

Basis for Selection of a Federal-Aid Urban System

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The recognition, or selection of a Federal-aid highway system in "urban areas" is a requirement of the Federal-Aid Highway Act of 1944. The Act provides for the designation of "urban areas" and authorizes the appropriation of Federal funds for expenditure "on the Federal-aid highway system in" such areas.

This, then, is the legal basis for selection of an urban Federal-aid system. The selection is a requirement of the most recent major amendment of the basic Federal Highway Act. It is a requirement, with reference to the newly defined "urban areas", that is consistent in spirit and purpose with what was, perhaps, the most important rule of the basic Act in its provision for the improvement of highways in rural areas - namely, the restriction of the application of Federal aid to the principal of existing highways. The same rule is consistently followed, also, in the provision made by the 1944 Act for the improvement of secondary and feeder roads; and is nowhere more clearly defined than in that provision, which is made, not just for secondary and feeder roads, but for the principal secondary and feeder roads, and for a system of such roads to be particularly selected.

It is against this background, and in this spirit that the 1944 Act authorizes the appropriation of funds particularly "for projects on the Federal-aid highway system in urban areas." It is in its earmarking of funds for urban-area expenditure that the recent Act departs from its predecessors. The earlier Acts had first prohibited, then permitted expenditure within municipalities. The new Act makes particular provision of funds to be expended only within - not municipalities, but "urban areas", which are defined as areas including and adjacent to the larger municipalities and urban places.

Now, what lies back of this departure of the law? It is a general or common recognition of the existence of definite impediments to highway transportation within the urban areas, impediments which have grown in seriousness to a degree that demands remedial action. The 1944 Act offers the assistance of the Federal Government in this needed action. It offers that assistance by the application of earmarked funds to projects for the improvement of the Federal-aid highway system within the defined urban areas. To

accomplish the remedial action required it is apparent that the Federal-aid system to which the aid is applicable should include principal routes, within the urban areas, upon which the recognized more serious impediments characteristically exist.

What, then, are these principal routes that should constitute the Federal-aid system in urban areas? That, precisely, is the question that we must answer, preliminary to a beneficial administration of the 1944 Act. Precisely, it is the question to which a studied answer is sought through the processes defined by General Administrative Memorandum No. 318.

What, actually, we seek is a reconsidered answer consistent with the new purposes of the amended law. Under the older law, permissive of Federal highway expenditure in cities, Federal-aid routes into and through cities have been recognized and designated. The routes previously designated have been, without exception, limited to extensions of the intercity routes of the primary Federal-aid System into and through the cities and towns connected by that system. Such previously designated routes now traverse, I presume, all of the areas designated in accordance with the provisions of the 1944 Act as "urban areas." If there are any exceptions, they are certainly few.

These previously designated routes have usually been selected as appropriate trans-city connections, essential to effect the continuity of a system of principal intercity routes. Upon the lines of this system, cities have a significance not widely differing from their significance in relation to a railway system. They are the principal sources and objectives of traffic served by the system - sources to be tapped, objectives to be reached, in order that the system may adequately perform its primary function as a facility of intercity communication. To this end, continuity of the primary Federal-aid System across, as well as between, cities has been, and remains, essential. The particular routes, heretofore designated, that now provide this essential continuity of intercity connection across the defined urban areas may be, and remain appropriate routes of the Federal-aid system in urban areas. But, when they are considered in the light of the newer purposes of the 1944 Act, they may be found less desirable than alternative connections, which may serve the newer, intracity purposes to better advantage.

In recent years, we have been made increasingly aware of the fact that when a main intercity highway enters a large city and proceeds inward, generally toward the city center, the character of its predominant traffic rapidly changes from an intercity, to an intracity movement. The evidence is now overwhelming that routes of the Federal-aid system which, outside of cities, perform

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predominantly the role of intercity connections, once they have entered the environs of a large city, become, and rapidly become primarily arteries of local and internal movement. This fact should weigh heavily in a determination of the location of Federal-aid routes through urban areas - the larger ones, especially. The location should be such as to serve advantageously the greater potential of internal movement with reasonable regard for needs of the intercity movement. It is probable that the presently designated through routes in many areas have been chosen with little regard for such considerations, and this alone would suggest the advisability of a general review and redesignation.

I repeat, that even if we were to consider the Federal-aid system in urban areas as a system restricted to the bare essential of trans-connection of the external Federal-aid routes, there still would be reason to review the present designation of these trans-connections, in the larger cities especially, to be sure that their location is consistent with a reasonable development of facilities required for the better accommodation of traffic within the cities. But so limiting the consideration, we would be taking, it seems, a very narrow view of the opportunity, presented by the offer of Federal assistance, to translate into effective action the somewhat nebulous, but none the less widespread belief that something must be done to bring the street plan of our cities into better accord with modern transportation requirements. We would even be taking a narrow view, I believe, of the real essentials of a proper development of the Federal-aid system itself. I am thinking particularly of the development of the system in relation to the larger cities; and I believe there will be little disagreement with my thought that a composition of the Federal-aid system in the vicinity of such cities that evidences a consideration of them as mere points on a map, is a less than adequate composition. Cities of several hundred thousand population certainly are not mere points on a map. They are much more than just road junction points. They are areas, and very populous, and very busy areas. The people and the industries and business of such areas, in comparison with the people and industry and business of smaller towns, are served with relative inadequacy by a Federal-aid system proximately composed of intersecting main lines only. To afford to the people and business and industry of these larger urban aggregations an intimacy of contact with the Federal-aid system approximating that which a simple main-line composition affords in the smaller cities and towns, requires in the larger urban areas an addition of area-tapping distribution branches from the main lines of the system.

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And this, let me say again, is the requirement for the proper development of the Federal-aid system viewed very narrowly as a system of intercity connecting highways. If we should, as I believe in good conscience we must, look upon the urban-area provisions of the 1944 Act as the first beckoning of opportunity to do something about the big-city traffic problems we have so long talked about; then in the larger cities, at least, we should promptly and seriously address ourselves, in the closest possible association with city authorities, to the task of devising urban Federal-aid systems which, within their reasonable limits of size, will contribute to the ultimate development of a complete system of urban arterial highways.

This is not a task to be lightly or impatiently undertaken. The decisions involved cannot properly be reached but in full concert with competent city authorities. From the city viewpoint, especially, the decisions are momentous, engaging the whole complex of a sound plan of city development. Yet, if there is anywhere an earnest intent; if, on the part of city authorities particularly, there is something more than a vague and impotent desire to make an effective beginning, and sustain a sound program of action, toward the ultimate development of modern systems of urban arterial highways, the invitation to join in the designation of urban Federal-aid highway systems will be accepted, as the golden opportunity it most assuredly is.

State highway officials, acquainted by long experience with the virtue of the sustained application of effort to agreed limited systems of highways, to accomplish in time improvement objectives which at the beginning have seemed almost beyond attainment, have good cause for faith in the power of the same process to overcome what may now appear to be the well nigh insuperable difficulties of the urban arterial problem. The governments and people of the cities, if they will but accept this faith and make a beginning, with the now proffered aid of the Federal and State Governments, will soon find in the yielding of the difficulties of their problem to similarly sustained effort, assurance of the eventual achievement of arterial improvements they have desired but feared to be unattainable.

The way to begin in attack upon this problem of the cities is the proven way of beginning the vastly beneficial improvement of rural highways. It is by the designation of systems; of systems of urban arterial highways; within our immediate purview, by the designation of systems of urban Federal-aid highways.

As we contemplate the taking of this first step, our attention is divided by the necessity of finding appropriate projects for execution with immediately available funds. Recognizing this necessity, Memorandum No. 318 suggests the immediate designation

of what are described as "interim systems." This is a measure of immediate expedience. The expedient designation of interim systems is not to be regarded as a process of escape from the necessity of proceeding with the designation of what are described as the "ultimate systems." The interim systems are not to be alternatives, or in any part substitutions, for the ultimate systems. They are expected to remain as parts of the ultimate systems to be designated, and, in fact, to consist only of such parts of the ultimately desirable systems as, by reason of their obvious fitness and importance, it is possible to recognize and designate without extended consideration. Upon interim systems so selected, immediately available funds can be properly expended with assurance that the expenditure will contribute without wastage to the eventual improvement of the ultimately desirable systems. The test of proper expenditure is the appurtenance of its result to a condition envisaged as eventually desirable in a part of the ultimate system.

While, thus, we set about the actual improvement of segments of the ultimate systems substantial part of our attention should be directed, in concert with city authorities, to the selection and establishment of the whole of such systems.

We cannot expect this further selection to be easy. It may be fraught with most difficult decisions. On the part of city authorities, consent to the selection falls nowise short of establishment of a master plan for the development of the most important city arteries, a master plan that will deserve, and doubtless receive the more cautious consideration for the very reason of its more assured implementation. For, if the known facts of Federal-aid past may be read as prologue of the future, there is substantial certainty that what is now established as a system of urban arterial highways to be created, will in time exist as a system created in a mold materially different from the recognizably defective forms of the present.

State and Federal highway officials will, I am sure, approach their new responsibility for urban-area improvements with the utmost desire to work to the benefit of the cities. They will wish to be assured themselves, and they will want authorities of the cities to be assured that the future program of Federal-aid construction as it unfolds will supply only needed arterial improvements, where and when they are needed. To this end the best beginning is a complete openness of process and decision in selection and establishment of the urban systems. A policy of reticence in avoidance of unwelcome pressure may contribute to present ease. It is unlikely to engender harmonious cooperation or beget the best of ultimate satisfaction.

The many instances in which State highway departments have proposed, and borne the larger cost of origin-and-destination surveys to ascertain the desired lines of heavier movements within urban areas, is earnest of the respect of highway officials generally for the guidance of fact in selection of the urban systems and the planning of projects on them. The facts obtainable only by such surveys are indispensable to sound selection of systems for the larger and more complex areas. But this is not to say that many considerations, other than the facts of present preponderant movements which the surveys reveal, are not of equal moment.

The integrity of neighborhoods; trends of residential, commercial and industrial development; the present and planned location of parks and recreational areas, of schools and other public and private institutions; the merits of opposing tendencies of centralization and decentralization, residential and commercial, the conditions of topography, density of land occupancy and land value; the location of airports, railway stations, and truck and bus terminals; the possibilities of motor vehicle parking provision; the necessities of entrance to, and avoidance of, the city and its business center by traffic of external origin; all these and more are considerations that deserve the most careful attention in choosing the lines of the urban arterial system. Many are considerations to which city authorities should, and do attach great weight.

The objective is the selection of systems combining most favorably the indications, often the conflicting indications, of such numerous considerations. Irresolution, through an understandable fear of change, may slow the response of decision to evidence; but indefinitely continued irresolution will probably be foreclosed by the necessities of adequate planning for appropriate expenditure of oncoming authorizations of Federal aid.

The task of system selection should not be rendered more difficult than it must be by unnecessary considerations of the mode or style of improvement to be applied to the routes selected. Whether a particular route is to be developed as a depressed or an elevated expressway, or as a multi-lane, ground-level highway will be the important concern of a future stage of detailed planning. It cannot greatly affect the initial decision whether the route itself, in its general location, is, or is not to be included in the urban Federal-aid system. And, further, recognition of the advisability of early designation of Federal-aid systems in their full ultimate extent cannot reasonably be construed as invitation to a broadcast of simultaneous improvement

effort over the entire system. Whether the greater benefit will flow from early concentration upon an ultimate degree of improvement of important segments of the system, or from a more general diffusion of lesser stages of improvement, is a question of economic policy, which may reasonably have different answers under various conditions, and need not complicate the first step toward a modernization of urban arteries, which is the purpose of the urban Federal-aid System designation.

As to the extent of the system to be designated, its relation to the primary and secondary Federal-aid systems outside of the urban areas, and the form and composition of the internal systems, it is wise to attempt no closely definitive statement.

Thus far, only 15 interim selections have reached our Washington office for review, of which 7 are from one State. The mileage of Federal-aid routes within designated urban areas at present totals approximately 15,000. Practically all of this mileage now recognized is composed of trans-connections of the previously existent Federal-aid system across the urban areas. As yet, we have not even calculated the percentage relation of this mileage to the total of road and street mileage within the areas; and there is insufficient basis for the indication of what might be a reasonable ultimate percentage relation. The inadequate traffic facts available indicate that the presently recognized routes serve in the urban areas a percentage of the total movement within the areas substantially less than the percentage of the total rural traffic that is accommodated by the Primary Federal-aid System in rural areas. This, alone, would indicate the desirability of some enlargement of the presently recognized urban-area mileage.

Selection of the additional mileage should properly rest upon a detailed study of the needs of each urban area. In the smaller, less populous and less complex areas it may be that no more than the existing trans-connections of the external primary system is required, though the need for circumferential routing of traffic should be considered in each instance.

In the larger, and structurally more complex areas it appears certain that some addition of distribution and circumferential routes will be indicated, solely from the viewpoint of an adequate accommodation of the traffic of external origin and destination. Beyond this, in these larger areas, it is suggested that a substantial accomplishment of the purposes of the Federal Act provisions requires the consideration of additions of important arterials for accommodation of the large volumes of internally generated traffic moving daily between parts of the areas.

While it would be unwise at this stage to attempt to define a pattern for uniform application in all areas, certain principles can perhaps be recognized as generally applicable.

For example, the prevailing movement from suburban and outward areas to, and from the city center obviously requires an inclusion of generally radial arteries converging upon the center. In part, these will be coincident with essential trans-connections of the external system. Addition of similar radials of local reach may be equally desirable and warranted.

An intercepting inner belt around the business center, for convenient distribution of traffic to parts of the center and for conveyance of a large volume of merely passing-through traffic around, rather than through the congested center, will also be suggested by a study of needs.

An outer belt for accommodation of external traffic not terminated in the area, and for the interconnection of fringe settlements and industrial areas can likewise be anticipated. And, in the largest areas, additional belt lines, between the inner and outer, may be appropriately considered.

Of these principles, those involving the consideration of trans-connecting and belt arteries are definitely pertinent to the establishment of adequate facility for the accommodation of traffic of external origin and destination. Only the suggestion of local arterials supervenes the earlier concept of the Federal-aid system.

I feel that this extension of the earlier concept, in view of what we now know to be the great part of the total of highway transportation that occurs within the larger urban areas, is a meritorious extension. It may suggest some unaccustomed ideas.

For example, it suggests that an urban Federal-aid route may properly connect with an external route not included in the Primary Federal-aid System - with a route of the State highway system, or possibly with a Federal-aid secondary route not part of the State highway system. It suggests even that an urban-area route may connect with no external highway, but terminate, as an artery, within the urban area. These ideas, notwithstanding their departure from previous concepts are, I believe, decidedly worthy of entertainment.

In approaching the designation of systems, I suggest that we bear in mind that the selection of routes is not the fixation of route locations. As the first step, we contemplate only the definition of general routings appropriate in overall areal relationship. Precision of location of the routes defined is a

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determination that may, and probably must remain for accomplishment later. There will be no need to undertake the decisions involved, in any case, until we are prepared to begin right-of-way acquisition. At that time considerations of financing ability and the detailed design of projected improvements will have much weight in the decisions. Considerations of neighborhood pattern and other urban development, existing and expected, will have important bearing, especially in the location of controlled-access facilities.

Some hesitancy, inspired by the fear that the identification of routes will encourage premature demand for improvement, of immediately unanswerable proportions, is understandable. I submit that the need for a comprehensive foresight of the approximate whole of a large venture that can be profitably pursued only by the piecemeal accomplishment of effectively related parts, must steel us to the overcoming of this fear.

After all, the designation of urban Federal-aid systems is the same, in motive and in virtue, as the designation of the earlier Federal-aid and State systems of rural highways. The unquestioned benefits of these previous designations may reasonably be expected to find their equal in the consequential benefits of urban system designation.