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SOVIET SIXTH FIVE YEAR PLAN FOR TRANSPORTATION

The planned growth rate for transportation under the Soviet Sixth Five Year Plan appears to be commensurate with the planned rate of growth for the national economy. In 1960 the output of transportation services as measured in cumulated ton-kilometers (freight ton-kilometers plus passenger-kilometers) is planned to reach 2,078 billion which is 55.7 percent above the 1955 level. During the same period total industrial production is planned to increase by 65 percent and GNP by 41.3 percent. Railroads, just as in the past, will continue to carry the major share of the USSR's traffic, although there are definite plans to increase the role of all the other carriers, relative to rail.

It appears that planning for the increase in transportation is consistent with the planned increases in industrial production and GNP in view of the relationship between increases in transportation output and the increases achieved during the Fifth Five Year Plan.

The Railroad Plan

The nucleus of the Sixth Five Year Plan for transportation is the plan for the railroads. Currently hauling more than 970 billion ton-kilometers of freight ton-kilometers per annum, the rail system is planned to carry 42 percent more in 1960 than in 1955. An expansion in traffic of this magnitude is dependent upon large capital outlays which have been provided for by planning officials. In order to better cope with the planned increase in traffic, the plan provides for approximately 6,900 kilometers of new lines to the network; the double-tracking of about 6,600 kilometers of existing lines; the replacement of 63,000 kilometers of light duty rail with a new heavy-type, capable of supporting a greater traffic density; and the electrification of 8,100 kilometers, of which is 3.5 times the amount electrified in the Fifth Five Year Plan. Foremost among railroad targets is the plan for the widespread use of

diesel-electric and electric motive power, so that by 1960 such power will account for 40 to 45 percent of the total freight traffic performance, compared to 14 percent in 1955. In fact, the production of steam locomotives will be discontinued by 1957, at which time the building of diesel-electric switch engines will also start in serial production. Furthermore, larger capacity cars, more automatic-block signaling, some centralized traffic control, and an increase in the general use of automatic devices for switching, loading, and unloading of cars should greatly increase the traffic capacity and efficiency of the Soviet railroads.

The plan emphasizes the necessity of decreasing the 1955 average turnaround time of 6.2 days by 15 percent, a plan which will prove exceedingly difficult to accomplish because of the increasing trend toward a greater average length of freight haul, although the plan calls for a reduction in the distance freight is carried. Plans to increase the average train speed and the average daily run of locomotives and cars may be instrumental in abating the time factor; however, plans to expand agriculture and industrial activity into remote marginal areas will probably nullify any gains accomplished by increasing speed through the inflation of the distance factor.

The railroad program for the Sixth Five Year Plan period also includes provisions for increasing the average gross weight of freight trains by 25 percent over 1955, a reduction of 17 percent in cost of railroad operation, and an increase of 34 percent in labor productivity, all of which will be assisted through the delivery to the railroads of not less than 255,000 high capacity 4-axle freight cars and 18,600 modern passenger cars. Moreover, by

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1957 all cars are to be equipped with automatic couplings and by 1959 automatic brakes will be installed on all rolling stock.

The ever-growing demand for increased traffic capacity between the more industrialized regions of the USSR is responsible for the planned program for expansion of the rail net in Central Asia, Northern Kazakstan, the Urals and adjacent areas. Of major importance is the line planned from the industrial city of Magnitogorsk westward to Stanlitsmak and thence to Abdulino, a point on the Moscow - Kuybyshev - Ufa line. This line will provide a direct outlet from the South Siberian trunkline to the European part of the country, by-passing the Chelyabinsk-Ufa line on which traffic is very heavy. In addition, the Stalinsk-Shakan line, which has been under construction for several years, is planned to be completed. This line, along with the Magnitogorsk-Abdulino section, will combine with the already existing lines of the area to form a parallel route south of the Trans-Siberian, running from Abdulino to Abakan. In addition, Aktogay, a point northeast of Alma Ata on the Turkestan-Siberian railroad, is to become the gateway to Sinkiang Province, China, when a line now being built by the Chinese connects with the planned Soviet-gauge line, which is to run from Aktogay to to the Soviet Border and probably as far as Urumchi, a town some 525 kilometers southeast of the Dzungarian Gate. Although the above rail lines are among the most important to be built during the Sixth Five Year Plan, they are by no means the only strategic plans the USSR has for expanding the rail net. Map I portrays clearly the large construction program outlined for the present plan period.

Highway Objectives

One of the most interesting aspects of the Sixth Five Year Plan is the provisions for highway transportation. The highway plan itself was most conservative, especially in view of a statement by Kaganovich, at the Twentieth CPSU Congress, was even more disconcerting when he said, "It is necessary to say that we have few improved highways; the question of the development of a network of highways is awaiting solution. In the construction, repair and maintenance of highways great importance must be laid on local initiative". Thus, Kaganovich admits that the USSR currently possesses a weak under-developed highway network. More important, however, he admits that little is being done at the national level to correct this situation.

The latter portion of the plan devoted to highway transportation provides for a doubling in the volume of highway traffic, which will bring performance to about 85 billion ton-kilometers in 1960. During the same period, taxi service is to triple and bus passenger-kilometers are to increase by 3.5 times the 1955 level. Other portions of the program provide that by 1960, vehicle production will be at an annual rate of 650,000 units or 146 percent of the 1955 rate. Much consideration will also be given to the production and use of large-tonnage trailers and more efficient vehicle engines, both of which will be instrumental in increasing labor productivity to the planned level of 36 percent over 1955. Of equal importance, is the plan to place a larger share of the highway haulage under the administration of the "general use" or central motor pools, thus eliminating much of the transport activity now being

conducted by the agricultural, cooperative, and industrial ministries. All of these innovations, aimed at increasing vehicle and highway utilization, will be major factors in increasing the role of highway transport in the Soviet economy.

The Inland Waterway Program

Future Soviet plans for inland waterway transport are apparently directed largely toward fleet expansion and port improvements, since the Sixth Five Year Plan provides for no increase in route mileage. The main exceptions to this general appraisal are the planned improvements to canal and river systems. The plan specifically provides for improvements of navigation facilities along the Belaya, Severnaya Dvina, and Vychegda Rivers and for reconstruction of navigation aids on the Volga, Kama, Dnepr, and the larger rivers of Siberia.

According to the plan the towing and self-propelled freight vessel fleet is to receive during the next five years additions representing approximately 720,000 horsepower. The non-self-propelled fleet is planned to receive a total freight capacity of 2,245,000 tons, while the passenger fleet is to receive inputs equal to 180,000 horsepower. Although part of these additions will go to replace old vessels of the existing fleet, it is readily apparent that such increases will have a significant influence upon increasing the total capacity of the river fleet, for in 1955 the self-propelled fleet was estimated to have consisted of vessels totalling only 1,300,000 horsepower, and the non-self-propelled fleet capacity was estimated at 9,656,000 tons cargo capacity.

Port maintenance and expansion will receive much attention during the Sixth Five Year Plan period. The program provides for the construction of

15,000 meters of modern mechanized piers along the river ports. Furthermore, those enterprises situated on the inland waterways will be allocated funds for the building of their own piers or wharves. In all cases, the emphasis in port construction is on mechanization, which should greatly increase the capability of the merchant fleet since cargo delays and concomitant increases in turnaround time of vessels and tonnage have been perennial problems for river transport officials.

The plan for inland water provides for an increase in freight traffic in 1960 by about 80 percent over 1955. Instrumental in increasing the share and performance of inland water is the plan for greater coordination of the transport activities of the water carriers with those of rail and highway. Since the inland water carriers have consistently fallen short of planned goals in recent years, even coordination with other carriers may not prove to be the key to success, because shippers have generally refused to ship by the slow waterways which are closed to navigation in some areas for as long as 9 months per year.

The Proposed Fleet for Merchant Shipping

Performance by the maritime fleet in 1960 is planned to increase 2.1 times over 1955. An increase of this magnitude in maritime traffic is being made possible by what appears to be an unusual high outlay of capital resources. During the plan period the fleet is to receive 1,140,000 tons of dry-cargo capacity and 460,000 tons increase in the tanker tonnage, thus increasing present fleet tonnage by approximately 35 percent. Since much of the fleet is

characterized by over-age, inefficient, slow-speed vessels that makes a retirement program highly desirable, the net gain in tonnage will no doubt be somewhat less than 35 percent.

During the period of the plan, the Soviets also plan to reconstruct and develop seaports in all areas of operation. The port of Nakhodka is specifically mentioned as one of top priority, indicating that it is of economic and strategic importance in Far East operations as an auxiliary port for nearby Vladivostok. Other ports scheduled for improvements are Petropavlovsk (53° 50°N, 158° 54°E), Odessa, Zhdanov, Nikolayevsk, Leningrad, Murmansk, and Vladivostok. It appears that the emphasis in improvements will be placed upon new piers, quays, or warehouses, all of which will be highly mechanized.

If the maritime construction and procurement program as outlined by Soviet authorities is fulfilled, it will give the Soviet merchant marine greatly increased potential for carrying East-West trade and intra-Bloc commerce as well as increasing the volume of traffic with the Soviet Far East. Kaganovich told the Twentieth CPSU Congress that, "Great possibilities for reducing excessively distant shipment of freight by rail to the Far East will be effected by greater use of the Arctic waterway and by increased transport of freight by long-distance coastal traffic from Black Sea ports". Bulganin, speaking at the same Congress, expanded Kaganovich's statement and told his audience that the "development of trade with the Chinese Peoples Republic, the Republic of India, the Union of Burma, and other countries will result in a larger volume of export and import goods being carried in Soviet ships. There will be a

big increase in freight carriage between our Black Sea, Far Eastern and other basins, and via the Northern Sea Route".

The Contemplated Goal for Civil Air Transport

Reference to the Sixth Five Year Plan for transportation reveals very little information concerning air transportation as compared to the other carriers. The air plan for 1960 is very brief but it does provide for a doubling in freight traffic and an increase in the number of passengers carried by 3.8 times the 1955 volume. An important aspect of the program is the plan to modernize and expand the operations of the Soviet civil air carrier, Aeroflot. During the plan period, the main airports will be reconstructed, and fast, multi-seat passenger planes, including turbo-jet or jet planes of Soviet manufacture will be placed in service.

Although the announced plan does not specifically provide for an increase in the network, the Civil Air Fleet can be expected to increase both in unduplicated route kilometers and in total route kilometers flown through 1960. In 1955, as a result of air agreements with Western countries, the rate of increase in traffic on USSR international airlines was said to be four times the rate of growth of the domestic carriers. This international expansion, due to the change in Soviet civil aviation policy, will undoubtedly continue in the period to 1960.

The greatest increase in domestic air traffic in the Fifth Five Year Plan was to distant regions of the north, Siberia, and the Far East. Khabarovsk Airport on the important Moscow - Irkutsk - Khabarovsk route was second in

the number of civil air transport landing
importance only to Vnukovo Airport at Moscow and Magadan, in 1955, rose to
fifth place in the ~~airports of the Civil Air Fleet~~ number of landing. These areas are certain
to increase in importance during the Sixth Five Year Plan, as Aeroflot
augments its route by additions from the regional Administrations and from
Polar Aviation.

The Planned Development for Pipelines

During the course of the Fifth Five Year Plan the Soviets completed an estimated 7,500 km of trunk oil pipelines, bringing the total length to 15,180 km. The Directives of the Sixth Five Year Plan proposes the construction of 14,500 km of new oil pipelines, 11,250 km of which were identified and are included on Map II. Thus, if the new plan is fulfilled, the total length will be almost doubled by 1960. The thirteen new trunk lines named in the plan will further serve to connect the Ural and Volga regions with each other and with the New Lands area of Northern Kazakhstan and Central Asia. Moreover, lines will extend eastward to the area of Lake Baikal. In European USSR new lines will connect the Ural-Volga regions with the Kursk area and with Moscow, and also with several large industrialized centers to the north and south of Moscow.

Utilization of fuel gas is relatively new in the USSR, and as of 1955 the installed gas pipelines totalled only 5,260 km, of which 2,000 km had been constructed during the Fifth Five Year Plan. The present plan calls for a five-fold increase in the output of natural gas and for a two-fold increase in manufactured gas, and the concurrent construction of 9,000 km of new gas transmission lines (Map II). These proposed transmission gas lines will be

instrumental in exploiting the newly discovered natural gas reserves at Shebelinka, Stavropol', and Berezovo and the recently expanded Dashava gas reserves. Under the Plan, 132 cities will be supplied with gas, as will 250 large enterprises. In support of this effort, the construction of 8,000 km of city gas mains is also planned. In addition to the city mains, the Soviets may have to construct other subordinate pipelines to serve for the collection of both crude oil and gas in the production fields.

Although the Sixth Five Year Plan provides for a 91 percent increase in the production of crude oil and a similar increase in the total installed length of trunk oil pipelines, it still proposes to increase six-fold the yearly oil pipeline traffic, so that the share of oil pipelines in the ton-kilometers of total oil transport will increase substantially. Such a plan to increase utilization and length of the operable pipeline net will serve to relieve the excessive freight-loading presently imposed on the railroads and lower the cost of transportation, as the movement of petroleum through pipelines is only one-third the cost of rail transport.

Evaluation of the Plan for Transportation

To the extent that US experience affords an appropriate standard, the Soviet relative volume of transport to industrial production in the USSR cannot be considerably because of their rigid control over the allocation of resources deemed large. The Soviets have been able to run their economy with relatively less transport than has been required by the US at similar stages of economic development. At the same time, Soviet Planners have generally regarded the amount of transport services demanded by the economy as excessive, relative to the volume of industrial and agricultural output. Recently, however, the

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Party leaders have recognized the need for a well coordinated transportation system, consistent with the needs of the growing Soviet economy. Kaganovich, at the Twentieth CPSU Congress stated that, "The growth of the national economy of our country, the increased mighty development of heavy industry, the carrying out of important measures adopted by the Party and Government for the raising of agriculture, increase in the production of consumer goods, and the entire upsurge in socialist economy are indissolubly connected with and depend to a considerable extent on a new upsurge in transport".

In attempting an evaluation of the future prospects for Soviet transport, precision is difficult because forecasts must rely upon the unpredictable inter-relationship that exists among all economic forces in the USSR. It is clear, though, that the possibilities of the transport sector creating an economic bottleneck like that of the early 1930's seem remote. Transportation investment in the Sixth Five Year Plan appears to provide for adequate additional traffic capacity, consistent with the planned rate of industrial output. At the same time, the likelihood of a substantially decreased relative role for the transport sector also seems rather remote. Soviet objectives would be furthered if less transportation were necessary in the future, but analysis indicates that centralized economic planning has only succeeded in restraining the forces tending to increase transportation's claim on current resources. In part, this reflects a failure to realize projected reductions in the average length of freight and passenger haul, and, to some extent, a failure of the regional self-sufficiency program to produce immediate results.

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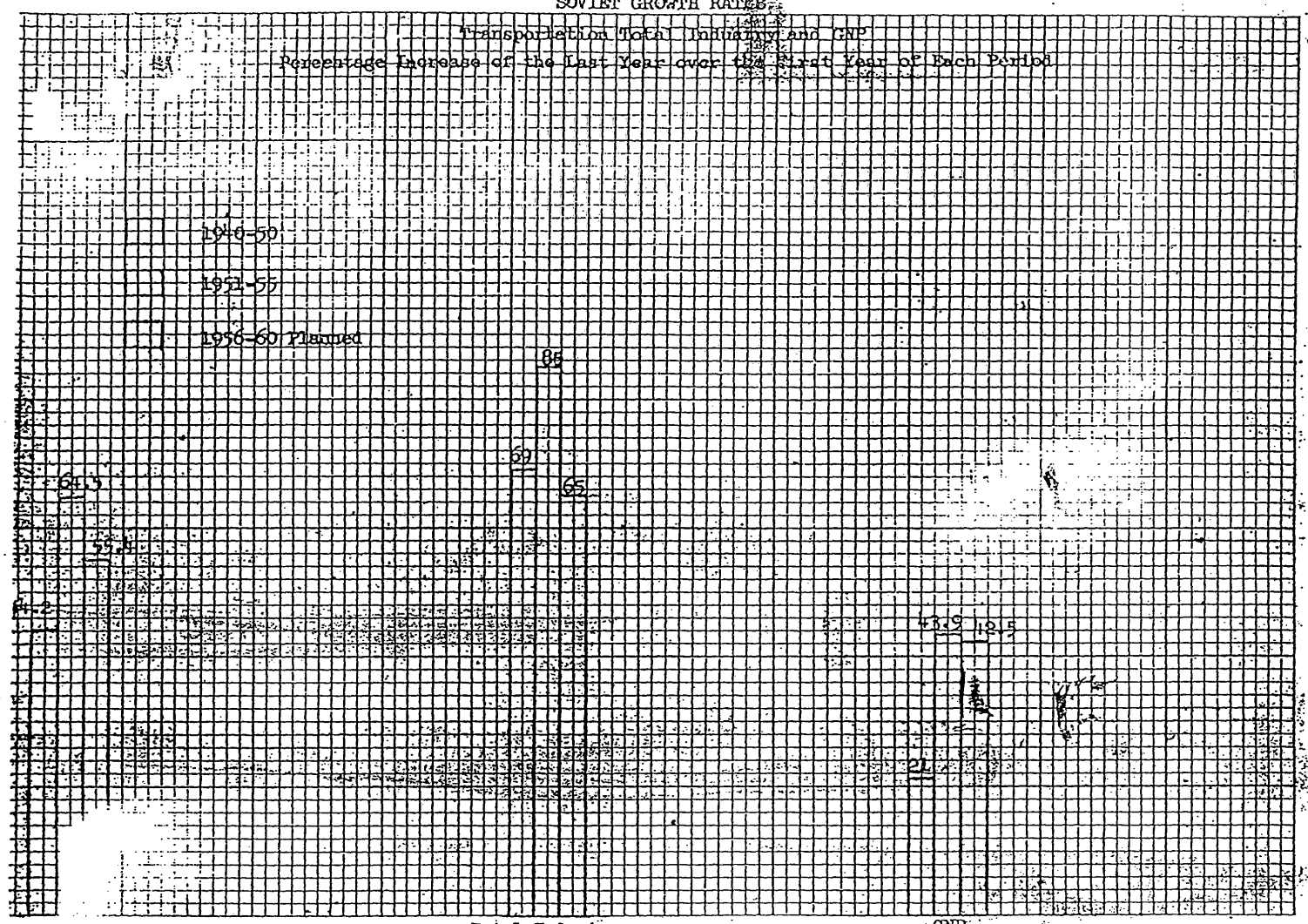
SOVIET GROWTH RATES

Transportation Total Industry and GNP

Percentage Increase of the Last Year over the First Year of Each Period



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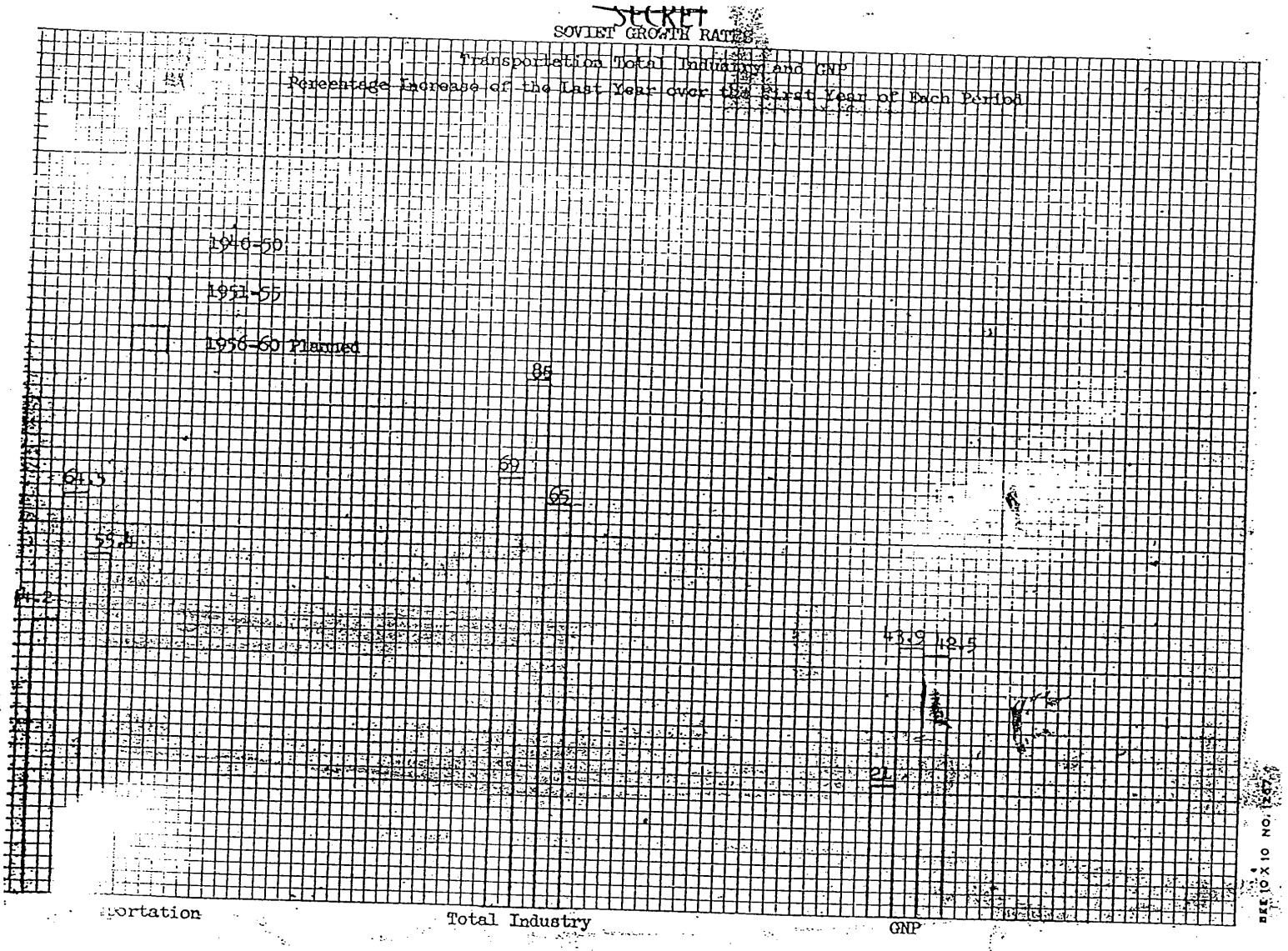
SOVIET GROWTH RATES
Transportation Total Industry and GNP
Percentage Increase of the Last Year over the First Year of Each Period
1946-50
1951-55
1956-60 Planned
85
64.5
55.4
44.2
60
65
43.9
42.5
21
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Total Industry
GNP

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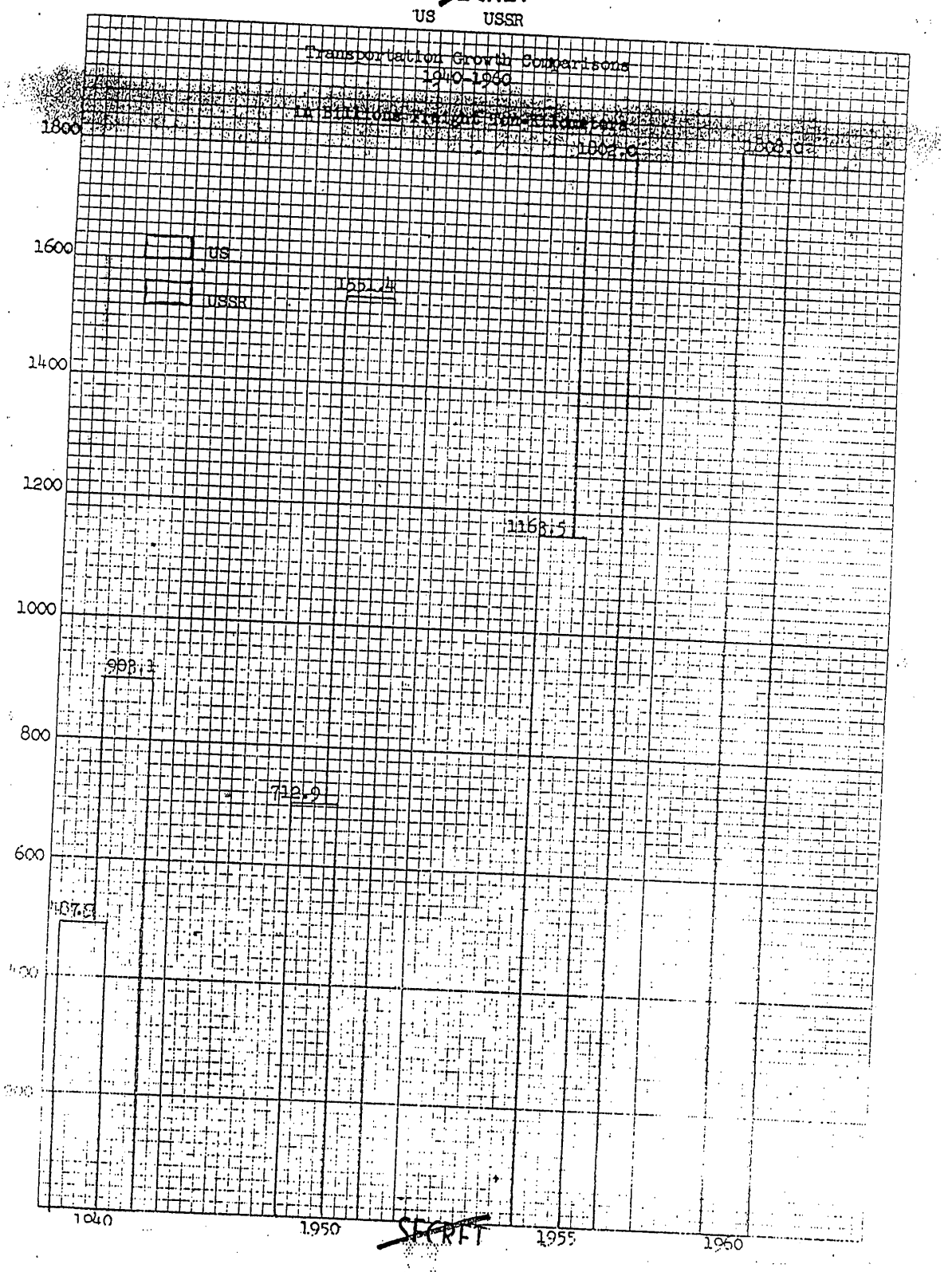

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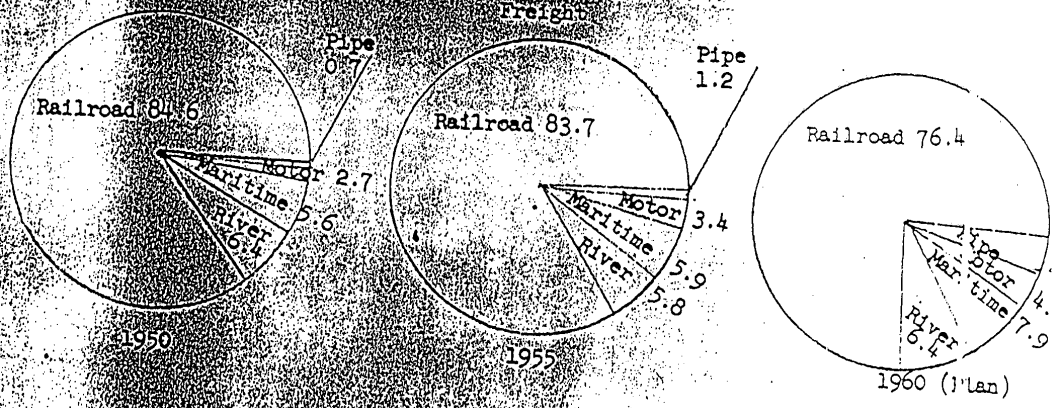
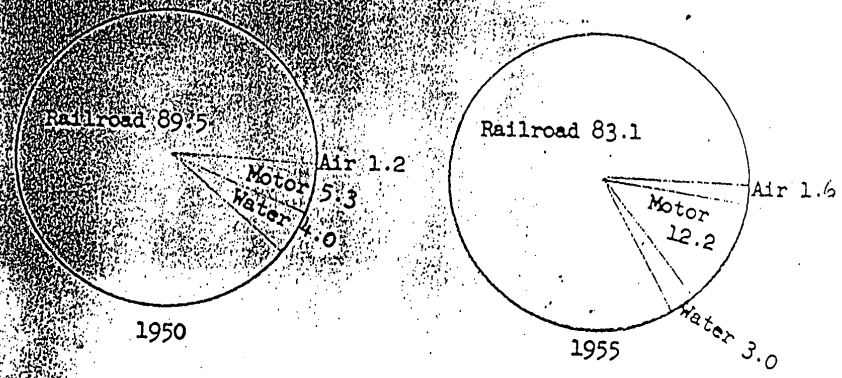
Estimated Percentage Distribution of Traffic in USSR

Ton-Kilometers of Freight

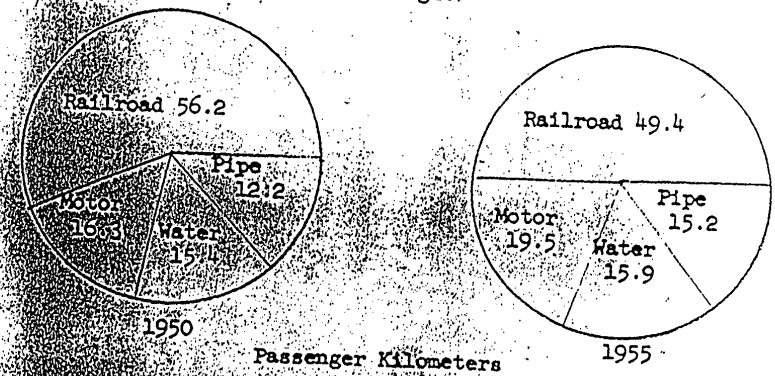


Passenger Kilometers

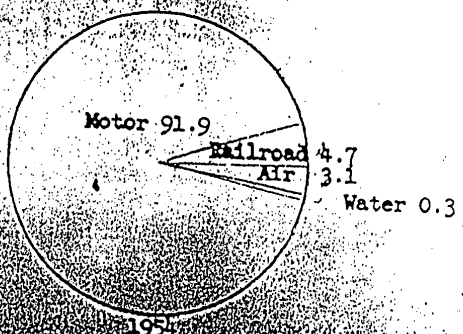


Estimated Percentage Distribution of Traffic in US

Ton-Kilometers of Freight



Passenger Kilometers



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Data for Map I

Railroad Construction Scheduled for Sixth Five Year Plan

Lines Scheduled for Completion in Sixth FYP

Yesil - Turgay
Miass - Uchaly
Uchaly - Magnitogorsk
Mikun - Mezen
Alma-Ata Rayon (Aktogay) - USSR Border
Kizel - Perm (Molotov)
Achinsk - Yeniseysk
Taishet - Bratsk - Ust-Kut
Stalinsk - Abakan
Omsk - Karasuk - Barnaul
Kustanay - Tobol'
Sinarskaya (Kamensk - Ural'skiy) - Rayon of Krasnoufimsk (Druzhinino)
Magnitogorsk - Abdulino
Agryz - Pronino - Surgut
Sukkozero - Yushkozero (West Karelian Line)
Guryev - Astrakhan

Single Track Lines Scheduled for Double Tracking

Ryazan' - Ruzayevka
Omsk - Vagay - Sverdlovsk - Perm'
Kurgan - Sverdlovsk
Orsk - Orenburg - Kinel
Sectors of the Kazan' Railway
Apatity - Sorokskaya
Vologda - Cherepovets
Konosha - Kotlas - Vorkuta
Barnaul - Semipalatinsk

Lines Scheduled for Electrification

Moscow - Kuybyshev-Chelyabinsk-Omsk-Novosibirsk-Irkutsk
Moscow-Kharkov-Slavyansk
Chelyabinsk-Sverdlovsk-Nizhniy Tagil'-Serov-Berezniki-Molotov
Magnitogorsk-Abdulino
Promyshlennaya - Belovo
Yasinovataya-Pyatikhatki
Belorechenskaya-Sochi-Sukhumi
Suburban Lines (8 at Moscow (in addition to two above),
5 at Leningrad, 1 at Tallin, 1 at Riga,
2 at Kiev, 2 at Stalingrad, 1 at Baku).

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Data for Map II

Planned Trunk Oil Pipelines in the USSR, as of 1 January 1956*

Origin	Terminus	Estimated Length (km)	Probable Service
Tuymazy	Omsk #2	1,390	crude oil
Ufa	Omsk #2	1,130	oil products
Omsk	Irkutsk	2,450	crude oil
Omsk	Novosibirsk	800	oil products
Novosibirsk	Irkutsk	1,650	oil products
Al'met'yevsk	Kuybyshev	420	crude oil
Al'met'yevsk	Gor'kiy	600	crude oil
Gor'kiy	Yaroslavl	350	crude oil
Gor'kiy	Ryazan	350	crude oil
Ryazan	Moscow	250	oil products
Kuybyshev	Saratov	1,200	oil products
Ishimbay	Orsk	310	oil products
Omsk	Pavlodar	400	oil products
Total		11,250	

* Proposed for completion in Sixth Five-Year Plan, 1956-1960.

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Data for Map XX (Cont.)

Planned Trunk or Transmission Gas Pipelines in the USSR*

Pipeline Routes	Probable Length (km)
I. Natural Gas Transmission Lines	
Stavropol' - Rostov - Moscow (2 lines)	3,000
Shebelinka - Kharkov - Belgorod - Kursk - Orel - Bryansk	500
Dashava - Minsk - Leningrad (with branch lines to Vil'nyus and Riga)	1,800
Stavropol' - Pavlovskaya - Mineral'nyye Vody - Groznyy	400
Groznyy - Tbilisi	250
Shebelinka - Dnepropetrovsk - Kherson - Nikolayev - Odessa	630
Kuzan' - Gor'kiy	400
Berezovo - Sverdlovsk	900
Kosov - Kuty - Chernovtsy - Basseata Podol'skiy	130
Radchenkovo - Poltava	80
Kiyl Kum - Krasnovodsk	170
Khodzhaygabad - Fergana - Kokand - Tashkent	270
Shkapovo - Bulgary - Tatarskul	130
Shkapovo - Ishimbay - Sterlitamak	160
Total for natural gas	8,820
II. Manufactured Gas Transmission Lines	
Bagley - Dnepropetrovsk	40
Bagley - Krivoy Rog	120
Total for manufactured gas	160
Total For Fuel Gases	8,980

* Identified as Projects to be completed 1956-60 Sixth Five-Year Plan Data.

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