

TERMS OF REFERENCE

STUDY OF THE
ECONOMIC IMPACT OF REGULATIONS
IN THE TRUCKING INDUSTRY

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Ministry of Transportation
Republic of Korea

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Terms of Reference

I. INTRODUCTION

1. The freight transportation business has rapidly flowered in Korea during the past decade, while the freight of railroad has diverted to that of public roads, which, in part, was caused by the successful accomplishment of the continuing Economic Development Programs and the construction of expressways in a given region.
2. According to Ministry of Transportation statistics, the number of freight vehicles has increased from 76,833 in 1974 to 243,828 vehicles in 1981, at an average annual increase rate of approximately 18%. In addition, the number of business enterprises for freight transportation has grown from 869 to 1,449 enterprises during the same period.
3. However, the share of the commercial trucking industry in total road transport has decreased, partly due to the first and second oil crises and the rapid increase of freight vehicles owned by the private sector. This led to financial pressure on the commercial freight companies.
4. Among the major factors that have affected adversely the road freight transportation industry are:
 - (a) The users' preference to rely on private trucks due to the need of general business enterprises to reduce transportation cost by setting faster and more convenient services; and
 - (b) The relatively longer time and higher costs of services required by common carriers

To tackle these problems and to efficiently allocate economic resources in the nation, a comprehensive study on the freight business enterprises is needed.

II. OBJECTIVES OF THE STUDY

5. The Ministry of Transportation wishes to evaluate the effectiveness of the regulatory system governing trucking, in relation to its objectives of efficiency in freight transportation, energy conservation and equitable regional development. To this end, the Ministry intends to hire consultants to analyze the structure of the freight transport market, compare the performance of the different segments of the trucking industry in meeting these objectives, and assess the extent to which possible changes in regulation could enhance the industry's performance. It is intended that this study should establish priorities for

removing or improving those regulations, if any, that prevent trucking companies from being more efficient. The study will then recommend appropriate legislative and administrative measures to achieve the desired objectives.

6. To secure acceptance of the proposed changes, the study should identify the interest groups likely to be most affected. The consultants should also propose a step-by-step plan, for implementing such changes. The plan would also propose transitional arrangements designed to lessen any negative effects.

7. The consultants will focus on the following main study areas:

(a) Analysis of Existing Freight Business

There are 1,440 road freight business enterprises across the nation comprising 29 fixed-route freight enterprises which maintain regular schedules and accept goods from any shipper, 789 district freight companies and 626 special-freight business enterprises. The average vehicle ownership by company type amounts to 64 vehicles for fixed route freight, 46 vehicles for district, and 33 vehicles for special services. This represents a sharp decrease of the share of road transport handled by the commercial trucking industry when compared to that of 1974, and is primarily due to the loss of competitiveness of commercial carriers following the first and second oil crisis that has resulted in the increasing number of private freight vehicles. Therefore, an analysis of the general performance, revenues and financial position of the trucking industry will be carried out to accurately and effectively provide basic data needed to evaluate the incidence of the present regulatory framework.

(b) Freight Business Enterprise and Regulation

In order to provide new opportunities that could activate the freight transportation business now in recession, analyses will be carried out of laws and ordinances which are regulating the freight transporters, with a view to measuring the effects of regulations and determining appropriate changes. In particular, the economic impact of regulations will be measured in terms of operating costs resulting from the size of vehicles, of occupancy ratio due to limitations to carry back-haul, of using private fleet as alternative when common carrier services are not available, or too inconvenient or too expensive.

(c) Relationship between Economy and Freight Transportation

Statistics indicated in 1981 that the ratio of transportation/warehouse business to Gross National Product (GNP) amounted to about 7%. Transportation business, in particular, played a major part in contributing to the creation of GNP.

Therefore, an extensive analysis of the effect of freight transportation business on the national economy will be made. Because the increasing number of private freight vehicles has caused a set back to the profit-oriented common carriers, the relationship between national economy and trucking industry will be analyzed to understand the effect of improving the present competitiveness of common carriers by introducing appropriate relaxation of unnecessary regulations. In particular, the increase in efficiency that could be

generated in the commercial trucking industry could be measured in terms of reduction of transport costs to users, of reducing private trucking trend and helping conserve energy.

III. WORK PROGRAM

A. Analysis of Trucking Industry Structure and Performance

8. The consultant's first step will be to compile information on the structure of the trucking industry. By this is meant its breakdown into private and commercial (i.e., own account and common carrier) vehicles, by commodity specialization, by truck size and age, by fleet size and by route or area license category.

9. The consultants should then conduct a number of roadside surveys to provide sample data on the key indicators of truck productivity: annual distance driven, percentage of empty back-haul trips, and ratio of actual load to capacity on loaded trips (load factor). Average values should be determined for each subgroup of the total truck fleet defined in the previous paragraph. The traffic surveys should also establish, on a sample basis, the share of private and commercial operators in the principal segments of the market, the segments being defined by commodity group, short-haul/long-haul, or other relevant variables.

10. By reference to data on vehicle operating costs already available with the Ministry of Construction and supplemented by data from the Road User Charge Study being carried out by MOC at the same time, the consultants should estimate the total annual expenditures on freight transportation by road and the average cost per ton-km for significant categories of truck. This will be primarily as a function of vehicle size, annual mileage, back-haul ratio and load factor. Similarly, the vehicle operating costs data should be used to estimate total fuel consumption and average fuel consumption per ton-km as a function of the same variables.

11. The consultants should then propose, on a sample basis and in consultation with MOT and other relevant authorities, minimum acceptable levels of service that would satisfy the Government's objective of ensuring equitable transport opportunities for users in rural areas or economically backward regions. These service levels will probably entail a combination of cost, availability and reliability. Supply criteria presently used by MOT will be considered.

B. Assessment of Economic Costs of Regulations

12. In the next stage, the consultants will compare the productivity and energy consumption of the different truck categories (own account versus common carriers) and examine the extent to which these differences can be attributed to the present regulatory system. These will include:

- appropriateness of quantity restrictions on operating licenses (supply criteria);
- relative effect of route versus area licensing limitations;

- minimum fleet size requirements;
- tariffs and rates set by government; and
- transported commodities restrictions, if any.

Other major factors contributing to these differences should also be identified.

13. The extent to which the regulations contribute to satisfying the objective of minimum acceptable service levels should also be assessed.

14. Possible changes in the regulations should then be evaluated in terms of their potential for:

- (a) raising productivity and hence lowering transport costs;
- (b) reducing fuel consumption; and
- (c) satisfying the minimum acceptable service levels.

Savings due to a switch to larger capacity or more fully loaded trucks may be partly offset by increased road damage due to the heavier axles. This extra cost would be estimated using the results of the road user charges study mentioned above.

15. For each regulatory change judged likely to have a substantial economic impact, the main interest groups affected should be identified, such as the carriers, other categories of truckers, KNR, shippers of the freight or receivers. To the extent possible, the distribution of savings (or losses) among these groups should be estimated.

C. Effective Management of Truck Industry

16. For the effective management of the truck industry the following aspects should be analyzed:

- the fare system,
- appropriate truck fleets by business type and by which types, and
- analysis of income and expense, and the break-even point.

17. Also the consultants will estimate the medium- and long-term transport demand and road transport in particular. A forecast should be made of the relative share of transport between the types of services offered.

18. The effective coordination between trucks in the distribution system should be assessed.

D. Recommendations

19. The consultants should present a list of recommended regulatory changes, ranked according to their potential economic impact. The principal proposals should be documented in the form of draft legislation or administrative order, as appropriate. Where necessary, provision should be made for transition arrangements to mitigate the negative

impact of the measures on particular interest groups, and for the adjustment of taxes or other controls to promote a more equitable distribution of savings among the parties involved. This should be accompanied by recommendations on the timing and sequencing those measures which should not be taken in isolation of one another.

IV. REPORTS TO BE SUBMITTED

20. The consultants will be required to submit the following reports in English and Korean:

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| • Inception report | after 1 month | from starting date |
| • Results for survey on truck productivity | after 3 months | “ |
| • Draft final report with legislative recommendations | after 6 months | “ |
| • Final report | after 7 months | “ |

Facilities and Services to be provided by Government

21. The MOT will provide the consultant with all relevant statistical data on the trucking industry. The MOT will provide counterpart staff and roadside survey (about nine man-months).

V. STAFF REQUIRED

22. It is anticipated that the study will take about seven months to complete and require about 105 man-months (including the assistant researchers). The staffing of the consultant team will consist of specialists in the fields of economics of transport regulations, trucking management, public administration (regulation), traffic flow engineering and planning, transport economics and systems analysis.

23. The detailed work program, the time schedule and staffing plan for the project should be the subject of proposals to be prepared by suitable consultants that will be invited to submit such proposals.