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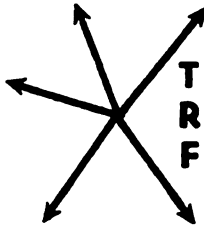
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TRANSPORTATION RESEARCH FORUM

Transport Planning at the Policy Level — Underdeveloped Areas

by V. Hogg*

A. GENERAL

THE WORLD BANK and its sister organization, the International Development Association (IDA), have made 255 loans and credits for transportation development in 74 of their member countries. The outlay on these projects amounts to US\$4.60 billion, or 31% of the total lending, and is divided as follows:¹

	\$ Billion	%
Highways	2.14	46.5
Railways	1.87	40.7
Ports, Shipping and IWT	0.48	10.4
Aviation, pipelines	0.11	2.4

Since Bank Group financing covers only part of the cost of a project (usually the foreign exchange element) the total value of projects financed is about \$9 to \$10 billion. In absolute terms, this is a large contribution. In many countries, however, the Bank Group's lending is only a modest proportion of total public investment in the transport sector. This, together with other features, including the important one that our member countries are sovereign states, both influences and places limitations on our involvement in policy formulation and planning in the transport sector.

The developing nations we deal with exhibit a tremendous variety in terms of their stages of economic and political development, rates of economic and population growth, physical settings, human and economic resource potential, political structures and political and social objectives.

Some have friendly neighbors with whom they can enter into regional transport agreements; others are not so fortunate and, as a result, the natural flows of trade and traffic may be distorted. Some have substantial transport networks; others are in the process of creating them. Some have transport policy ideas and regulatory mechanisms acquired from their particular colon-

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¹ Figures as of June 30, 1969. In addition to a particular project of \$25 million for trucks and buses in West Pakistan by the International Finance Corporation (the third member of the World Bank Group family) there has also been a significant but indirect contribution to the transport sector by means of Reconstruction Loans and General Import Credits which financed imported raw materials or parts that were used by the transport equipment manufacturing or assembly industries in the countries involved.

ial history; others have evolved independently a bewildering variety of institutions, tax measures and so on. Some have large, fast growing and congested urban areas; others do not yet have traffic congestion, the commuter problem and air pollution as elements in transport policy decisions. Some are in a position to do something about improving their transport policies; others, for a variety of reasons, are not.

Given this variety of environments, we have found that there are no rigid rules of policy which are universally valid or appropriate. The problems and the workable solutions are different in Yugoslavia from those in Madagascar; in India from those in Mexico; in Nigeria from those in Korea, and so on. Nevertheless, our experience has taught us that effective transport investment planning, which is the means for policy achievement, depends critically upon the soundness of national development objectives and the resulting transport policy it is intended to reflect.

We look at transport policy, therefore, at various stages in our work. First, it is examined by general economic missions which report on the credit-worthiness of a country, including its financial situation and fiscal policies. Secondly, it is assessed by transport sector review missions or national transport surveys, which are in-depth studies that try to assess the inter-relationship between the objectives for other sectors (industry, agriculture, foreign trade, etc.), and which may form the basis for future transport lending. And, finally, it is examined or reviewed by project appraisal missions to ensure that the particular works and/or equipment being financed contributes to the country's needs and priorities.

Project financing is often the means by which we may try to influence policy directly either by loan or credit conditions, or less directly, by ensuring that particular policy-oriented studies are undertaken, the recommendations of which are discussed with us. There are cases, however, where the Bank and the government, even before project financing, have agreed on a memorandum of understanding as to the policy-oriented actions the government intends to take in the transport sector. These are not broad declarations such as in the U.S. Transportation Act of 1940, the 1962 Kennedy Message to Congress or the first section of the 1967 Canadian National Transportation Act. Rather, they are statements of specific aims and actions, often with some indicated time schedule.

Wherever we are heavily involved in transportation financing, or in the planning for future financing, we pay particular attention to policies concerning three of the basic elements—investment, pricing/taxation and regulation—that form part of any national transport policy. These three elements are, of course, inter-related and together influence the pattern of supply and demand for transport and, therefore, the efficient use of resources in the sector.

We know that there are bodies of theory relevant to each which have the status of revealed truth or theological dogma in the minds or writings of some of their adherents. In our relations and discussions with our members, however, we remember what has been said of transport policy here in the U.S.A. First, that no one group or person makes transportation policy. Secondly, that "transportation policy is part of general economic policy, which in

turn is a function of the socio-economic philosophy prevailing at any given time." And, thirdly, that "like other policies, that of transportation is multipurpose, vague, uncertain, and often contradictory in nature."²

Let me touch on each of these three policy aspects to indicate the kind of issues we feel are important and where we believe attention should be focused.

B. INVESTMENT

Investment policy is, probably, a well-known area of Bank Group concern. This appears, in one form, in the emphasis we place upon quantified cost-benefit analyses of projects. Whether it is the construction of a new or improved facility, or the acquisition of equipment for port, railway or highway maintenance operations, we try to stress a quantitative analytical approach to well defined problems. We insist on an analysis of a feasible range of alternative solutions, i.e., different modes, different routes, alternative designs, varying timing according to differences in economic life, etc.—with the final selection depending upon economic criteria.

It will come as no surprise to many of you here today that this basic approach is often lacking, or questioned, or even regarded as irrelevant. As with many other public works activities, ends and means in the transport sector become quickly confused. The desired end which may be the movement of people or goods from place A to place B, or within the economy generally, is likely and all too easily to be translated into a specific demand for means in the form of a four-lane highway, an electrified railway section or some other particular technical solution, without proper analysis of alternatives.

We see this pre-emption of alternatives frequently. Often it is a consequence of compartmentalized transport planning—railways, roads, waterways, airports, etc., being "planned" in isolation. Sometimes it may reflect the key role of particular individuals or agencies in the political hierarchy. Sometimes, however, it is a consequence of inappropriate advice received from foreign advisers or consultants. Every expert from the developed countries brings with him to the developing nations some cultural and technical baggage. The technical impedimenta may consist of "approved" design standards, or established technical solutions to problem solving, or standard policy prescriptions. It is not an easy task to convince such experts and their employers that there are "trade-offs" and options. The crucial question we seek answers to when examining investment plans and projects is, basically, that stressed by Holland Hunter at the conclusion of his review of "Soviet Transport Experience"—"are the timing and proportions right?"³

We attempt to influence these institutional factors in a number of ways—for example, by preparing meaningful terms of reference; by encouraging the creation of project evaluation units in the transport agencies as well as in the national planning or program approving centers; by ensuring training via

² Hugh S. Norton, *National Transportation Policy* (Berkeley, Calif.): McCutchan, 1966, p. 12.

³ Holland Hunter, *Soviet Transport Experience* (Brookings, Washington, D.C., 1968), p. 127.

counterpart arrangements, scholarships and participation in our Economic Development Institute courses; by efforts to create some central department or ministry for transportation affairs; and by improved analytical techniques.

While this emphasis on sound project analysis is well known as the Bank Group's stock-in-trade—and with which we have, at times, been criticized as being too pre-occupied—we are becoming increasingly involved with the broader dimensions of transport investment policy. Much more attention is now being given to the overall development strategy of countries and the relationship of transport to these goals. Given the scarcity of development resources, the important and really hard part of development planning is the establishment of inter-sectoral priorities and the intra-sectoral allocations which follow. Cost minimization in the transport sector, whether based on input-output models, systems and network analysis, simulation models or other computer based approaches—which are frequently helpful and important—is only part of the story.

There are difficult policy questions in the transport sector relating to such matters as the nature and extent of economic nationalism; the priorities between rural and urban transport investments; the relationships between policies for transport and energy, industry and agriculture; the division of benefits between the local investing government and foreigners who may be the principal (or least immediate) beneficiaries from, for example, port and airport projects; the conflict of defense and political needs with those of developmental priorities; the balance between political vision and economic realities. These are not issues entirely peculiar to developing nations, but the implications of the answers can be much more significant in view of the limited resources available. All one can do in many of these cases is to pose the questions; seek to put the answers in quantifiable forms; and ask the decision makers if they judge that the costs, in terms of foregone opportunities, are worth it. The Bank Group may or may not be in a position to help answer these policy type questions. In our view, however, we think it is important that they be asked. This has its risks. It requires not only diplomatic skills but also a technical competence to suggest how the answers may be found, or the sums involved arrived at. In other words, it takes much more than academic marksmanship.

C. PRICING

The second major aspect of transport policy that draws the Bank Group's attention is pricing policy, including price controls/rate regulation, taxation or user charges. Elementary economics, as well as practical observation, tell us that the level and structure of prices determines the pattern of demand among the different transportation modes, the extent of capacity utilization of existing facilities and, to some degree, the volume of output encouraged by the transport system. These factors, in turn, have an impact as signals for investment requirements. To the extent, therefore, that the prices facing transport users do not reflect the true economic costs of providing the services they are false signals and cost-benefit analysis is undermined at its foundations.

Apart from the distortions resulting from open or disguised subsidies

and direct or indirect "over-taxation," one important difference between many developing countries and most developed countries of significance for transport pricing policy lies in the meaning of the prices (i.e., costs) of inputs into the transport sector. In developed countries costs can generally be taken as a reasonable reflection of market evaluation. In the developing countries, however, they may reflect over-valued currencies; or ignore surplus labor which has an opportunity cost value less than going wage rates; or the fact that the output of local industries used in transportation construction or service may be very heavily protected by customs duties and other measures.

Clearly to get the investment signals right in such cases would require the use of shadow or accounting prices. Few developing countries—even if they could correctly calculate these—have sufficient and capable enough staff to shadow price most inputs either as a basis for investment planning or for pricing the output of transport services. The transport user meanwhile, whether as a shipper of freight or a passenger, does not care about "lowest economic cost to the community"—a concept he is unlikely to understand or appreciate anyway. He makes his choice of transport mode on the basis of actual cost to him, taking into account quality of service. It is this choice which appears as transport demand and which investments are often programmed to satisfy.

It has been argued, therefore, that unless government has taken clear policy decisions as to measures which can result in the adoption of a pricing/user charges system which effectively reflects real economic costs, then investment programs based on a minimum economic cost concept become largely hypothetical and unrealistic. That is, if there is strong reason to believe that, come what may, the government intends to follow a policy of favoring one mode over another by subsidies, for example, then it does make some sense to prepare investment plans on the basis of costs/prices to the user rather than some calculated real economic costs.

This may be realism in some cases, but to some extent it is a policy of abandoned hope and effort. Some governments have been persuaded to modify the greater distortions by having the government-owned railway, for example, pay for imported equipment in local currency at an exchange rate more closely approximating the "real" rate, and the one at which the trucking industry is probably obtaining its equipment, or to pay for capital borrowed from government at a rate more reflective of the opportunity cost of capital.

From the economic viewpoint the relevant costs for transport pricing are marginal costs (ignoring how these are defined or measured) or the "costs at issue," to use Abba Lerner's language. Clearly to the extent that transport prices are below these costs—as, for example, in the congested or crowded situation—uneconomic demand is stimulated and any proposals for increasing capacity may result in an unwise, or at least premature, use of economic resources. In those cases where prices are above the relevant costs—as, for example, where errors in past investment decisions have led to excess capacity or where surplus capacity is a by-product of improvement or construction indivisibilities—then the demand for transport and the development of economic activities may be dampened, with transport capacity being underutilized and, therefore, wasted.

Few economists would dissent from this extreme simplification as to the pricing prescription of economic theory. We even tested its application to highways for one group of our member countries. The recommendations of the exercises were, in very broad terms: abandon import duties on transport inputs; increase export duties on some agricultural products; close the domestic oil refineries and import motor fuel; cut the gasoline tax in half for vehicles operating in the rural areas; have only minimum vehicle registration fees in the same areas; keep gasoline taxes at about the existing level in the capital cities; and devise a congestion licensing system that would generate about \$950 per vehicle operating in these cities; and, finally, allow the nationals of one country, in effect, to dominate international trucking in the area. The exercise showed that such a scheme would not only generate more fiscal revenues than the existing system but also, by improving resource utilization, would result in greater national output. Apart from criticisms that could be made about the tenuousness of the figures used, and whether sufficient analysis had been done of the "trade-offs" implied in taxing beneficiaries such as landowners, etc., one important implied consequence would be to significantly change the balance of political power by generating funds in the urban areas which traditionally were kept on a tight central government budgetary string.

No matter how theoretically sound the economic analysis may be, and the elements of the package logically consistent with each other, any appreciation of the political realities in the particular area would suggest the sum of the policy implications would be hard to swallow. Some modification, or second-best solution, would likely be necessary to make any progress. That is, a less than economically optimal situation might be necessary. This situation, however, has a price which may be estimated and could be one that the local decision makers might be prepared to pay. An effort such as this has at least one value: it puts policy options in measurable terms and gives meaning to indeterminate verbal arguments.

This is but another way of saying that transport policies, including pricing policies, have costs and wherever possible these should be measured. Another case we had experience with, while not directly concerned with pricing per se—though the rates charged by a neighboring country's transport agencies for the country's traffic were an important issue—illustrates that some major policy decisions can be valued. The question was one of alternative access to the sea and the case was correctly presented in terms of measuring the risks the alternative would insure against, estimating the period at risk and calculating whether the insurance premium (that is, the added transport costs) was a reasonable price to pay for the coverage it provided.

To return to pricing, however. The Bank Group has found that domestic saving—which is the engine of economic growth—is low in many countries and there is a case for using transport pricing, therefore, as one element in fueling this engine. Such a pricing policy may involve meeting some financial or operating ratio target. Its use in this case can act as a spur to managerial efficiency and technical innovation. It may well involve, however, some loss of economic efficiency in one direction but this may be offset by the gains involved.

In the Bank Group's view, therefore, a reasonable transport pricing policy should:

- i) improve the distribution of traffic among the transport modes, in an economic sense;
- ii) generate funds to meet some appropriate financial target, taking into account the particular circumstances of the country, transport agency, etc.; and,
- iii) exploit as much as possible, within the constraints of financial targets, the opportunities to stimulate development and a full use of transport capacity.

In adopting such a policy, the natural conflicts between financial target meeting and the promotion of development and capacity use should be faced explicitly. In the last analysis, we strongly favor pragmatic solutions to these conflicts once the facts and "trade-offs" have been revealed by adequate investigation.

D. REGULATION

The third, but not last, policy issue in transport that engages our interest is that relating to regulation—whether designed to limit entry into the industry or to influence competition among the modes.

Although the particular objectives, the instruments used and the practical consequences of regulatory policies and practices vary from country to country, three purposes appear to run through nearly all the policy statements in both developed and developing countries: (1) to produce adequate road transport services at reasonable prices, (2) to avoid "excessive" competition among motor carriers, and (3) to ensure "rational" coordination between the road transport industry and other modes (particularly the railways). In developing countries, the limited supply and/or high foreign exchange costs of vehicles, spare parts and fuel are often additional reasons advocated for regulation of entry, rates and operations. To these essentially transport industry economic arguments, closer analysis often reveals wider questions of allocative efficiency, general economic growth, income redistribution and, to some extent, other policy goals of a socio-political nature.

Without going over all the arguments again—the literature is abundant and the case has been argued almost "ad nauseum"—we generally take the view that competition between the modes and the use of the price system can be accepted as the goal worth seeking. We believe, therefore, in asking for adequate explanations as to why particular regulatory policies and measures need to be continued; we seek to eliminate the grosser inefficiencies, with the objective of improving resource allocation, and to have officials or advisers try to measure the economic costs of alternative policies.

The reasons for this are many. In some developing countries "the proliferation of administrative requirements, documents, entry and clearance permits, and the like can impede the effective use of a transportation system—

especially at international frontiers.⁴ This limits markets and prevents the use of installed capacity in a number of cases. In the developing world one of the greatest needs is more and vigorous entrepreneurship. The technological and skill gap between trucking and trading, for example, is small in contrast to railway operations which may require substantial investments in education and training and absorb significant amounts of the scarce executive/managerial talent available. The trucking industry in some developing countries has shown it can generate energetic businessmen who provide adequate transportation service without "wasteful" or "destructive" competition. Regrettably, in some cases, regulation which may ostensibly be in the public interest also becomes a vehicle for private interest.

The Bank Group, however, is prepared to be pragmatic and patient. We well appreciate that to bring about change is a slow and difficult business, and may involve other significant and major policy decisions. For example, most observers regard the octroi system that exists on many Indian highways as inefficient, wasteful or worse. To provide alternative sources of funds to the local municipal authorities which depend on the taxes generated by the system has, however, serious political and fiscal policy implications which mean that the system cannot be wiped out overnight. The moral in this and in most other major transport policy issues is persistence, persuasion and education. Those who seek to improve policy at the planning level must, in the absence of a revolutionary situation, be prepared for a long haul.

E. CONCLUSION

To conclude, the main issues of policy and transport planning are but little different in their basic substance between the developed and developing countries. In some respects, working in the context of developing countries is easier. That is, the opportunities for sound policies may be greater, the choices are easier in the sense that options are still open and the costs of change are less. In other respects, however, the environment is more difficult—there is a time lag in the impact of ideas; the degree of seriousness of problems which force change may be less; the political motivations and professional skills needed to induce and execute change may not be strong; the development argument—often supported by historical analogy—from the developed world is not without its persuasive strengths; etc. The Bank Group recognizes both the opportunities and difficulties. Its objective in seeking to bring some greater rationality into both the transport policy discussions and the measures used to implement the policy decisions is to assist its members achieve their goals of greater economic development. Transport, however, is only one element in this task.

⁴ John B. Lansing, *Transportation and Economic Policy*, (New York: Free Press, 1966), p. 162.