

Control of Traffic Through Control of Land Use

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•THIS PAPER is concerned primarily with managing our existing street systems, especially within the urban areas, because this is where I believe we have fallen down, and fallen down very badly. In the year 700 BC a road was constructed between the Persian Gulf and the Mediterranean Sea. The ruler of the day decided that no man should be permitted to encroach upon this road. The penalty for any encroachment was to be impaled on a pole. This is rather drastic treatment for those who would violate the right-of-way.

Perhaps we ought to look at what we have today and deal more effectively with the way in which the land is used and controlled. I think that we can assume that from now on we will be dealing with a multi-billion dollar highway program. Some of these highways will tear the guts out of our cities; some of them will perform a service without doing this while preserving more of the urban qualities that make up the "good life." But until either of these is done, we must take a hard look at what is happening and do everything possible to make our existing street system more functional. I would submit that one of the best means of control is that very maligned concept known as zoning.

Many of my colleagues have been singing a requiem for this land-use control, but I would like to infuse it with a little life so that it can accomplish what it was designed to accomplish. One of the reasons that zoning has failed, or supposedly has failed, is that it has been twisted out of shape by administrative procedures through boards of zoning appeals, or otherwise forced to do things that it was never meant to do.

This reminds me of a story. The owner of the Leaning Tower of Pisa applied to the Pisa Zoning Board for a variance. He wanted to put a clock in the tower. The customary public hearing was held after due notice, and, as expected, the neighbors turned out and objected vigorously to the clock: it would generate traffic, it would bring undesirables into the neighborhood, it would devalue their property. The Chairman turned to the owner and asked why he wanted to put a clock into the tower. The owner answered simply that it was his feeling that "Anything that had the inclination ought to have the time."

Obviously, the investment in private autos and public streets has increased at an unbelievable rate since World War II. This is evidence of the determination of the people for physical mobility. The problem is compounded as the percentage of people living in metropolitan areas and their fringes continues to grow. It will increase.

There probably is no solution to the problem, but rather an attempt at a series of adjustments. One such attempt to meet this new condition has been the construction of freeways. In addition to the expense of the freeway, both in land acquisition and construction costs, the public pays a heavy toll in social and economic disruption. All of the freeways carry significant volumes of traffic which might otherwise congest the streets; within a short period of time the number of autos increases to such an extent that the street is already overburdened and the vehicular traffic is frozen into concrete rigor mortis. What usually follows is that more freeways are built, more tax money spent, more social costs are incurred and the irrevocable stamp on urban real estate of ribbons of concrete remains permanently.

I would suggest that a less expensive adjustment is to increase the traffic-bearing capacity of the existing street system. There are many ways of doing this, and many skills that can be brought to bear. Zoning is but one. Zoning ordinances requiring off-street parking spaces and loading berths represent an attempt to get cars out of the curb lane, in effect a way of widening the street system. If the primary function of zoning is to control the use of land and bulk of buildings, then the application of these principles directly affects the traffic-generating capacity of land use.

One of the most important reasons for the first comprehensive zoning ordinance in New York City was to prevent congestion of the streets, especially Fifth Avenue, by regulating the traffic-generating capacity of the users. The use of zoning to regulate the types and sizes of these land uses for the purpose of controlling traffic volumes, although slow to gain official recognition, is, I submit, a proper use of police power. Obviously, zoning alone cannot solve this problem. But I suggest that before we bury this concept, we allow it to function effectively to control the traffic-generating capacity of the land use.

Curb-cut regulations are designed to decrease the number of turning movements into and from traffic lanes. They operate to cut down on the points of conflict in traffic. The selection of uses permitted to front on the major thoroughfares, including the highways, would affect the number of vehicles that would otherwise be attracted to these points of conflict. The safe and efficient movement of persons and goods from one point to another is sufficient reason for government to operate and regulate streets. It is also sufficient reason to control and regulate the types of streets needed. Inasmuch as the only way to provide efficient major arterials is to minimize the amount of local traffic on these streets, there is also sufficient reason to control and regulate the land use of the frontage.

Land-use regulation would eliminate many hazardous curb cuts, reduce the number of turns and movements into and out of traffic lanes, and minimize the conflict of incompatible traffic. Such regulation would benefit the traveling public, the owners of abutting property, and the government by increasing the utility and beauty of the streets.

Major thoroughfares present a variety of problems to planning and zoning officials. Heavy traffic tends to discourage the residential use of land and many uses are dependent on traffic flow and safety. To zone all such abutting land, either residential or commercial, obviously would not solve the problem. The dilemma cannot be avoided, because a decision not to regulate the abutting land uses would cause equally serious and permanent damage.

The common practice in most American cities has been to allocate too much land for commercial use. This policy presents problems of almost the same magnitude as no zoning at all, and at the same time creates a vested-right psychology on the part of the affected land owner. Overzoning for commercial use generates traffic movement which is incompatible, and interferes with major through-traffic circulation. The pressure then begins to build up for street widenings and new highways, and the spiral downward begins as evidenced by the decline in value of nearby residential properties, difficulty in providing off-street parking, a lack of conveniently located shops, and inconveniently interspersed noncommercial activities. These objections appear to justify a change in land-use classification, at least in marginal commercially zoned land. Another related problem concerns the owner of commercially zoned land which is not commercially developed.

The indiscriminate commercial zoning of major street frontage prevents the development of a rational land-use pattern. Because of the congestion created on the main street, through traffic will seek out parallel residential streets as an outlet. The resulting increase in traffic will tempt the entrepreneur to extend commercial uses into the residential areas, and if such inroads are permitted and the traffic congestion is not relieved, the two effects will spiral and deterioration will increase.

To avoid these problems, it becomes exceedingly important for municipalities, through zoning and other means, to regulate the allocation of land in accordance with criteria that include the traffic-generating capacity of the various permitted uses. I would suggest that strips of business zoning along major arteries be replaced with

land-use classifications that are compatible with safe and efficient thoroughfares. It was reported some time ago that an Australian metropolitan area attempted to limit the amount of traffic generation and the number of curb cuts on major thoroughfares by prohibiting all new traffic generators and by allowing all existing establishments to expand.

In most cases, commercial development and zoning along major streets abut on residentially developed or zoned land. Moving traffic seems to create less conflict and is less obnoxious to residential than commercial development.

The traffic-generating capacity of the land use is one of the primary criteria applied when developing a list of uses that are to be permitted in the various use districts. There are exceptions to these general rules where the general welfare requires it. In this situation, electric power substations, telephone exchanges, fire stations, police stations and other community facilities are permitted in the residential districts. However, even in these situations these uses are, in some cases, required to front on streets of insufficient capacity to carry the increase in traffic. They are further required to provide off-street parking and loading facilities. For the same reason, zoning techniques can be used to protect the public welfare when it is demonstrated that the various uses interfere with the safe and efficient flow of traffic.

Zoning ordinances can be structured to contain the minimum safety features required in the construction and development of each commercial land use in accordance with its traffic-generating capacity. These features might include: minimum and maximum widths of driveways, and minimum distances between driveways and between driveways and intersections. Application of zoning controls in this respect, to insure less hazardous traffic conditions, is again a legitimate exercise of police power.

Another primary objective of zoning is to segregate incompatible land uses. This is not a new concept in law or in zoning. However, when it is related to traffic regulation, some courts seem to lose sight of the objective. It is important that commercial zoning be extremely limited on highways and major thoroughfares. Where the courts have approved the segregation of certain traffic generators, such as hospitals or other nonresidential uses, from the residence districts, they have done so on the grounds that these uses are likely to generate traffic that is detrimental to the residential uses within the area. Perhaps this dire result might be avoided if there were additional requirements for off-street parking, or if the lot area for the particular nonresidential use was large enough. However, the courts have recognized the validity of traffic generation as a criterion of compatibility, and are content to rest their findings on the fact that additional traffic would be detrimental to the surrounding land uses. Therefore, unless a compelling public necessity requires otherwise, those uses which generate traffic that is incompatible with the surrounding land uses can also be regulated and, where required, prohibited. In this respect, the public welfare is served. In other words, if a rational land-use plan exists, and if the community is to be serviced by land uses according to function, then unless public necessity requires otherwise, those uses which generate traffic and congestion incompatible with neighboring land uses should be, and can be, prohibited.

It has been suggested that secondary or small lot commercial development be prohibited along state highways where the increased speeds of automobiles would increase the hazards and seriousness of accidents. These pressures result from a recognition of a greater public value in efficient thoroughfares, whether in city or country, than the uncontrolled and indiscriminate development of traffic generators which increase the amount of traffic friction and congestion. Again, the key is public welfare.

Perhaps the most widespread evidence of the fact that traffic considerations justify zoning is in the new-accepted practice of requiring off-street parking and loading. The justification for requiring parking and loading at the expense of the owners of improved property applies equally to the regulation or prohibition of traffic generators on lands that front on congested thoroughfares. Obviously, a balance must be achieved between the public welfare and private property rights. This is the dilemma we constantly face.

Controlling traffic through zoning is not without precedent. Many cases have recognized the need, and those that have not have usually fallen back on the convenient

argument that zoning depreciates the value of the land. There is no indication that these cases consider depreciation of the value of the commercial frontage as measured against depreciation of the public value of its streets, or against depreciation brought about by the congestion on neighboring property values.

It is important to remember that one of the objectives in planning is to attempt to measure the impact of a particular land use on neighboring land uses. The traffic-generating capacity of land use is one element of impact and sufficient justification for regulation or control.

I would urge that you consider a multiple and coordinated study to deal with the problem of traffic congestion. We need increased capacity to move people and goods in the existing street system as well as in the new traffic corridors; we need a balanced transportation system, including rapid transit. We need to experiment with one-way streets and with the staggering of working hours. These techniques are beyond the jurisdiction of zoning. But we must also consider carefully the use of this very potent and well-established land-use control. We need zoning to control the frontage of the major thoroughfares. We need to use it in conjunction with subdivision regulations so that development does not necessarily back up to, or front on, major streets by taking advantage of marginal roads. We need zoning to allocate land uses, thereby decreasing the number of curb cuts; to have better terminal facilities in the right place; and to have better provisions for off-street parking and loading. Zoning can segregate incompatible land uses, and a criterion for this segregation is the traffic-generating capacity of the land use. Zoning can limit the bulk of the buildings in an attempt to limit the intensity of use and therefore the amount of congestion created on the streets.