[52]

Each of the volumes addressed a specific aspect of vulnerability, but all advocated the dispersal of private industry and the general population. Declaring the National Industrial Dispersion Policy

effective but too limited, Project East River maintained it was essential that the federal government find a way to guide non-defence industry job activities and commerce as well as residential growth.[53] Though action would have to take place at the local level, Project East River placed the responsibility for reducing urban vulnerability on the federal government, noting that this was an issue of national defence. According to the report, mere guidance would not be enough to carry out an effective programme. Rather, real federal leadership was necessary.[54] In its report *The Reduction of Urban Vulnerability*, Project East River argued that US metropolitan areas were primary targets, as that was where 60 per cent of the population lived, where two-thirds of all factory and wage earners were located, and where skilled labour, technicians, scientists, management personnel, and 'other key men' were heavily concentrated. Such an attack was considered quite possible once the superpowers had stockpiled enough atomic bombs to prove effective, making it essential that the reduction of urban vulnerability keep pace with weapons development.[55] The nation's cities, in particular industrial cities, were widely regarded as the primary targets of attack and in the most need of programmes to reduce vulnerability. Project East River and the National Security Resources Board agreed that urban areas of 200,000 or more per four-mile-diameter circle, or a concentration of 16,000 or more per square mile, served as 'attractive targets for atomic attack'. The report suggested that such areas of 200,000 in either daytime or nighttime population be designated as Class I Vulnerable Urban Districts and areas of 100,00 or more in either daytime or nighttime population be designated as Class II Vulnerable Urban Districts.[56]

Project East River provided a list of specific recommendations in its report entitled *Federal Leadership to Reduce Urban Vulnerability*, stating:

> In terms of non-military measures, this reduction of vulnerability can only take place in two ways: (a) through reduction of building and population densities; (b) through bomb resistant design and construction of structures.
>
> To make a start towards reducing urban vulnerability, such a program must achieve at least the following 5 results:
>
> (1) Further development of industry (including 'normal peacetime' as well as 'defense' activities) should be slowed down

> in central city areas of highest population density and industrial areas of target attractiveness.
>
> (2) A beginning should be made in reducing population and building densities in residential areas of greatest vulnerability by adoption of program of urban redevelopment and slum clearance.
>
> (3) New buildings constructed in or near target areas should be built according to standards that make them resistant to A-bomb blast and fire and which provide for adequate shelter areas.
>
> (4) No urban areas should be developed so intensively as to create new (or extensions of existing) population or industrial prime target areas.
>
> (5) New defense industrial plants should be located at a reasonably safe distance from existing target areas.[57]

Project East River was considered instrumental in influencing the development of a multifaceted non-military defence system, involving a national programme for the reduction of target vulnerability.[58]

The federal government moved forward, but, in its early stages, essentially in an advising capacity. Its attempts to address industrial dispersal had begun with passage of the National Security Act of 1947, which established the National Security Resources Board.[59] The Board's function was to advise the President concerning the coordination of military, industrial, and civilian mobilization, including advice regarding 'the strategic relocation of industries, services, government, and economic activities, the continuous operation of which is essential to the National security.'[60] In its early years, the National Security Resources Board devoted much of its attention to organization issues, to defining its objectives, and to civil defence matters.[61] In 1948 it published a booklet for the nation's industrial leaders on industrial location and relocation, and the effects of weapons development on industrial vulnerability. Reluctant to approach the politically sensitive position of legislating federal mandates, the NSRB advocated dispersal, but as a responsibility of the private sector:

> The job of dispersion is one that industry must assume, for both its own protection and that of the national security. Ours being a democratic Nation dedicated to the principles of free enterprise the Government can neither dictate nor finance such a large-scale change in the industrial pattern.[62]

However, the government could play a more decisive role in defence-related industry. Reports generally placed military bases and missile sites at the top of the list of primary targets,[63] and because the government controlled defence projects, it could begin implementing dispersion in that sphere, without jeopardizing its positions with private enterprise and individual Americans.

The dispersal of new industrial construction of military value was encouraged through tax incentives, which permitted more rapid amortization of plant investments, primarily by requiring spacing standards. The National Industrial Dispersion Policy, established as the result of a project initiated by the National Security Resources Board, specifically addressed the defence industry. The NSRB project had examined the practicality of various industrial dispersal plans, testing a specific programme in Seattle, Washington, which laid the groundwork for a 1952 manual entitled *Industrial Dispersion Guidebook for Communities*.[64] It subsequently recommended the President develop and support a national policy of dispersion.[65] At the same time, the Joint Committee on the Economic Report submitted *The Need For Industrial Dispersal*, recommending that new or expanded plants be constructed in areas of 'greater geographic security'.[66] The policy intended to achieve some degree of protection by spacing new defence plants 10 to 20 miles from target areas, and in a 10 August 1951 statement, President Harry S. Truman reported that the Director of the Office of Defense Mobilization would 'establish general standards with respect to dispersal, which shall be followed in the granting of certificates of necessity, in the allocation of critical materials for construction purposes, and in the making of emergency loans growing out of defense production'.[67] The National Security Resources Board published a second booklet on industrial dispersal that same year entitled *Is Your Plant a Target?* It described four objectives as follows: (1) dispersal was to be limited to new and expanding industry, except for the manufacture of certain critical products; (2) no region was to be built up at the expense of another; (3) industrial dispersal was to be confined within each local marketing area; and (4) local government and private enterprise were to take the initiative. In addition, industrial site selection would be based on two primary security factors: (1) industrial sites should be located 10–20 miles from densely populated or highly industrialized urban areas and from other prime targets, such as military installations, and (2) the new development areas should be located so as not to create new targets.[68]

The Office of Defense Mobilization, which took over the responsibility of addressing urban vulnerability when the National Security Resources Board disbanded in 1953,[69] had already demonstrated support of tax incentives in 1952. The ODM worked to facilitate dispersal of new defence construction when issuing 'Certificates of Necessity' for rapid tax amortization, requiring that new construction be located at least ten miles from target zones.70 The ODM defined target zones as:

> The area enclosed by a line drawn through the centers of a number of 4-mile diameter circles, each of which encloses either:
>
> 1. Defense-supporting plants each of which has 100 or more employees and which together have a combined employment of 16,000 industrial workers (a "highly industrialized section"), or
>
> 2. Residential population of 200,000 persons (a "densely populated section").[71]

The granting of rapid tax amortization ultimately became the principal means of influencing the dispersal of industry. Such a programme was viewed affordable and feasible, if such a programme consisted simply of individual industries building new plants elsewhere, particularly defence industries.[72] In 1954, the ODM expanded its tax incentive programme to the relocation of existing defence production facilities which were concentrated in vulnerable locations.[73] Because defence-related construction was funded by the federal government, the federal government controlled planning and proposals, and could readily influence location.[74] But these were also important initiatives, as they acted as first steps in encouraging additional dispersion in the private sector and among the general population, as Project East River had recommended.

Tax incentives were discussed as only part of the solution at the 1953 conference of the Industrial College of the Armed Forces. Also presented were more specific suggestions for incentives in addition to tax amortization. They included long-term, low-interest government loans; guaranteed government procurement programmes; selective placing of government contracts; and direct government subsidies such as one to cover differentials in transportation costs.[75] These kinds of programmes would lay the foundation for future dispersion proposals related to non-defence industry and housing.

At the same time, the federal government was beginning to move forward in supporting the dispersal of defence facilities, experts faced questions regarding the vulnerability of Washington, DC. Nuclear

attack on the capital could disable the nation psychologically, but also militarily, as vital government agencies were headquartered there. Beginning in 1947, the NSRB studied the feasibility of relocating some federal agencies outside the District of Columbia, and recommendations were approved in 1949. A committee comprising representatives from the NSRB, the Army, Navy, Air Force, State Department, General Services Administration, and the Budget Bureau recommended that agencies not required to be in Washington should be moved out of the region. In addition, those remaining should be moved to a radius of 20 miles, into Maryland and Virginia.[76] The National Capital Park and Planning Commission, in cooperation with other agencies, subsequently prepared a long-range plan, which President Truman submitted to Congress. Though no formal legislation was enacted, several agencies did relocate.[77]

In April of 1954, President Eisenhower issued a directive through the Office of Defense Mobilization requiring that all facilities subsequently acquired by Executive Branch agencies be located at least ten miles from any urban target zone, major military installation, or other critical facility. Some exceptions were made, in particular regarding the location of Executive Branch facilities in an area of southwest Washington, DC, rather than in a more distant location. The President and his Cabinet concluded:

> There is no objection to the general idea of redeveloping Southwest Washington by removing obsolete structures and replacing them with residential, commercial and cultural facilities. This redevelopment should be carried out in such a manner as to achieve a net reduction in population density in the section as part of the redevelopment plan.[78]

The dispersal of federal government was criticized as unsuccessful.[79] However, some agencies did relocate, and by 1954 a trend towards population growth in Washington's suburbs in Maryland and Virginia had begun.[80]

Outside the nation's capital, urban decentralization would require a particularly strong working relationship among federal, state, and local government agencies. There would be a natural relationship between the city and the nation in civil defence, as local governments were called upon to carry out plans designed to protect national security. At the same time, the federal government expressed an obligation to preserve the nation's cities. In a statement that justified taking an offensive position in the nuclear arms race, General

Benjamin W. Cidlaw, Commander in Chief of the Continental Air Defense Command, warned of possible attack on urban centres and the national government's duty to protect cities. General Chidlaw told the Washington Conference of Mayors in 1954:

> Your city means everything to you, everything to the people who live in it, and everything to me. To our possible enemies, however, who sit down at their planning tables to compute a schedule of take-off times for their existing bombing fleets, the hundred biggest cities represented here by you do not mean historic streets and beautiful parks, school systems in which you have pride, or the churches which are your fountains of faith. They may mean to them only those aerial forces and weapons required to produce the 100 pinpointed minutes of atomic hell on earth necessary for their destruction.[81]

The development of positive and effective intergovernmental relations proved to be a difficult undertaking, with arguments erupting around issues of responsibility, federal mandates, and funding.[82] In December of 1954, the National Commission on Intergovernmental Relations was urged to rectify the situation in the federal 'Report on Civil Defense and the Reduction of Urban Vulnerability'. The report addressed post-attack civil defence response and proposals to improve connections among federal, state, and local governments in efforts to man and supply such programmes properly, and devoted much attention to the idea of dispersion.[83] The National Municipal League served as one of the agencies which took the directives of Project East River, and attempted to formulate a feasible plan of action. It recognized that much of the responsibility for post-attack civil defence response would rest with municipal governments, but it also demonstrated a desire to play a role in carrying out a national pre-attack programme designed to reduce the concentration, and therefore vulnerability, of industrial and population centres. In its widely distributed pamphlet entitled *Save Our Cities: Survival in the Atomic Age Depends on Intensified Planning Now*, the National Municipal League proposed to deconcentrate urban population through the dispersal of industry. *Save Our Cities* quoted William J. Platt, Chairman of the Industrial Planning Research department at the Stanford Research Institute, who claimed in 1953 that most measures recommended for industrial defence

> make good sense apart from the risk of enemy attack. Many of the actions constitute preparedness for natural disasters such as tornadoes, earthquakes, floods or fires. Dispersion will contribute to national welfare by cutting down congestion, and its toll in blighted areas and in traffic accidents. Other actions, such as alternates for key jobs and alternative suppliers are sound management practice.[84]

The League concluded that just as dispersion could contribute to stronger industry, decentralizing the population could contribute to the creation of more viable communities, and municipal leaders were supporting the view held by some planning experts that encouraging the people to relocate would result in industry following.[85] But, according to the League, the programme would not have to be a radical one: 'Nobody seriously proposes that our big cities and metropolitan areas be suddenly broken up and scattered across the face of the land. Actually, what is proposed is an intelligently planned decentralization which would accelerate and give sound direction to trends already discernible.'[86] The League considered a number of possible methods of carrying out a rational policy of decentralization. One that it considered the most feasible and practical was the establishment and funding of planning commissions for metropolitan areas that could prepare land use plans in cooperation with municipal authorities.[87]

The Commission on Intergovernmental Relations became one of the strongest critics of the nation's dispersal policy. A 1955 staff report to the Commission once again called for cooperation at the national, state and local levels in order to reduce urban vulnerability, making the following recommendations:

> (a) It is recommended, therefore, that administrative action be taken by the appropriate agencies of the National Government to secure the direct participation of State and local officials in national planning.
> (b) It is believed that the national interest in this area (which is comparable to the national interest in civil defense generally) in principle justifies national financial aid to States and cities. Special recommendations regarding such assistance cannot be made here, since a comprehensive program for the reduction of urban vulnerability has not yet been established.
> (c) However, as national planning proceeds, it is recommended that consideration be given to redirecting certain existing grant-

> in-aid programs (e.g., housing and highways) in the interests of reducing the vulnerability of our cities.[88]

The report noted that there had been potential in the National Industrial Dispersal Policy of 1951, but argued that the results were less than substantial, largely due to lack of adherence to federal mandates. Though billions of dollars worth of defence plant construction was undertaken on the basis of tax amortization programmes, dispersion regulations were not always followed. Quoting Project East River, the report claimed:

> The major defect in present policies seems to have been undue reliance on local volunteer committees in each metropolitan area to furnish the initiative for defense plant dispersion that can come only from the Federal Government. The slogan has been "community responsibility-Federal guidance." It would, of course, be highly desirable for dispersal to come as a "grass roots" movement. However, no community or local committee can carry out what is essentially a major responsibility of the Federal Government. Until the Federal Government precisely defines the standards and the program to be undertaken, local action cannot be effective.[89]

Regarding population density, the report recognized rapid growth in the nation's suburbs, but argued that the concentration of people in the cities was still on the rise. It suggested that recommendations to create recreational areas and clear slums be taken more seriously, as such measures could greatly reduce the effects of firestorms. In addition, municipal governments could better limit the number of people housed in new residential areas, public housing developments, and apartment buildings.[90]

Civil Defence and Decentralization

City planners had been recommending urban decentralization from the time of Hiroshima, and by 1950 they were intensifying their civil defence arguments in an effort to shift from unplanned sprawl to planned expansion. Ralph E. Lapp, in *Must We Hide?*, had argued that future vulnerability was 'in the hands of city planners'.[91] A 1950 article in *The American City*, a professional journal for city administrators warned of the possibility of atomic war, arguing that the nation must 'start to do some genuine city planning',

incorporating civil defense principles into the design of new suburbs.[92] At the 1951 convention of the American Institute of Architects, shopping centre designers publicized their value as evacuation centres.[93] Essentially, city planners saw the atomic threat as a means to accelerate the trend of suburbanization. Plans to circle American cities with open spaces, highways, and circumferential 'life belts', was 'long overdue, war or no war', according to *Life Magazine*. *Life* described the potential devastation this way:

> The particular vulnerability of big American cities to atomic weapons stems from a combination of two factors: the intense congestion of the cities and the immense destructive power of the bomb ... First would come the immediate and total devastation of a large area, with casualties running into the hundreds of thousands ... Transportation would be paralyzed, power and water cut off, food supplies destroyed. The people would abandon the city in disorganized, panic-ridden flight ... In all, the indirect effects of the blast could well be more disastrous than its initial destruction, for the great city would act as a great explosive triggered by the lesser explosion of the bomb itself.[94]

The article supported a plan of combined evacuation and permanent pre-attack dispersal proposed by Massachusetts Institute of Technology professor Norbert Wiener, in which 'nearby land will be reserved as parks and made ready for large tent cities which could easily be erected to shelter the refugees. Supermarkets, suburban homes, and small businesses would be permitted to grow up near the life belt to supplement emergency rations and housing set up for a fleeing population.[95] Such a plan would ultimately ease urban problems of congestion and 'unhealthy internal growth, by accelerating the current trend of many city dwellers toward the suburbs', while protecting the population in case of attack.[96]

City planners saw substantial benefit for themselves in atomic fear, and when Congress considered proposals for housing construction, some of the most ardent support was heard from planners. Before a Senate subcommittee in 1951, Clarence S. Stein, president of the Regional Development Council of America, contended that atomic attacks would certainly be targeted at larger industrial population centres, and bomb shelters could not provide the same security that dispersion could. Stein proposed the following:

1. New defense industries and expansions of industries should be located outside of important bomb-target areas.
2. Adequate but limited-sized communities should be enlarged or built simultaneously for these industries and for communities.
3. The large massed targets, our great cities, should not be added to during the defense emergency.
4. All new housing and, as far as possible, all new urban community facilities should go into the building of dispersed communities.[97]

In prefacing his support of an extensive urban renewal programme, city planning consultant Robert B. Mitchell told President Eisenhower in 1953 that 'modern weapons of war have made our densely packed urban concentrations so vulnerable to attack that the security of the nation would be seriously threatened in another war'.[98] Planner Tracy B. Augur accurately predicted the role that his profession would play in dispersing urban populations. In 1946, Augur had proclaimed: 'The threat of atom bombing may prove a useful spur to jolt us forward!'[99]

Augur, once president of the American Institute of Planners, was considered one of the most influential in linking the federal government's national security policy to responsible planning at the local level.[100] In his 1950 article 'Dispersal is Good Business', published in the *Bulletin of Atomic Scientists*, Augur argued that the nation's cities had become congested and decayed, and the fact that they were now atomic targets should intensify the move for decentralization.[101] He maintained that 'the form and size and location of our cities is a matter of national concern, to be set by the mandates of national welfare rather than the whims of individual builders',[102] and that 'a sound plan of dispersal must be national in scope, not merely local to a few enlightened areas'.[103] Because urban centres depended on economic investment within their own boundaries to develop a strong tax base and sustain revenues, it was unlikely that their governmental bodies would encourage business to locate elsewhere, even if it meant decreased vulnerability and increased protection in case of nuclear attack. Therefore, Project East River suggested that the federal government increase financial aid projects that would assist in maintaining revenue levels in urban centres while commerce, industry, and residents move to surrounding municipalities.[104]

Some criticism was heard when the government moved to implement housing policy directives from Washington, as the United States Commission on Organization of the Executive Branch of Government argued: 'This is difficult to justify as a proper Federal function. This type of development threatens a further reduction of the field in which individual American citizens will have responsibility and influence over the conduct of their hometown affairs.'[105] But there was overwhelming support from other agencies for increased involvement on the part of the federal government. The Municipal League continued to endorse the suggestions of Project East River, and noted that even though industrial and urban expansion were carried out primarily as functions of private enterprise overseen and supported by local government, the federal influence in urban construction projects was significant. In 1950, for example, the federal government insured mortgages on $3,000,000,000 in construction projects, in addition to the direct funding of $700,000,000 in contracts awarded for public housing, schools, public buildings, and public works.[106]

The League also endorsed Project East River's recommendation that the federal government play a more effective role in reducing urban vulnerability in future residential development, by working through the Federal Housing Administration, the Housing and Home Finance Agency, and the Federal National Mortgage Association. As the FHA and the FNMA annually guaranteed federal liability for hundreds of thousands of dwelling units, the federal government could mandate that in the future they all 'be subject to urban defense standards'.[107] In 1950, Congress amended FHA programmes to provide incentives for the construction of three and four bedroom homes and established a new FHA programme to guarantee construction in the suburbs. In 1951, Congress authorized $60 million for loans and grants for facilities and services in 'critical defense areas', and in 1953, further liberalized FHA regulations for new owner-occupied homes in the suburbs. At the same time, Congress was authorizing billions of dollars more in FHA loans, and cutting back programmes for inner city development.[108]

However, the most substantial government action at the national level was directed towards facilitating suburbanization. In the Housing Act of 1954 Congress directed that all federal agencies involved with housing work to facilitate the reduction of urban vulnerability, a measure included largely because of the efforts of Tracy Augur.[109] It stated:

> The Housing and Home Finance Agency, including its constituent agencies, and any other departments or agencies of the Federal Government having powers, functions, or duties with respect to housing under this or any other law shall exercise such powers, functions or duties in such manner as consistent with the requirements thereof, will facilitate progress in the reduction of the vulnerability of congested urban areas to enemy attack.[110]

This legislation applied not only to the Housing and Home Finance Agency, but also to agencies such as the Veteran's Administration and the Federal Housing Authority. The 1954 act increased FHA mortgage insurance authorizations by $1.5 billion, liberalized the amounts and terms of FHA mortgages, and established an additional FHA programme for single-family homes in suburban areas. Builders commended Congress for this 'aid to private enterprise', but the Housing Act of 1954 did not serve only to support economic growth, it facilitated decentralization.[111]

Besides spacing, studies demonstrated some concern over housing design and construction standards. Clifford Edward Clark is among those who understand the building industry of the 1950s as responding to consumer demands in design, and what might be considered a coincidental availability of larger lots in suburban areas.[112] According to Clark, numerous magazines conducted surveys in order to find out what the American public wanted, and in articles and advertisements the suburban ranch home became the ideal for spacious comfort and convenience, with a 'low silhouette' which disappeared into the landscape.[113] But while the American public bought into the ideas of stability and security in sturdy, private houses with spacious yards being promoted by popular culture, behind the scenes, the federal government pushed for compliance to housing standards which advocated such designs. And, according to Leo F. Schnore, a Michigan State University sociologist in 1957, in this era of mass-produced housing homebuyers had little say in design or site location. 'The choices of building sites are made be contractors, real estate operators, and others, notably those involved in the initial capitalization of new developments. Families and individuals are not decisive agents in the process of land-use conversion', wrote Schnore.[114]

Government-employed architects, all of whom followed design standards required for FHA mortgage insurance eligibility, assisted builders.[115] The Committee on Social Aspects of Atomic Energy,

which was founded by the Social Science Research Council, had addressed construction concerns early on in relation to post-attack studies of Hiroshima and Nagasaki. Committee member Ansley J. Coale maintained that the high number of casualties suffered in Japan were due not only to population density, but also to poor structural features of Japanese buildings. He suggested that the construction of buildings, which incorporated the use of heat-, blast-, and radiation-resistant features might reduce the percentage of casualties, adding that such building methods 'could be encouraged by government subsidy'.[116] In 1953 and 1955, the Federal Civil Defense Administration conducted extensive tests of thermal and blast effects on various types of residential housing constructed for testing purposes in Nevada. Houses were tested at approximately one and two miles from ground zero, and an examination of the test results designed with protective features in mind. For example, ranch-style homes survived the blast better than two-story homes did, and the interiors of those furnished with Venetian blinds stood up better to heat tests.[117]

Historians have given the Federal Highway Act of 1956 significant credit for encouraging suburban development.[118] When the *Bulletin of Atomic Scientists* argued for 'defense through decentralization' in 1951, it gained the support of the American Road Builders Association, and lobbyists worked to persuade Congress to pass the Interstate Highway Act in 1956. Signing the bill, President Eisenhower insisted that '[In] case of atomic attack on our key cities, the road net must permit quick evacuation of target areas'.[119] Backed by auto, trucking, oil, tire, asphalt, cement, steel, lumber, and construction industries and their unions, the Act called for the construction of 41,000 miles of new highways, with the federal government paying 90 per cent of costs, while the states paid ten per cent.[120] These new highways would link major cities, but, more importantly, would create circumferential beltways around the nation's largest urban areas. In addition, funds would subsidize the widening of local roads. Political supporters argued that the new expressways would facilitate the evacuation of cities in the case of nuclear attack.[121]

Project East River had supported such a programme when it suggested a shift in highway development from one in which highways had connected the outskirts of a metropolitan area to the inner city – as they had in the past – to one in which more 'circumferential highways' were constructed. Highways planned by

state and local governments and funded in part by the federal government which circumvented the inner city by at least ten miles would 'not only act as important bypasses of congested sections through which traffic can not be moved for some time after an attack, but will also tend to encourage the location of new industry and related development outside of central city areas'.[122] Though promoted as a means to evacuate, it is generally agreed that the new highway system had a significant impact in facilitating relocation, and the process of suburbanization.

Contemporaries doubted whether the government's attempts to implement the theory that if industries relocated then people would follow would be successful,[123] and Mark Gottdiener, author of *The Social Production of Urban Space*, might agree. Rather, Gottdiener argues, changes in federal housing policy moved people, and population shifts occurred because residential housing was built outside the cities, not because of industrial dispersion. According to Gottdiener: 'There can be no doubt that the vast bulk of suburbanization was produced by locational changes of residences rather than businesses; that is, post-war suburbanization took place with housing construction independent of changes in industrial location.' He argues that although industrial location did play a fundamental role, the movement of people to the suburbs was 'essentially a product of real estate and construction industries shift to supplying massive amounts of single-family suburban housing to consumers after the war years'.[124] But although people may have been able to make the move because they had the economic means and because they had desire, they could not have done so without the federal government putting measures into place that would fund roads and highways, utilities, and low interest suburban mortgages.

A monumental exodus to the suburbs took place in the postwar period. US suburban population grew 31 per cent in the 1940s and another 47 per cent in the 1950s from 31.1 million residents in 1941 to 60.1 million in 1960, and by 1960 'Metropolitanism' was being studied as a twentieth century phenomenon.[125] In June of 1959, the US Census Bureau recognized 192 metropolitan areas (central cities of 50,000 or more, including the population of connecting suburban areas, noting that 80 per cent of the population growth in metropolitan areas between 1950 and 1960 had taken place in the suburbs, with more than half of Americans living in metropolitan areas residing in suburbs rather than major cities.[126] By 1960, it was clear that population dispersal had succeeded so swiftly that new

suburbs were facing problems of overcrowded schools, sprawl with little open space, and the inability of distinct neighbouring governments to address the problems.[127] And the federal policymakers would be forced to take on new responsibilities in addressing the problems which came largely as the result of decentralization programmes which their predecessors had insured.

It is still very difficult, if not impossible, to quantify the effects of federal incentives on suburbanization, because it is impossible to isolate that factor from others of prosperity, individual economic feasibility, 'white flight', the desire to escape crime and pollution, and so on. But various federal programmes and the threat of attack must be included among the explanations for this phenomenon of 1950s America. Only then can historians consider a more true and accurate picture of this historical development.

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