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The Shinkansen and Baikal-Amur Railways (BAM): A Comparison of Large-Scale Program Management Experience

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THE SHINKANSEN AND BAIKAL-AMUR RAILWAYS (BAM): A COMPARISON OF LARGE-SCALE PROGRAM MANAGEMENT EXPERIENCE

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SUMMARY

The primary purpose of this paper is to compare the background and experiences of two large-scale railway construction programs in Japan and the Soviet Union: The Shinkansen and the Baikalo-Amur Magistral (BAM). The paper describes:

(1) Those main aspects of the programs which may be compared.
(2) The history and importance of the programs.
(3) The organization, design and implementation of the two programs.
(4) The technical side of the programs.
(5) The influence and future of the programs.

Although the programs differ in many respects it was possible to compare many features (economic, environmental, population and other aspects). The paper is intended to provide the background for future work on organizational problems; moreover, the BAM program might become a possible case study for IIASA.

TABLE OF CONTENTS

Y. MOROSOV, G. PODVOISKI
21 September, 1977

The Shinkansen and Baikal-Amur Railways (BAM): A Comparison of Large-Scale Program Management Experience

INTRODUCTION

In the past few years in the literature devoted to management problems the term "program" appears more and more often. Application of program management at different levels (firm, region, country, groups of industry) is widely discussed. But life itself has a lot of new problems, for this reason scientists, specialists in management theory, have to deal again and again with different aspects of program management (organizational, forecasting, psychological etc.). Those who head the program implementation, in their turn, hope that the scientists will be able to help them in their everyday work, so that they do not make the same mistakes which have been made in the past.

The authors of the work wanted to find some new approaches to generalization of the program management experience. We take, as a basis for comparison, two large-scale programs in railway construction: Baikal-Amur Railway (BAM) in the Soviet Union and Shinkansen in Japan.

In our work we used the materials of the IIASA projects of Management and Technology and Integrated Regional Development, and also the work of the leader of the Management Problems Center of Moscow State University Economic Department, Professor G. Popov. We also used material from Soviet Union periodicals and from the Shinkansen Conference, which was held in IIASA in June 1977.

The authors wish to thank the members of Management and Technology and Integrated Regional Development: A. Straszak, M. Albegov, G. Dobrov, D. Fischer, A. Iastrebov and everyone whose critical comments made the work more valueable.

1. THE MAIN DEFINITIONS AND THE MODEL OF COMPARISON

We used the following definition of the program which reflects the point of view of the Management Problem Center of Moscow State University: A program is the sum of goal oriented efforts working towards the achievement of national targets (of some standing), in which the goals, time and resources are determined simultaneously. The program must have, not only a technical character, but social, organizational and economic aspects as well.

It should be noted that both the BAM and the Shinkansen projects satisfy this definition.

The choice of subjects for comparison was determined by the following:

(a) Both the Shinkansen and the BAM railways are well-known examples of large-scale programs.

(b) They both deal with railway construction

(c) The comparison might be of some use to both countries

(d) The authors are now working on problems of large-scale program management in the Economic Department of Moscow State University

(e) The comparison might prove to be good preliminary work for the future studies in IIASA (field studies etc.)

We should, of course, take into account the fact that some differences between the two programs do exist.

The BAM project was only started in 1974, and is now under construction, while the first part of the Shinkansen project is nearly completed. This means that it is a little more difficult to draw any conclusions from the BAM project. As we shall try to show later, the BAM program is somewhat broader in its aims which include not only construction of the road, but also the development of the BAM region in Siberia. Taking this into consideration, we should note that it was impossible to compare them in every aspect in one brief paper. That is why we are considering only the history of the programs, their goals, organizational aspects, and, very briefly, the technical problems, both of the past and of the future (see fig. 1, where "+" means that this aspect was considered, and "-" that it was not considered).*

*All the data and figures are based on 1976 year's sources.

	HISTORY	GOALS	CONSTRUCTION	FUTURE
Economy	+	+	+	+
Management and Organisation	+	+	+	+
Technology	-	-	+	-

Figure 1

2. THE ROLE OF THE RAILWAYS IN THE ECONOMY OF BOTH COUNTRIES

The history of railways in both countries is more than a century old. In Japan the first railway line was opened between Tokyo and Yokohama in 1872. In 1949 the Japanese National Railways (JNR) were established as a public corporation within the jurisdiction of the Ministry of Transport. The organizational chart of railway management in Japan is shown in fig. 2.

In Russia the first commercial railway line appeared in 1837. After the Great October Socialist Revolution in 1917 all means of transport (including railways) were nationalized and a united transport network was created. The Ministry of Railways, established in 1917 and initially called the Narodnyi Komissariat, was later dissolved and became two separate ministries: the Ministry of Railways (which was responsible for the maintenance of already existing railways) and the Ministry of Transport Construction (their organizational chart is shown in fig. 3).

Some figures describing railways in Japan and the Soviet Union are shown in table 1.

The importance of railways can easily be seen, for in both countries a large proportion of the passenger and freight flow goes by railway. In Japan in 1975 the railways took 13% of all freight and 45% of all passengers;* in the Soviet Union the figures are even more striking: 65% of freight and 42% of passengers.**

The railways in the Soviet Union have some peculiarities: in spite of the fact that they are considerable in length, the density of railways in different parts of the country is not equal. For example, in the far eastern region of the Soviet Union the density of railways is about 7 times less than the average density of the rest of the country). Furthermore, the percentage of electrified railways is still rather low (28.2%), though growing fast.***

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* The source: "Shinkansen Project Conference", IIASA, 1977.

** The source: "Bolshaja Sovetskaja Ensiklopedia", v.26, p.154 (III edition), Moscow, 1977.

*** The source: "Narodnoe chozjastwo USSR 1975", Moscow, 1976 p.149

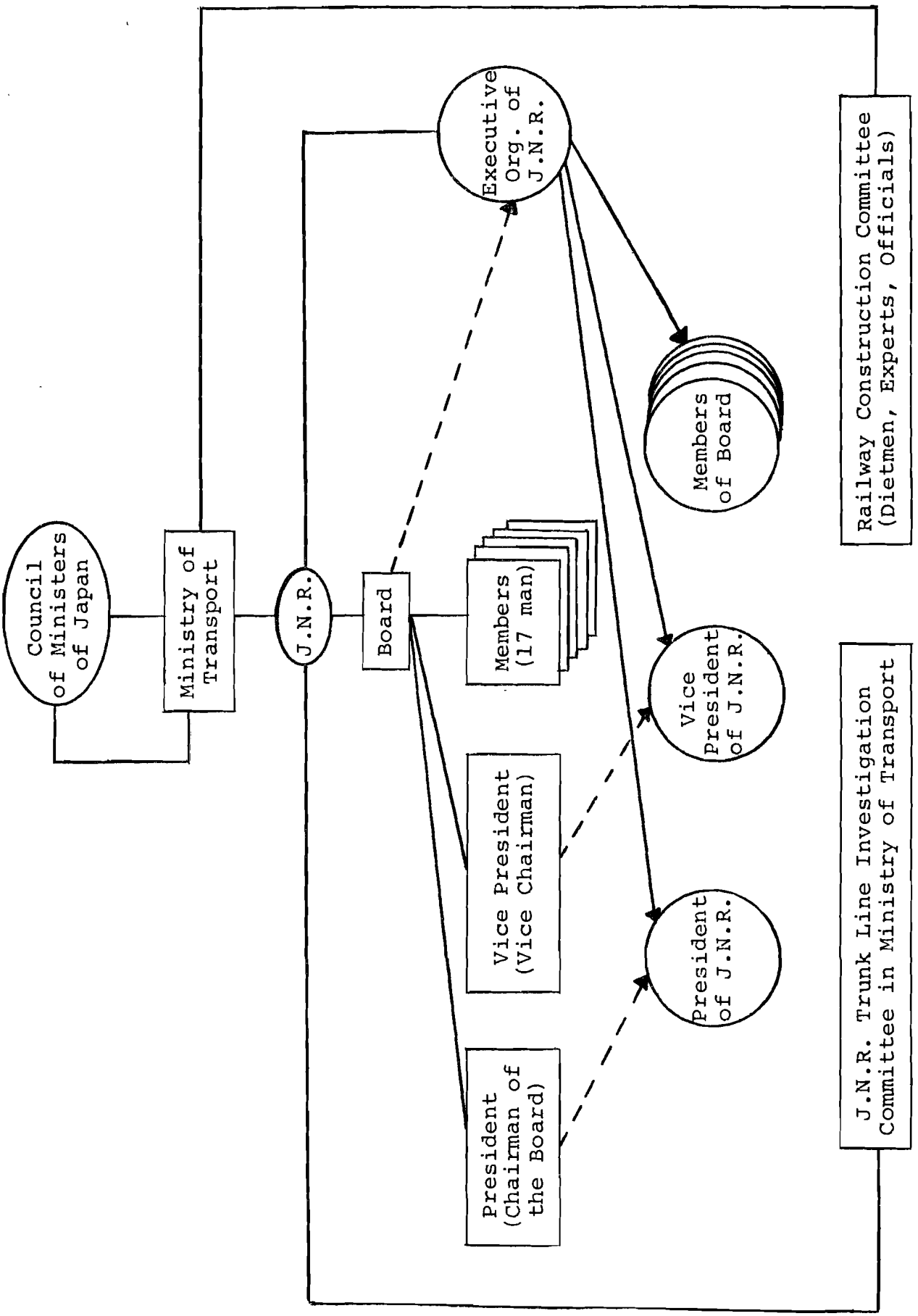
Council of Ministers of Japan
Ministry of Transport
J.N.R.
Board
Executive Org. of J.N.R.
Members (17 man)
Vice President (Vice Chairman)
President (Chairman of the Board)
Members of Board
Vice President of J.N.R.
President of J.N.R.
Railway Construction Committee (Dietmen, Experts, Officials)
J.N.R. Trunk Line Investigation Committee in Ministry of Transport

Figure 2

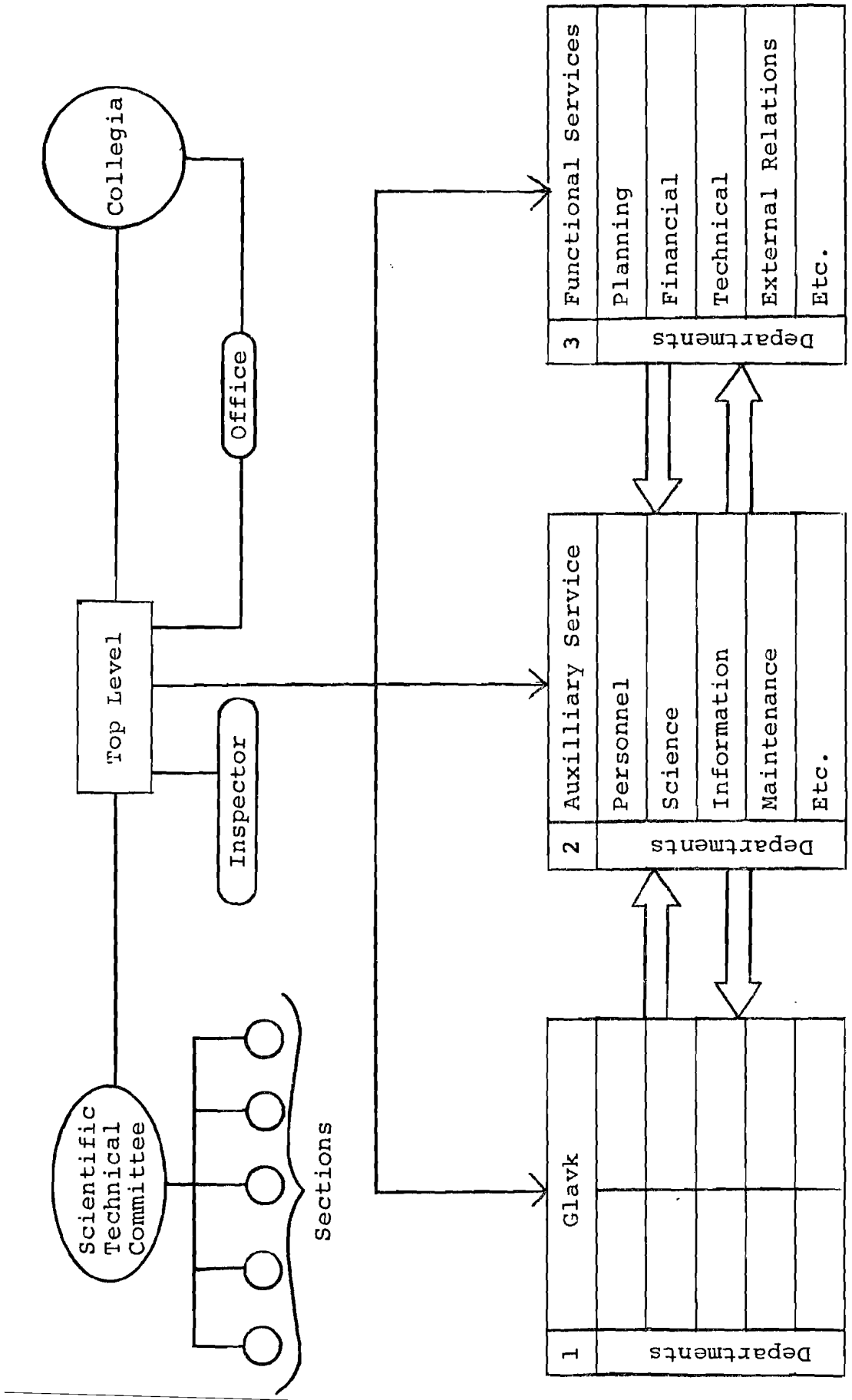

Figure 3 ORGANISATIONAL CHART OF SOVIET UNION MINISTRIES

Table 1 COMPARATIVE FIGURES OF TRAFFIC IN JAPAN AND THE SOVIET UNION[1)]

YEARS		LENGTH OF WHOLE RAILWAY NETWORK	PASSENGER KILOMETERS	NET TON KILOMETERS	ELECTRIC RAILWAY LENGTHS (km and % of all length)
1965	A[2)]	20,6	251 840	57 249	20,5
	B[3)]	214	201 604	1 950 205	19,0
1970	A	20,8	288 133	62 652	29,0
	B	221	265 406	2 494 721	25,0
1975	A	21,0	324 661[4)]	54 487[4)]	33,2
	B	227	306 298	3 097 662	28,2

1) Source: Statistical Yearbook 1975, United Nations, New York 1976.

2) Japan

3) USSR

4) for 1974

3. THE HISTORY OF THE SHINKANSEN AND BAM PROGRAMS: BACKGROUND, GOALS AND COMPARISONS

Before the construction of the Shinkansen only an old (narrow-gauge) line existed between Tokyo and Kobe, it was called "Tokaido" (after the region where it was situated). This area is highly industrialized and densely populated (60% of national industrial production and 34% of the total population is concentrated in this area, though the territory constitutes only 16% of the whole of Japan. This is the reason why the traffic of the Tokaido line was growing very fast (if, for the whole country, the rate of growth for passenger flow was 6.1% and for freight flow it was 4.1%, on the Tokaido line it was 7.6% and 4.8% respectively).*

The amount of traffic was growing so rapidly that saturation point was to be reached before the 60's, necessitating the construction of the new line. (Shinkansen means "new line" in Japanese). The goal of the Shinkansen line was to increase the capacity of the Tokaido line but not to compete with aviation and road transport, instead it was to cooperate with them to meet ever growing traffic demand.

In May of 1956 the JNR set up the "Tokaido Line Building Investigation Commission" (TLIC), headed by the Vice-President of Engineering. This commission concluded that a new line was to be constructed between Tokyo and Kobe/Osaka. As the construction would be so expensive it was agreed that the program was to receive national priority (not only within the JNR). In July 1957 Mr. Shinji Sogo (then the President of JNR) requested that the Government should study the problems connected with the construction of the new line.

In August 1957 the JNR Trunk Line Investigation Commission (JNR TLIC) was established by the Ministry of Transport. During the following 2 years they decided that the new line would be standard gauge and that the cost would be 194,800 million yen. (The full process of program completion can be seen in Table 2). In December 1958 the Government, basing their conclusions on the JNR TLIC results, created the Council of Ministers Committee for Transportation (CMT) in the Economic Planning Agency and decided to construct the Shinkansen.

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*The source: "The Shinkansen Project Conference" IIASA, 1977.

TABLE 2

ORGANIZ-ATION	YEAR	MEMBERS, SUPERVISORS, TOP MANAGER	MAIN TASK	MAIN RESULTS
TLIC	1956	Top - JNR Vice President - Engineering Supervisor - JNR	Traffic demand in future. Quality of transport in future. Type of means of transportation to adopt to increase transport capacity. Type of motive power, rolling stock etc.	Traffic demand forecast. The project must be of national top priority.
JNR TLIC	1957-1958	Members: permanent vice minister of the ministries concerned, professors, editors; heads of commerce and industry chambers along the railway line, JNR President and Vice President (34 members). Supervisor: Ministry of Transport.	1. Necessity of a new line (demand, plans of different means of transport - aviation, cars, etc). 2. Form of the new line (gauge, rolling stock, speed, comfort, etc). 3. Construction period and funds needed (for construction, purchase of land, etc).	The new line (Shinkansen) must be constructed to standard gauge; necessary expenditures are 194 800 mln yen.
CMT	1958	Supervisor: Economic Planning Agency.		Decision to construct Shinkansen
RTRI*	1958	Supervisor: Ministry of Transport.	Researchers in technical aspects of the road (rolling stock, system of dispatching, carriages, etc).	New kind of trains (Hikari, Kodama).
	1959 Aug.			Purchase of land. Construction started.
RTRI	1962 June 1963 March			Model Track completed, test run started. Record of 256 km/h speed established.
	1964 June			Whole line completed, operation of trains started.
	1967 Oct.			Commercial operation started (4 hours by Hikari and 5 hours by Kodama from Tokyo to Osaka).
	1965 Nov.			Reduction of Time: Hikari - 3,1 hours Kodama - 4 hours
	1972 March			Shinkansen extended from Osaka to Okayama
	1975 March			Shinkansen extended from Okayama to Hakata (the whole line - 1000 km).
	1976 May			Total number of passengers carried by Shinkansen reached 1000 mln; record of 1030 thousand passengers a day was set.

* RTRI = Railway Technical Research Institute

The goals of the BAM project were, to some extent, similar to those of the Shinkansen; it had to meet ever-growing demands for transport in Siberia and the far eastern region of the Soviet Union, where though the economy is rapidly growing now because of big deposits of minerals and fossils and large reserves of hydro-power (see fig. 4), the density of railway lines is not large enough, which causes many problems (see Table 3). The program was also meant to develop new territories and explore the possibility of extracting mineral deposits in those areas (many of which were totally unknown to man). It was intended to develop the infrasturcture, to build new towns, plants, mines, etc. Consequently the BAM project affected all the aspects of life in those regions very much.

The idea of the construction of the Trans-Siberia Railroad was proposed in the 20's when the Great North Road project was underway. The construction of railways in the Soviet Union (and especially in Siberia) was considered to be the essential part of GOELRO and was the first large-scale program in the Soviet Union. The history of the BAM project is shown in Table 4. From the very beginning it was stated that the BAM project was to be considered, not solely as the consturction of a railway, but also as an essential part of the economic development of Siberia and the eastern region.

Table 3.**

Zone	Density of railways (1 km of railway per 10^4 sq. km)
West Siberia	25.0
East Siberia	17.0
Far eastern region	8.5
RSFSR	45.9
USSR	54.0

*For further details of the future development of Siberia see
1) B. Orlov,"Siberia Today: Problems and Decisions." Moscow, Misl, 1976.
2) "The Economical Problems of the Devolopment of Siberia." Moscow, Nauka, 1974.

**Source: "EKO" N2, (Ekonomika i organizatsija promishlennogo proizvodstva) Novosibirsk, 1976.

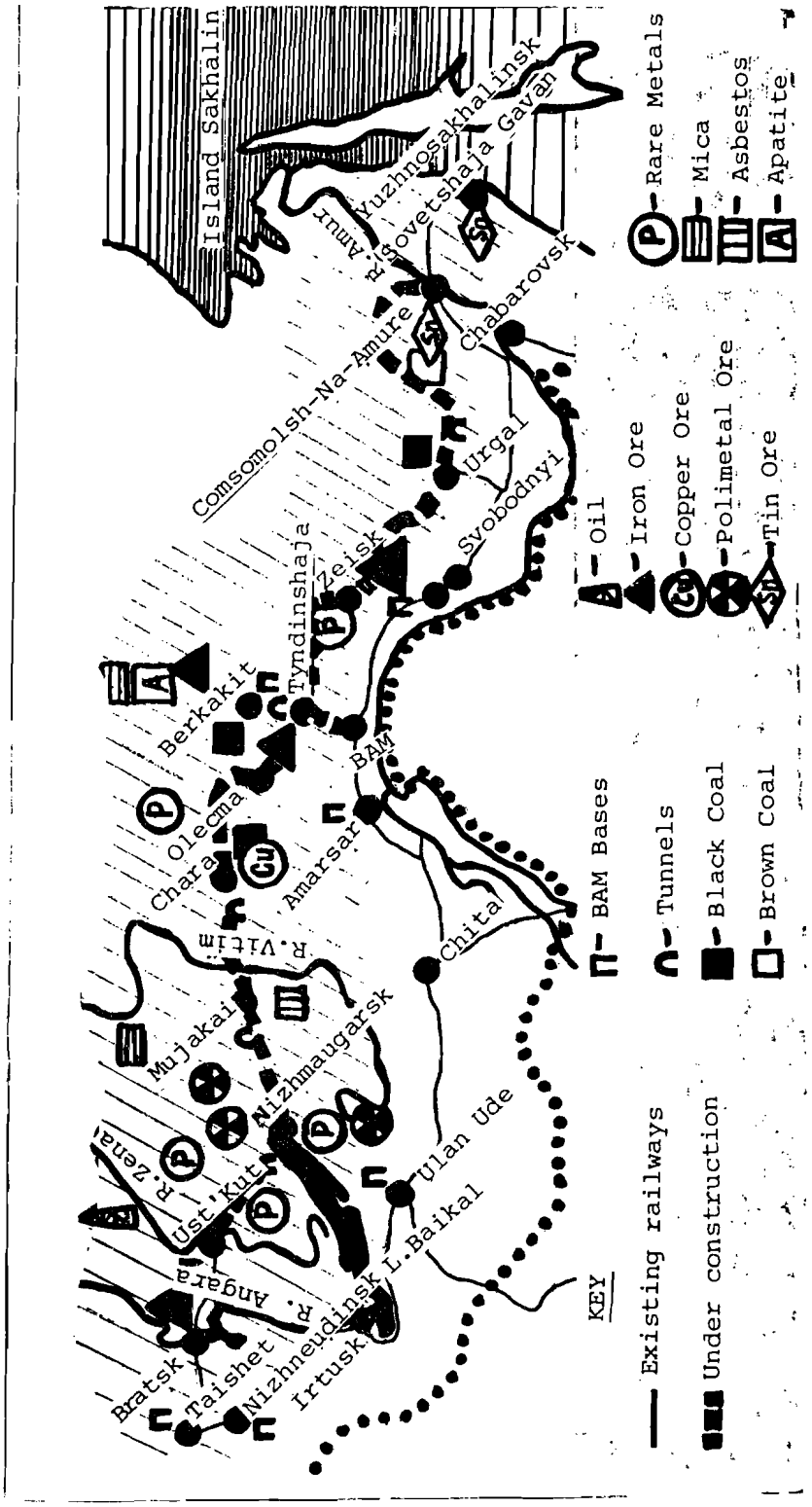

Figure 4 REGION OF BAIKAL-AMUR RAILWAY

Table 4

YEAR	STAGE
the 20's	The project of great Northern Road, proposed by V.M. Voblij, A.K. Borisov.
the 30's	Preliminary calculations on BAM Project.
1943-1945	Construction of line from Comsomolsk-na-Amure to Sovietskaja Gavanj (length 442 km).
1945	Decision to renew BAM construction was made, because 55% of the line had ready technical projects, and 45% of the line had technical Task. Length of the proposed line - 434 km.
1945-1947	Construction of Taishet-Bratsk railroad (length 250 km).
1948-1953	Project works on the future trace BAM.
1957-1966	Construction of the following parts of BAM: Abakan-Novokuznetsk, Bratsk-Ust'Kut; Yuzhnyi-Abakan-Taishet (length 650 km).
1967-1974	New stage of project work on BAM trace.
1974	The decision to start the main BAM line was made. The beginning of the construction. Meeting of East Siberian branch of Academy of Sciences of the Soviet Union (ASSU) together with Committee on BAM of Siberian Branch of ASSU.
	The first signal lights were erected on the part of BAM-Tynda. The first nine buildings for the workers were finished in Magistralnyi town.
	Siberian Branch of ASSU completed the draft report on economic problems of BAM Region.
	The new building trust is organized in Tynda - Tynda-transstroi, which will be the main contractor on BAM trace on Tynda-Chara-Vitim.
1975	75 workers were awarded for successes in BAM construction.
	The new bridge on Lena river is constructed (length 432 m).
	The I All-Union conference on BAM problems.

The construction of the BAM railway was postponed due to the Second World War and the reconstruction of the economy. When work did begin it was constructed step by step and in 1974 the decision to construct the main part of the road was made. The proposal was that the railway should go from Ust'Kut through Nizhneagarsk, Vitim, Chara and Tynda to Comsomolsk-na-Amure; that there should be two additional branches of the railway, one from Tynda to the Baikal-Amur station and the second should continue from here to Berkakit. The combined length of the branches would total 397 km.

As mentioned earlier, the BAM program's goals are much broader than those of the Shinkansen program. Therefore, the BAM project may be divided into several sub-programs. (see fig.5) The main stages of the BAM construction are as follows: From 1974 to 1982 the railway itself is to constructed and preparations for the new TPC (Territorial Production Complex)* are to be made. During the years 1982 to 1985 all the TPC and their infrastructure will be created. The full economic development of the region will take place in the years 1985 to 1990.

The decision ("Postanovlenie") to start the construction of the project was made by the Council of Ministers of the Soviet Union in 1974, it received the status of a law, and described the concrete tasks of the program. It defined that the Ministry of Transport Construction would be responsible for coordination of construction and the Ministry of Railways would be the main contractor. "Postanovlenie" also determined the ministries would work together on program realization. The necessary resources (finance, construction materials, etc.) were also determined. Because the construction began during the ninth five-year plan, it was declared that GOSPLAN (State Planning Committee) was to make the necessary amendments to the tenth five-year plan. After this major decision, further decisions were made by the coordinator, users and all the bodies concerned regarding the concrete stages of the construction of BAM.

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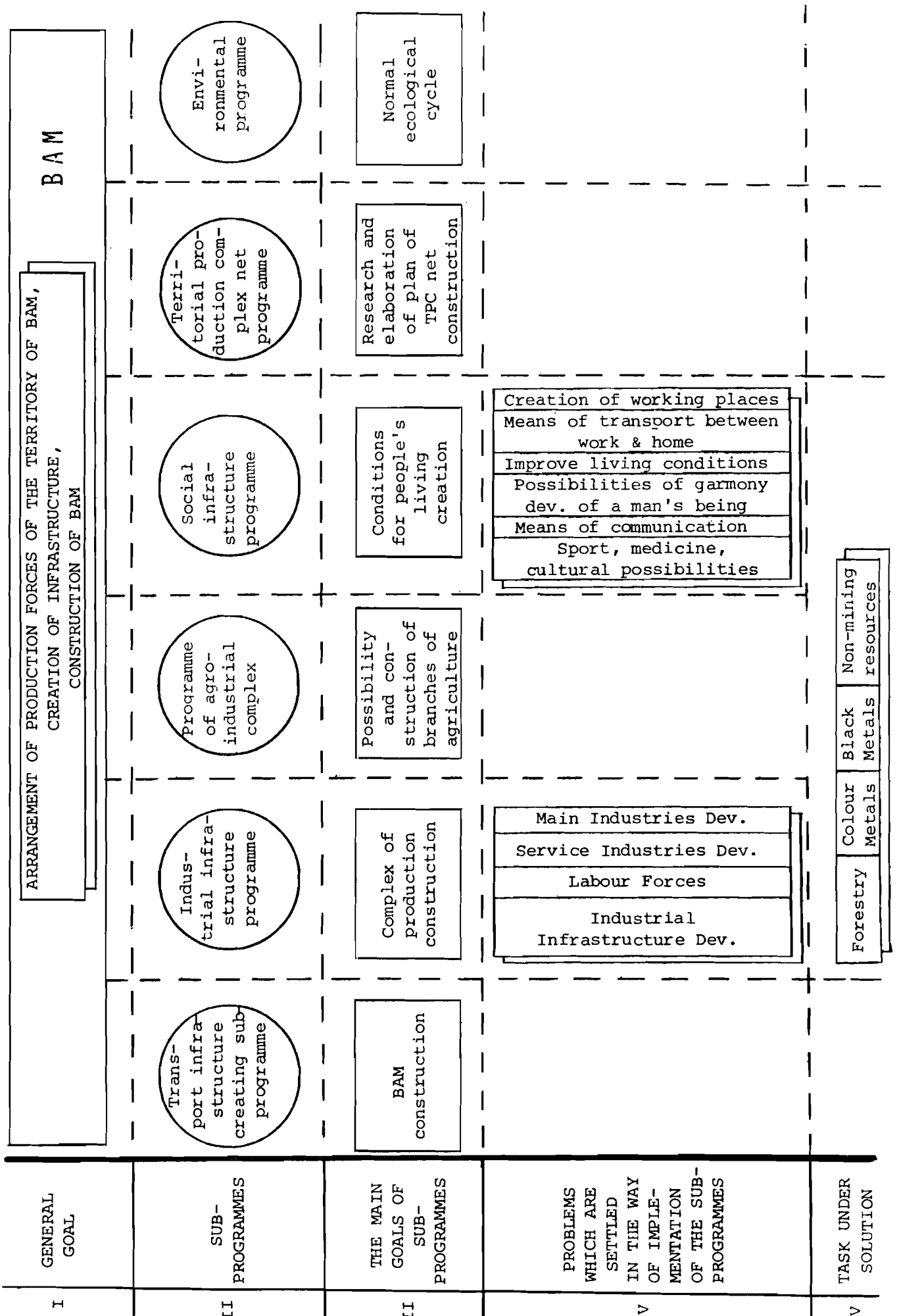
*The second IIASA Conference on case studies of large-scale planning projects in 1976 was devoted to one of the Soviet Union TPCs: Bratsk-Ilimsk TPC (see "Bratsk-Ilimsk TPC" CP-77-3, 1977 IIASA, Laxenburg, Austria).

Figure 5


I
GENERAL GOAL
BAM
ARRANGEMENT OF PRODUCTION FORCES OF THE TERRITORY OF BAM, CREATION OF INFRASTRUCTURE, CONSTRUCTION OF BAM
II
SUB-PROGRAMMES
Trans-port infra structure creating sub programme
Indus-trial infra-structure programme
Proqramme of agro-industrial complex
Social infra-structure programme
Terri-torial pro-duction com-plex net programme
Envi-ronmental programme
III
THE MAIN GOALS OF SUB-PROGRAMMES
BAM construction
Complex of production construction
Possibility and con-struction of branches of agriculture
Conditions for people's living creation
Research and elaboration of plan of TPC net construction
Normal ecological cycle
IV
PROBLEMS WHICH ARE SETTLED IN THE WAY OF IMPLE-MENTATION OF THE SUB-PROGRAMMES
Main Industries Dev.
Service Industries Dev.
Labour Forces
Industrial Infrastructure Dev.
Creation of working places
Means of transport between work & home
Improve living conditions
Possibilities of garmony dev. of a man's being
Means of communication
Sport, medicine, cultural possibilities
V
TASK UNDER SOLUTION
Forestry
Colour Metals
Black Metals
Non-mining resources

During the realization of the program the following links were created between different bodies involved (see fig. 6).

On a governmental level, the Council of Ministers controls and coordinates the work of Gosplan, Gosstroi (State Construction Committee), Gosbank (State Bank) and ministries of more than eight in number.

On an inter-ministerial level GlavBAMstroi ("glavk" of the Ministry of Transport Construction) is the working coordinator. It was created especially for the coordination and management of the work on the BAM construction. Its main task is the creation and running of inter-ministerial coordination.

The central working body of GlavBAMstroi is situated in Tynda. It coordinates the efforts of all the bodies (including the local authorities) on a regional level. It has a number of functional committees ("upravlenie") which deal with personnel, provisions, medical services, etc. It has two executive bodies: one for the eastern part of BAM and the other for the western part. The executive bodies coordinate the work of all building in their regions. The scientific research on the BAM project was made by the institutes of the Siberian Branch of the ASSU. Now all areas of the work have their own scientific institutions.

All the activity of the scientific institutes is organized by the Committee of ASSU, headed by Academician A.G. Aganbegyan; it examines proposals and recommendations on the economic development of the BAM region and sends them to all bodies concerned.

4. TECHNICAL BACKGROUND OF THE PROGRAMS

As previously mentioned, we are not going to consider the technical side of the programs in detail. But, of course, as both the programs deal with the construction of railways, the peculiarities of the technical side influences (at least to some extent) the programs and organization of their implementation. (Data concerning this side of the programs is shown in Tables 5 and 6).

We should also point out here that the climate and the territories themselves greatly influence the technical side of the programs.

While the climate on the Pacific Coast of Japan, along which the Shinkansen runs, is mild enough, the climate in the BAM region is continental and has a wide temperature range: in winter it can be as low as -50° and in summer $+25^{\circ}$, that causes many engineering problems.

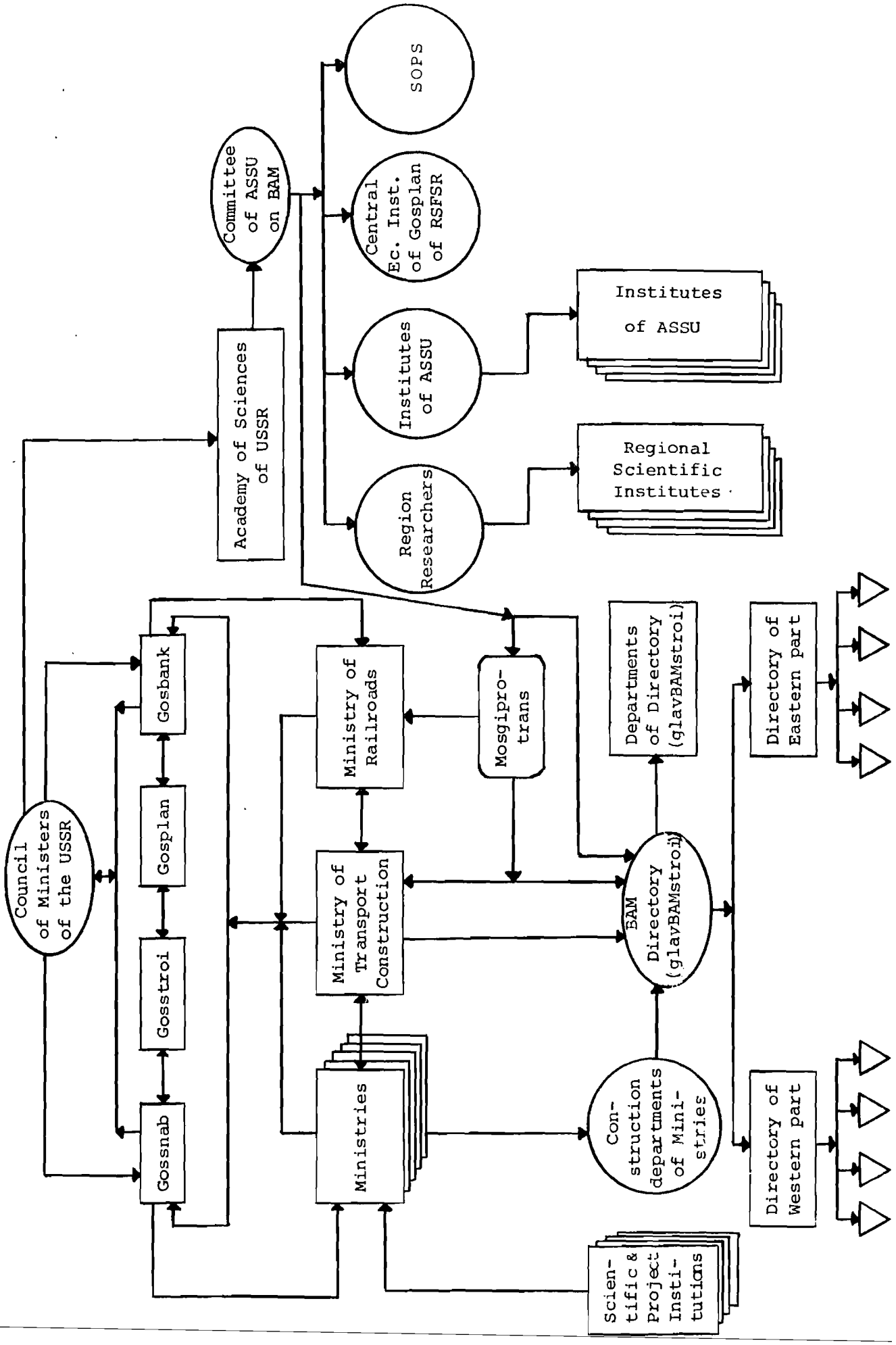

Council of Ministers of the USSR
Gosbank
Gosplan
Gosstroi
Gossnab
Academy of Sciences of USSR
Committee of ASSU on BAM
SOPS
Central Ec. Inst. of Gosplan of RSFSR
Institutes of ASSU
Institutes of ASSU
Region Researchers
Regional Scientific Institutes
Ministry of Railroads
Mosgiprotrans
Ministry of Transport Construction
Ministries
Departments of Directory (glavBAMstroi)
BAM Directory (glavBAMstroi)
Construction departments of Ministries
Directory of Eastern part
Directory of Western part
Scientific & Project Institutions

Figure 6

	YEAR	LENGTH km	COST mln yen	STATIONS	TUNNEL km	BRIDGE km	SPEED km/h
SHINKANSEN (Tokyo-Shin Osaka)	1959-1964	516	380 000	28	69	57	210
SANYO SHINKANSEN (Shin Osaka-Hakata)	1967-1975	562	942 000		280	48	250

Table 5

	YEARS	LENGTH (km)	VOLUME OF EARTHWORK m^3 in mills.	BUILDINGS (m^2) in mills.	BIG BRIDGES (pieces)	TUNNELS (km)	STATIONS
Modern variant of BAM	1974-1983	3145	300	12,2	142	24	200
BAM project of 30.s	9 years	4341	284,8	5,2	133	10,9	

Table 6 COMPARATIVE CHARACTERISTIC OF TWO VARIANTS OF BAM CONSTRUCTION

In summer there is a lot of rain but still half of the track runs on permafrost and half runs through marshes.
Both railways have to go through mountains (with the help of tunnels) and a great many bridges must be constructed.

5. THE INFLUENCE, PERSPECTIVES AND APPLICATION OF THE EXPERIENCE OF BOTH PROGRAMS

There are several aspects in which we can compare both programs:

(a) population
(b) change of influence of different cities, appearance of new towns and cities.
(c) environment
(d) economy

It was pointed out at the IIASA Shinkansen Conference that the construction of the Shinkansen railway resulted in heavy migration, both towards Shinkansen and away from it. The construction caused quick industrialization of the whole area between Tokyo and Osaka. New plants, factories, offices and houses appeared. The territory between the two cities has become one huge megapolis. At first the new road caused a big inflow of people but this caused problems (population grew too rapidly, the noise from the road itself was unbearable and waste and pollution disfigured the area). This resulted in a movement away from Shinkansen. At present the new line from Tokyo to the north, Morioka etc. still cannot be completed because of strong opposition on the part of non-governmental parties who constitute a majority in the Tokyo municipality.

Another aspect is labour relations. In the Shinkansen Conference proceedings it was pointed out many times that the Shinkansen had proved to be a very effective railway. But we, (together with a number of authors dealing with the problem) should point out that relationships between employers and employees in the JNR are sometimes very tense.*

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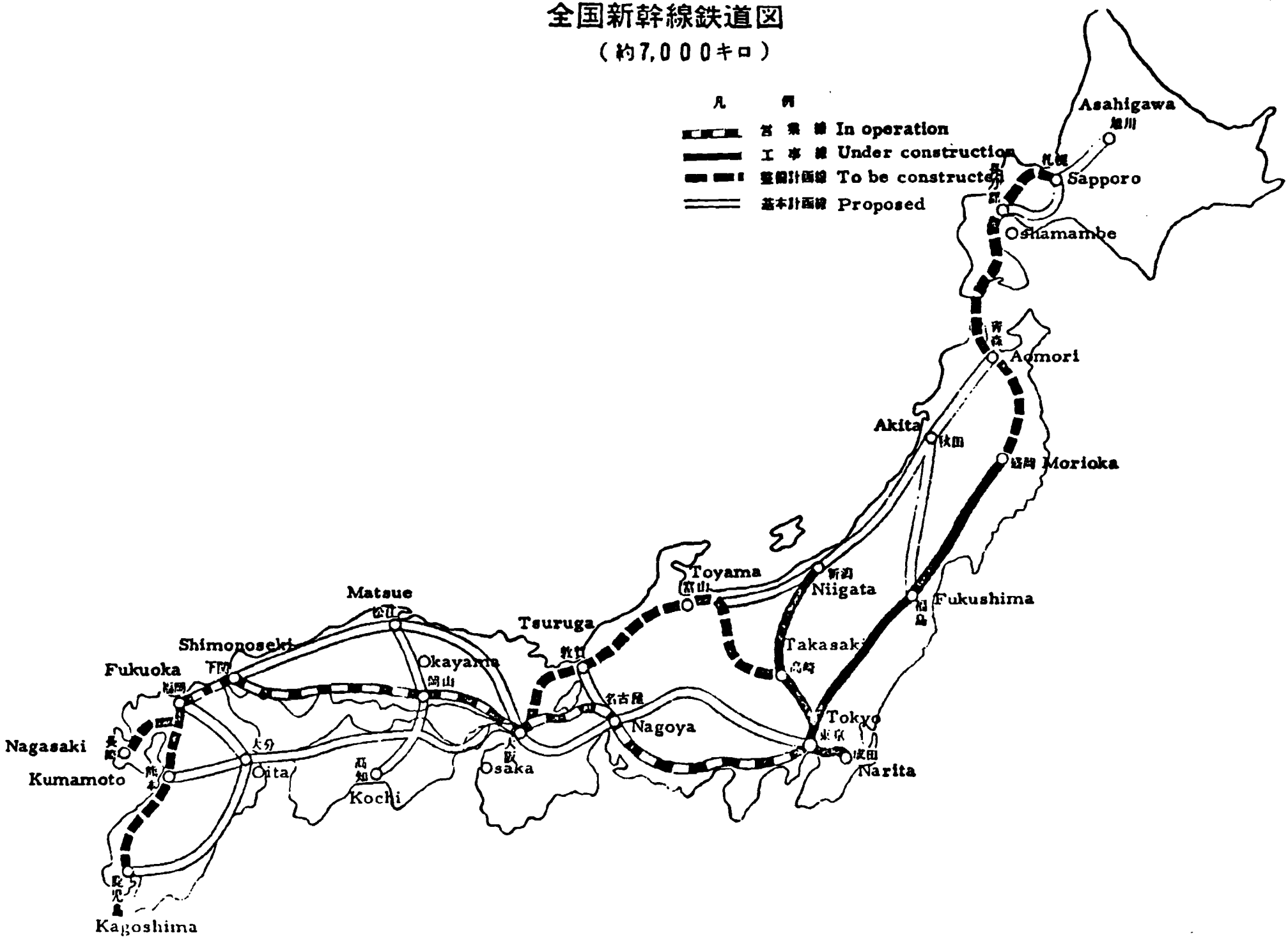
*See P. Drucker, p. 287.

全国新幹線鉄道図

（約7,000キロ）



According to the Central Economic Institute of Gosplan RSFSR, there is a shortage of working population in Siberia at present. In order to complete the BAM economic development subprogram by 1980, 160,000 skilled workers (including 15000 with higher education) will be needed. It is envisaged that 250 million rubles will be needed to train workers and specialists.*

The participants of the Shinkansen Conference pointed out that one of the results of the Shinkansen construction was a considerable shift in the influence of cities along the old Tokaido line. The large city, Nagoya, which is situated between Tokyo and Osaka, lost a lot of economic influence because it is not possible to commute to Tokyo (3 hours from Osaka) and businessmen prefer to have offices and plants in Tokyo. During the construction of the BAM railway, new economic centres will appear which will also result in a change in the influence of towns in the area.

The construction of the Shinkansen resulted in a huge amount of pollution along the road, it also created a considerable noise problem. While constructing the BAM railway we must consider the fact that it will run through virgin lands and forests ("Taiga"), such areas are easily disfigured and destroyed, for this reason much work was done both before and during the construction in order to assess the impact of the BAM project on the environment. The BAM project has played a significant role in the development of Siberia and the far eastern region of the Soviet Union. New territorial production complexes have sprung up and it is now proposed that there should be about 9 complexes in the BAM region (see Table 7). Siberia is rich in forests, ore, oil and energy, etc. and, in order to develop the region, more plants must be constructed which would, of course, be impossible without the railway. The existing Trans-Siberia railway reached its point of saturation several years ago and it is situated too far from the regions which are rich in oil, ore. etc. Freight can now be imported and exported to and from countries of east Asia.

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*See "EKO" N2, 1976, pp.34, 64.

Table 7 TERRITORIAL PRODUCTION COMPLEXES IN BAM REGION (draft)

	NAME OF TPC	PLACE	SPECIALIZATION	ADDITIONAL SIGNIFICANCE	POSSIBLE PERSPECTIVE DEVELOPMENT
1	Verchnelenskij	Near Ust'Kut	Forestry	-	Gidropower Complex
2	Mamsko Bodaibinskij	Irkutsk Region North-East	Mining Industry	Transport Infrastructure	-
3	Muiskij	Burjatskaja Region, North	Construction Materials, Forestry	Gidropower Complex, Agro-industrial Complex	-
4	Udokanskij	Near Chita	Mining Extraction	Transport Infrastructure	-
5	North Baikal	Burjatskaja Region, North	Mining Extraction	Transport Infrastructure	-
6	South Jakutskij	Jakutija, South	Mining Extraction	-	Metallurgy
7	Tynda	Near Tynda	Construction Industry, Forestry	Transport and Service Industries	Oil Industry
8	Zeja	Near Zeja River	Energy Infrastructure, Construction Materials, Industry	Transport Infrastructure	Oil Industry
9	Comsomolskij	Eastern Part of BAM	Mining Extraction Forestry	Agroproduction Complex	Oil Industry, Fertilizer Industry, Mineral Search

(especially Japan). In return Japan gave the Soviet Union financial help enabling them to mine coal in southern Jakutia and to develop oil and forestry in Siberia.

The construction of the BAM railway will make it possible for Japan to deliver its goods to Europe via Siberia, which will shorten the distance considerably, (for example, by using the BAM road for delivering goods to Kamtchatka, the distance is shortened by 1,000 km). This type of example explains why the future development of the Shinkansen railway is so vital.

The construction of the Shinkansen railway greatly influenced recreational possibilities in Japan. It became possible for people to spend the weekend in any part of Japan, camping became more popular and more hotels were built. Naturally, one can expect that the BAM construction may well have the same effects.

When comparing both programs one notices some common features, for this reason exchange of opinions and ideas may well be beneficial to both.