

Reservation of Industrial Sites and the Zoning Device in Relation to Highways

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● **HIGHWAY ENGINEERS** are the principal decision-makers in determining where industry can locate in the next two decades. Industry has already demonstrated a preference for freeway sites — even to the extent of building new plants before a freeway has been opened for traffic. Freeway routes now under construction will be the major supply of prime industrial land for the next 5 to possibly 8 years. But the large land reserve needed for American industry's growth and rejuvenation for the next two decades is dependent on route decisions now being made.

This paper will discuss three aspects of the problem in preserving highway sites for future industry: (a) a brief review of the lag of planning data to document industry's desire for freeway sites, (b) an example of the loss of industrial development potential on a circumferential not yet completed, and (c) a discussion of the five planning steps needed to reserve highway sites for industry.

Thirty years ago there were no front sites for industry. Within the next 10 years there will be a few back sites for industry. Until the depression, industry occupied "back of the track" locations in the slum end of town. Practically all the vast plant-building program during World War II, however, was on major highways—providing immediate access to trucks and workers' cars. New plants built during the early post-war period continued the trend toward front sites on major highways and even on toll roads. By the mid-1950's, the trend toward locating new plants and laboratories on limited access roads, toll or free, was well under way — but was poorly documented.

Paucity of Data

In the spring of 1956, when preparing a paper on the "Influence of the New Federal Highway Program on Industrial Development," the author found very few reports on the subject: The California Division of Highways had published a study on land values of industrial tracts adjacent to freeways. Bertram D. Tallamy, Federal Highway Administrator, had reported on the industrial growth effects on the New York Thruway. Most of the author's conclusions had to be based on a study of war plants, on personal interviews with key executives at new post-war industrial facilities, and on observations of new plant location trends during field trips and personal travel.

Early in 1957, A. J. Bone and Martin Wohl presented to the Highway Research Board a preliminary report on their study of industrial development on Route 128, the circumferential 10 mi outside Boston. Since then, a few local and state reports have been published concerning industrial growth along new highways, but these usually have been issued by promotional agencies and seldom documented.

Few data and hypotheses were available in print at a time when highway engineers and city planners were engaged in the greatest right-of-way search in man's history.

By now, however, the attraction that freeway sites hold for all types of industrial activities is well evident. Research laboratories, research centers, production plants, and distribution centers; plants producing consumer goods and heavy industries serving only other manufacturers; expansive, expensive, and exclusive facilities of the industrial aristocracy; and small plants of individual entrepreneurs clustered in industrial parks—all have found similar or sometimes unique advantages in a freeway location. Industry's trend to freeway location is now firmly established in eastern states, well evident in the south, mid-south, and west coast, and under way in most midwestern states.

Industrial Land Studies

Another lag in research handicapped the highway engineer and the city planner—the lack of industrial land use studies by city and county planning commissions. The existence of such studies would have obvious advantages to the right-of-way engineers. The objective of an industrial land use study—whether for a city, county, or region—is to identify the best potential sites for the industrial growth of that area for the next 10 to 20 years. Present or future transport routes are the critical factor. Vacant land along navigable water should be noted and some recommended for future industrial use. Sites adjacent to existing or future airports, and large, deep sites along railroads are also potential prime industrial land. But most important are the sites paralleling existing freeways, freeways scheduled for construction, or even tentative freeway routes.

The pioneer studies by Cincinnati in 1946 and Philadelphia in 1950 did not immediately stimulate other cities to evaluate their own future industrial land requirements. In late 1950's, however, a number of city and regional studies were published; Cleveland, Cuyahoga County, 1955; Detroit, 1956; Maryland-National Capital Parks and Planning Commission, 1956; Arlington County, Va., 1957; Montgomery County, Md., 1957; Indianapolis, Marion County, 1957; Baltimore Regional Planning Council, 1959; and most recently the San Francisco Bay Area, 1960.

Future right-of-way planning can create excellent industrial sites if communities will map and evaluate in advance all potential industrial sites, thereby providing a comprehensive basis for planning freeway routes.

Protecting Future Industrial Sites

However, the most careful right-of-way planning to create future industrial sites is no assurance that these sites will remain available for industry. Too often the subdivider's bulldozer has completed its work before the highway engineering crews have begun. Too often the future right-of-way is lined with newly occupied residential subdivisions or with homes under construction on freeway sites better suited for future employment centers.

Here is an example of the usurpation of potential industrial sites by subdivisions along the route of an as yet unbuilt freeway. The example is not unique, and can probably be duplicated in the experiences of most highway engineers.

Loss of Sites on Future Capital Beltway

Washington will soon have a circumferential similar to Boston's Route 128. Like Route 128, the Capital Beltway will connect the suburban counties in Virginia and Maryland, at a distance approximately 10 mi from the center of Washington. Route planning for this freeway began in the late 1940's. In 1949, the Maryland National Capital Park and Planning Commission published a Regional Master Plan of Highways, showing the approximate route of the future beltway through the two Maryland Counties to be served by it—Montgomery and Prince Georges. Six years later, early in 1955, the Planning Commission contracted with the author to evaluate the adequacy of existing industrial plants in those portions of the two counties under its planning jurisdiction, to determine the types of industry that would probably come to this expanding region, to prescribe the land and location requirements of such industries, and finally to identify potential locations for the future industrial growth. Controlling factors in site selection were the Master Plan of Highways, the proposed trunklines of water and sewer, topography and possible modifications of rough but well-situated sites, the size of potential vacant tracts, and the land use trends in the vicinity.

Bear in mind that the route of the Beltway through Maryland was approximately fixed in 1949. The Beltway would not be opened until 1963. None of the Beltway was open to traffic at the time of this industrial survey—in 1955-56.

Briefly, the results of the survey showed that Prince Georges County had a wide choice of 14 potential industrial locations along its 28 mi of future beltway. Montgomery County, however, had only two potential industrial sites along its 14 mi of

future circumferential. Although some sections of the route in Montgomery County passed through rough terrain, the major loss of potential industrial sites was caused by residential subdivisions either under construction or completely site planned and submitted to the Planning Commission for approval. Rest assured that the Planning Commission used its power of subdivision approval to prevent residential building in the path of the future Beltway, even though right-of-way options had not been obtained.

The Planning Commission, however, was not yet able to deny residential development adjacent to a future beltway just because such sites had industrial potential. Despite the fact that this Planning Commission was one of the first in the United States to recognize the industrial potential of its future beltway and to make an industrial land study, its timing was still a little late. Thus, a long-range plan for land use along a 14 mi stretch of future freeway not to be available for 8 years, was too late to overcome the population movement to the suburbs.

Potential industrial sites fared better along Virginia's 23-mi section of the Capital Beltway. The population pressures came later, so that most of the potential locations for industry identified by the Fairfax Planning Commission survey in 1959 are still vacant. A few of the choicest beltway sites, however, have already gone under to the subdivider. Fairfax County Planning Commission did not release its industrial land use plan until all right-of-way for the Beltway had been optioned or purchased, thereby possibly holding down acquisition costs.

Both Fairfax and Prince Georges Counties will have to decide what locations they wish to reserve for industry and then zone them exclusively for industrial use in the very near future, for the Beltway opening is not far off.

Zoning for Future Industrial Sites

What are the implications of industrial zoning for the property owner and for the right-of-way engineer? The owner faces a severe restriction on the use of his property, for under the terms of modern industrial zoning no residences may be built on an industrial tract. The latest trend is to prohibit also many commercial uses, otherwise many owners might request industrial zoning only to develop the site as a shopping center. Thus, the owner of a tract of land rezoned for exclusive industrial use has the choice of an open land use-agriculture, holding the land for future industry, or selling it to an investor able to develop and promote the site for future industrial occupants. In those counties where property assessment is based on zoning as well as use, the tax burden is particularly hard on the owner during the waiting period.

For the right-of-way engineer, industrial zoning in advance of options could increase the land cost. There will be many instances in which plants, laboratories, or warehouses will be built adjacent to the route before the freeway is constructed. Appraisers will cite these examples to shore up their valuation estimates of other vacant freeway sites.

Some land owners, however, with industrial prospects already in hand, anxious to secure freeway frontage for their land, have granted options to highway departments at agriculture land prices before receiving planning commission approval of industrial rezoning for their tract. There is a strong possibility that advanced planning, through an industrial land survey, could result in more dedications of right-of-way adjacent to prospective industrial sites, for industrial park developers and individual industries are usually anxious to speed the building of the freeway that will so greatly benefit them.

STEPS TO OPTIMIZE INDUSTRIAL POTENTIAL OF FUTURE FREEWAYS

What are the steps necessary to realize the optimum industrial potential of the new freeways?

Search for Potential Industrial Sites

This is essentially the task of the planning commission staff. But if such a study is not available when routing of the freeway begins, the state highway agency should make at least a quick survey.

Evaluation of Effect of Right-of-Way on Potential Industrial Sites

This is the responsibility of the right-of-way engineer—in conference first with the planning staff and later with the local chamber of commerce and the affected property owners. Protests against bisecting sites are often unfounded. Usually routes cutting through large sites double the site frontage and increase the development potential. Final grade, depth of site, distance from rail or other highway, potential industrial occupants, and relative scarcity of industrial sites are the critical factors in adjusting right-of-way alignments.

Alternate Route Possibilities

In some instances an alternate route may offer greater opportunity to create future industrial sites and still meet the traffic and cost criteria of the highway engineer. The planning commission and business leaders should be ready with proposals of alternate routes for the earliest consideration by the highway planner. If this advanced planning has not been accomplished locally, then the highway planner must attempt to compare economic development potential of alternate routes, for the final responsibility is his.

Industrial Land Use Plan

After considerable study and conference among the highway engineers, the planning commission, and local business leaders, a plan identifying future industrial sites should be released. Whether publication should precede right-of-way acquisition depends on the local situation. Public knowledge and public support may stimulate land dedication and low cost options.

Rezoning to Preserve Sites for Industry

Rezoning is the final but critical step to protect the land against encroachment by residential and commercial land use. Rezoning of land must be preceded by an upgrading of zoning ordinance standards to insure low structural and employment density, adequate off street parking and loading, proper highway access, performance standards, and aesthetics controls. Preferably rezoning should be preceded by dedication or low cost options on adjacent right-of-way.

This whole process requires advance planning—early and continuous conference among the highway engineers, the city planner, and later the community leaders. The highway planner has the power to create or destroy future industrial sites. The industrial development potential of communities must not be lost through default.