Highways for New Urban Patterns

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● THERE can no longer be any doubt that the urban structure of the United States is undergoing a fundamental change, not only in the composition of individual cities but also in the character and in the functional relationships of the various urban units that make up our far-flung metropolitan areas and urban regions.

The monolithic metropolis that was spawned by the industrial revolution has outlived its purpose and is in process of realignment in new forms better suited to the conditions and requirements of our time.

The chief characteristic of the new urban forms, insofar as it has been disclosed to date, is spaciousness. More land, often much more land, is used for each urban activity than was the case a few decades back. Figures compiled by the Regional Plan Association of New York show that in that area the amount of land used for urban purposes per capita now is twice what it was in 1900 and more than four times as great as it was in 1860.

Unfortunately, the second-most-noticeable characteristic of the new urbanization, as it is now appearing, is its formlessness or, to use a harsher word, disorder. Much of the fringe development spreading outward from big and little cities is completely haphazard in character and location and lacks effective relationship to units of local government, education, public utilities, and transportation.

Highway engineers are concerned with the changing patterns of urban life, because they create new and different demands for highway service. More important, they place in their hands great opportunities to promote good order by the kinds of highway system they design. Because spaciousness puts greater emphasis on transportation, highway planning can be used with greater effect as a constructive force in the formation of urban structure that is efficient and economical to use.

The changes that are taking place are in part voluntary, in part forced by a world situation beyond our control. They are sparked, first, by the growing appetite of the American people for more space around their homes, stores, offices, and factories—coupled with the ability to get it—and second, by the threat of sudden destruction that hangs over a nation with its population and industrial facilities too heavily concentrated in a few convenient target areas.

Unfortunately, the Bomb and its kindred devices of destruction seem destined to play an increasing role in influencing changes in our urban structure in the years ahead. As the President has said, "We live in an age of peril," and there is every indication that we must continue to live in that kind of an age for many years to come.

The nature of the threat suggests one way of lessening it. The danger is that the destruction of a few score of our bigger cities could so paralyze our industrial capacity and our will to resist that a well-managed sneak attack could reduce us to the status of a vassal state. And the remedy that this suggests is that, as the nation grows and changes, we so distribute our people and our industrial facilities across the length and breadth of the land that no feasible enemy attack could make decisive inroads on our strength.

Lest any one feel impelled at this point to protest that superior armed strength is all that this country needs to meet the peril, let me point out that when you stand face

to face with an armed assailant, it does you no good to have two or three times his fire power if he fires first. Neither does it help to be ready to retaliate instantly with your superior strength, because he knows that you cannot retaliate if you are dead.

In such a situation, striking power is of little value unless it is coupled with a further source of strength, the quality of being hard to kill. If your opponent has serious doubts of his ability to put you out of action with his first shot, he is likely to hold his fire. It is one thing for him to deal with an adversary who is dead; it is quite another to deal with one who is only wounded and still able to deliver a lethal return fire.

The military striking power of the United States is significant only when it is coupled with a high degree of invulnerability to enemy attack on the part of the nation it represents. The military forces cannot carry out their mission if their country is so decimated by a nuclear blitz that it cannot give them logistic backing, or worse, cannot rally its remaining citizenship to the support of a continuing war effort.

To be reasonably secure in today's world, this country must make itself very hard to kill, in the face of the fantastic weapons that are now available to nations anxious to achieve world domination and ready to use force, if necessary, to remove us from their path.

In the last analysis, our cities provide the measure of our vulnerability to enemy attack. It is in them that the bulk of our people live, the bulk of our industrial production is carried on, the bulk of our managerial and governmental talent is concentrated, the focal points of our nationwide transportation and communications networks are located Erase the major cities and there is grave question whether, at this time, the remainder of the country could support the economic and military effort needed to maintain its freedom.

According to the 1950 census the United States has concentrated in its 50-largest metropolitan areas 42 percent of its total population, 54 percent of all persons employed in manufacturing, and over 70 percent of its industrial production. The situation has grown worse since 1950, because the bulk of our tremendous population growth and economic expansion has taken place in those same areas. As a nation, we are making ourselves easier to kill at the very time that the means of killing us are being perfected.

The H-bomb is a weapon of fantastic proportions. The exact dimensions of its destruction are not material; the point is that it can destroy the capacity of a great city to function as a city and to fill its place in the operating economy of the nation and that a few-score bombs placed on target can take out a substantial part of the nation's total capacity to operate. Our present pattern of urbanization actually invites attack, just as did our fleet concentration at Pearl Harbor, because an enemy can achieve so much damage with a relatively small expenditure of effort.

What changes are needed in the overall pattern of urbanization to improve this situation and how can they be brought about: There appear to be two general lines of approach, both of which tie in with present trends in urban development that are actuated by normal social and economic considerations.

One is to dilute or scatter the target by promoting an accelerated distribution of population and essential industry among the thousands of smaller towns and cities that are located away from centers of major concentration; to foster a shift from major national dependence on a few great production centers to major reliance on the productivity of a widespread network of small centers.

The other can best be described as a stepped-up deconcentration of the centers that now contain so large a percentage of our total economic strength. This ties in with the normal trend toward greater spa-

ciousness and suburban expansion but, in the interest of security, calls for greater emphasis on the development of the outer suburbs and satellite towns well removed from the core city.

Both of these approaches can be covered by the general terms "dispersal" and "decentralization," but it is important that the word "organized" or "planned" be added. Mere scatter of people and facilities is not enough. It may lower the amount of target material within any given area and thus make bombing less remunerative, but it could also produce a state of disorganization that would reduce our strength by hampering production

If dispersal is to be an effective force in lessening the nation's urban vulnerability, it must be carefully planned dispersal, with an eye to the efficient and economical conduct of urban activities and the creation of a humanly acceptable environment for urban living.

There are many forms that a well-planned pattern of dispersion might take. There is not time to examine them here. However, it may be worthwhile to look briefly at one historic form for what light it may throw both on the problem of dispersion and of a transportation pattern to go with it.

That is the type of dispersed metropolis that developed in parts of this country just before the advent of the motor age. It consisted of a central city with main transportation lines, in the form of steam railroads, radiating outward and marked at intervals by stations which were, in turn, the hubs of smaller urban centers

People in the outer towns could find work in their own community or commute to the larger center; they could satisfy their day-to-day commercial and cultural needs at home and occasionally make convenient trips in town for the extras that their home community could not supply. And of great importance to our social and political institutions, they could enjoy a sense of belonging to a finite community, feel loyalty to it and take a personal part and pride in its progress.

The density of development in each of the communities might be relatively high—most activities had to be within walking or horse and buggy distance of the railroad station—but the overall density of the metropolitan area was very low, thanks to the large tracts of farm and forest land that remained unurbanized because not served by railroads.

The transportation pattern was fairly simple. Most of the traffic was contained within the community where it originated. Interurban traffic was gathered and distributed through stations, between which it travelled freely and at high speed. Efficient mass transportation was possible because the pattern of settlement favored it.

That pattern broke down with the advent of motor vehicles, because they opened up all of the intervening territory to settlement. The rural land that formerly had provided physical limits for the urban communities itself became urbanized. Neighboring towns and cities expanded until they merged and lost their identity. Their people became citizens not of a close-knit human-scale community but of a sprawling suburbia or a mammoth metropolis.

Service with mass transportation became a hopeless problem. There were no restrictions on where people might live or where they might work or where they might shop nor on how many might live or work or shop at any one point. Use of private cars became necessary, because there were few fixed lines of travel that mass transportation could serve. And so the unending battle between mounting demand and lagging supply in highway facilities got off to a healthy start

It might solve many of the big city problems of today if we could re-establish the basic pattern of that pre-motor age metropolis. Instead of putting a million people in one disorganized mass, for instance, as we

are now prone to do, there might be a distribution placing, say, a hundred thousand in a central city and the remainder divided among twenty or more smaller cities located 15 to 20 miles apart on radial and circumferential expressways.

Expressways, with access restricted to fixed station points, would serve the same purpose that the railroads did, (and still do in some localities), providing fast transportation between predetermined centers of urban activity, while tending to discourage intensive development of intervening land.

To adopt such a pattern for contemporary urban development would, of course, require greater controls over land use than the American people have thus far been willing to accept; yet, if the organized dispersal of this country's urban life is as vital to national security as it appears to be, the measures needed to accomplish it might well become acceptable.

After all, the American people have accepted the peacetime draft of men for the armed services, something that would have seemed impossible a few years back. If we are willing to legislate restrictions on the careers of our young men in the interest of national security, should we not be equally willing to legislate restrictions on the use of land for the same reason?

There is little doubt that the police power of the states is adequate to accomplish what is necessary, once the citizenship becomes convinced that it is necessary. Already there are scattered examples of strict density control over suburban land, exercised by communities which wish to retain a semirural character or to restrict the area of urbanization to specific limits. And, of course, the principle of limited highway access is now well established.

What the federal government might do to induce safer patterns of urban development under its national defense responsibilities is still largely an unexplored question, but as the recent studies of Project East River pointed out, there are many points of federal impact on city growth which might be used to promote desirable urban patterns and to discourage undesirable ones. The principal instance where this has been done is in the industrial dispersion policy first enunciated in 1950.

Many people tend to shrug off any basic revisions in the nation's urban structure on the ground that there is too great an investment in our present cities, both of money and tradition, to permit any fundamental change Besides, they say, creation of new city structure is horribly expensive and would bankrupt the nation!

In answer to that, it need only be pointed out that cities are changing and being rebuilt all the time. If anyone wants to see the change in action, he need only visit one of the major urban redevelopment projects, where old walls are crumbling and new ones rising. It is said that the rate of reconstruction in most cities is sufficient to accomplish their complete rebuilding every 40 years.

Furthermore, there is a tremendous increment to the nation's urban population every year for which additional facilities must be provided. Current growth is at the rate of over 2½ million people a year and more than 2 million of them are settling in urban areas. That is the equivalent of 40 new cities of 50,000 population annually. We are building the homes and other facilities for that many people every year, and it is not bankrupting us; in fact, it is generally considered to be good business.

The problem of financing, therefore, is not one of incurring new and additional expense for new urban patterns but of redirecting the expenditures that are already being made every day and every year, both by private investors and public agencies. It is not a question of spending more; it is a question of spending more wisely, so that the new urban structure that is created will meet the need of the future rather than fit some existing pattern that may already be obsolescent.

This discussion of new urban patterns has

contained little mention of the new highway patterns needed to serve them. The point I have sought to stress is that the urban patterns of the future are pretty sure to be different from those of the recent past, both because people want them to be in the interest of better living and because the world situation requires them to be in the interest of national security.

Obviously, the highway patterns of the country will change, too. If the phenomenal growth of the big central cities is checked, there will need be less emphasis on solution of the typical downtown traffic problems. If metropolitan growth takes the form of clusters of satellite communities, there will be increasing emphasis on facile and speedy communication between them and, particularly, between them and the center.

If urban growth assumes ribbon forms, they in turn will require their own forms of highway system. Finally if there is emphasis on a wider distribution of the nation's facilities for industrial production among the smaller cities away from metropolitan centers, then new importance will be given to the interurban network, and the cross-state throughways.

New highway patterns can be developed to serve the new urban patterns in two ways. They can follow or they can lead. Highway designers can sit back until traffic has developed, take voluminous traffic counts and then design highways to fit a traffic pattern that perhaps has already developed badly because the facilities it used were out-of-date. Or they can combine their talents with those of state, county, and city planners to design a combined pattern of highways and urban development that will give the greatest promise of balance between highway service and highway need.

The way in which highway systems are developed has, of course, a great deal to do with the way in which cities are developed. Highways can and should be the creators of better urban patterns. Massachusetts State Highway 128, encircling Boston, is an example of a highway that has had a marked influence on the development of a metropolitan area. Similar circumferentials, 20 or 30 miles out from the centers of our major cities, would have a major effect on their orderly dispersal.

The time has come, I think, when all highway planning will have to be thought of in the creative sense, in terms of what it can do to influence the nation's development for the best We need every device at our disposal to create a less-vulnerable urban structure. We need every device at our disposal to stop the senseless repetition of old mistakes in urban expansion, because the nation cannot afford the cost of those mistakes even in peacetime.

But what we need more than anything else right now is a clearer picture of the objectives. Just what kind of an urban pattern will give us the greatest and quickest reduction in our vulnerability to enemy attack? What kind will give us the most efficient and economical base for industrial production and commercial service? What kind will do the most to produce good citizenship, promote sound local government and foster pride in one's home community?

Unfortunately, as vital as these questions are, we know very little about the answers. That is one of the most important fields in which research is needed and one of the most neglected. With that observation I can turn this subject back to the research institutions whose guests we are today. As badly as this country needs action to develop better urban patterns, it needs, even more, the fundamental research on which sound patterns can be based.