

Multiple Use Helps Conserve Space

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The purpose of this article is to promote joint development and multiple use of right-of-way. With the population and urban areas expanding at an accelerating rate, we must begin to conserve space. One way to do this is to get more efficiency out of the space we have; therefore, this dictates multiple use. The economy is forcing us to consider and evaluate new theories for maximum use of highly desirable sites that we cannot afford to devote to single uses.

Federal and state officials realize that the ever increasing value of land makes efficient land use essential. The Federal Highway Administration (FHWA) is encouraging the planned use of land and space for more than one purpose.

The demands on public and private money are enormous. Money is needed for everything from airplanes to zoos. Every opportunity must be taken to obtain additional benefits from available dollars.

Engineers, right-of-way specialists, planners, landscape architects, sociologists, ecologists and lawyers, to name a few, are beginning to acknowledge the value of multiple use as one solution to land use problems. The multiple use of airspace is a valuable contribution in preserving and enhancing the quality of our environment.

The demands on our space are every bit as great as those on our dollars. An intense competition exists for every piece of available land. It follows then that where space is limited, it must be used more efficiently.

One of the basic economic facts of land acquisition is that land required for multiple uses can be acquired for little more than the cost of the land for a single purpose.

This lack of land and joint development concept is not limited to buildings, parks, and the like, but also affects the utility industry.

Carl E. Bagge, when he was Vice Chairman of the Federal Power Commission, told a conference on land use of planning: "Rights-of-Way for the transmission of energy and communica-

tions must be planned simultaneously with the development of comprehensive regional plans. The most prudent use may well be the establishment of energy corridors, or perhaps even combination energy-transportation corridors embracing highway and other public service facilities. Given the predicate of intelligent land-use planning, transportation, water, sewer, and other essential services can be made available to those who inhabit these areas with minimal disruption and maximum benefit to ecological values."

The Department of Transportation and the FHWA are being urged by the utility industry to develop a policy allowing joint use of rights-of-way for freeways and utilities, both overhead and underground.

The similarity of requirements for the location of transportation and utility facilities, suggest combining them by the multiple use of right-of-way. Some of these similar, or complementary requirements are:

- Utility services must be provided along major transportation arteries in urban areas to promote optimum development and use of the transportation facility and adjacent properties.
- Both utilities and transportation facilities require an unhindered and continuous route.
- The highest capacity of service is needed in corridors of concentrated activity. Transportation is apt to determine these locations.
- Public agencies can more easily acquire corridors, for joint-use rights-of-way, thereby avoiding double damage payments to property holders.

The Research Foundation of the American Public Works Association has studied the feasibility and the consequences of construction and operation of utility tunnels called utilidors. Utilidors are a possible means to:

- Make a more efficient use of public lands in urban areas.
- Provide a harmonious blending of transportation facilities with utilities' distribution networks.
- Optimize utility investments by improved operations and maintenance.
- Coordinate public and private investment in providing transportation and service facilities to sectors of the urbanized area.
- Minimize costly delays and inconvenience to the public in the movement of traffic by reducing utility cuts in street surfaces; thus, prolonging street life.

Utilidors can be used for electric power, telephone, telegraph, gas, water, sanitary and combined sewers, storm sewers, coaxial TV cable, police and fire alarms, steam for heating, petroleum, street lighting and traffic signals.

The advantages of utilidors are: Access to plant without disruption of traffic; availability of facilities at all points en route; all-year availability of facilities; and possible savings in capital.

Present thinking and recent policy decisions indicate an increased awareness of the need for joint development and multiple use of the rights-of-way for transportation. Antagonistic attitudes and restrictive highway policies, Federal and state, are gradually softening.

By and large, existing laws concerning property rights have been developed with the individual property rights in mind. The concept of multiple use provides some new conditions and circumstances.

The laws of each state vary concerning certain situations. The main consideration is the type of title the acquiring body, utility, state or municipality, is able to require. In some states, a fee-simple title can be acquired. In other states, only an easement can be obtained. A fee-simple title enables the owner to use the land as he desires as long as the use is within the law. The use of land acquired by easement is confined to the uses for which the land

was purchased, and these uses are generally specified in the easement document.

Since the public right-of-way is traditionally a common corridor, and technology in regard to materials and methods has advanced so much, utilities can occupy public rights-of-way without affecting the operation or appearance of the highway and without interfering with the safe and free flow of traffic. Joint development and use of utility right-of-way is a very common, almost routine procedure. Electric power facilities are combined with telephone lines on common poles in many places.

Most subdivision plans show common utility strip easements or facilities under the streets. Many times it is practical to have electric, telephone, water, gas, etc., in the same trench.

Along the edges of a 260-mile portion of the Sunshine State Parkway in Florida are two high pressure pipelines. In the median strip is a communications coaxial cable that has been in service for about 10 years. Baltimore, Maryland, and Montreal, Quebec, today have beneath their streets utilidors shared by various utilities. Utilidors generally contain several utilities simultaneously. The Department of Defense uses utilidors in areas of extreme cold to reduce operating and maintenance problems. However, other than the recent coordinated efforts of electric and telephone utilities to share joint trenches for underground distribution, simultaneous and deliberate joint planning programs by public service companies have been unusual.

FHWA policy statements have recognized the benefits of the joint use concept and have encouraged the states to permit the use of freeway rights-of-way by utilities. The Federal Highway Program Manual Volume 1, Chapter 4, Section 4, (Policy and Procedure Memorandum 30-4.1), Accommodation of Utilities, states:

"It is in the public interest for utility facilities to be accommodated on the rights-of-way of a Federal or Federal-Aid highway project when such use and occupancy . . . does not interfere with the free and safe flow of traffic or otherwise impair

the highway on its scenic appearance."

There are certain disadvantages, or at least problems: The necessity for close coordination in construction and maintenance; administrative problems; lack of coincidence in routing; and mutual interference.

These networks cannot be expected to coincide, and often neither one will coincide with the routing pattern for water, gas, sewer or other facilities. Rearrangements to accomplish common routing can cost extra money for one party, and perhaps for all.

However, the utilidor concept presents many unique problem areas, some of which are of very serious concern to the communications industry. These problems include common air space exposure to other facilities; hazards to workmen and plant; exposure to tampering and even sabotage; adverse effects on transmission; difficulty in establishing coincident routing; problems in coordinating work; planning and executing enlargement; providing for junctions, lateral connections, and special equipment; likely code conflicts; expenditures apportionment; and possible increased cost in the "expense" category.

Other problems are fear of common space exposure to power transmission because of adverse inductive and magnetic effects on telephone transmission; to steam transmission because of possible heat damage to plant facilities; to drains because of possible flooding; and to workmen of cooperating utilities because of possible explosions and/or fires. An example of the danger to workmen would be a telephone repairman injured by the explosion of a gas line at a time when both utilities were working in the utilidor.

From the above, several conclusions can be drawn.

- Since land is scarce, we must use it efficiently. Joint development of multiple use is feasible, practical and economically advisable in most urban areas.
- Major benefits accrue to the public when the proposed construction is integrated with all other transportation modes within the corridor.

- It is generally more economical for one body to purchase all the rights-of-way and then sell or lease the unneeded parts for multiple use development.
- Utilities are an essential part of transportation and communication and, as such, should be considered in the joint use concept.
- All possible consideration should be given to multiple use and joint development in a fashion to enhance the socio-economic values of the area traversed.
- Additional policies should be provided to encourage, rather than discourage, the multiple use of all rights-of-way.

Reminder

In the September and November, 1979, issues of *Right Of Way* the Liaison Committee of New Jersey's Garden State Chapter 15 summarized the panel discussion of its April meeting.

To jog your memory, if you read the articles and simply forgot to fill in the questionnaires or if you have put the magazine aside waiting for some spare time to read the articles and complete the questionnaires, we request that you please make the time. We are nearing the time to compile the outcome of the responses, yet we want to be sure we obtain all the questionnaires from those who wish to participate and share their expertise.

The titles of the articles are as follows:

SEPTEMBER ISSUE

"Panel Discusses Mandatory Dedication," Page 8-13

NOVEMBER ISSUE

"Who Is Responsible for Relocation Costs In Mandatory Dedication," Page 28-33

As noted at the end of our last article, comments and responses will be summarized and published in a future issue of *Right of Way*. We are anxious to report on our findings and urge that if you wish to participate please do so no later than April 30, 1980.