

Coordinating Landscape Development in Urban Areas With the Right-of-Way

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The complete history of how and why land has been acquired for highways, both rural and in the cities, has yet to be written. Surely it would be a fascinating subject and one which would parallel and reflect the social and economic aspects of the time and place.

How and where the first city street developed is a matter of conjecture but it is known that the cities of ancient civilizations, Egyptian, Chinese, Greek and Roman, developed a system of main streets, courts, public squares, side streets and market streets. As most of the cities were walled, street space was probably at a premium, yet there are widely scattered references to broad avenues, public squares, fountains and trees, all within the walled cities.

In ancient Rome, after it had become a large city, there were continuous demands for wider streets to ease the monumental traffic jams caused by pedestrians, chariots, wagons and animals. References are found in various places to tearing down old sections of the city to build broad streets.

As Europe emerged from the Middle Ages and the cities burst out of their walls, some far-sighted people, mostly military engineers and architects, began to give serious thought to the layout of main routes into and through the cities. One fine result of this was the development of the "Ringstrasse" in Vienna, which is a roughly circular highway around the older part of the city. This was accomplished about 1860, when some unknown engineer conceived the idea of tearing down the old city wall, filling in the moat, and turning the site into a handsome tree-lined boulevard about 150 ft wide.

In America, one of the first recorded attempts to lay out a city thoroughfare on a large scale was made in 1680 in New Jersey when a man named Jack Fenwick plotted the development of Greenwich with a main street 100 ft wide and two miles long. Unfortunately, Greenwich never grew into the large city anticipated, but the broad tree-lined street is still a notable and an attractive feature of the community.

When Major l'Enfant laid out Washington with its broad streets in 1791 the scheme was ridiculed by some as being visionary. Luckily, he gained enough support among prominent men interested in creating a beautiful city to have his plan adopted, although he was discharged shortly thereafter. Try to visualize Washington today if his plan had been defeated.

In the United States, particularly in the older sections of the country, the original highway right-of-way was acquired in accordance with the ancient English rule of law which provided that land in continuous use as a road for a period of years became established as a public highway. Although this applied mostly to roads in the country, it was undoubtedly the way a lot of streets in the older cities were determined. In parts of New England the first houses were happily grouped around a "commons". This reservation of public land in areas which became intensively developed at a later date has provided a great number of New England villages and cities with open spaces and shaded streets that would be impossible to acquire today.

When Baron Haussman, an architect-engineer, was commissioned by Napoleon III in 1853 to create a beautiful, convenient city out of the sprawling City of Paris, he logically decided that broad, tree-lined streets should be the very back-bone of his plan. As the result of his vision, Paris is now celebrated for its beautiful main arteries. During the construction of these boulevards, Baron Haussman was asked why he had made them so wide. He replied that he wanted them wide enough and straight enough so as to be able to give the Parisian mobs a whiff of grapeshot if they started to riot. In spite of this remark, it is felt that the Baron made them wide so as to give a feeling of space, and to provide ample space for the trees and sidewalks that make many of the wide Parisian streets so attractive.

Nowhere in the casual background reading for this paper did the author find any direct allusion as to how the widths of streets in cities were determined. However, in a number of cases, both in 19th century Europe and in the United States, it appears evident by inference that a major consideration was the fine appearance induced by spacious tree-shaded thoroughfare.

With the rapid urbanization of most of Europe and America during the 19th century there developed an imperative need to build more urban routes. Unfortunately most of the city streets were built without imagination, foresight, or widths of right-of-way adequate for expansion. Many narrow streets now held responsible for the decay of the central portions of American cities were built during this period.

DEVELOPMENT OF CONCEPTS OF RIGHT-OF-WAY ACQUISITION FOR LANDSCAPE WORK

The story of what has happened since the United States took to the use of the automobile in the early 1920's is well known. Most of the highway construction in these years was done in the rural areas. In the urban areas very little construction of the needed highways was carried out, owing partially to a lack of adequate condemnation laws. The idea of tearing down tax-producing property in a city for a state highway was a new concept of the power of the state and was vigorously opposed by some.

It is important to know that it is possible and relatively simple to acquire reasonable space for landscape development in conjunction with highway construction when land for the right-of-way is originally acquired. However, secondary acquisition of land for such a purpose is a very different matter and may be difficult to accomplish, although the principle of acquiring land for aesthetic reasons, by condemnation if necessary, has been upheld by the United States Supreme Court.

Following the end of World War II the pressure and necessity to build urban highways to accommodate greatly increased traffic ended the opposition to such urban construction, and highway engineers proceeded to seek solutions of the many problems involved. With the recognition that the United States had entered into a period of large-scale individual transportation by cars also came widespread agreement that there is more to a traffic artery than the pavement. Although safety and capacity of the highways are of paramount importance, forward-looking highway administrators also recognized that the role highways play in everyday life demanded that they be considered a part—a most important part—of a city or an urban area rather than as a separate entity. It was also recognized that in an urban area the highway was probably the most intrusive man-made feature in the area and that it determined, for better or worse, the character of all adjacent areas. The elements which add up to the total impact of the highway on the adjacent area are various and interlocking. The following broad topics are offered for consideration and general policy determinations during the early stages of the highway design, and preceding the acquisition of right-of-way and easements.

Character of Area

What is the character of the area through which the highway will pass? There may be desirable natural features which should be included within the highway limits and preserved for motorists and for the community. There may be industrial or commercial enterprises which would justify a great deal of trouble and ingenuity to avoid taking. There could be slum areas whose taking and removal would be a benefit to the community.

Type of Landscape Development

A determination should be made at an early stage as to the type of landscape development best suited to the area. There could be situations where little or no planting would be required, or there could be places where extra right-of-way should be acquired for the specific purposes of heavy screen planting. It is also likely that in a number of situations one of the purposes of the landscaping would be to benefit the residents of the immediately adjacent areas by screening them from the noise and sight of traffic.

Economic Effect of Highway

The economic effect of a highway on the adjacent area is very important. Suffice to say that a highway with adequate right-of-way and landscaping invites an economic up-grading of the adjacent areas, just as a highway crowded in between buildings and without landscaping invites deterioration, both economic and physical, of the adjacent area.

Future Expansion

The question of providing for future need of additional traffic lanes and landscaping should be considered at the time of right-of-way acquisition.

Another basic factor now affecting landscape development along urban highways, and consequently the thinking regarding right-of-way acquisitions, is the growing recognition of the need for beauty in this nation by a large, important segment of the public.

On a few occasions in the past the acquisition of right-of-way has been predicated on the need to acquire enough right-of-way to achieve a specific landscape effect. One example will serve to demonstrate what has been done with this design approach.

The acquisition of enough right-of-way to build the original Bronx River Parkway—according to the concepts of the devoted men who conceived and constructed this first real parkway for motor vehicles—was a battle from 1913, when a Bronx River Parkway Commission was set up, until 1925, when the actual parkway was opened. During this period the men who envisioned the conversion of the open sewer, named the Bronx River, bounded on one side by a railroad and on the other side by slums, shacks, dumps and billboards, into a pleasant drive, were ridiculed and harassed in a hundred ways. Still, with the backing of several Governors and with the dedicated guidance of such far-sighted engineers as Jay Downer and of ar-

chitects and landscape architects, they moved ahead with their vision of an attractive parkway in natural surroundings leading from the crowded city to the then open spaces of Westchester County. During the construction of the parkway, the Commission was severely criticized for taking excessive amounts of land to create a landscape effect. After the parkway was opened, the Commission was again criticized, this time for not taking enough land on which to expand.

It is interesting to note that some of the land which was not acquired at that time because of cost has vastly increased in value, and most of this increase came about because it was located next to the parkway.

LANDSCAPE DEVELOPMENT CONSIDERATIONS FOR COORDINATION WITH RIGHT-OF-WAY ACQUISITION

Any attempt to make specific recommendations as to the amount of right-of-way needed for the landscape development of an urban highway would not be possible or desirable due to the wide variations in sites. First, an administrative decision must be made that the urban arterial will be landscaped. It then appears more in keeping with the problem to discuss or list those features which should be provided for within the minimum right-of-way so as to obtain the highway landscape character considered appropriate.

These features or details are, as follows:

1. Consideration must be given in earliest stages of planning to problems of landscaping.
2. Right-of-way acquisition planning to include saving of desirable natural features.
3. Consideration should be given to appearance throughout the project. Space should be considered an appearance factor.
4. The grading of the project should be designed for ease of maintenance and appearance.
5. Consider the use of planting for noise abatement and traffic guidance as well as for the sake of appearance.
6. Consider the public relations value of good landscaping.
7. Consider balancing the cost of acquiring an entire parcel of land or partial acquisition against the intangible benefits of additional areas for landscaping and additional space to provide depth to the highway.
8. Has a contact been made with the local and regional planning groups to ascertain how the proposed arterial will fit into developments planned for the area affected by the arterial?
9. There must be space to plant trees on all arterials except certain types of elevated highways. Space should be sufficient to permit significant numbers of trees and areas of grass needed to create a landscape effect for both the user of the highway and the residents of the adjacent areas.
10. It is conceivable, under certain conditions, that only trees can be planted, and those in only a few places. Usually such places will be where the actual physical construction is very difficult or the right-of-way is prohibitively expensive. Such conditions warrant greater expenditures per unit to provide for a tree. However, it is usually under such conditions that the need for even a small amount of landscape effect is important enough to justify a relatively large expenditure.
11. Inasmuch as appropriate landscaping is generally acknowledged as a means of upgrading an area, it follows that the highways in an area must have a wide enough right-of-way to permit adequate landscaping.
12. In almost every instance where an urban arterial is built there is an opportunity to develop small fragments of properties, not needed for the arterial, into attractive, small sitting parks, tree-planted areas or similar uses. These small additions to the open spaces of cities also serve to give "depth" to the landscape development along the arterial.

Achievement of Objectives

Having suggested so many items for consideration in this complicated business of coordinating the right-of-way and the landscape development in urban areas it appears logical to ask how to accomplish some of them. As in so many fields, the answer is not to be found in any magic formula, in the blind application of standards, however well conceived, or by following pre-conceived ideas based on other projects. The answer is based on the principle which has accomplished the most in the past, teamwork by the groups involved in all stages of the design, and adherence to the objective of arriving at a solution based on the unique requirements of each individual project. The greatest potential of the landscape appearance of a project can be achieved only when it is considered an integral part of the original design studies. The highway design engineer, the right-of-way engineer, the bridge engineer, the safety engineer, the maintenance engineer, and the landscape architect must all cooperate earnestly to produce the safe, attractive road expected by the public.