Conclusions from Action 33

by

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Action 33 has been a common study of several interested countries and three international organisations about the future of European intercity passenger transport. The study was terminated in late summer 1976. The reports are being published. Now is the appropriate time to step back and evaluate the whole exercise. What conclusions can be drawn from it?

This paper gives not an official statement of any of the parties taking part in the study but gives the opinion of one member of the national delegations - the German delegation in fact - that had the opportunity to follow the events very closely for about two thirds of the study period. It is thus personal and to a certain extent, of course, also a subjective statement.

STUDY MANDATE AND STUDY RESULTS

The mandate of the study was laid down in the following:

a. to assist the participating member countries in the task of devising long range strategies to meet the growing demand for passenger transport between major metropolitan regions of Western Europe;

b. given the guiding assumption that the development of balanced and compatible transportation facilities is in the common interest of all member countries, to provide the participating countries with an opportunity to consider common solutions and co-ordinated courses of action while respecting their right to pursue diverse approaches to intercity passenger transport problems;

c. to place emphasis on actions which must be taken in the near future to ensure adequate lead time for long term investment decisions during the 1980s.

The study to be conducted in furtherance of this purpose set the following broad objectives:

a. to identify needed improvements in the standard of passenger transportation service between major metropolitan regions of Western Europe, taking into account the likely increases in travel demand, the anticipated patterns of urban growth, regional development and changes in land use, and physical and environmental constraints on location of new transportation facilities;

b. to indicate, after an evaluation of the alternatives, what kind of modification in existing facilities and which of the advanced transportation system concepts now under consideration appear the most promising - with due regard to the goal of achieving a balanced and coordinated transportation system;

c. to advise what specific strategies - including research, development, testing and demonstration programmes - would be necessary to bring such concepts to the stage of practical application in the 1980s.

Terms of reference and objectives of the study had been formulated in 1972. Since then, some important changes have occurred in Europe. Generally, expectations of the growth rate for population and the economy seem to be lower than some years ago. At the same time the expected growth rate of cost elements seems to be higher. Consequently the growth of transport demand will be lower in the future than was expected until recently.

Technological research, on which many hopes were placed during 1960-1965, has proved slower and more difficult than expected. In spite of important results obtained, some difficult technological problems, affecting new systems, still remain to be solved.

Therefore transport problems now appear somewhat different from what was expected when the study was initiated. Taking account of the important investment represented by existing infrastructure, the study gives more attention to the improved use of existing facilities and conventional technologies.

At the beginning, interest in new technologies in the field of long distance passenger traffic was one if not the promoting factor of Action 33. But then, the situation has changed and new technologies played only a minor role during the later stages of the project. From this we might draw the conclusion that research projects of the kind as Action 33 should not last for too long a period because otherwise the questions the political decisionmaker asked at the start may no longer be of any relevance at the end!

Let me consider how far the study and its results meet the original study mandate:

– An assistance to the participating member countries in the task of devising, long range strategies has certainly been given. How much the countries eventually will get out of Action 33, however, depends on how seriously they exploit the study for their own purposes.

– The participating countries undoubtedly had the opportunity to consider common solutions and co-ordinated actions. This is quite an important experience and has to some extent contributed to a better mutual understanding, at least on the technical level.

– Emphasis has *not* been placed on actions that must be taken in the near future. On the contrary, Action 33 has become a predominantly long term study. So that point of the terms of reference has not been answered.

– In principle it is possible to identify needed improvements in the standard of passenger transportation services with the help of the study results. However, it should not be overlooked, that Action 33 is a long distance passenger traffic study. Many improvements could be needed because of short distance passenger traffic or because of goods traffic. These two types of traffic are treated only in a summary way and by very simple methods.

– The study results give an indication of what kinds of modifications in existing facilities and which of the advanced transportation system concepts appear the most promising. But the indications on the strategic level are in most cases rather inconclusive and the results on individual links of the networks are not always reliable because methods had to be used that give good results on

the strategic level but cannot replace detailed planning studies.

– Finally, advice, what strategies would be necessary to bring advanced transportation system concepts to the stage of practical application in the 1980s, has not been given.

LESSONS FROM THE STUDY ORGANIZATION

Before I turn to some details of the study and its results I want to explain the study organization and make some comments on it.

The Study began in January 1973 and was completed in June 1976. It was co-ordinated by a Steering Committee on which all participating countries and three international organizations were represented. The practical work was carried out by a Project Team based at the OECD, consisting of three scientists. The Project Team was assisted by three Task Forces, appointed by the Steering Committee, with responsibility for demand analysis, transport systems and transport strategies.

To assist the project team in certain specialized fields a number of research contracts were concluded. Not all of these contracts have been equally helpful but at least the contract about computer simulation of traffic behaviour in the networks has been a rather important contribution.

Most of the necessary data input was contributed by the participating countries as is usually the case in international studies. In addition, most of the countries participated in (and financed!) a common household survey that was initiated to improve the data base on long distance passenger transport, which in the event turned out to be quite a decisive piece of information. Five of the participating countries undertook (and most financed) two corridor studies in the corridors Randstad - Rhein/Ruhr - Frankfurt and Genova - Marseille - Barcelona.

By this organization Action 33 did a lot of work and achieved a lot of results both - as you may call it - on the main study line and on several branch lines. Most of this work and these results have gone into the final report, and most of the information that has gone into the final report has been properly analysed. However, some information and perhaps not an unimportant part of it has been lost. This is neither the fault of the project team nor of the participating countries but simply due to the fact that Action 33 had to terminate at a certain date and that at that date the study organization more or less disappeared. Time and manpower did not allow to do everything that perhaps should have been done until that date as is normal in large transportation studies.

The important disadvantage of the study organization was that it was not a permanent body but disappeared at the end of the study time. For instance, the network models can no longer be used. Some countries are making efforts to acquire the models but this has turned out to be a troublesome exercise and to my knowledge until today the network model has nowhere been made to work again. The data of the household survey is no longer readily available. One of the participating countries is trying to collect the results - with variable success. In one case they have found out that the survey results had been thrown away!

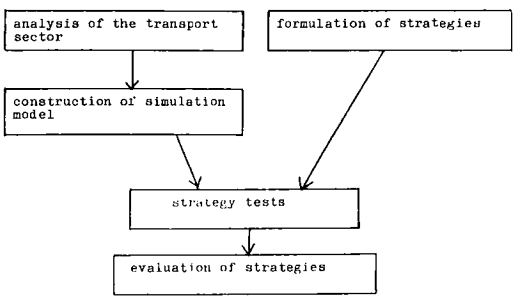
I will not hesitate to point out also an important advantage of the Action 33 study organization. By its several committees and sub-committees it enabled the participating countries to follow the study very closely - to see how the project team worked, to comment on the work, to hear the views of the other participants and to comment on those views. These close contacts helped to create close acquaintances and even friendships between the people involved - not an unimportant achievement.

On the other hand, the committees and sub-committees sometimes proved to be a cumbersome organization. The project team prepared papers, which had to be typed and copied and mailed, and then the delegates got them often too late for the meeting. But the work of the project team had continued in the meantime, and the papers were partly out of date.

One last point: the many committees were not a cheap organization. We may estimate an average of ten meetings per year with, say, 15 people taking part. If for one meeting we estimate travel expenses of one delegate at 400 DM and add salary for two working days of also 400 DM then the costs of the meetings only for the national delegation amount for the study period to more than 400.000 DM. A sum which is not negligible.

EXPERIENCE FROM STRATEGY FORMULATION

The main study line of Action 33 may be summarized by the following graph:



I want to treat the simulation model and the way of performing the strategy tests as a black box. In addition, I assume that the model gives more or less correct and meaningful results. I will say something about strategies and about evaluation.

Transport strategy is defined as the co-ordination of major decisions affecting the transport system in order to achieve relatively long term objectives. Long term objectives considered are of two kinds:

a. transport objectives, such as shorter travel times or greater frequency of service;

b. non-transport objectives, such as regional planning goals or conservation of energy.

The objectives give a general idea for the formulation of strategies. They reappear in the evaluation phase, when the detailed effects of each strategy are evaluated.

A strategy consists of infrastructural and managerial elements. The infrastructural elements are major alternations and additions to the track and terminals including control and propulsion systems. The managerial elements consist of policies influencing price, regulation, operating methods and practices by which transport services are provided on the infrastructure.

The infrastructural elements have been formulated as far as possible by National Delegations. To some extent they have been modified and harmonized by the Project Team. For each mode (rail, air, road) there exist a number of basic network variants. The combination of the network variants (for each of the three modes) is the infrastructural part of a strategy.

The managerial elements have been proposed for the network as a whole by the Project Team. Some important managerial elements are, for example, fares, fuel prices and motorway tolls, speed limits and airport delays.

The following main strategies had been considered in an early stage of the study:

– Status Quo strategy. Assumes that market demand must be met and the resulting problems remedied as far as possible by measures that do not interfere with the market system. In this strategy the growing demand for transport, by all modes, is matched by new roads, airports, etc., in a conventional way as far as the budget allows. Two additional variants of this strategy are a regulated Status Quo strategy (particularly to reduce environmental effects) and a Status Quo V/STOL strategy (to study the possiblities of a V/STOL system).

– Controlled Mode strategy. Assumes that the main problems are caused by excessive demand for car and air and that the basic solution is to find ways of attracting demand from car and air to rail. It implies a smaller road network than the Status Quo strategy and strict anti-nuisance regulations are applied to road vehicles and aircraft. This strategy has two variants: (a) improved railways using conventinal technology with only a few new lines; (b) a large network of very fast services requiring new infrastructure.

– Controlled Demand strategy. Assumes that excessive demand for car and air travel cannot in practice be satisfied by other modes and must therefore be restrained directly. A variant of this strategy studies a decentralised air network as a means of reducing the pressure of demand on the major hub airports.

– Planned Demand strategy. Assumes that the problems are largely due to excessive concentration of demand in certain places at certain times. The solution is to disperse demand over time and space, trying in the process to to shorten trip lengths. A variant of this strategy assumes low economic growth together with low growth in investment budgets.

The set of strategies and the way in which different strategies have been tested can be summarised in the following table:

Strategy	Abbrevation	Full network simulation and and evaluation	North Corridor case study	South Corridor case study
1. Base year		X		
2. Reference 1985				
3. Status quo 1985				
4. Status quo 2000	SQ	X	X	X
5. Status quo (regulated) 1985				X
6. Status quo (VTOL) *				
7. Controlled Mode A 2000	CM(A)	X	X	X
8. Controlled Mode B 2000	CM(B)	X	X	
9. Controlled Demand 1985				
10. Controlled Demand 2000	CD	X	X	
11. Controlled Demand (DA) 1985				
12. Planned Demand 2000	PD	X		
13. Planned Demand (low investment) 2000				

* Abandoned

One of the great merits of Action 33 is that it follows a really integrated approach to transport problems. It considers the infrastructure development for three modes together - and not only the infrastructure, but also certain managerial measures. The study gives an example how such an approach can be realized in a study for a large geographical area. To my knowledge this is the only example of this kind. Here we have, I think, the most important contribution of Action 33. It has given a common experience how an integrated transport study for a large geographical area can be done. Of course, there are certain shortcomings, which should not be overlooked:

– Since the infrastructural parts of the strategies were elaborated by the countries, they reflect not so much the idea of a European network but perhaps more a compilation of national ideas of parts of a European network. One curious instance from the process of strategy formulation may be mentioned. Though the consideration of new technologies was an important part of the original study mandate none of the national proposals for the rail networks contained links of niew technology of any importance. A strategy for new technology (CM(B)) more or less had to be invented by the project team.

– Too many strategies have been formulated at the beginning of the study. Eventually less than half of those strategies could be properly tested. It might have been better to formulate and test rather few - perhaps two or three - strategies and then see how the reality (or the model?) reacts. With the knowledge of the first strategy tests further strategies could have been formulated - probably others than those that actually occur in the study.

– Strategies have been formulated around a central idea as has been described above. This idea has been applied more or less uniformly in the whole study area. However, the starting position is far from equal in all countries. The motorway network, for example, is more developed in Germany and Italy than, say, in France and Spain. A strategy that aims at a certain level of service in the year 2000 will mean something different in the two cases.

– Action 33 developed only strategies with respect to long distance passenger transport and - in accordance with the study mandate - not with respect to short distance passenger transport and goods transport. It is thus of course not an overall integrated study for the whole transport sector in Western Europe. One example to illustrate that this could at least in some cases be a disadvantage: The study found out that the main shortages of road capacity will in future probably exist in the neighbourhood of large cities. It introduced special motorway tolls to ease the problem and then found out that the effect on long distance traffic was rather small. One can of course ask the question if capacity shortage in the road network near large cities is not much more a question of short distance traffic and to reduce road traffic near large cities a detailed short distance traffic study should be made.

EVALUATION RESULTS

The main evaluation results on the strategic level may be summarized in some tables:

Trips by mode of transport and strategy in the year 2000

Mode	Strategy SQ	CM(A)	CM(B)	CD	PD
(Trips in millions)					
Plane	206	203	198	163	234
Train	375	442	482	407	394
Bus	55	55	55	81	74
Car	1 087	1 024	1 024	1 062	1 089
Total	1 723	1 724	1 759	1 713	1 791
(Status quo = 100)					
Plane	100	98.5	96.1	79.1	113.6
Train	100	117.9	128.5	108.5	105.1
Bus	100	100	100	147.3	134.5
Car	100	94.2	94.2	97.7	100.2
Total	100	100.1	102.1	99.4	103.9

There is some variation in traffic between strategies but in general it is not large. We can notice as significant the increase in rail traffic in the CM(A) and CM(B) strategy, an increase of bus traffic in the CD and PD strategy and a variation of air traffic in the CD and PD strategy.

Investment cost by mode and strategy
1000 Mil. US $

	SQ	CM(A)	CM(B)	CD	PD
Air	6.6	6.2	5.8	4.0	6.3
Rail	25.5	39.2	54.6	25.2	39.2
Road	39.7	23.2	23.2	23.2	39.3
Total	71.8	68.6	83.6	52.7	84.8

Variation in investment cost between strategies is considerable, both for the total and still more for individual modes. However, since most of the air, rail and road networks even of the year 2000 exist already today the variation in the networks as a whole is not as large.

Total traffic cost and total energy consumption by strategy

	SQ	CM(A)	CM(B)	CD	PD
Total traffic cost (1000 mil. US $)	31.75	31.91	30.87	30.56	31.56
Total energy consumption (1000 t)	28,023	28,273	27,915	26,545	28,862

There is no significant variation in total traffic cost and total energy consumption. Also for other evaluation parameters it turned out that differences between strategies were rather small, at least at the strategic level. In individual parts of the networks differences may be larger, for example where new high speed rail links have been introduced. But since Action 33 was aimed to be a strategic study we should look mainly at the strategic results.

The low variation in road traffic obviously is a significant result which explains a lot. As long as there are no severe measures against the private car but "only" relatively light measures and measures to improve the rail services, the private car will remain the predominant mode. Because of this there will be no fundamental variations in global evaluation parameters like total traffic cost and energy consumption.

On the other hand, if we wanted to make any strong effect on the private car in long distance traffic we would have to use very severe measures indeed. Such measures, however, have not veen studied in Action 33.

As to the "rest" of the modes, variations are not so small. Regard, for example, traffic demand, traffic cost and revenue for the train:

Traffic demand (1000 millions of passenger-km)	144.4	176.0	190.2	167.0	164.0
Operating costs (1000 millions of US $)	4.10	4.87	4.63*	4.59	4.53
Receipts (1000 millions Us $)	4.16	5.46	6.39	4.51	5.05

* lower limit; upper limit: 5.39

Whether there is a clear cut case in favour of improved rail services is not certain because the increased surplus of traffic revenues over traffic costs must be weighed against increased investment cost. Both real corridor studies of Action 33 calculated that the increase is not high enough to warrant investment costs. In other relations with even higher traffic density there could perhaps be a better argument in favour of new rail infrastructure.

There is, however, a negative case if we remember that even the SQ strategy represents quite important improvements in railservices quality with quite important investment outlays. For this strategy, traffic costs are just met by traffic revenues. If there was no improvement in the rail sector there would probably be no chance for long distance rail passenger traffic - but such a strategy has also not been studied in Action 33.

There is a further possible conclusion, which I want to present in the form of a question. First an example from the railway sector. If we differentiate by countries we see that some have a surplus of traffic revenues over traffic costs for all strategies, some have a deficit for all strategies, and for some countries this varies. In the light of these results: Was it a good idea to consider uniform strategies for all countries? Perhaps different strategies should have been considered with different economic transport situations and prospects. And perhaps the small variation between strategies can also be explained as the action of averages.

FINAL CONCLUSIONS

Here I will stop my meditation on Action 33. At the end two rather general conclusions:

First, there is something in it. It is worth while, to look into Action 33 and study its merits and its shortcomings. Secondly, it will be useful to make similar studies of similar problems but it is imperative to use a permanent organization so that there can be an accumulation of knowledge and skills in handling the simulation models.