Use of The Planner in Highway Development

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Engineering is not the first step in developing a trafficway. Before a road project can be engineered, an idea or road concept must be developed. It may be that a great trafficway is the ultimate refinement of only a notion or fancy.

You will recall that such was the case in that classic by Samuel Walter Foss, entitled “The Calf Path.” He describes the beginning of a trafficway as follows:

“One day through the primeval wood
A calf walked home as good calves should;
But made a trail all bent askew,
A crooked trail as all calves do.
Since then three hundred years have fled,
And I infer the calf is dead.
This forest path became a lane,
That bent and turned and turned again;
This crooked lane became a road,
Where many a poor horse with his load
Toiled on beneath the burning sun,
And traveled some three miles in one.
And thus a century and a half
They trod the footsteps of the calf.
The years passed on in swiftness fleet,
The road became a village street;
And this, before men were aware,
A city's crowded thoroughfare.
And soon the central street was this
Of a renowned metropolis;
And men two centuries and a half
Trod the footsteps of that calf.”

Although at first consideration the tale related by Samuel Foss may appear absurd, there may be more than just an element of truth
in it. A route location engineer in the Michigan State Highway Department whose father did similar work in Turkey claims that there they actually use donkeys to aid in the determination of route locations. Apparently these donkeys always sought out paths of certain grade change characteristics and in their travels from place to place soon defined the most convenient and quickest route within the tolerance of their acceptable verticle alignment.

I am not implying here that planners can replace donkeys in route location work. I am suggesting that in the fraternity of highway builders somewhere between the donkey and the engineer, there exists a place for a fellow whom we have come to define as a planner.

It will be my attempt today to define that place as a result of my experience seeking it, for I am a planner with the Michigan State Highway Department. In my relatively brief experience in this capacity, I have become more and more convinced that the planner has a major contribution to make in the highway building program. Until you have an appreciation for the role of the planner in the highway building program; however, you will fail to experience the full excitement of your part, whatever it may be, in the gigantic road building process.

Although there is an equal application of the planner, his techniques and viewpoints to both rural and urban highway planning problems, I would like to restrict my remarks today to the urban phase of the highway planning program.

If the road building program, as it has been accomplished today, carries with it any indictment of the highway planner, it is lack of accomplishment in the urban area. While ribbons of concrete and asphalt have been unfurling at an amazing pace across the face of rural America, the American city has remained choked in its traffic congestion. Today our answer to the urban traffic problem has been confined in large measure to the construction of belt routes and by-passes. Still, it is in the urban area where the crux of the transportation problem remains.

A cross section of origin-destination studies conducted by the Michigan State Highway Department indicate that at least 85 per cent of all trips recorded on the State trunkline system have either an origin or a destination in an urban place. Studies show that city roads and streets carrying nearly half of all the nation's traffic, both rural and urban in terms of vehicle miles. Yet, these same streets only make up about 10 per cent of the 3,400,000 miles of highways in the United States. As highway departments and highway agencies
now direct their attention to the urban transportation problem, the planner will assume an indispensable role.

The time has passed when transportation can be considered in a vacuum without reference to community development. The urban transportation problem will not be solved by the procedure, often attempted in the past, which begins with the preparation of a street and expressway plan designed for a number, use, and distribution of cars. The second step in this process attempts to fit the city to the number, spacing, and design of the trafficways, and finally, theoretically at least, fits people, their houses, parks, schools, and shops to the land use areas resulting from the street and expressway pattern.

A discussion of the urban transportation problem must begin with people and their cities which are to be served. Transportation is the servant, not the master of a city. Much confusion has arisen on the transportation problem, because we have insisted on giving the automobile first place in our thinking. It is then only appropriate that my description of the use of the planner in the highway program should begin with people and cities.

Sometimes I believe that we become so engrossed in the absorbing problem of road building that we fail to appreciate the climate in which we operate. If we did, we would recognize that we are presently in an era of great city rebuilding. Several years will have to elapse after the construction of the gigantic Interstate system before the historians and economists will be able to appraise the impact of our present road building effort. Meanwhile, the great urban evolution, which is now taking place, is already a matter of record. The fifties and the sixties will, among other things, no doubt be referred to as a time of urban renewal and city rebuilding. Today the forces of urban growth are transforming the American city; these forces bear mention, although I am sure they are not new to any of you.

The first of the forces of urban expansion is the population growth and distribution. Much has been written of the population explosion; and consequently, a parade of figures and statistics would at this time hardly seem necessary. However, between 1950 and 1955, 98 per cent of all United States growth occurred in standard metropolitan areas. By 1975, 96 million people in today’s standard metropolitan areas will have grown to 150 million. The numerical expansion of our population is astounding, but the distribution of that population, as indicated in the figures which I have quoted, is much more significant to the urban transportation planner. The urban area is destined to be the
recipient of a large portion of the population expansion that this country will experience.

An Architectural Forum editorial describes the expanded 1975 urban population as the equivalent to the 1950 metropolitan area populations of New York, Northeast New Jersey, Chicago, Los Angeles, Philadelphia, Detroit, Boston, San Francisco, Oakland, Pittsburgh, St. Louis, Cleveland, Washington, Baltimore, Minneapolis, St. Paul, Buffalo, plus 15 million persons more.

This population growth in the urban areas of this country and its collateral effects are one of the forces that is changing the character of the American city.

This second force of urban growth that is transforming the American city is the growth in number and use of the automobile. Estimates at the time of the last Michigan State Highway Department Needs Study for 1970 anticipated a 62 per cent increase in vehicular registration and 78 per cent increase in motor vehicle travel. A 40 per cent increase in per-capita traffic by 1975 is the recommended minimum which Planners and Engineers should provide for.

We who are engaged in the highway building program have a keen awareness of the significance of these growth figures; and as we struggle to solve today's traffic problems, the repercussions of anticipated growth on the traffic problems of tomorrow are apparent.

The third force that is affecting the character of the American city is that of the changing living patterns of the American people. The people of America have indicated in unequivocable terms not only the type of city that they desire, but the design standards of that city. For instance, the American people have indicated that they prefer the fresh green residential areas of the suburban periphery to the central area of the city; and in a mass migration they have moved to the suburbs. In addition, the people have rejected the old congested, dark, dirty industrial areas of the central area and have chosen instead the campus-like development of new industrial parks in the peripheral areas.

Perhaps in no area has the choice of the American people been so strongly stated as it has in the case of the commercial areas where the choice of the people has been undisputably in favor of the newly designed shopping center with its spacious parking areas, its restful shrubbery, and garden-like plazas; in some cases roofed for year-around climatic control with music in the air and families shopping together. This has been the selection of the American people, and this then becomes their new standard for a merchandizing center. There
have been many figures, statistics, and calculations by which we have attempted to prove a reversal of these trends, but still the mass migration to the suburbs continues along with the reduction of retail sales in the central areas and the abandonment of old deteriorated industrial buildings. The population explosion, the expanded number in use of the automobile, and the new freedom it has afforded the American people, and the concomitant changes in the living pattern of the people have applied a new dimension to the American city, and with it, an absolute ultimatum for redesign and redevelopment.

Heartening, indeed, has been the response of the American city to these new requirements as cities across the nation have initiated programs of redevelopment and rehabilitation. To mention only a few: Kansas City with its large-scale rebuilding program accompanying the redesign of the street and expressway system in the central area of the city; Cincinnati with the rebuilding of its entire water front; the now famous Pittsburgh Golden Triangle; Baltimore and the multi-million dollar Charles Center development; and in my home state, the city building efforts of the city of Detroit which have served to stimulate the imagination of every urban dweller in the State as the new water front and Civic Center, and downtown redevelopment program has moved from the drawing boards to the construction stage.

But the city rebuilding program has not been reserved solely for the great cities of the nation; it has inspired communities of all sizes to rebuild. In Michigan, the Grand Haven pedestrian mall attempted some three or four years ago has been followed by the now nationally known mall experiment in Kalamazoo. Other Michigan cities are also actively engaged in related projects. In Jackson, a large-scale industrial park development; in Muskegon, a port development program. Although there are countless more illustrations, I have mentioned enough to illustrate, (1) the changing character of the urban area, and (2) the resulting urban rebuilding program.

These two points provide the basis of the urban highway planning problem. For what city are we building our urban freeways, expressways, and trunklines—for the city of the past; for the city we know today, a city of transition; or the city of tomorrow, now rapidly taking shape? Unless the urban highway program can be geared to the new evolving American city, it is doomed to failure; and hereby is established the role of the planner. It is in cooperation with the urban planner and his interpretation of the changing American city that the highway builder can develop a successful urban transportation system.
The obvious approach to the urban planning problem is a cooperative effort which joins the techniques and viewpoints of the planner with those of the traffic engineer and road builder. While the engineer is concerned primarily with design, construction, and operation of a traffic facility, the planner is concerned with the design, organization, and function of the city and its ability to serve the needs of its residents.

In the Michigan State Highway Department, we have initiated such a program, with an itemized accounting of all planning considerations applicable to a highway problem and the development of some study techniques which apply to them. In the case of our urban trunkline plans which we are developing in cooperation with local planning agencies, we require a showing that the proposed trunkline system is consistent with local planning and developing objectives, including major street plan, parking plan, central business district redevelopment, urban renewal, land use and zoning plans. In the preliminary selection of a route alignment and design, we employ the same list of planning criteria to be used in the comparative analysis of alternate proposals.

To begin with, I asserted that an appreciation of the role of the planner in the highway building program would result in a new appreciation of every other role in the same program. The use of the planner in the highway development program illustrates the exciting fact that more so today, probably than ever before, the highway builder has become a key contributor in great programs of city rebuilding. Your appreciation of this role will be your invitation to participate in rebuilding the American city.