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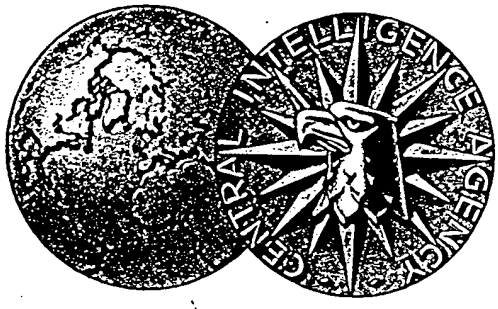
# TRENDS IN AIR, OCEAN, AND RAILWAY TRANSPORTATION (1948-1949)



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# TRENDS IN AIR, OCEAN, AND RAILWAY TRANSPORTATION (1948–1949)

## SUMMARY

1. GENERAL.

The data which comprise the present study were originally prepared in separate economic surveys for 1948 and discussions of probable trends in 1949 covering civil air, ocean, and railway transportation. The material selected is not comprehensive in coverage but analyzes certain aspects of world transportation and the transportation situation in sensitive areas which are of particular interest in terms of US national security. This discussion of current transportation trends may therefore be useful in the analysis of strategic concepts.

The strategic significance of air, railway, and ocean transportation is not based on the same factors and their analysis therefore requires differing treatment. In the case of air and ocean transportation, the fact that equipment is transferable from one theater of operations to another offers the possibility that it can be utilized in an emergency by distant powers with sufficient political and economic influence to command its disposition. Although railway rolling stock can also be transferred, ultimate control of fixed railway installations accrues to the power controlling the areas in which the facilities are installed. As a result, the strategic significance of civil aircraft and merchant ships extends almost equally to all such equipment, wherever it may be temporarily located, whereas the strategic interest in land transportation focuses on those facilities in sensitive areas. Since production facilities for all three types of transportation are relatively immovable, a rapid change in the relative transport potential of any two opposing groups of nations can result from sudden conquest of industrial areas.

This study indicates that there will be no developments in transportation during 1949 which will decisively alter the relative positions of the USSR and the Western Powers. In civil aviation the Soviet Union will make rapid progress, particularly in the organization of its domestic network. The Western Powers, on the other hand, while not expanding appreciably, will consolidate their position on world air routes. Although the USSR will lead the world in the quantitative production of medium and light civil air transports, the US will retain the strategic initiative because of its superior potential production capacity, as well as its pre-eminence in the design and manufacture of heavy, long-range transports and of aids to navigation and electronic airport landing systems. The USSR will continue in 1949 to control a merchant fleet which is of minor importance in terms of world ocean traffic, and ranks only tenth among the world's merchant fleets in tonnage. The Western world, on the other hand,

Note: The intelligence organizations of the Departments of State, Army, Navy, and the Air Force have concurred in this report. It is based on information available to CIA as of 4 April 1949.

will continue to expand its fleets. Moreover, combination of the active shipyards of Western Europe with the latent productive capacity of the US places the Western world in an extremely strong position to make any required expansion or to replace losses due to attrition, the most important exception to this fact being the contingent weakness in the Western tanker position. In railway transportation, the prewar networks of both Western Europe and the USSR-satellite orbit have been largely restored to operation, although much of the rehabilitation has been of a temporary nature in both areas. Because of the far greater prewar level of Western railway development, however, railway programs in Western Europe do not include any substantial further expansion such as that scheduled for the Soviet and satellite rail systems.

2. AIR TRANSPORTATION.

The US continues to dominate virtually every phase of world civil aviation activity. Despite the USSR's low percentage share of world air-line operations, in terms of mileage flown, it is second only to the US in this respect. In general, the rate of air-line route mileage expansion continues to decline and, with certain exceptions, future expansion will probably be more intensive than extensive. There will be an intensification of international competition between national-flag scheduled air lines in a relatively stable passenger traffic market. The scheduled air lines will also meet increasing competition from non-scheduled carriers. Air cargo traffic, on the other hand, is expected to continue to expand rapidly. The Soviet Union is by far the world's foremost producer of transport aircraft. Its output, however, is concentrated in light and medium types, whereas the US is the only producer of heavy transports and probably maintains qualitative superiority in all categories. Financially, the world's commercial air lines will continue to be dependent in varying degrees upon national subsidies.

3. OCEAN TRANSPORTATION.

Increased world competition in merchant shipping and contracting ocean freight movements have caused a considerable share of new vessel construction to be allocated for replacement of uneconomic vessels rather than fleet expansion. As a result, the aggregate world fleet is being increased by only about two-thirds of the annual tonnage actually constructed. The inevitable leveling off of the world fleet will not occur before the end of 1949. Postwar shipbuilding, however, remains considerably below prewar (1938) levels, principally because of the elimination of Germany and Japan as major shipbuilding centers and the substantial decrease in US output. The UK and Western Europe are regaining their traditional predominance in both shipbuilding and merchant shipping. USSR-satellite production and potential capacity remain far below that of the Western world. Although the total tonnage of ocean-borne freight will probably decrease in 1949, merchant shipping, on the whole, will remain profitable. Decreased cargoes and increased vessel tonnages will cause a decline in international chartering, although there will be a continued demand for chartered tanker tonnage.

4. RAILWAY TRANSPORTATION.

The problems of railway transportation of most immediate concern to the US are concentrated in Europe and the USSR, where transportation will be most uncertain and critical in an emergency. The most acute railway problem is rehabilitation, which is now primarily dependent upon the production and international distribution of rolling stock. This process continues to be retarded by economic dislocations which are keeping supply and demand out of normal alignment. Production of railway equipment is still increasing, but in 1948 the actual production and the great potential capacity of the US had only a minor effect on other world railways. Production capacity of the ERP countries of Europe (excluding Germany) already exceeds requirements; the drain imposed by German deficiencies, however, will result in a continuing freight car deficit in Western Europe. With less serviceable equipment than they had at the beginning of 1937, many railways in both Western and Eastern Europe are now hauling tonnages approximating or even exceeding those hauled in 1937. Aside from Europe, there are certain other areas of special concern to the US because of potential or actual production of strategic materials, in which transportation has exerted a restrictive influence.

# TRENDS IN AIR, OCEAN, AND RAILWAY TRANSPORTATION (1948–1949)

## AIR TRANSPORTATION

*Predominance of the US in World Civil Aviation.*

The US continued to dominate virtually every phase of world civil aviation activity in 1948, with the exception of quantitative production of civil transport aircraft. For example:

(a) approximately 85 percent of the world's civil aircraft were registered in the US;
(b) scheduled domestic and international carriers of the US operated more transport aircraft than the aggregate of all European scheduled air lines;
(c) US air lines accounted for more than half of the mileage operated by the world's scheduled air lines, though owning less than one-third of the world's commercial aircraft engaged in scheduled operations;
(d) each of the five major US air-line systems flew more mileage in scheduled operations than the air lines of any single foreign country except the USSR; and
(e) over 78 percent of the world's commercial aircraft in scheduled operation, excluding those of the USSR, were of US manufacture.

In 1947, moreover, utilization of the average US aircraft in scheduled operations was approximately three and one-half times greater, in terms of mileage flown, than that of the average aircraft of all foreign air lines. US pre-eminence has resulted from the virtual suspension of civil air operations during the war in most foreign countries, particularly in Europe, and from generally superior US technical, financial, and operational capabilities. The US share of the world's postwar civil aviation activity continues to be reduced, however, by three inter-related factors:

(a) the leveling off of US air traffic after a period of postwar expansion;
(b) the gradual elimination of wartime disruptions of foreign civil aviation industries; and
(c) the postwar development of civil air potentials by countries whose prewar operations were negligible.

Although these factors will continue to reduce the US pre-eminence in world civil aviation, this trend will not be accelerated in 1949.

*Relative Importance of Soviet Civil Air Operations.*

The USSR accounted for only 7.6 percent of world scheduled air-line mileage operated during 1948 (and only 8.4 percent including satellite air lines). Despite the USSR's low percentage share of world operations, however, the Soviet Union was second only to the US in this respect during 1948. In accordance with the ambitious air

transport development program of the current Soviet five-year plan and in contrast to the relatively static condition of US civil aviation anticipated for 1949, the USSR may be expected to continue to expand all phases of civil aviation during the year. By providing rapid transportation for high-priority passengers and cargo over great distances, in many cases to points not served by other means of transportation, air transport represents an essential aspect of the Soviet transport economy.

*Trends in Scheduled Civil Air Operations.*

An indication of the continuing development of world air line routes is given in the following table of "unduplicated" route mileage flown by scheduled air lines of the world in 1947 and 1948 (Table A). While the table does not provide an accurate index for comparison of the civil aviation activity of the various countries, it is included here as the best available means of demonstrating the relative total new-route development by each country's scheduled air lines during the past year.

TABLE A

UNDUPLICATED * ROUTE MILES OF THE SCHEDULED AIR LINES OF THE WORLD
(AS OF 1 OCTOBER 1948 AND 1 OCTOBER 1947)

| | *1948* | *1947* | *% increase* |
|---|---|---|---|
| World Total | 1,038,000 | Not available | .. |
| World Total (excluding USSR) | 996,000 | 845,000 | 18 |
| United States | 167,000 | 155,000 | 8 |
| United Kingdom | 91,523 | 81,667 | 12 |
| Australia | 70,062 | 54,645 | 28 |
| France | 66,162 | 64,243 | 3 |
| Netherlands | 53,270 | 39,261 | 36 |
| Brazil | 52,476 | 51,412 | 2 |
| Scandinavia | 31,778 | 22,257 | 43 |
| China | 28,937 | 26,058 | 11 |
| Italy | 27,249 | 9,497 | 187 |
| Canada | 25,278 | 24,084 | 5 |
| India | 22,461 | 15,008 | 50 |
| Mexico | 21,632 | 20,938 | 3 |
| Argentina | 18,978 | 23,182 | —18 |
| Egypt | 3,988 | 2,906 | 37 |
| USSR | 41,635 | Not available | .. |
| Czechoslovakia | 11,800 | 9,649 | 22 |

* The following hypothetical case illustrates the manner in which "unduplicated" route mileage is computed. A given route, such as New York-Miami-Habana, might be operated by two US air lines and two foreign air lines of different nationalities. The route mileage would be included in the above table twice in the US total and once in each of the foreign totals. Furthermore, the New York-Miami or Miami-Habana distances would be repeated in the national totals of any other air lines operating solely those segments of the route.

TABLE A (Continued)

| | *1948* | *1947* | *% increase* |
|---|---|---|---|
| Poland | 4,374 | 3,960 | 10 |
| Rumania | 2,023 | 2,760 | —27 |
| Hungary | 1,538 | 694 | 122 |
| Bulgaria | 1,156 | Not operating | .. |
| Yugoslavia | 916 | 2,845 | —68 |
| Satellite Total | 21,807 | 19,908 | 10 |
| USSR-Satellite Total | 63,442 | .... | .. |

Over a corresponding period in the previous year (1 October 1946 – 1 October 1947), US scheduled air lines achieved a 34 percent increase in unduplicated route mileage, while that of all foreign air lines, exclusive of the USSR, increased 32 percent. Last year's figures, 8 percent and 18 percent respectively, indicate the general slackening of rapid postwar route development. This declining rate of expansion may be expected to continue in 1949.

The trend of civil aviation in the US and major Western European countries will be toward intensification of services over established route patterns, rather than exploitation of new routes in light-traffic areas not yet developed. Increases in route mileage, however, may be achieved by the air lines of India, Egypt, Italy, and the Philippines. Other countries, such as the USSR and Canada, whose territories cover vast geographical areas, will also continue to increase air route mileages. Fulfillment of ambitious Satellite civil aviation plans will be dependent upon political considerations and solution of critical shortages of equipment and aviation fuel.

The accompanying table of weekly air mileage scheduled by the national air lines of the world (Table B) accurately reflects the relative commercial aviation activity of representative civil air powers. Comparison with world totals (exclusive of the USSR) for the twelve-month period from 1 October 1946 to 1 October 1947 again indicates a slackening of the rapid growth of air transport following the initial postwar development. The annual US rate of increase in scheduled operations declined from 9 percent to 4 percent while the rate of increase in total world-wide scheduled operations dropped from 18 percent to 10 percent. The US share of the world's total air-line operations (exclusive of the USSR), which had been 64 percent in 1946, was reduced to 56 percent by the end of 1948.

TABLE B

MILES SCHEDULED PER WEEK BY THE SCHEDULED AIR LINES OF THE WORLD
(AS OF 1 OCTOBER 1948 AND 1 OCTOBER 1947)

| | *1948* | *1947* | *% increase* |
|---|---|---|---|
| World Total | 17,427,000 | Not available | .. |
| World Total (excluding USSR) | 16,100,000 | 14,599,000 | 10 |
| United States | 8,976,000 | 8,627,000 | 4 |

TABLE B (Continued)

| | *1948* | *1947* | *% increase* |
|---|---|---|---|
| United Kingdom | 918,064 | 883,910 | 4 |
| Australia | 734,634 | 669,373 | 10 |
| Brazil | 517,521 | 447,863 | 16 |
| Netherlands | 516,446 | 347,915 | 49 |
| France | 481,873 | 393,340 | 22 |
| Canada | 474,599 | 383,732 | 24 |
| Scandinavia | 340,643 | 265,693 | 28 |
| Mexico | 273,837 | 303,340 | —10 |
| India | 251,574 | 190,050 | 32 |
| Italy | 164,917 | 123,896 | 33 |
| Argentina | 152,854 | 113,010 | 35 |
| China | 152,092 | 142,615 | 7 |
| Egypt | 45,346 | 34,862 | 30 |
| USSR | 1,327,476 | Not available | .. |
| Czechoslovakia | 75,871 | 74,660 | 2 |
| Poland | 29,794 | 26,558 | 12 |
| Rumania | 17,080 | 25,424 | —33 |
| Hungary | 7,936 | 2,514 | 216 |
| Yugoslavia | 7,852 | 22,852 | —66 |
| Bulgaria | 4,264 | Not operating | .. |
| Satellite Total | 142,797 | 152,008 | —6 |
| USSR-Satellite Total | 1,470,273 | .... | .. |

The coming year will witness an intensification of international competition in air transport. It is unlikely that the volume of scheduled air-line passenger traffic will substantially increase in 1949, especially since a proposed multilateral introduction of traffic-generating tourist rates over certain international air routes, if adopted, would probably not become effective until late in the year. A multiplicity of national-flag air lines will therefore be competing in a relatively limited traffic market and the competition may be sufficiently intense, particularly on the trunk routes, to result in a contraction of the more uneconomic services. Increased competition may also create, in certain areas, pressure for:

(a) reduction of the number of competing carriers through outright merger or equipment and facility pooling arrangements; and

(b) reservation of some types of traffic to national carriers through governmental restriction of commercial privileges for foreign carriers.

In the absence of governmental intervention, the scheduled air lines also face increasing competition from non-scheduled carriers of several countries (particularly the US), which have already developed a significant market for international and domestic passenger and cargo operations in many parts of the world. The rapid growth of contract air operations is attributable to several factors:

(a) greater operational flexibility, which is particularly adaptable to the lucrative world-wide movement of displaced persons by air;
(b) substantially lower rates than those of scheduled air lines, a consequence of small initial investment, as well as low administrative and operational costs; and
(c) the general lack of governmental regulation.

One of 1948's major air traffic developments was the sharp increase throughout the world in the volume of air cargo. This was particularly evident in the operations of US domestic and international air lines, whose combined ton-mileage for air freight and express increased almost 50 percent during the year. It is probable that world air cargo operations will continue to expand rapidly in 1949.

*Production.*

The following table shows the 1947 and 1948 production of non-combat air transports in the three principal aircraft manufacturing countries in terms of number of aircraft and airframe weight produced. It does not include reconnaissance, communications, or utility and trainer aircraft.

TABLE C

PRODUCTION OF NON-COMBAT TRANSPORT AIRCRAFT * 1947–1948
PRODUCTION BY TYPES

| | *US* | *UK* | *USSR* |
|---|---|---|---|
| No. of transport aircraft produced | | | |
| a. 1947 | 276 | 392 | 2,126 |
| b. 1948 | 238 | 323 | 2,392 |
| c. % increase | .. | .. | 12.5 |
| d. % decrease | 14 | 18 | .. |
| Airframe weight of transport aircraft produced (thousand lbs.) | | | |
| a. 1947 | 8,568 | 2,035 | 17,547 |
| b. 1948 | 6,023 | 2,343 | 20,040 |
| c. % increase | .. | 15 | 14 |
| d. % decrease | 30 | .. | .. |

* The term "non-combat transport aircraft" includes military transports not intended or equipped to operate in an active combat area, and conventional commercial transports containing no provision for specialized military usage. This designation is the only available common denominator which can be applied to US, British, and Soviet transport aircraft because there is no clear distinction between Soviet civil and military transports.

Quantitatively, the USSR was by far the world's foremost producer of transport aircraft in both 1947 and 1948. Its output, which increased appreciably in 1948, was ten times that of the US and almost 7½ times that of the UK. In the more significant term of airframe weight, however, the USSR accounted for less than 3½ times the US

output (the Soviet output was double that of the US in 1947), but over 8½ times the production of the UK. Table C also reveals that the UK produced more transport aircraft than the US in both 1947 and 1948. The total weight of its airframe production, however, was far below that of the US.

The following standard of reference is employed in the ensuing analysis of non-combat transport production by categories:

(a) *Heavy transport*—with design payload in excess of 30,000 lbs. at a 1,000-mile tactical operating radius (the tactical operating radius is considered to be ⅜ of maximum range under design load conditions).

(b) *Medium transport*—with design payload of 16,000–30,000 lbs. at a 1,000-mile tactical operating radius.

(c) *Light transport*—with design payload of less than 16,000 lbs. at a 1,000-mile tactical operating radius or with a tactical operating radius of less than 1,000 miles with any payload.

Non-combat transport production of the US, UK, and USSR by the foregoing categories is shown in the following table:

TABLE D

PRODUCTION BY TYPES

| | *US* | *UK* | *USSR* |
|---|---|---|---|
| 1947—No. of aircraft | | | |
| a. Heavy | 14 | 0 | 0 |
| b. Medium | 149 | 0 | 61 |
| c. Light | 113 | 392 | 2,065 |
| 1948—No. of aircraft | | | |
| a. Heavy | 4 | 0 | 0 |
| b. Medium | 78 | 0 | 207 |
| c. Light | 156 | 323 | 2,185 |
| 1947—Airframe weight (thousand lbs.) | | | |
| a. Heavy | 794 | 0 | 0 |
| b. Medium | 5,401 | 0 | 1,952 |
| c. Light | 2,373 | 2,035 | 15,595 |
| 1948—Airframe weight (thousand lbs.) | | | |
| a. Heavy | 198 | 0 | 0 |
| b. Medium | 2,794 | 0 | 6,624 |
| c. Light | 3,031 | 2,343 | 13,416 |

Although production in the USSR continued to be concentrated on light transport types, it is apparent that significant advances were made during 1948 in medium transport production. This trend will probably continue in 1949. In the US, output of both the medium and heavy categories was considerably reduced. In 1949, however, heavy transport production in the US will rise sharply. While other countries are developing heavy transport prototypes, the US will remain during 1949 the world's

only producer of certificated commercial aircraft in this category. It is unlikely that the UK will become a large producer in the medium transport field in 1949, although some progress may be made.

Production of non-combat transport aircraft accounted for only 17 percent of the 1948 airframe output of the US aircraft industry, and for about 30 percent of the total output of the British and Soviet industries. The proportion of combat aircraft produced in each of the three countries, however, was roughly the same, varying from 60–65 percent. The remainder of US production (approximately 20 percent) consisted of small civil and military non-combat types which were not produced in quantity in the other countries. The relatively small proportion of total US output allocated to transports in 1948 reflects the earlier substantial fulfillment of US air-line requirements for new and replacement aircraft. This was made possible by US assumption of virtually all Allied transport development and production during the war. The substantial proportion of the Soviet industry devoted to transport production reflects:

(a) the intensive effort of the USSR to develop a domestic transport industry for both civil and military purposes; and

(b) the Soviet program for the replacement of obsolescent transport aircraft on its expanding and vital civil air network.

UK emphasis on transport production is the result of the British determination:

(a) to rebuild the industry after complete cessation of transport development and production during the war;

(b) to use exclusively British-built aircraft on international routes of British-flag air lines; and

(c) to develop transport types which can compete in the export market.

In qualitative terms, traditional US superiority in the transport aircraft field has been maintained, partially as the result of the favored US position during the war. Current Soviet-designed aircraft are comparable only to the light and medium transport types which are now being replaced in the US and some other countries by modern postwar types. The UK has not yet produced an operationally and economically adequate postwar transport.

*Financial Prospects for World Civil Air Carriers.*

Factors determining the financial prospects for world civil aviation in 1949 include:

(a) the extent of aid through governmental subsidies or possible direct or indirect ECA assistance;

(b) the development of the world's total air traffic potential, which is in part dependent upon the availability of foreign exchange; and

(c) the degree of political stability in certain geographic areas.

All the world's scheduled commercial air carriers are dependent in some degree upon government subsidy, either in the form of direct financial assistance or through government-sponsored improvement of ground facilities and assistance in the development of new aircraft types. The financial status of many US civil air carriers which operated at a substantial deficit during 1948 has been improved by a recent retroactive increase in government air mail rates, but will continue to be affected by the extent

of future subsidies. While government funds available to the nationalized air lines of the UK will be decreased, new aircraft recently purchased by the government for use on the trans-Atlantic and trans-Pacific air routes will bring greater efficiency, thus reducing the cost of operations.

The noticeable world trend in 1948 towards a reduction in administrative costs and duplication of services through inter-company agreements will continue in 1949 and will better the financial position of many air lines. The probability, however, is that most of the world's air carriers will fail to turn in substantial profits and will continue to be largely dependent upon the financial support of their respective governments.

The possibility must be anticipated that political developments may arise in various areas to hamper commercial air operations. The existing political situations in Indonesia and China, for example, have already adversely affected commercial air operations for some air lines operating in the Far East.

*Strategic Considerations.*

Although the USSR maintains its lead of all other countries in the quantitative production of aircraft, it is producing no long-range air transports and its output is concentrated on light and medium types. The US retains the strategic initiative for the following reasons:

(a) The US continues to dominate the world's civil air routes in respect to both scheduled and non-scheduled air carriers;

(b) The US maintains its leadership in the design and manufacture of heavy long-range air transports and production of aids to navigation and electronic landing systems.

(c) The US aircraft manufacturing industry, though greatly reduced from wartime levels and existing largely on military orders, retains its potential capacity for mass production of air transports.

## OCEAN TRANSPORTATION

*Size and Distribution of the World Merchant Fleet.*

World merchant marine developments in 1948 and prospects for 1949 reflect a forthcoming return to the intensive competitive conditions prevalent in the industry during prewar years. Contracting ocean freight tonnages have caused shipowners to plan the construction of vessels for replacement of obsolete and uneconomic tonnage, rather than expansion of their fleets. As a result of this factor, the net increase in the world fleet in 1948 was only about 2.5 million deadweight tons, despite construction of about 3.7 million. Construction during the current year will probably approximate 3.8 million tons, with about the same relative emphasis on replacement. The inevitable leveling off of the size of the aggregate world fleet will not occur before the end of the year.

Table E shows the ocean-going merchant fleet tonnages of representative maritime nations of the world. Statistics are given for certain years in the decade 1939-1949, including estimated tonnages at the end of 1948 and 1949. The totals do not include vessels of less than 1,000 gross tons, those operated on inland waterways, or those owned by armed forces.

TABLE E

MERCHANT FLEETS OF SELECTED COUNTRIES, 1939-1949
(THOUSANDS OF DEADWEIGHT TONS)

| *Country* | *1 Sept. 39* | *30 June 45* | *31 Dec. 47* | *31 Dec. 48** | *31 Dec. 49** |
|---|---|---|---|---|---|
| Argentina | 268.0 | 470.2 | 773.2 | 850.0 | 900.0 |
| Australia | 476.0 | 506.9 | 560.5 | 575.0 | 600.0 |
| Brazil | 543.0 | 627.9 | 792.5 | 925.0 | 950.0 |
| Canada | 316.0 | 1,763.2 | 1,620.3 | 1,725.0 | 1,750.0 |
| China | 277.0 | 147.6 | 722.8 | 900.0 | 875.0 |
| Finland | 826.0 | 375.8 | 573.0 | 600.0 | 625.0 |
| France | 2,998.0 | 841.0 | 2,777.1 | 3,200.0 | 3,400.0 |
| Germany | 5,176.0 | 1,500.0* | 406.4 | 330.0 | 350.0 |
| Greece | 2,791.0 | 864.7 | 1,809.8 | 1,950.0 | 2,000.0 |
| India | 277.0 | 41.0 | 385.3 | 400.0 | 425.0 |
| Italy | 3,911.0 | 715.8 | 2,126.7 | 2,800.0 | 2,900.0 |
| Japan | 7,146.0 | 1,500.0* | 1,172.6 | 1,175.0 | 1,200.0 |
| Netherlands | 3,424.0 | 1,860.2 | 3,085.6 | 3,400.0 | 3,500.0 |
| Norway | 6,931.0 | 3,840.1 | 5,578.1 | 6,200.0 | 6,500.0 |
| Panama | 1,105.0 | 1,230.9 | 3,919.1 | 4,300.0 | 4,400.0 |
| Poland | 102.0 | 122.1 | 206.3 | 215.0 | 225.0 |
| Spain | 1,052.0 | 1,218.4 | 1,301.3 | 1,300.0 | 1,300.0 |

* Estimated.

TABLE E (Continued)

| *Country* | *1 Sept. 39* | *30 June 45* | *31 Dec. 47* | *31 Dec. 48** | *31 Dec. 49** |
|---|---|---|---|---|---|
| Sweden | 2,033.0 | 2,039.2 | 2,499.0 | 2,650.0 | 2,700.0 |
| Turkey | 224.0 | 192.0 | 260.2 | 300.0 | 310.0 |
| UK | 21,857.0 | 17,650.4 | 20,836.1 | 21,750.0 | 22,500.0 |
| USSR | 1,598.0 | 1,297.1** | 1,777.1** | 1,992.0** | 2,025.0** |
| Yugoslavia | 604.0 | 183.3 | 276.9 | 290.0 | 300.0 |
| US | 11,682.0 | 51,317.1 | 40,814.3 | 37,283.0 | 37,083.0 |
| Others | 4,984.0 | 2,708.1 | 4,401.5 | 6,075.0 | 6,740.0 |
| World Total | 80,601.0 | 93,013.0 | 98,675.7 | 101,185.0 | 103,558.0 |

* Estimated.
** Excludes Lend-Lease vessels, totaling 783,190 DWT, which are included in US total.

One of the most significant trends in the maritime industry is the fact that the traditional UK and Western European predominance in international merchant shipping is gradually being regained. This position is being achieved by the acquisition of new shipping which, by depressing freight rates, has accelerated the laying up of US vessels. As a result, the US "mothball" fleet now exceeds in size the active US merchant marine.

*Shipbuilding.*

Postwar shipbuilding activity throughout the world remains considerably below prewar (1938) levels, principally because of the elimination of Germany and Japan as major shipbuilding centers and the substantial decrease in US output. On the other hand, construction in 1948 increased slightly over 1947, and may again increase slightly during the current year.

Launchings and completions of merchant vessels over 100 gross tons in certain major shipbuilding countries during 1948 are shown in Table F, together with comparable statistics for 1938 and 1947 launchings. The countries shown account for approximately 90 percent of world shipbuilding.

TABLE F

GROSS TONNAGE OF MERCHANT VESSELS
(100 GROSS TONS AND OVER)

| | LAUNCHINGS | | | COMPLETIONS |
|---|---|---|---|---|
| *Country* | *1938* | *1947* | *1948* | *1948* |
| Canada | 30,100 | 103,987 | 102,321 | * |
| Finland | 20,109 | 9,249 | 6,901 | 5,805 |
| France | 47,290 | 91,911 | 135,432 | 63,330 |
| Germany | 480,797 | ** | ** | ** |

* Included in "All Others."
** Not available.

TABLE F (Continued)

| | | LAUNCHINGS | | COMPLETIONS |
|---|---|---|---|---|
| Italy | 93,503 | 62,247 | 111,555 | 134,665 |
| Japan | 441,720 | ** | ** | ** |
| Netherlands | 239,845 | 87,801 | 142,485 | 166,557 |
| Norway | 54,654 | 36,854 | 46,974 | 49,543 |
| Sweden | 166,464 | 222,598 | 245,896 | 294,928 |
| UK | 1,030,375 | 1,202,024 | 1,176,346 | 1,212,615 |
| US | 201,251 | 164,848 | 126,418 | 183,483 |
| All others reported | 227,485 | 130,367 | 215,415 | 370,853 |
| World total reported | 3,033,593 | 2,111,886 | 2,309,743 | 2,481,779 |

** Not available.

As in merchant shipping, there has been a rapid resurgence of shipbuilding in Western Europe (except in Germany), and this area accounted for about 80 percent of total world construction in 1948. Shipbuilding activity in the UK, Sweden, Italy, and France was above the prewar levels of those countries. The UK alone, operating at about 65 percent of capacity, accounted for approximately one-half of the world's total launchings during the year and will continue to dominate world shipbuilding in 1949.

No accurate statistics concerning ship construction in the USSR and the Satellites are available. It is estimated, however, on the basis of present activity, that the shipbuilding capacity of the non-Communist world is at least nine times that of the USSR and areas under its control. In view of latent US and UK production capacity, however, the actual disparity is far greater. USSR-satellite production of ocean-going merchant vessels is unimportant in terms of world shipbuilding activity, most production being small inland and coastal craft. The Soviet Zone of Germany is particularly active in this type of production. Soviet production of ocean-going vessels probably does not exceed 25,000 gross tons annually, although Soviet construction activity in respect to smaller vessels for inland water traffic is much more extensive.

Resumption of prewar shipbuilding levels in occupied areas is not yet in sight. Despite the existence of considerable capacity, western German production will continue to be unimportant during 1949 unless the present strict occupation controls on shipbuilding are relaxed. Japanese construction, on the other hand, which was probably about 100,000 tons in 1948, may reach as much as 250,000 tons in 1949, principally for foreign account.

*Volume of Ocean Traffic.*

Despite the fact that the value of world trade in general is expected to increase slightly in 1949, the total tonnage of ocean-borne freight will probably decrease, as a result of a change in the character of the cargoes hauled. In 1948, a large portion of ERP expenditures was made for US coal and grain, rather than fabricated goods. This

year, however, low-weight, high-freight cargoes will largely displace last year's bulk cargoes.

*Government Control of Merchant Shipping.*

In general, the lifting of wartime controls over the major merchant fleets of the world was completed during 1948. Fleets remaining under state control in 1949 will be, for the most part, those of countries in which state participation in shipping is long-standing.

*Financial Aspects of Merchant Shipping.*

Shipping operations throughout the world in 1949 should, on the whole, be profitable. The coming year, however, will witness a wide range in the financial results of merchant marine operations in various countries. Among the leading maritime nations whose fleets will improve their financial positions are the UK, the Netherlands, France, Belgium and some of the countries of Latin America. These countries, for the most part, added considerable tonnage to their fleets in 1948 through either purchases or domestic construction. On the other hand, the merchant shipping revenues of several countries, including Sweden, Norway, and Spain, are expected to be well below 1948 figures. In general, unprofitable merchant marine operations will be largely confined to those countries which abstain from substantial aids to shipping, or those countries whose merchant marine revenues will decline because of the expected decrease in charter rates and the volume of chartering.

A general decline in international chartering will reflect both the increase in available tonnage throughout the world and the over-all drop in volume of ocean cargoes moved. This trend will have a serious effect upon the foreign exchange balances of a number of countries. The fleets of Scandinavia, Greece, Spain, Panama and some other countries are far larger than required for domestic traffic and customarily provide, through chartering, significant foreign exchange revenues. Despite the general decrease in chartering, several major maritime countries will continue to have heavy charter requirements because of the inadequacy of their domestic fleets. (The UK, for example, had about two million deadweight tons of foreign shipping under charter in 1948, and may not be able to reduce that figure appreciably until 1951.) Tanker chartering will be especially heavy, since construction for the fleets of many countries has not been adequate to meet their increased traffic in petroleum products since the end of the war. At present, almost 90 percent of UK chartered tonnage consists of tankers. The US, Panama, and Norway, which have surplus tanker tonnages, will be the principal beneficiaries of the continued demand for such vessels under charter.

For reasons of prestige and to reduce foreign exchange outlays, there will be in 1949 a continuation of the effort of many countries to increase the proportion of exports and imports carried in bottoms under their own flags. As a result, some leveling of the present disparity between foreign trade carried in domestic and foreign-flag vessels will be accomplished.

*Strategic Considerations.*

The peacetime division of the world merchant fleet into numerous national elements is subject at the outbreak of war to rapid modification into three groups: the opposing belligerents and the neutrals. Effective control by a belligerent group over wide segments of neutral shipping can be established by dominant political and military strength. Vessels of militarily insignificant countries become in a sense as strategically important, therefore, as those of major powers. (Norway is an excellent example of this fact.) Shipbuilding facilities, on the other hand, cannot easily be transferred and the strategic importance of a given shipyard is qualified by the fact that it can only augment the logistic potential of the power controlling the area in which the industry is located.

The major strategic factors affecting water transportation in the postwar era have been:

(a) Failure of the USSR to launch a large-scale program of shipbuilding which would give it a merchant fleet large enough to eliminate Soviet dependence on foreign vessels, and adequate for military commitments.

(b) Practical elimination of the German and Japanese fleets as factors in world shipping and the efforts of these countries to regain some measure of their prewar position in both shipping and shipbuilding.

(c) Drastic reduction in the size of the active US fleet and the output of US shipyards. Much of the potential capacity of US shipyards remains unaffected, however, and the "mothball" fleet could be activated in an emergency.

(d) The potential weakness of the Western tanker position, resulting from the replacement of the US by the Middle East as the major supplier of European oil markets. This weakness will, however, be largely counterbalanced by the great increase in tanker tonnage scheduled for completion during the next few years. The Western position will also be materially affected by the future status of proposed pipelines in the Middle East.

(e) The threat to merchant shipping contained in advances in submarine design and in the development of long-range aircraft.

## RAILWAY TRANSPORTATION

*Introduction.*

The most acute problem of the world's railway systems is rehabilitation, which is now primarily dependent upon the production and international distribution of rolling stock. This process continues to be retarded by complex factors which are keeping supply and demand out of normal alignment. On the supply side, production capacity, except for Diesel-electric locomotives, would be sufficient to meet even today's abnormal requirements. However, arbitrary allocation of labor and raw materials to higher priority industries in some of the most important manufacturing areas prevents the industry from developing its potential. On the demand side, critical requirements are frequently not translated into purchases because of: (a) arbitrary governmental allocation of stringent foreign exchange to other import requirements; and (b) in the case of ECA recipient countries, priorities which are established from the point of view of broad program objectives rather than the requirements of an individual industry.

World production and distribution of railway equipment, as well as railway traffic, will be discussed in this study largely in terms of their significance to Europe and the USSR, since the problems of railway transportation of most immediate concern to the US are concentrated in these areas.

*Production of Railway Equipment.*

World production of locomotives and freight cars increased in 1948 and will increase still further in 1949. As a result, the world-wide backlog of construction orders will be considerably reduced by the end of the year.

The US undoubtedly possesses the world's greatest potential capacity for the production of railway equipment. Although the US produced a considerable quantity of rolling stock and motive power during 1948, US capabilities had only a minor effect on the equipment situation of the railways of the rest of the world. It is apparent from Table G that, in contrast to 1947, only a very small portion of US production was exported in 1948. Moreover, 1949 exports will decrease and no equipment exports of any consequence are contemplated for Europe or the USSR during the year. (The US will furnish, however, certain component parts sufficient for about 2,500 cars to be constructed in France.) With respect to the USSR, political considerations have blocked substantial participation by the US in the rehabilitation of the Soviet rail system. The sales of railway equipment to Western European countries are dominated by policy decisions at the ECA level. The policy of ECA has been to develop and utilize Western European production to the fullest possible extent, channeling surplus production into the alleviation, as far as possible, of equipment deficiencies in western Germany. US raw material resources, in general, have been used for other ECA commitments unrelated to the railway problem. (As a result, the US railroad industry has not even been able to fill the equipment requirements of US railways.)

TABLE G

US RAILWAY EQUIPMENT PRODUCTION

| *Freight Cars* | *1947* (delivered) | *1948* (delivered) | *1948* (ordered—delivery 1949) |
|---|---|---|---|
| Domestic use | 68,522 | 110,233 | 93,691 |
| Export | 27,721* | 3,537** | 279*** |
| Total | 96,243 | 113,770 | 93,970 |

* Most of these cars were delivered to France.
** Includes 200 cars delivered to Europe, principally to France.
*** None of these cars will be delivered to Europe.

| *Passenger Cars* | *1947* (delivered) | *1948* (delivered) | *1948* (ordered—delivery 1949) |
|---|---|---|---|
| Domestic use | 670 | 890 | 517 |
| Export | 26 | 52 | 22* |
| Total | 696 | 942 | 539 |

* None of these cars will be delivered to Europe.

*Locomotives*

(Delivery dates in many cases are not known, and the following information shows date of order only. It may be assumed that most orders would be delivered the year following the order.)

| | *1947* | *1948* |
|---|---|---|
| Domestic use | | |
| Steam | 79 | 69 |
| Diesel and electric | 2,150 | 2,680 |
| Export | 655 (all types) | |
| Steam | .... | 283* |
| Diesel and electric | .... | 152** |
| Total | 2,884 | 3,184 |

* None of these locomotives will be delivered to Europe.
** Includes only three switching locomotives for Europe.

Although productive capacity already exceeds rolling stock requirements in the ERP participating countries of Europe, the drain imposed upon them by the heavy requirements of western Germany will result in a continuing overall freight car deficit in Western Europe throughout 1949. Table H shows the estimated freight car requirements and productive capacity of the participating countries, and of those countries together with western Germany, for 1948 to 1951.

TABLE H

WESTERN EUROPEAN FREIGHT CAR SITUATION

| *Participating countries only* | *1948* | *1949* | *1950* | *1951* | *Total* |
|---|---|---|---|---|---|
| (a) Planned production | 112,000 | 156,000 | 157,000 | 158,000 | 583,000 |
| (b) Requirements | 93,000 | 132,000 | 123,000 | 111,000 | 459,000 |
| (c) Surplus | 19,000 | 24,000 | 34,000 | 47,000 | 124,000 |
| *Western Europe (Participating countries and western Germany)* | | | | | |
| (a) Planned production | 112,000 | 176,000 | 187,000 | 188,000 | 663,000 |
| (b) Requirements | 159,000 | 198,000 | 190,000 | 177,000 | 724,000 |
| (c) Surplus or deficit | —47,000 | —22,000 | —3,000 | 11,000 | —61,000 |

The initiation of German production earlier than anticipated will reduce to about 60,000 cars the four-year Western European freight car deficit which was originally estimated at about 100,000 cars. While the new car construction program in western Germany has progressed satisfactorily to date, however, increasing tightness in investment funds may have a retarding effect before the end of 1949. The over-all freight car situation in Western Europe may be even less severe than the revised estimate. Western European car repair programs have advanced beyond expectations and will considerably reduce the new car requirements of the next few years.

With respect to locomotives, the 1948 productive capacity of the participating countries was about 415 units in excess of their requirements for 1705 locomotives. It is expected that during 1949 locomotive production capacity will continue to exceed Western European requirements. The present locomotive stocks in western Germany are adequate with minor exceptions in passenger and shunting types which will be satisfied from internal production during 1949-50.

Only estimates are available concerning Soviet or satellite rolling-stock production. In order to give some indication of the relative level of their freight car production, however, the following rough estimates are included. It is probable that the USSR and Eastern Europe produced about 125,000 cars in 1948, roughly 64 percent of which were accounted for in the USSR. Estimated production for 1949 will be in the neighborhood of 155,000 cars, with about 70 percent of this number produced in the Soviet Union. Locomotive production in the USSR and Eastern Europe is estimated at approximately 2200 units in 1948 and about 2665 in 1949, with the Soviet Union accounting for 54 percent and 60 percent of the respective totals.

*Equipment Inventories.*

Equipment inventories in both Europe and the USSR were affected, in 1948, almost exclusively by the balance between the internal production and requirement of the respective areas. (The only important contract between Western and Eastern Europe

has been the purchase with ECA funds of about 4,000 freight cars in Czechoslovakia for delivery to western Germany. With the exception of the UK, no countries in Western or Eastern Europe have had any significant trade in rolling stock with other areas of the world.)

The railway systems of Western Europe * were operating, at the beginning of 1948, with smaller inventories of serviceable freight cars and locomotives than those available in prewar years. Although the total number of Western European freight cars and locomotives was less than 10 percent below the prewar total, about 15 percent of the cars and 20 percent of the locomotives were under repair. (The prewar average of freight cars under repair, in comparison, was considerably below 10 percent.) In western Germany and France, where war damage to rolling stock was considerable, substantial progress was made during 1948 in reducing the percentage of cars under repair. The proportion of unserviceable cars in western Germany was reduced from about 28 percent to 20 percent, while the French rate was reduced from about 17 percent to 14 percent.

The railways of the USSR and Eastern Europe ** are estimated to have exceeded slightly their total prewar equipment inventories by the beginning of 1948, primarily as a result of substantial increments to Soviet rolling stock since the end of the war. The prewar serviceability rate for freight cars in the USSR and Eastern Europe was considerably lower than that in Western Europe. The current rate is still lower than in the West, although the differential is not as great. A significant contributing factor to the relative improvement of the Soviet and Eastern European serviceability rate, however, has been the existence in that area of considerably lower equipment-maintenance standards.

Table I shows the freight car and locomotive inventories of Western Europe and the USSR and Eastern Europe for 1937 and 1946-48, as of 1 January each year. While the information contained in the table has been based on the best available estimates of conditions within individual countries included in this study, the estimates are probably not accurate in all cases.

TABLE I

FREIGHT CAR AND LOCOMOTIVE INVENTORIES

| | WESTERN EUROPE | USSR AND EASTERN EUROPE |
|---|---|---|
| *Total Freight Cars* | | |
| 1937 | 2,655,030 | 1,327,047 |
| 1946 | 2,467,243 | 1,280,897 |
| 1947 | 2,475,387 | 1,260,603 |

* Includes throughout the remainder of this study the following countries: Austria, Belgium-Luxembourg, Denmark, France, Ireland, Italy, Netherlands, Norway, Portugal, Sweden, UK, Switzerland, and western Germany.

** Includes: Bulgaria, Czechoslovakia, Finland, Hungary, Poland, Rumania, Yugoslavia, and eastern Germany.

TABLE I (Continued

| | WESTERN EUROPE | USSR AND EASTERN EUROPE |
|---|---|---|
| *Total Freight Cars* (Continued) | | |
| 1948 | 2,476,400 | 1,345,400 |
| *Serviceable Freight Cars* | | |
| 1937 | 2,536,303 | 1,166,627 |
| 1946 | 2,130,973 | 958,035 |
| 1947 | 2,125,196 | 988,868 |
| 1948 | 2,120,300 | 1,100,200 |
| *% of Total Cars Serviceable* | | |
| 1937 | 96 | 88 |
| 1946 | 86 | 75 |
| 1947 | 86 | 78 |
| 1948 | 85 | 82 |
| *% of Total and Serviceable Cars (1948) to Prewar (1937)* | | |
| Total | 93 | 101 |
| Serviceable | 84 | 94 |
| *Total Locomotives* | | |
| 1937 | 70,937 | 49,606 |
| 1946 | 75,289 | 49,049 |
| 1947 | 70,207 | 49,989 |
| 1948 | 67,970 | 51,630 |
| *Serviceable Locomotives* | | |
| 1937 | 61,774 | 42,027 |
| 1946 | 49,091 | 32,640 |
| 1947 | 49,705 | 33,608 |
| 1948 | 54,135 | 39,113 |
| *% of Total Locomotives Serviceable* | | |
| 1937 | 87 | 85 |
| 1946 | 65 | 67 |
| 1947 | 71 | 67 |
| 1948 | 80 | 76 |
| *% of Total and Serviceable Locomotives (1948) to Prewar (1937)* | | |
| Total | 96 | 104 |
| Serviceable | 88 | 93 |

*Railway Traffic.*

As a result of increasingly efficient use of limited rolling stock and acquisition of replacement stock in units of greater capacity, many European railway systems are now able with less equipment to haul tonnages approximating and in some cases ex-

ceeding those of prewar years (Table J). In Western Europe, excluding Germany, the tonnage of railway freight hauled in 1948 was approximately the same as that of 1937, while ton-kilometers performed exceeded the 1937 figure by over 15 percent. Even including the western German railway system, which in 1948 was still operating far below its prewar level, the total tonnage moved on Western European railroads was almost 90 percent of prewar, while ton-kilometers were about equal to the 1937 performance. Soviet and Eastern European railways, on the whole, were carrying in 1948 slightly more tonnage than in 1937, and operated over 10 percent more ton-kilometers, largely as a result of the postwar performance of Soviet railways. Freight hauled in 1948 by railway systems of the Satellites and Eastern Germany alone, for example, was still about 17 percent below 1937 tonnages. Railway freight carried in Eastern Germany was probably less than one-half of the 1937 tonnage.

The preceding paragraph indicates that in both Western Europe and the USSR and Eastern Europe, the 1948 volume of traffic shows a higher percentage of 1937 volumes when expressed in ton-kilometers than when tons carried are used. This reflects the greater distance the average ton of freight is being hauled under postwar conditions. The longer average hauls in both Europe and the USSR are due to several factors. Shortages of critical commodities of all types and dislocation of price structures throughout Europe have resulted in the transport of many products in long-haul rail movements which normal economic considerations would not justify. Moreover, in some cases freight movements have been made over circuitous routings because of the obstruction of normal routes by unrestored rail facilities. In the USSR, in addition to these factors, a primary cause of the increase in length of average hauls has been the relocation of Soviet industry and the development of resources and industry in distant areas in which there was no large-scale production before the war.

Since actual operating statistics for 1948, and in some cases for 1947, are not available, the figures given for those years in Table J are estimates. As such, they are undoubtedly subject to some error.

TABLE J

RAILWAY FREIGHT HAULED

| | WESTERN EUROPE | | USSR AND EASTERN EUROPE | |
|---|---|---|---|---|
| *Year* | *Tons carried* | *Ton-kilometers* | *Tons carried* | *Ton-kilometers* |
| | (in millions) | | | |
| 1937 | 1175 | 157,736 | 931 | 425,521 |
| 1946 | 843 | 133,966 | 679 | 391,015 |
| 1947 | 920 | 147,048 | 774 | 428,058 |
| 1948 | 1025 | 157,847 | 952 | 481,065 |

TABLE J (Continued)

POSTWAR FREIGHT TONNAGE EXPRESSED AS A PERCENTAGE OF 1937

| | WESTERN EUROPE | | USSR AND EASTERN EUROPE | |
|---|---|---|---|---|
| *Year* | *Tons carried* | *Ton-kilometers* | *Tons carried* | *Ton-kilometers* |
| 1937 | 100 | 100 | 100 | 100 |
| 1946 | 72 | 84 | 73 | 92 |
| 1947 | 78 | 93 | 84 | 101 |
| 1948 | 88 | 99 | 102 | 113 |

*Strategic Considerations.*

The primary strategic interest of the US in railway transportation is concentrated in Europe and the USSR. It is in these areas that the performance levels of the railways, in relation to transport requirements in a future emergency, will probably be both subject to greatest uncertainty and of greatest military significance. Moreover, in view of the present East-West power relationship in Europe, control of the entire Western European rail network in the event of hostilities is also highly uncertain.

Among the major strategic factors applying to railway transportation in Western Europe and the USSR are the following:

(a) The approximate balance between the rolling stock production of Western Europe and the Soviet orbit, although the Western nations probably maintain a somewhat greater potential capacity.

(b) The density of present Western European rail systems, which provides greater flexibility for large-scale movements throughout the area.

(c) The sparseness of the Soviet rail system in certain strategic areas, despite the indispensability of this form of transport in view of other transport deficiencies.

(d) The increasing economic and strategic capabilities of Eastern European railways resulting from ambitious reconstruction and expansion programs including maintenance and repair facilities. Substantial portions of these programs will be completed by the end of 1949. These developments will considerably increase the flexibility of both Soviet and satellite rail systems and make them somewhat less vulnerable.

(e) Control by the USSR of a system of railways in Germany which, together with the satellite systems, extends the Soviet-controlled system from the Soviet border to the Iron Curtain. Although the prewar rail system of the Soviet Zone of Germany has been drastically reduced, it consists of a network of principal lines which is comparable or still superior to other Eastern systems, including that of the USSR.

(f) The strategic disadvantage to the USSR inherent in the change of gauge at the Soviet border. Although this is a considerable disadvantage to invading forces crossing the border in either direction, it would be more difficult to convert the Western standard gauge systems to the Soviet broad gauge for westward (i.e., Soviet) operations than would be the case in reversed circumstances.

There are certain other areas of vital concern to the US because of potential or actual production of strategic materials, in which transportation has exerted a restrictive influence on development or maximum exploitation. The major areas of concern are:

(a) *East Africa.* In Northern Rhodesia the production of copper has been detrimentally affected by shortage of coal supplies at pithead and smelting installations. Coal supplies are plentiful in Southern Rhodesia, but inadequate rolling stock inventories have prevented the desired distribution of this coal to the areas of operation. Although efforts are being made to overcome this deficiency, it is not probable that it will be entirely alleviated during 1949.

Manganese and chrome ore production in this area also exceeds the capacity of transport facilities which serve the mining operational areas and which connect with the Port of Beira. Active attention is being given this problem by the US, UK, and Portuguese Governments and ECA assistance will probably be furnished to increase both rail and port capacities. No forecast can be made at the present time, however, as to the extent this situation will be overcome during 1949.

(b) *South Africa.* Manganese ore movements in this area are also restricted by shortages in rolling stock and the unwillingness of the government-owned railways to allocate additional transport facilities for this purpose. This condition should be materially alleviated, however, by the delivery during 1949 of about 3,000 Canadian freight cars. The US has agreed to supply Canada with certain necessary components for construction of the cars, upon the condition that South Africa will increase allocations of transport for the movement of manganese ore.

(c) *South America.* In Brazil, iron and manganese production capabilities presently exceed the transport capacity available for movements to port areas. In addition to rail development problems, political factors will probably prevent maximum exploitation of the ore-producing areas during 1949.

Venezuela's potential production of iron ore would exceed the present capacity of transport facilities available for its movement. It is believed, however, that the necessary rail development will, in general, keep pace with the development of the mining area, and that serious transport bottlenecks will not deter mining operations during 1949.

(d) *Labrador.* The development of the rich iron ore deposits in this area is dependent upon the establishment of transport facilities which, at present, are nonexistent. Construction of a 350-mile railway from the deposits to the St. Lawrence River has begun. Full utilization of these iron ore deposits by the US, however, will still depend upon the construction of the St. Lawrence seaway which will permit the ores to be moved in volume to the Great Lakes region. These obstacles will not be overcome during 1949.

(e) *India.* India is normally one of the world's largest producers of manganese. Movement of manganese ore from India to the US, however, is uncertain due to the apparent reluctance on the part of Indian officials to favor the export of manganese under present conditions and to other factors including transport difficulties. The principal transportation problems which restrict the movement of US quotas of ore

to port areas are the following: (a) the difficulty of obtaining favorable priorities for ore movements by rail under the complex Indian system of rail priorities; (b) the deteriorated condition of ore-carrying wagons and motive power; and (c) the inefficiency of Indian railway administration and operation. It is unlikely that there will be any significant improvement in either the quantity or quality of rolling stock available for ore movements during 1949, nor is there any evidence of a substantial improvement in Indian railway administration.

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