United States Army Utilization of Domestic Traffic Facilities, World War II

UNITED STATES ARMY UTILIZATION OF DOMESTIC TRAFFIC FACILITIES, WORLD WAR II

By

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1943

Submitted to the Economics Department

Oklahoma Agricultural and Mechanical

College

In Partial Fulfillment of the Requirements

for the Degree of

MASTER OF SCIENCE

1949

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PREFACE

Today, twenty-nine cents out of every Federal tax dollar goes for some form of national defense. This fact alone makes some study of the Armed Forces a must for present day economists.

The purpose of this thesis is to furnish such a student with a brief but complete picture of the procedures and practices evolved by the Army in utilizing domestic traffic facilities during World War II. These operations deserve particular study, because they offer some of the most striking examples of successful cooperation between military and civilian agencies seen in this country.

Liberal use has been made of Transportation School Manuscripts and Department of the Army documents in the preparation of this paper. Capt. H. F. Boyle, Instructor and Manuals Editor for the Movements Branch of the Transportation School has reviewed the entire draft, and it is believed that the text contains a minimum of technical errors.

TABLE OF CONTENTS

CHAPTER I - INTRODUCTORY

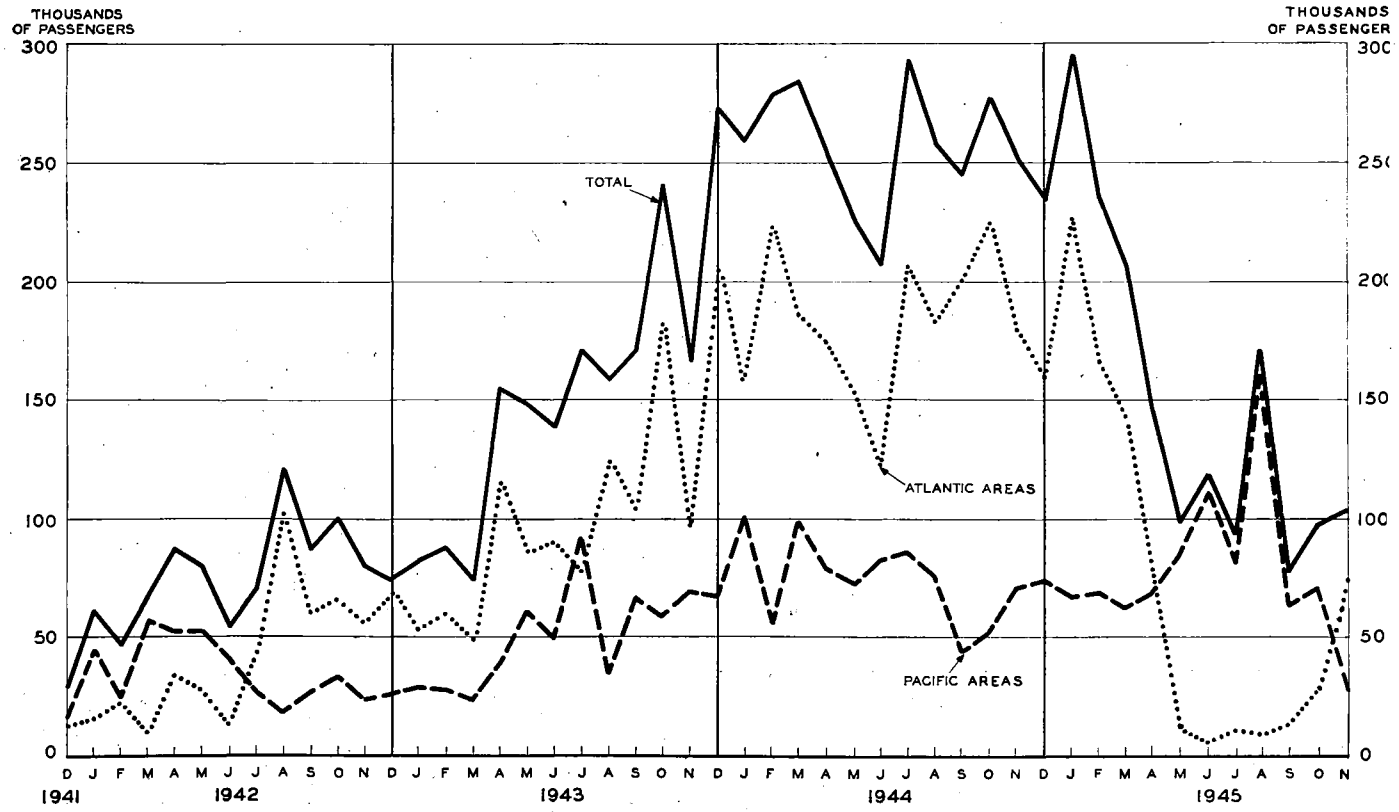
1-Origin and Growth of the Transportation Corps

If a major industrial or governmental center in this Nation were to be destroyed by an atom bomb or a comparable weapon tomorrow, what counter-measures would our leaders take first? Such a disaster is already within the realm of possibility. Our democratic tradition of never striking the first blow adds to the chances for another Pearl Harbor. Defense against such lightning blows is currently receiving serious thought and study by our top military and government officials. Details regarding their plans are quite naturally classified Top Secret.

In any eventuality, we can rest assured that one of the first acts of the Federal Government following the outbreak of another war will be the assumption of federal controls over transportation. Precedent was set in this respect by President Roosevelt in his Executive Order No. 8989 which established the Office of Defense Transportation (commonly referred to as the ODT) just eleven days after Jap bombers hit the island of Oahu.

This paper is concerned with the military utilization of domestic transportation facilities during World War II. This factor is of growing importance due to the fact that each succeeding war has seen a greater percentage of the resources of the participants committed, and a correspondingly larger share of all wartime traffic has become military traffic. During the past war more than ten million men and women were inducted into the Armed Forces

PASSENGERS EMBARKED MONTHLY BY THE ARMY AT UNITED STATES PORTS FOR OVERSEAS DESTINATIONS



CARGO SHIPPED MONTHLY BY THE ARMY FROM UNITED STATES PORTS TO OVERSEAS DESTINATIONS

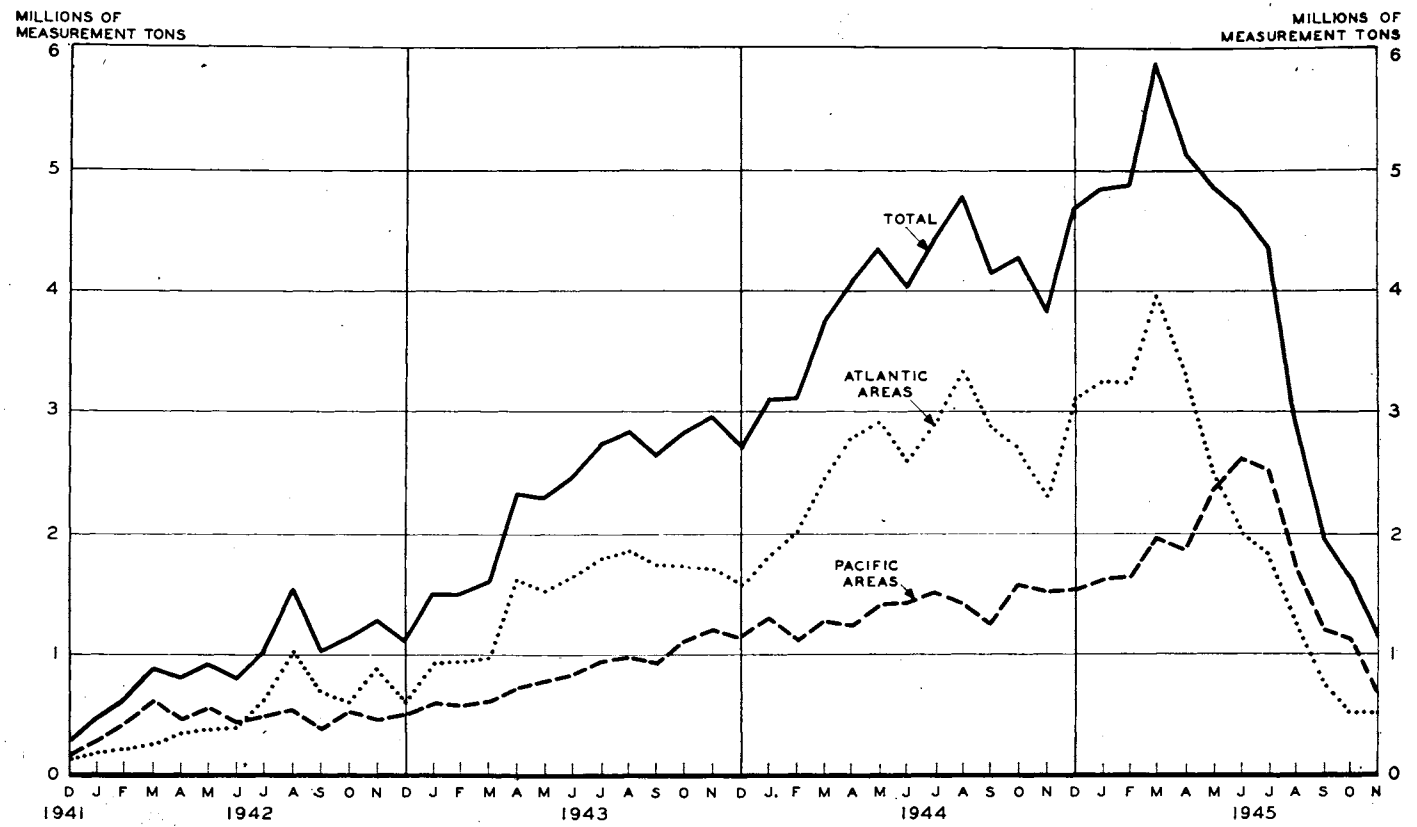


FIG. NO. 2

(Nov. 1940 to Aug. 1945),[1] and each of these made an average of six moves during his service in the Zone of the Interior (the Continental United States, commonly known in Army parlance as the "Z. I."). Army troops moved by rail in organized parties in the United States from December 1, 1941, to August 31, 1945, totaled 32,444,000 as compared to 5,046,000 in the twenty months of World War I, or a ratio of 6 to 1.[2] The size of this movement forced the Army alone to utilize 50 percent of all sleeping car space and 30 percent of the coaches in service on American railroads at one time.[3]

Most War Department (hereafter referred to as WD) freight moved by rail (91 percent) during the war.[4] This amounted to 215,906,000,000 tons during the period December 1941 through August 1945. The military freight sometimes averaged as high as 12.5 percent of the total freight carried by the railroads, and this figure does not include Navy freight nor Lend Lease material procured by the Navy.[5]

Ocean shipping felt the pinch of the war effort as heavily as did the land carriers, (figures 1 and 2). In addition, it faced the constant threat of enemy action, principally through submarine attack, (Figure 3). At the beginning of the war the merchant fleet consisted of 900 dry cargo vessels and 400 tankers.[6]

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[1] Maj. Gen. C. P. Gross, Report of the COT, ASF, World War II, p. 2.

[2] Capt. W. H. Schmidt, Jr., "Inland Movement of Troops in Organized Parties During World War II, p. 4.

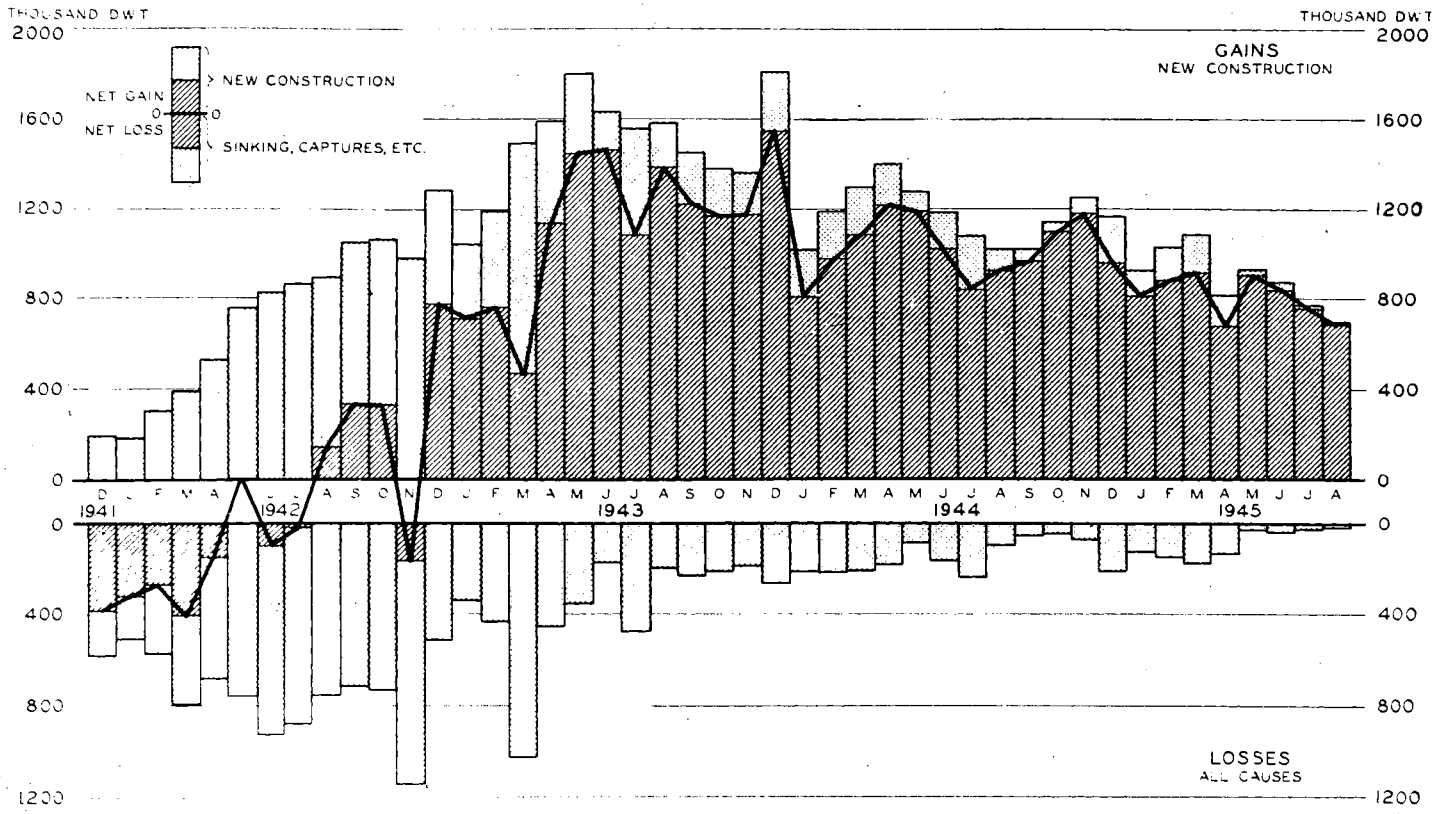
[3] Gross, Op. cit., p. 5.

[4] Herbert Ashton, Allocation of Transportation and Other Public Utilities, p. 59.

[5] Gross, Loc. cit.

[6] Ashton, Op. cit., p. 24.

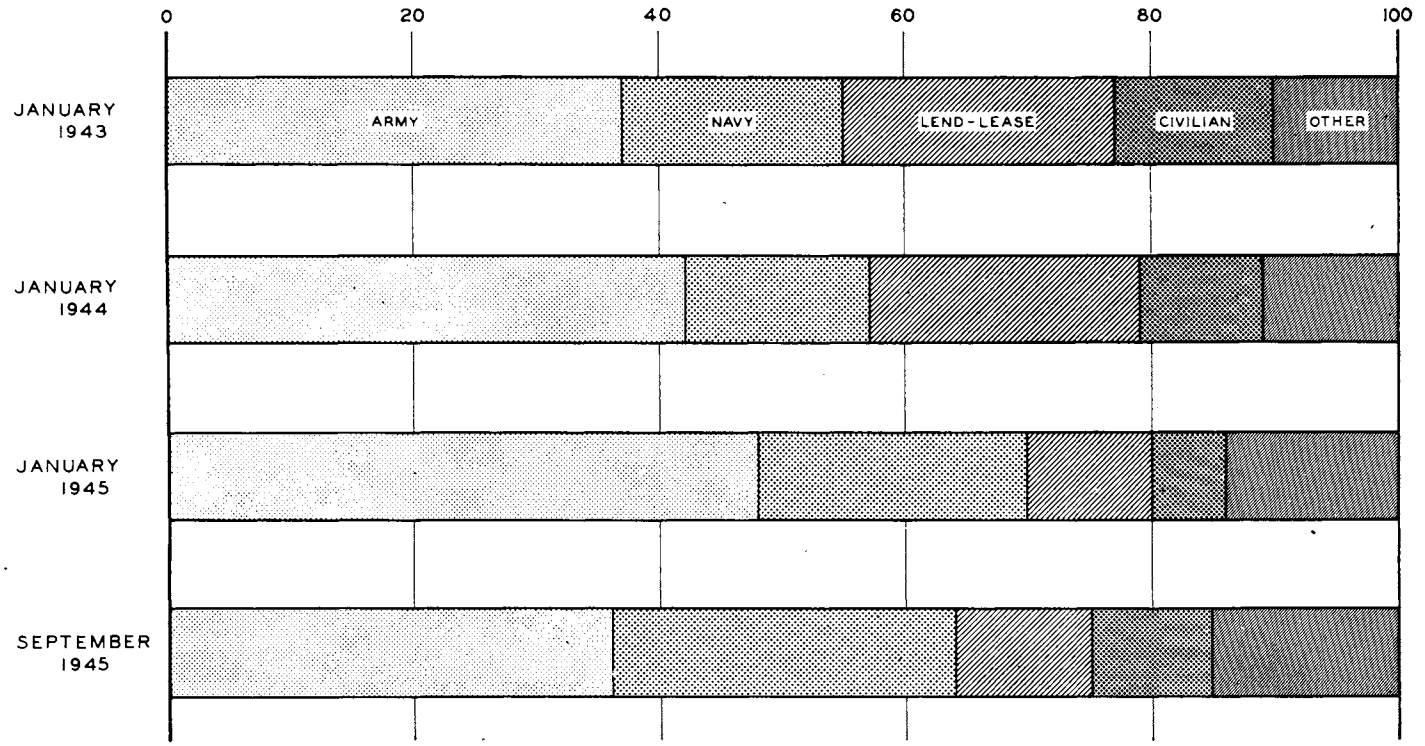
MONTHLY LOSSES AND COMPLETIONS, OCEAN-GOING MERCHANT VESSELS OF THE UNITED NATIONS AND NEUTRALS, EXCLUDING TANKERS



SOURCE WAR SHIPPING ADMINISTRATION SHIPPING SUMMARY

CHART NO. 4

PERCENTAGE OF DRY CARGO SHIPPING UNDER UNITED STATES CONTROL SERVING ARMY, NAVY, LEND-LEASE, CIVILIAN AND OTHER REQUIREMENTS — BASED ON DEADWEIGHT TONNAGE



SOURCE: WAR SHIPPING ADMINISTRATION SHIPPING SUMMARY, OCTOBER 1945

The Army was operating 8 transports. At the peak operation in July, 1945, the ocean fleet in Army service totaled 1706 vessels.[7] The tonnages moved by this fleet were tremendous. For instance, about six measurement tons of material went overseas with each man and an additional ton per month had to be sent to his theater of operations to keep him there. Typical ship allocations during this period were: Army 41%, Navy 13%, Lend Lease 30%, and all others 16%. (See Figure No. 4)

The magnitude of the transportation task handled by and for the military is not significant until it is remembered that these moves were in addition to those required by a vastly expanded civilian economy, and that they were made in spite of acute shortages of equipment and transportation personnel. For instance, the railroads operated during World War II with 400,000 or 25 percent less employees than in the previous war; with 22,000 fewer locomotives; with 600,000 less freight cars;with 13,000 less passenger cars; and with 1,000 fewer Pullman cars. Equipment that wore out due to continuous use could not be replaced, and traffic during World War II was much heavier than in the previous war. Railroad passenger miles in 1944 were 122% above those of 1918, and revenue freight ton miles were up 81%. The lack of serious congestion characterized transportation operations in this war; the reverse was true of World War I.

Responsibility for this spectacular improvement in transportation performance in great part lay in the system of effective

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[7] Gross, Op Cit., p 64.

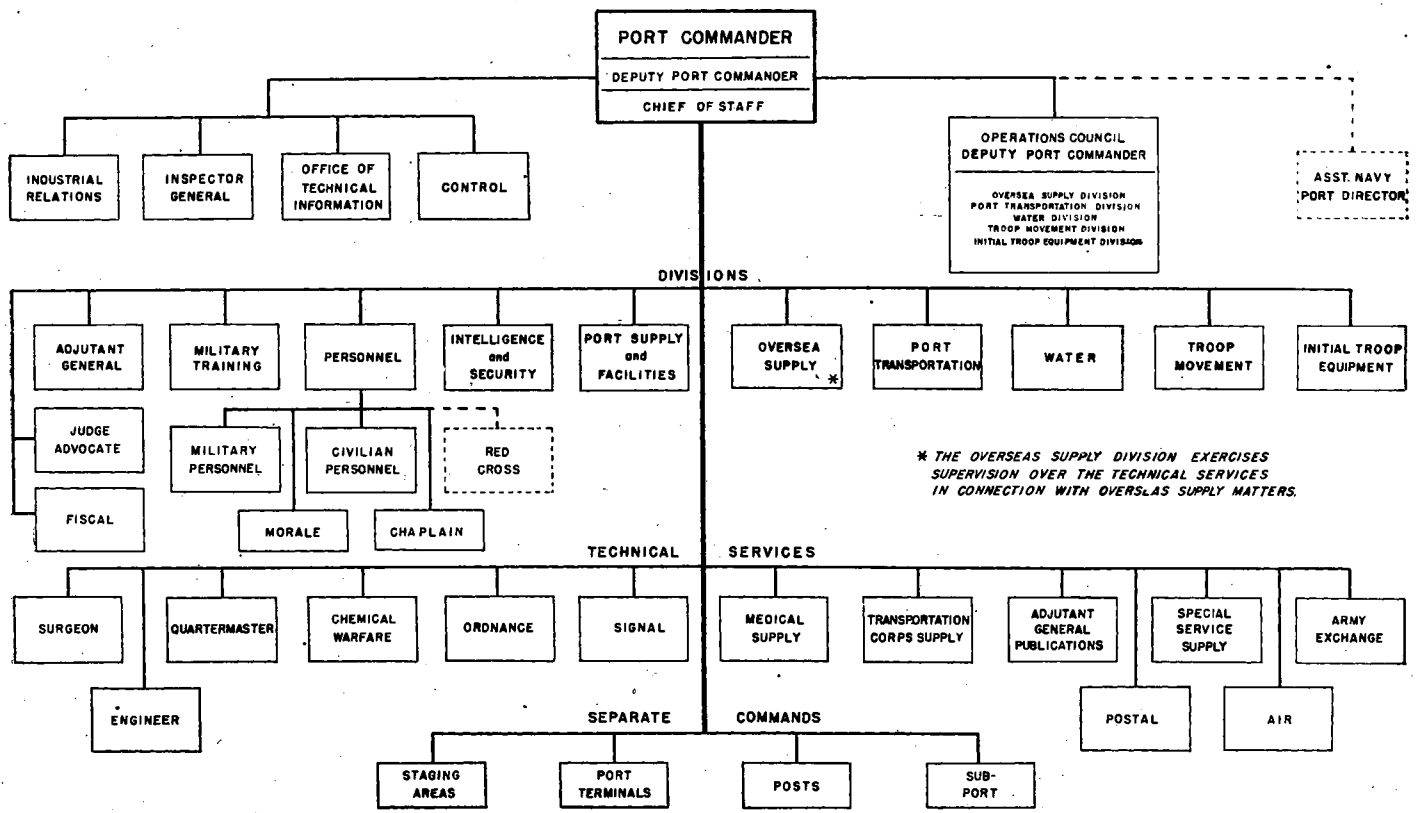
controls instituted by the Federal Government and the military authorities. The need for an integrated transportation service to handle the myriad needs of the Army was soon apparent. This service organization, which is now known as the Transportation Corps (commonly referred to as TC), is the result of a steady process of evolution in military transportation. Before World War II, the responsibility for transportation was divided among various technical services of the Army; the Corps of Engineers; the Quartermaster Corps; and the Ordnance Department. The Quartermaster General was responsible for the movement of the Army's commercial traffic and for the operation of the Army's transports. The Chief of Engineers was responsible for the construction, operation, and maintenance of all railroads required by the Army, the procurement of all Army railroad equipment, and the training of railroad troop units. The Army Quartermaster operated and maintained all utility railroads except at installations which were under the exclusive control of other supply services. The Quartermaster General and the Chief of Ordnance were jointly concerned with the Motor Transport Service. The Ports of Embarkation (commonly referred to as POE's) came directly under the War Department General Staff, and the responsibility of their commanders with regard to Army Transports was not clearly drawn. See Figure No. 5 for the organization of a typical POE. The Supply Division of the War Department General Staff was responsible for the over-all supervision of all transportation by land and water.

The experiences of World War I convinced the War Department General Staff ofthe advisability of establishing a permanent transportation agency, but the Army Reorganization Act of 1920 disregarded

CHART NO. 5

PORT OF EMBARKATION

TYPICAL ORGANIZATION, 1 JULY 1945



their recommendations and a divided responsibility for transportation was the result.[8] Matters were complicated even more by the fact that the Ordnance Department, Corps of Engineers, and the Air Corps, all of which had heavy procurement and shipping responsibilities, had organized traffic organizations of their own. In addition, the Assistant Secretary of War also had heavy procurement responsibilities and was concerned with transportation in general. He was thus encroaching upon the sphere of G-4, (Director of Supply).

As the size of the Army increased, the Transportation Branch of G-4 began to expand in order to coordinate and direct the increased transportation activities.[9] This development was not too satisfactory. When the Army was reorganized in March, 1942, a Transportation Division was set up in the Services of Supply. This Transportation Division was soon renamed the Transportation Service and assumedthe responsibility and personnel of the Transportation Branch of G-4 and the Transportation Division of the Office of the Quartermaster General. The Chief of Transportation (commonly referred to as COT) was made responsible for the POE's and the Holding and Reconsignment Points (referred to as H and R points). Efforts were made to eliminate the duplication of transportation efforts and activities throughout the War Department.

The Transportation Corps was created by the War Department under its wartime powers, effective July 31, 1942, when it became apparent that the transportation activities of the Army were not

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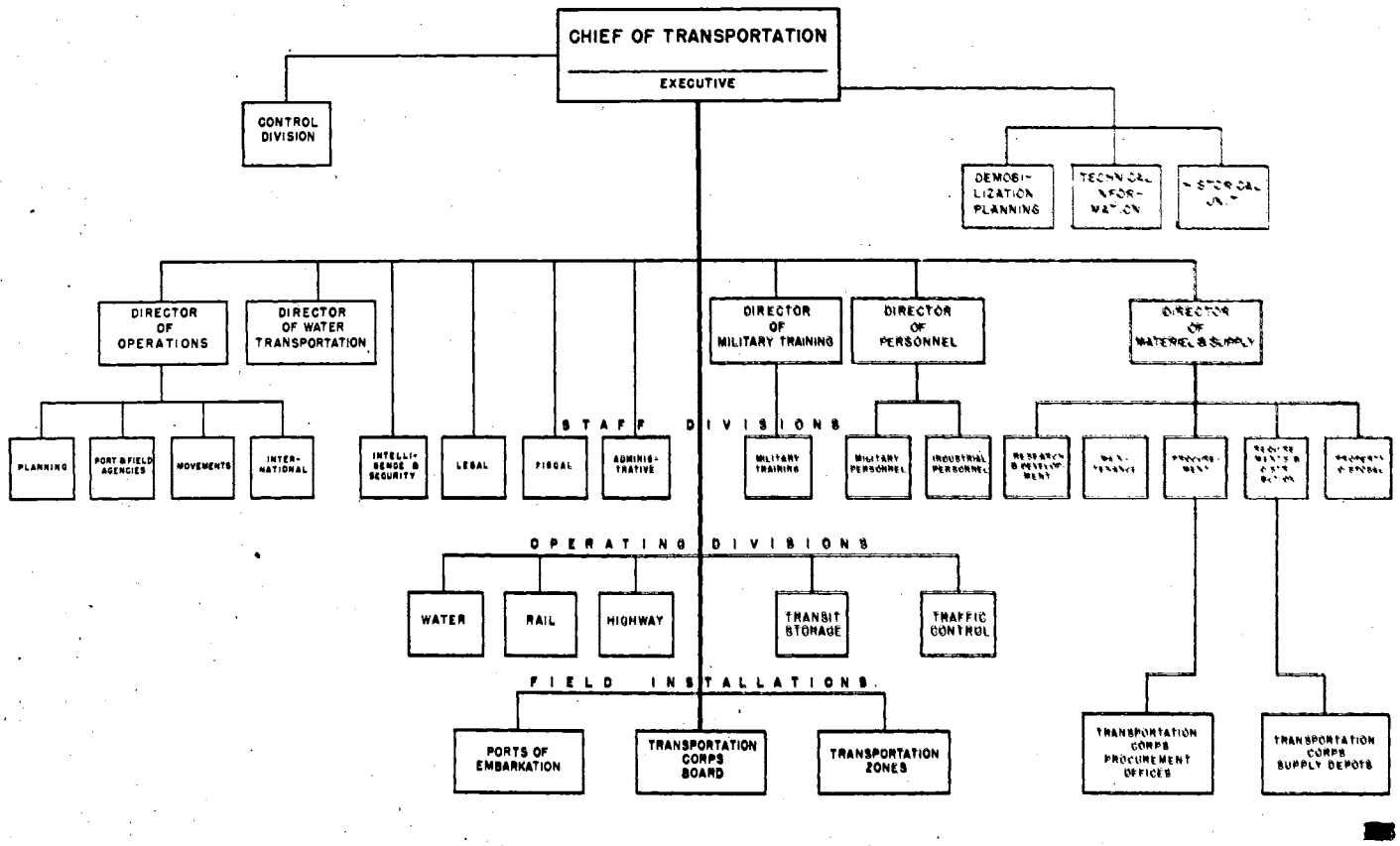
[8] Gross, Op. Cit., p. 19.

[9] Ibid., p. 18.

OFFICE OF THE CHIEF OF TRANSPORTATION

1 JULY 1945



sufficiently integrated. The mission of the TC as set forth in the directive creating it was to, "Direct, supervise, and coordinate the transportation activities of the War Department".[10] Transportation responsibilities were rapidly transferred to the new service. In March, 1942, the procurement of floating equipment and the training of port personnel were taken over from the Quartermaster Corps. The operation and maintenance of military railroads and utility railroads were taken over from the Corps of Engineers and the Quartermaster Corps, respectively, in September, 1942. The remaining railroad functions were assumed from the Corps of Engineers in November, 1942. See Figure No. 6 for a typical organizational chart of the Office of the Chief of Transportation.

This ended the transfer of transportation responsibilities to the Chief of Transportation during the war. In July, 1942, the control of Army air traffic in the ZI and to overseas theaters was transferred from the TC to the Air Corps, in spite of the COT's recommendations to the contrary. The Air Corps also contended that its traffic organization was the only body that could handle its freight without dire effect upon its mission. Although the WD regulations which established the TC made no mention of such exceptions, the Chief of Transportation allowed the Air Corps this perogative in order to promote "inter-service harmony". In December, 1942, all transportation agencies except the POE's and Military Rail ay Service Headquarters (which was soon going overseas) were placed under the supervision of the nine Zone Transpor-

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[10] WD Circular 155, dated 6 May 1942.

[11] Gross, Op. Cit., p 20.

tation Officers, whose commands paralleled the nine service commands. The Zone Transportation Officer became the field representative of the COT and was responsible for the operation of Holding and Reconsignment Points, regulating and consolidating stations, district agencies, railroad repair shops, reservation bureaus, and the port agencies which dealt with Lend Lease traffic. These agencies will be explained later. Branch Zone Offices and District Offices were established at strategic points for further supervision. The Zone Transportation Officer was on the staff of the commander of the Service Command with which he served. In 1945, the field procurement offices and the supply depots were taken from under the supervision of the Zone Transportation Officer and a research organization, the Transportation Corps Board, was set up.

The rapidity of the growth of the Transportation Corps is illustrated by the increase in the combined civilian and military personnel from 53,000 in March, 1942, to 454,998 by June, 1945.

2-Transportation Facilities World War I -- World War II

The difference in the levels of performance of the various modes of transportation between 1918 and 1941 leads to conjecture as to specific reasons therefore. It is apparent that improvements in the modes of transportation and in the transportation net must be at least partly responsible for this improvement. Consequently, this section will be devoted to a comparison of transportation facilities and operating conditions in the past two wars, and to pertinent changes and additions to the transportation net.

In 1916, the railroads monopolized inter-city passenger traffic and handled practically all heavy bulk freight moves. Heavy bulk

cargo such as that carried by the ore freighters on the Great Lakes was a notable exception. The crude oil inter state pipeline net was relatively undeveloped and the inter state movement of refined oils by pipeline was practically nil. Portions of the inland waterways system were underdeveloped. The modern Mississippi River system was not yet in operation and the New York barge Canal was not completed until after the first war.[12]

The most marked change in the transportation pattern between the two wars lay in the phenomenal development and increased use of gasoline powered vehicles. By 1941 the auto had become a household necessity. In that year truck registrations were 23 times those of 1916 and passenger car registrations were 9 times those of 1916.[13] The bus, an integral part of the modern intra- and inter-city transportation net was almost unknown in 1916. Domestic airlines were unknown in 1916, but in 1941 they operated 41,915 scheduled route miles.

The development of the bus, truck, passenger auto, airplane, pipeline, and inland waterways systems added a versatility to the transportation net during World War II that was sadly lacking in 1916. This lent a new flexibility to the transportation system of the country and greatly increased its capacity, even though railroad mileage remained nearly the same in the period between the wars. The extent of this change is shown by the change in the percentage of inter-city passenger traffic miles carried by the

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[12] Lt. H. R. McMahon, Introduction to the Policies and Procedures of Movements Planning, TSM, Mv 350, 1948, p. 2.

[13] ODT, Civilian War Transport, P. 293.

railroads from 98% in 1916 to 9.7% in 1941. The railroads' percentage of inter-city ton miles declined from 72.7% to 63.9% over the same period. The 1941 passenger traffic mile figure was computed on a basis to include passenger auto traffic. The tonnages handled by the coastal and inter-coastal steamship lines were increased from less than 4% of the railroads' total in 1916 to more than 14% in 1941.[14]

There were important differences in railroad operating conditions in the two wars. In 1917 a group of railroad presidents formed the Railroad War Board, and tried to pool their facilities and cooperate their activities for greater efficiency. This move failed for various reasons. Chief among these was a shortsighted decision by the Justice Department which would not allow the pooling of revenues and facilities necessary to support roads which would lose traffic under the system of using the most efficient routings. In addition, rate increases needed in 1917 to offset rapidly rising costs could not be effected quickly enough under private ownership. Various government departments were issuing transportation priorities and no one central agency was coordinating them. It was, therefore, impossible for the railroads to assign precedence to those various priorities and the congestion of the New York--Pittsburg area finally forced assumption of government control in December, 1917. A Director General of Railroads, with cabinet rank, was set up to rule over the issuance of priorities.[15]

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[14] Capt. H. F. Boyle, Control Agencies, TSM, My 527, 1947, p.3.

[15] ODT, Op. Cit., p. 294.

The congested conditions of 1917 did not prevail in 1941, nor did it ever become necessary for the Federal Government to assume control of the railroads. In the period between the wars, the Association of American Railroads (commonly referred to as AAR) had become strong enough to act for all the railroads of the United States and its Car Service Division kept close check on all accumulation of cars, particularly in port areas.

The Car Service Division consisted of a Chairman and eight Managers, each in charge of a separate section, with functions assigned as follows: (1) Railroad Relations--general problems. (2). Closed Car Section--box and stockcar supply and distribution. (3) Open car Section--similar problems in connection with gondola, flat, and hopper cars. (4) Refrigerator Car Section--located with headquarters at Chicago, refrigerator car problems. Also handled privately owned reefer cars. (5) Port Traffic Section--with headquarters in New York, organized in 1939 to regulate the flow of traffic and prevent congestion on Atlantic, Gulf, and Pacific Ports. (6) Tank car section--distribution and handling of tank cars in inter-line service. (7) Passenger Car Section--distribution and handling of passenger cars in inter-line service. (8) Military Transportation Section--liaison with transportation officials of the War Department, with offices in the Pentagon.[16]

The growth of the Association of American Railroads into a strong representative body whose decisions were respected by all the member roads was one of the most fortunate transportation

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16 W. C. Kendall, Conserving Car Supply, American Railroads and the War, (Nov. 1943), p. 23.

developments in the period between the two great wars. This organization lists as its members all of the principal roads in the United States, Canada, and Mexico, and deals with matters of common concern to the whole industry, such as operations, maintenance, engineering, research, accounting and finance, evaluation, taxation, law and legislation, transportation economics, and public relations. The history of this organization is most interesting. The AAR developed gradually from such conventions and organizations as the (1) Time Convention of 1872, (2) General Time Convention of 1883 (which established the modern standard time system), (3) Master Carbuilders Association, 1867, and the (4) Railroad Accounting Officers Association, 1888. The AAR as we know it today was established in 1934 by the merging of the American Railroad Association, Association of Railway Executives, Railway Accounting Officers Association, Railway Traffic Officers Association, Bureau of Railway Economics, and several other organizations.[17]

This association has been of inestimable value during and even before the war years. By establishing and enforcing the equipment standards, the AAR made a nation-wide exchange of cars possible. Bumper crops could be moved by assembling fleets of cars in the harvest area. Regulations were formulated governing the repair of cars "away from home," rules were agreed upon grading and apportioning revenues collected, and methods were decided upon to divide up losses and damages to freight in transit. The Association also carries on a very active research plan, with 267 committees working

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[17]L. M. Perkings, Civilian Trade Associations, TSM, Mv 530, 1947, p. 6.

on a variety of problems. In short, the association embodies many of the better features of a government regulating agency. No other transportation trade association approached it in effectiveness during the war. It is highly significant that even during the most pressing war years, the nations freight car supply remained the responsibility of the AAR, backed by the statutory powers of the ODT and the ICC.

There was much better all around cooperation during World War II than had been the case in World War I. The railroads, the Armed Forces, the United States Maritime Commission, and the shippers cooperated among themselves. Although railroad mileage changed little between the wars, greater train density was possible because of improvements in signals, track, and terminals. In 1943, for instance, the bulk of expenditures approved by the WPB for the construction of railroad fixed installations went for "other than main track" facilities. The largest expenditure was for the improvement and installation of signals. Railroads in the west and southwest felt the heaviest strain on existing capacity.[18]

The development of the passenger autobobile relieved the railroads of much of their previous passenger traffic. In 1941, the railroads carried 15% less passengers than they had in 1916. However, Class 1 railroad revenue ton miles were 31% greater in 1941 than in 1916.[19]

Depression-born lack of freight traffic, coupled with competition from private passenger autos and the bus lines resulted in a great decrease in the number of cars and locomotives in use. The

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[18]Ashton, op cit, p. 15.

[19]Boyle, op cit, p. 4.

The number of cars in use remained almost constant from 1916 to 1929, but declined substantially thereafter. By the end of 1939, railroad cars in use had declined 627,000 in number from the 1929 level, a loss of 27%. There were 15,580 less locomotives in 1940 than in 1929, or a loss of 28%.[20]

This decline in the number of cars and engines was partly offset by an increase in the capacity and improvements in the design of equipment, with particular emphasis on high speed operation. Locomotives were bigger and heavier; the average unit tractive power having increased 11.4%, to 51,217 pounds in 1941. The railroads were suffering from a manpower shortage, losing 185,000 men to the armed forces alone. This shortage was met by employing 100,000 women and by increasing the productivity per worker.[21]

In summary of this comparison of the state of the transportation facilities in 1916 and 1941, it is apparent that at the start of World War II, the railroads formed the backbone of the American intercity freight transportation system. The railroads had registered great improvements in operation, and were able to haul more freight with fewer pieces of higher capacity equipment. Although railroad mileage was much the same as in 1916, improvements in techniques and equipment, particularly signal, permitted a heavier train density. The railroad system was supplemented by extensive inland waterways, and a greatly expanded highway net, plus pipeline and airway networks. These additional modes lent a new flexibility to the overall transportation network. These changes, together with a control system which coordinated their use, go far to explain the great improvement in operation shown by transportation achievements in World War II.

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[20] M. J. Gormley, "Railroads and the War," Am. Railroads and the War, (Nov. 1943), p. 13.

[21] Boyle, op cit, p. 22.

CHAPTER II FREIGHT TRAFFIC

1-ODT and Military Traffic Regulation

Freight shipped in the ZI on WD Bills of Lading during the period December 1941--August 1945 averaged between 5% and 12% of the total inland freight traffic of the country during that period, and amounted to 213,966 million ton miles. Slightly less than 91% of this War Department traffic moved by rail, a little more than 8% moved via highway, and 1% moved via inland waterways,[1] (See Figure No. 7). The peak was reached in March 1945 when 11,001,000 tons of War Department freight were handled in the ZI[2]. Of the three major statistical districts, Eastern, Southern, and Western, the greatest percentage increase was shown in the Western District, whose 1944 traffic was 174.2% of the 1941 level, and averaged 160% of that level for the four year war period. This Western area also registered the greatest percentage increase in passenger traffic. In 1944, this area carried 413.6% of its 1941 traffic, and averaged 345% of the 1941 traffic figure over the war years.

Further complications in the freight picture resulted from the natural tendency of planners to concentrate war induced industrial expansion in those same areas where industry already abounded. This is illustrated by these war facility building authorization figures: East North Central Section--33.7%; Middle Atlantic Section -- 23.5%; Pacific Area--10.7%,[3] (Figure No. 8).

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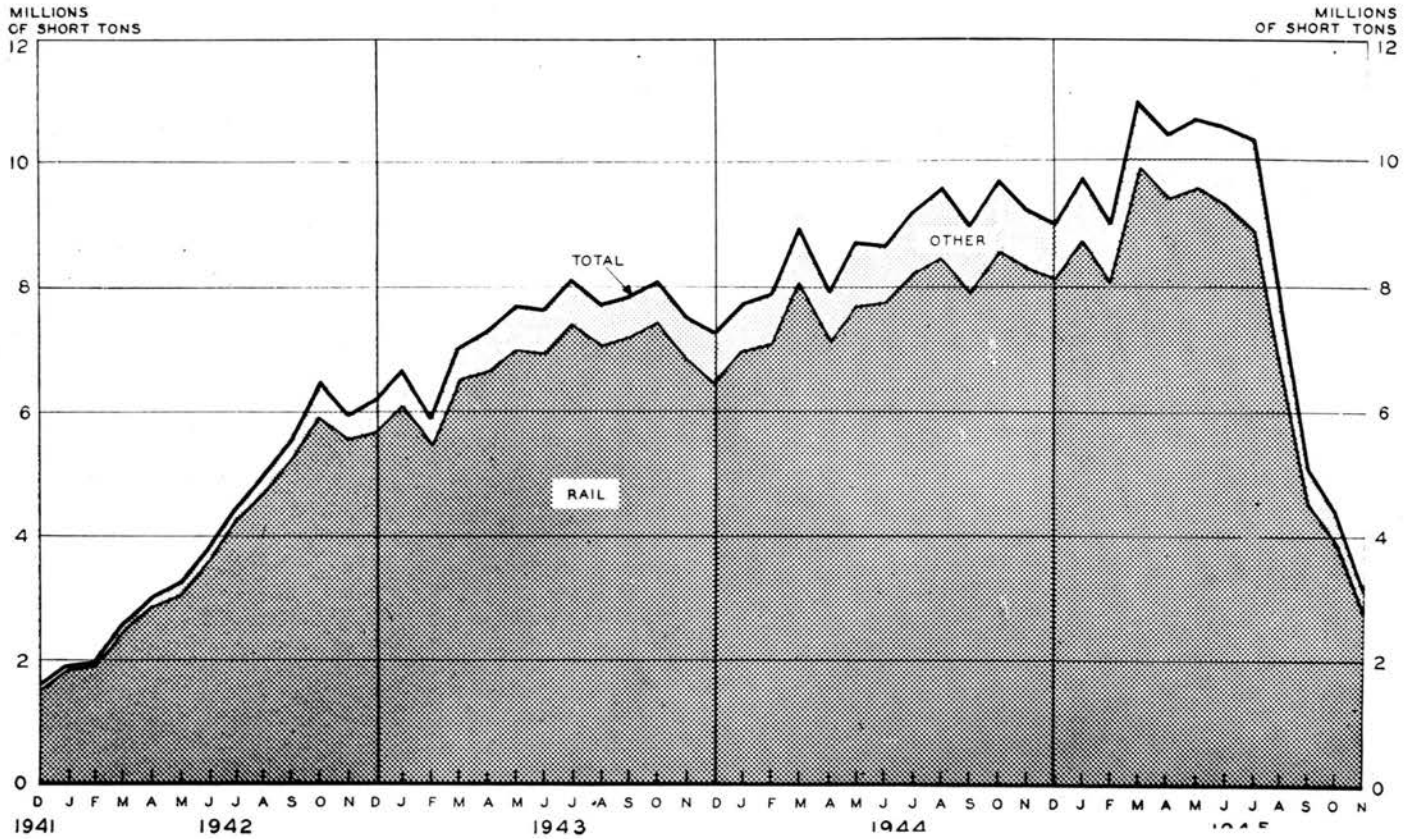
[1] Ashton, Op Cit, p.59.

[2] Gross, Op.cit., p. 24.

[3] Ashton, Op. cit., p. 5.

CHART NO. 7

SHORT TONS OF FREIGHT MOVED MONTHLY IN THE ZONE OF INTERIOR, ON WAR DEPARTMENT BILLS OF LADING, BY ALL COMMERCIAL CARRIERS EXCEPT AIR



The lion's share of War Department freight hauled by the railroads (91%) makes them easily the most important mode of transportation for military freight in the interior. The bulk of this chapter on freight will, therefore, be devoted to WD use of the railroads, with less emphasis placed upon other modes in accordance with their relative importance.

The most striking feature of the Army's utilization of the railroads lay in their centralized traffic control procedure. All carload shipments, whether scheduled for a domestic destination or for export, were routed by the Office of the Chief of Transportation (generally referred to as OCT). As many as 40,000 of these route orders were issued during a single month.[4] A certain amount of background knowledge is essential if these control procedures are to be thoroughly understood.

The Army, like the AAR, was determined that the congested port conditions of 1917-18 would not be repeated in World War II, and as early as 1941 started a drive to control port bound freight. The Office of the Quartermaster General was handling Army freight traffic at this time, and that office made arrangements to keep itself thoroughly informed on port conditions and export shipments. A system of routings and releases was worked out during the same year, with control vested in the Transportation Division of the Office of the Quartermaster General and applying to Army and Lend Lease portbound shipments. Army transportation men met with Treasury and Department of Agriculture representatives on December 11, 1941, and received

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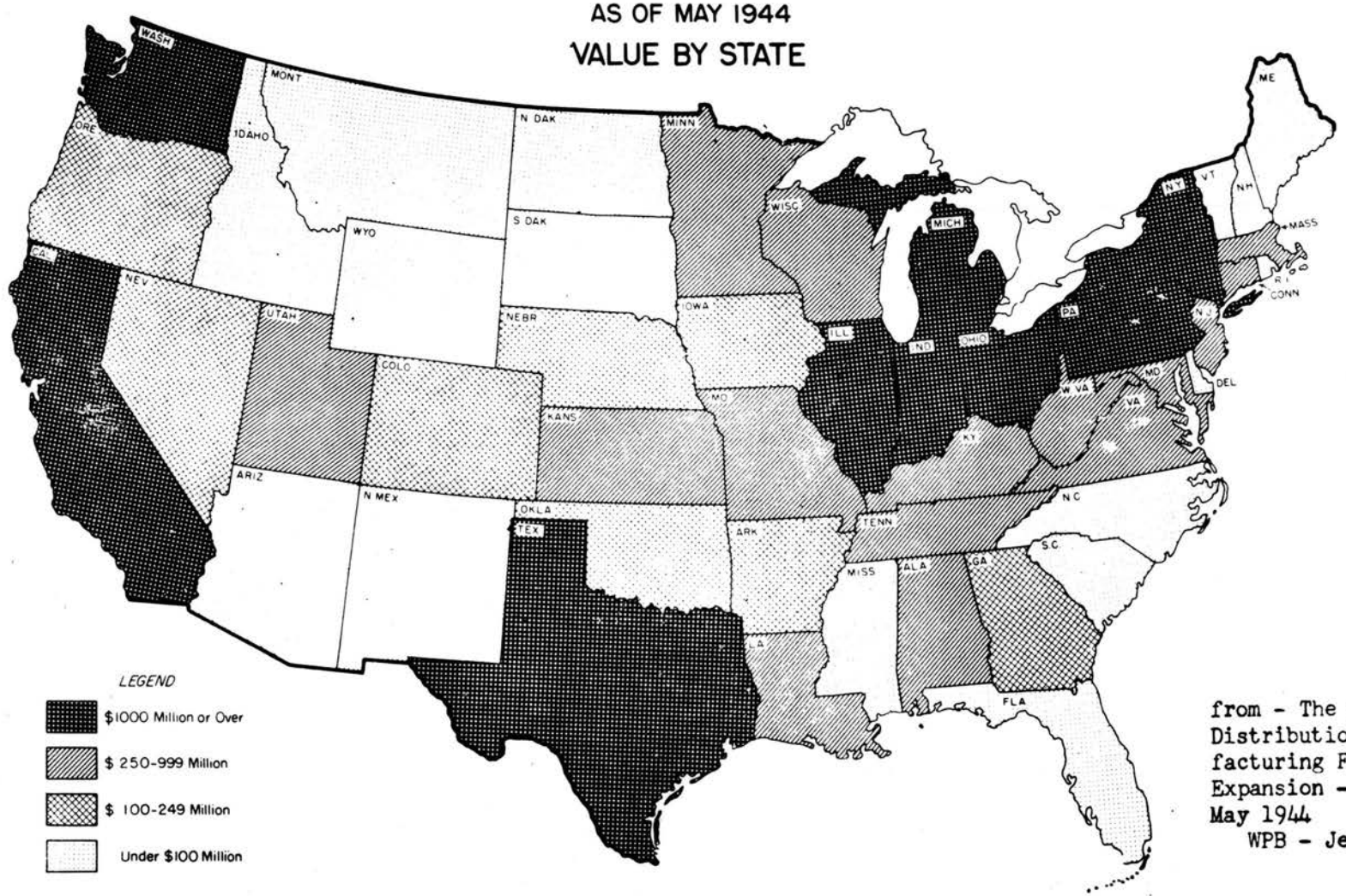
[4]Gross, op cit, p. 25.

ILLUSTRATION ●

MANUFACTURING FACILITIES EXPANSIONS

AS OF MAY 1944

VALUE BY STATE



from - The Geographic Distribution of Manufacturing Facilities Expansion - July 1940-May 1944
WPB - Je 1945

their assurance that these departments would honor any requests made concerning export shipments that were necessary to keep the ports fluid.[5] This concession was temporary in nature and nothing had yet been done towards controlling commercial traffic. As the scope of preparations for war increased, the need for such centralized control became more and more obvious.

The Office of Defense Transportation (ODT) was established by Executive Order No. 8989, on December 18, 1941,[6] (Fig. No. 9). This agency was organized in order to define further and implement the duties and functions of the Office of Emergency Management with respect to the conduct of the war. Its stated purpose was to "assure maximum utilization of the domestic transportation facilities of the nation for the successful prosecution of the war."[7] As in other wartime agencies, the ODT was superimposed upon another civilian body, the Interstate Commerce Commission, (ICC), and was given powers adequate to achieve its aims. Joseph B. Eastman, Chairman of the ICC, was appointed Director of Defense Transportation by the President. The ODT formed an integral part of the Office of Emergency Management which reported directly to the President. ODT jurisdiction included domestic transportation by railroad, motor, pipeline, inland waterways, air, and coastwise and inter-coastal shipping.[8] In addition to these responsibilities for coordinating all government agencies for the most efficient conducting of the war, the ODT was charged with the furnishing of estimates to provide:

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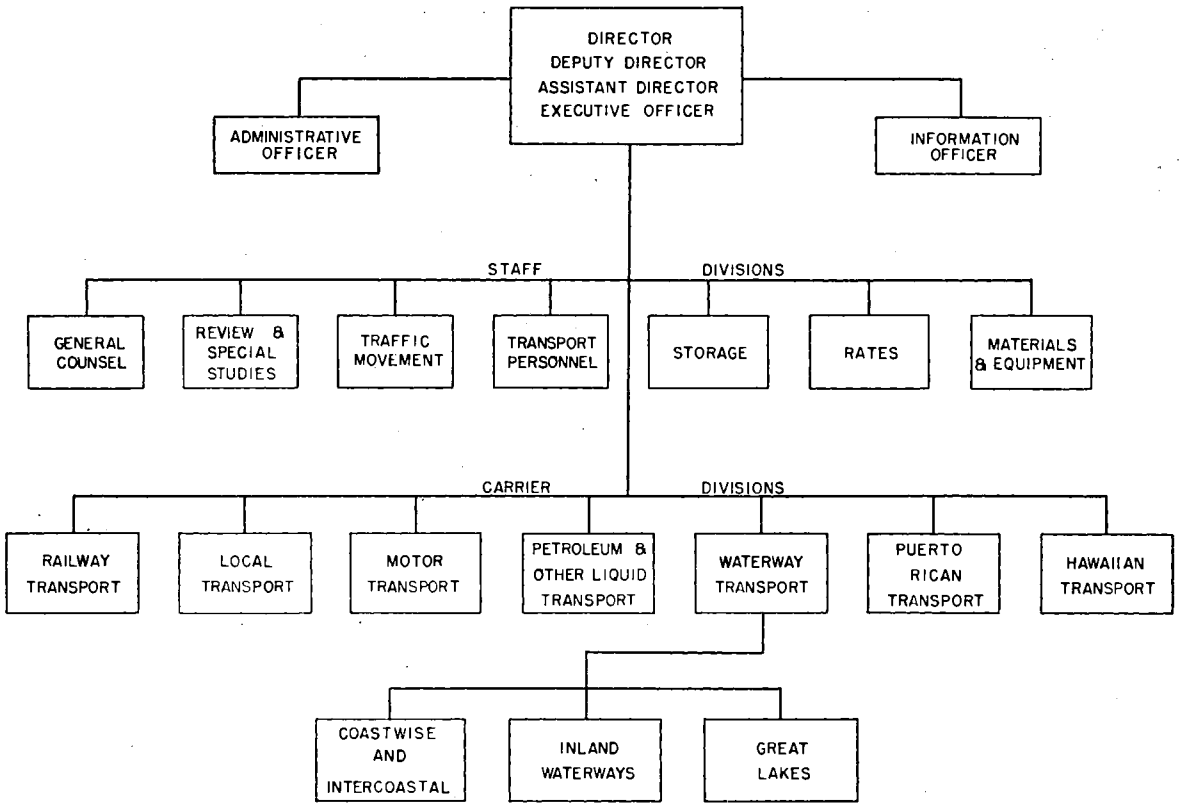
[5] Ibid, p. 29.

[6] ODT, Op. cit. iii.

[7] Ibid., p. 4. L. W. Perkins, Gov. Control Agencies, TSM, Mv 530, 1947, p. 3.

[8] Ibid., p. 4.

OFFICE OF DEFENSE TRANSPORTATION



1. Inventory:
   a. Determining what additional requirements would be imposed upon the existing transportation facilities by the war effort.
   b. Determining the adequacy of the existing facilities in the light of this additional traffic.
2. Coordination:
   a. Institute measures to derive maximum use from domestic transportation facilities.
   b. Arrange the construction of additional facilities as needed.
   c. Advise the WPB of these transportation facility requirements.
   d. Recommend necessary allocation of materials and equipment to WPB.[9]

In addition, ODT was charged with many miscellaneous duties such as: Directing domestic traffic so as to prevent congestion and thus insure prompt movement of the essential military supplies; sharing with WSA the responsibility for supervision of the transportation of goods to ports so as to prevent congestion; publishing car service regulations for the railroads; insuring common use of terminals where possible; publishing traffic priorities; supervising movements under traffic permits; establishing and lifting of embargoes as necessary; determining requirements for storage space in terminals; negotiating rates with carriers; advising Congress of needed legislation; making

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[9] Ibid., p. 5.

reports to the President;[10] and issuing priorities to effect the movement of raw materials as ordered by WPB; and maintaining close liaison with agencies such as the WSA, the ICC, and the War and Navy Departments. The Regional Director of ODT located in Chicago diverted much west bound freight, both civilian and military to the less busy lines to cope with temporary peaks in the volume of traffic.[11]

A series of conferences were held between representatives of the Army, ODT, and WSA in late 1941 and early 1942. The Army advocated immediate establishment of overall control. An agreement was reached by March 18, 1942, which formed the foundation for the control system which developed later.[12] However, ICC Service Order No. 99, which covered the routing of freight made no distinction between military and civilian shipments. Therefore, no distinction was made between military and civilian shipments, when it became necessary to divert freight cars. The carrier concerned used its judgment as to which non-priority cars to reroute. The plan generally followed was to reroute those cars which could be most conveniently handled. This sounds harmless enough, but human nature being what it is, there was a natural tendency to look towards post-war business, and to give the civilian shipper the advantage whenever possible. In addition, the average length of haul per carload was 239 miles for military freight, while the average haul for commercial

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[10] Ibid., p. 5.

[11] Ashton, Op. cit., p. 15.

[12] Gross, Op. cit., p. 29.

freight was appreciably less. Average commercial traffic tonnage per car was 32.6 tons, while military tonnage was only 30.0 tons per car due to the high percentage of freight such as vehicles included in the military total. These figures were reflected in the fact that while the War Department percentage of the total commercial traffic varied from 3.8% to 8.2% during World War II, the Army percentage of commercial traffic ton miles rose only from 5.1% to 12.5%.[13] If, as noted above, War Department tonnage per carload was roughly the same as commercial traffic tonnage per carload, and if each made the same mileage forward per day (an average of 19 miles) the War Department freight should have amassed more than twice as many ton miles as its civilian counterpart. But this was not the case. The War Department figure is only about one-third to one-half greater than the commercial traffic figure. As these cars were moved over the same lines, this would seem to indicate that the War Department cars, which generally made a longer journey, did not make the same forward progress as did the civilian cars.

OCT, ASF, noted this tendency of military freight to lag, and even though permission had been received from ODT for trains, carrying military impedimenta to accompany troops (ICC Agent Kirk's Order No. 25 July 1, 1943)[14] it was felt that sufficient control was not being exercised over War Department freight. OCT accordingly asked that all carload freight consigned by or to the Army be

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[13] Lt. H. R. McMahon, Introduction to the Policies and Procedures of Movements Planning, TSM, Mv 555, 1947, p.40.

[14] ODT, Op. cit., p.24.

exempted from the provisions of Service Order No. 99. This freight moved under the direction of the Traffic Control Division (generally referred to as TCD) of the Office of the Chief of Transportation and TC officers located at strategic points expedited its progress. When this freight was diverted or rerouted on orders from ODT, urgent shipments were sometimes delayed because these regulating agencies would lose track of them.

The Office of the Chief of Transportation's request was granted in part by ODT which issued the Certificate of Preference and Priority in Transportation No. 2, dated January 19, 1944. This certificate requested the ICC to exempt from current diversion procedures all freight of the Army moving under symbols. In compliance with this ODT request, the ICC issued Amendment No. 1 to Service Order No. 99. Thus, Army traffic requiring expedited movement was exempted from diversion or rerouting by the ICC.[15]

After the end of the war in Europe, a large increase was expected in traffic to Pacific and Gulf Coast ports due to the resulting speed-up of operations in the Pacific and relief shipments through Gulf ports to Europe and Africa. ICC rerouting and diverting authority was therefore extended to these areas by Amendment No. 2, May 10, 1945.[16] This amendment also gave the common agent power to reroute and divert empty cars as well as loaded ones, as added insurance that congested port conditions would not develop.

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[15] Ibid., p. 24.

[16] Ibid., p. 24.

Service Order No. 99, Revised, superseded Service Order No. 99 when the latter expired in October, 1945. This revised order named Deputy Director Homer C. King of ODT as an agent of the ICC and a later revision gave him control over less than carload lots (generally referred to as LCL) as well as over empty cars and carloads.

2-Control Procedures, Port Bound Freight

From the foregoing discussion, it is apparent that the centralized traffic control system used by the Army during World War II was operated under authority delegated by and in conjunction with the ODT. Now that we have examined the history and background of this system, we will next discuss the agencies and means through which the control was exercised.

In the first place, there are four broad functions involved in the wartime control of movements. These are: Evaluation, unification, regulation and regulating, and supervision.[17]

Under the term "evaluation" is included the operations of screening, inventorying, and the establishing of priorities. Screening consists of determining which movements of men and materiel are necessary to win the war; in other words, which are the essential movements. Strategic screening was generally carried on at very high levels such as the Yalta or Quebec Conferences, and by staff groups such as the Joint or Combined Chiefs of Staff. Inventorying applies to the process of determining the capacities of present transportation equipment facilities. This information was readily

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[17] Lt. Col. J. T. Goodley, The Organic Functioning of Movements Control, TSM, Mv 525, 1947, p. 5.

obtainable from the carriers themselves and from carrier associations such as the Association of American Railroads. After the actions necessary to defeat the enemy had been decided upon, priorities had to be established in order to insure that the more critical items moved first. Priorities on a movement of civilian traffic were enforced by OCT, and priorities on military freight were enforced by the Traffic Control Division of the Office of the Chief of Transportation.

Ther term "unification" includes the functions of coordination and integration. Coordination in this sense means that the directing agencies concerned must insure that manpower, materials and transportation work together in harmony to achieve maximum results. This coordination was achieved through a variety of government directing bodies, among them the OEM, WPB, ODT, Munitions Board, etc.

Military coordination was achieved through command channels from the top down, and movements were coordinated through the Traffic Control Division. Integration consists of pooling of equipment for more efficient operation. The best example of this function was the car pooling operations of the AAR.

The terms "regulating and regulations" include policy making, balancing, and licensing.[18] Policy making consists of the establishment of general rules and procedures for control and dissemination to those concerned. These rules govern utilization of movements capacity, transportation equipment, and warehouse facilities. The ODT handled the civilian end of this function, while the Traffic Control Division performed comparably for the military.

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[18]Ibid. p. 7.

"Balancing" refers to the weighing of the essential shipment, either men or materiel, against available capacity to make the move. The capacity is then distributed among the users as the needs of the situation dictate. The volume that is to be moved is then allocated to the most practical modes of transportation. Care must be taken to insure that the capacities of the shipping and receiving installations are not exceeded. However, as mentioned previously, most War Department freight and personnel moving over commercial facilities in the ZI moved via rail.[19]

"Licensing" refers to the issuance of releases and permits. A release is an authority to make a specified shipment within a given period of time from a specific origin to a specified destination by a selected mode of transportation within current movements capacity at the time that move is to take place. Transportation Corps Release Numbers, Main Numbers, and MI Numbers were used by the Traffic Control Division, during the war to govern the movements of military freight and personnel. The use and meaning of these numbers will be fully discussed in a later section. ODT performed this very important function for the civilian economy. Another form of licensing involves determining the necessity of operation. In other words, it must be determined if the operation of some particular mode of transportation in a particular area is essential. Operating permits were issued to cover such necessary operations. This function was performed by the ODT for commercial traffic.[20]

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[19] Ibid., p. 5.

[20] Ibid, p. 9.

"Regulating" is also a form of license. Regulating, as the name indicates, consists of the controlling of the flow of men and material from a particular area by utilizing monitoring stations located at strategic points on the transportation net concerned. Efficient regulating increases the volume of shipments of men and materiel that can be moved over a particular net, by: maintaining constant utilization of the maximum movements capacity; preventing congestion; preventing overloading of transportation and warehousing equipment and facilities; using the least critical mode of transportation for a given shipment; and reducing the turnaround time of rolling stock. This service was performed for the Army by the Traffic Control Division and its field agencies, particularly by the Regulating Stations, which will be discussed later.

As in most activities, supervision of transportation operations is one of the most important, if not the most important, of the four broad functions of wartime movement control. Regulations are the policies and procedures by which control is exercised. Each rule making body has field representatives to enforce those rules.[21] Priority setting involves ranking essential moves in accordance with their relative importance. Priorities, like regulations, are best enforced by agencies with representatives in the field.

Allocations of movement capacity must be made and enforced at all levels of operation. The administering of these allocations,

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[21] Ibid., p. 7

which is accomplished through the efficient issue of releases and permits, requires very close supervision.[22]

The goal of these four broad control functions and of their many sub-divisions is to insure maximum utilization of movements capacity and of transportation equipment and facilities.

Now that we have discussed the goal of movements control and the functions through which it is effected, we will take a closer look at the traffic involved and at the control system which evolved.

It might appear from the stress laid on portbound traffic in previous and subsequent chapters that the bulk of all wartime movement control problems consisted of monitoring such moves. This was not the case. Numerically, the moves made between points in the ZI under unit permits greatly exceeded portbound moves. For instance, at the time of peak port-bound movements under unit permits, (Fig. No. 10), such moves amounted to only four percent of the total shipments for which releases had been issued. Conversely, 96% of all freight moves made were between inland points. WD carloadings during this month were about 9% of the total commercial traffic carloadings.[23] This relatively small percentage of all freight that was portbound is easily explained when it is considered that inland moves included all moves of raw material, partly manufactured and manufactured goods, and all other moves necessary to maintain the civilian economy, while only the finished products in the form of men and materiel went overseas.

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[23] McMahon, On. Cit., p. 42

A variety of special problems peculiar to the nature of the operation afflicted those concerned with the planning of portbound movements. Among the most difficult of those were: The necessity for maintaining secrecy was greater; larger units were concerned, making more preparations necessary; proper timing was more essential in order to avoid port congestion; and there were no reverse shipments being made from the ports, at the times of heaviest portbound movements. This resulted in what is known as "dead-heading" (shipping empty, one way), and poor utilisation of cars.[24]

Among the first steps necessary for the uninterrupted movement of men and materiel through the ports was the establishment of a quota for individual ports for certain periods. This very important estimate was accomplished by an organization known as the Transportation Control Committee, which consisted of representatives of the Army, Navy, ODT, WSA, and the British Ministry of War Transport. Daily meetings were held by this committee in the office of the Chief of Transportation during the course of which "Block Releases" were issued for given ports. These block releases indicated the maximum tonnage which could be moved from the ZI to the subject port during a particular month and were based upon supplies expected to be ready for movement and the ships that would be ready to move them.[25] Figure No. 11 illustrates allocations through principal ports over a three months period.

This committee possessed broad powers in connection with the routing and handling of freight. It could change tonnages, order

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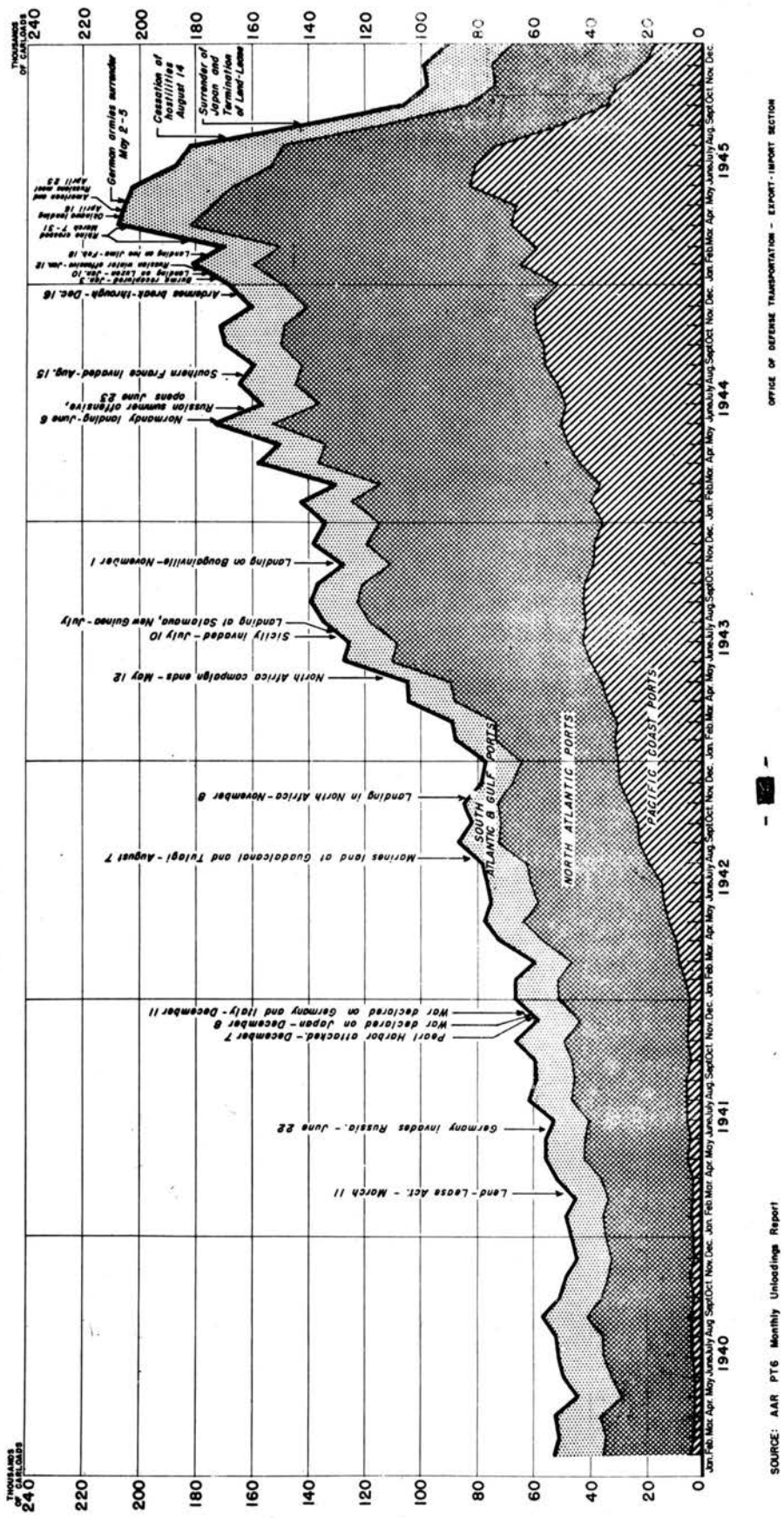
[24]Schmidt, Op. cit., p. 17.

[25]Gross, Op. cit., p. 31.

CARLOAD VOLUME EXPORT FREIGHT BY MONTHS 1940 - 1945



SOURCE: AAR PT6 Monthly Unloadings Report

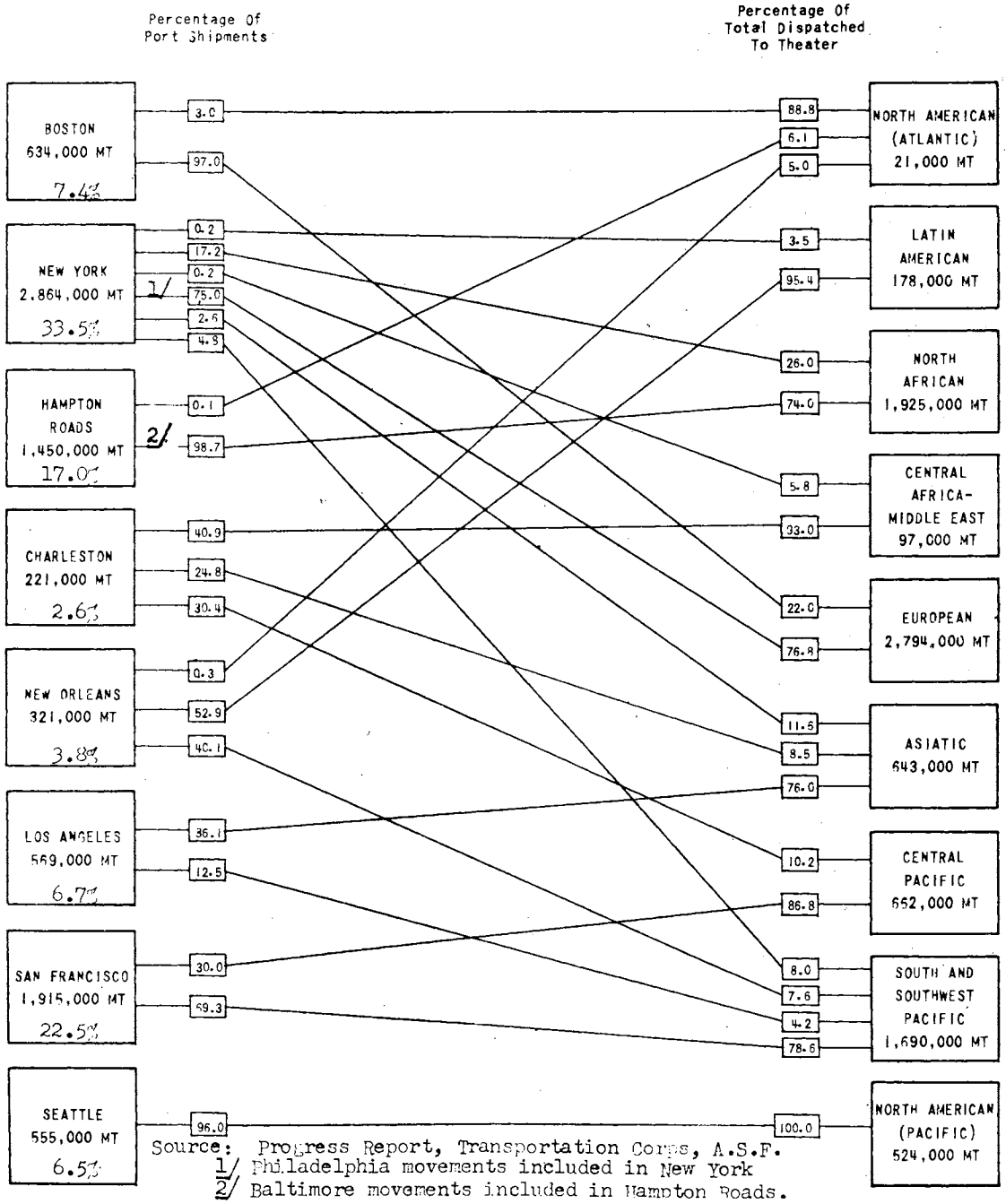
OFFICE OF DEFENSE TRANSPORTATION - EXPORT-IMPORT SECTION

CARGO RELATIONSHIP

BETWEEN U.S. PORTS AND OVERSEAS THEATERS - [redacted] -

BASED UPON CARGO SHIPPED IN THE THREE MONTHS ENDED 31 DECEMBER 1943

The following chart shows the overall supply relationship between U.S. ports and overseas theaters as indicated by the amount of Army cargo shipped in the three months ended 31 December 1943. Cargo amounting to less than 2% of the total dispatched to a theater from all ports has been omitted as unimportant to the objective of the chart.



Source: Progress Report, Transportation Corps, A.S.F.

1/ Philadelphia movements included in New York

2/ Baltimore movements included in Hampton Roads.

diversions or holding of shipments as needed, and order the placing or removing of embargoes as dictated by the needs of the situation.

The monthly port capacities represented by these block releases were allocated among shippers of all government export freight except the Navy by the TCD, OCT, through the issuance of "unit permits." These permits were issued to cover specific shipments upon applications presented by the shipper concerned. The War Shipping Administration issued permits for commercial shipments, with the Association of American Railroads acting as its agent, and the Navy handled its own shipments. The sum of all these permits issued against a block release could not total more than that particular release.

These unit permits covered all portbound moves of a carload, truckload, or bargeload of materiel. The Transportation Officer of the installation having such a portbound shipment ready would contact the Traffic Control Division, OCT, and request a unit permit to make his shipment. This request would be screened, and if allowed, would go to the Freight Traffic Branch of TCD, for routing. This Branch worked closely with the AAR's Military Transportation Section, usually known as the "MTS." The Transportation Officer would be notified of permission to make the shipment through a "TCR" or Transportation Corps Release permit, which would also give the routing. The railroad concerned would be notified as to the details of the move by the MTS. A route order was valid for ninety days unless otherwise indicated on the confirmation copy which was later furnished the shipper. A report was required to OCT at the end of the

period if there were a variation of 25% or more between the number of cars that were shipped and the number that were supposed to have been shipped.[26]

The Military Transportation Section of the Association of American Railroads' Car Service Division, mentioned above, deserves additional discussion. Its office in the Pentagon was staffed with experienced personnel for round-the-clock operation. The Freight Branch of MTS acted as the contact agency between the Army, Navy, Marine Corps, and the Coast Guard on all matters concerning movement of freight. In addition, the MTS handled a wide variety of miscellaneous personnel moves, which will be discussed later. It was very instrumental in effecting more efficient utilization of equipment through retarding moves of tactical units or speeding up such moves in order to use one train to do the work of two.

WD freight was apportioned among the individual railroads according to the respective line mileage on the basis of a count of individual cars. It was admitted that there were faults in this system of alloting freight tonnage, but a minimum of clerks was required to administer it at a time of acute personnel shortage. Apportionment of freight on the basis of revenue would have required the use of at least 100 clerks instead of the four clerks used. This line mileage figure was very misleading. For instance, a two track line would be credited with the same capacity as a four track line. The fact that there was such a small amount of WD freight in

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[26] Minutes, Transportation Conference, Seventh Service Command, Omaha, Nebraska, Feb. 25, 1944, p. 38.

comparison with the total commercialfreight prevented serious overloading of some lines. In addition, the larger war plants were generally located on the main lines of the bigger railroad systems. In such cases, the Army allowed the originating carrier to participate in the line haul, and this location factor was probably more effective in the allocation of traffic than was the mileage element.[27]

Functions performed by the Traffic Control Division, OCT, were important enough to merit a more detailed discussion. This agency had many functions other than the control of the Army's commercial traffic. Among these were: Recommendations on WD policy in the operation of field activities; negotiation of agreements with common carriers regarding facilities provided the Army and rates charged therefor; assembling of equipment and arrangement of moves for all troops traveling in groups of forty or more; maintenance of liaison with the AAR; direction of military passenger movement by commercial means; control of the operation of 2,000 government-owned tank cars; direction of the freight traffic of the Army; and direction of the release of Army and lend-lease supplies in cooperation with the ODT, lend-lease, and associated government agencies.

The Control and International Branch of the Traffic Control Division, OCT, was charged with the responsibility for the control of all portbound freight under Army jurisdiction. At the war's end, this branch was organized into the following sections:

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[27] Ashton, Op. cit., p. 60.

1 Executive Section

a. Administrative Unit
b. Mail and Teletype Unit

2 Army Cargo Section

a. Administrative Unit
b. North Atlantic Unit
c. South Atlantic Unit
d. West Coast Unit
e. New York Unit
f. Depot Control Unit

3 Regulating Section

a. Administrative Unit
b. Field Unit

4. Expediting Section

a. Night Unit
b. North Atlantic Unit
c. South Atlantic Unit
d. West Coast Unit

5 Car Service Section

a. Car Supply Unit
b. Embargo Unit
c. Reporting Unit

6 International Unit

a. Administrative Unit
b. British Unit
c. Russian Unit
d. Canadian Unit
e. Explosive Control Unit
f. United Nations Unit
g. Frustrated Cargo Unit
h. War Foods Liaison Unit

7 Ammunition Section[28]

a. West Coast Unit
b. East Coast Unit

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[28] Major Russell W. Humphreys, United States Army Control of Port Bound Traffic During World War II, pp. 37-38.

The following functions were performed by the various sections of the Control and International Branch:[29] Executive Section--routine administration; Army Cargo Section--issued all unit permits for movement in domestic service and to ports; Regulating Section--technical supervision over the Regulating Stations which operated in the Western United States and Canada; Expediting Section--expedited movement of special shipments and special trains; Car Service Section--responsible for insuring the most efficient use of cars at Army installations. This section received much help and cooperation from the Car Service Division of the AAR; International Section--controlled all Lend Lease and other government shipments except Army cargo; Ammunition Section--supervised the movement of ammunition from source to port. The Control and International Branch, commonly referred to as C & I Branch of the Traffic Control Division, OCT, was reorganized several times as improvements and additions to operations were effected. Groups of geographical specialists were formed as shown by the preceding breakdown. A telephone unit was set up to receive all requests from the field for release permits.

In case a shipment could not be made as requested, the shipment was given a code reference number, the shipping agency was advised that authorization would be issued when possible, and that further communication was unnecessary. These code reference numbers and related papers were then placed in a suspense file until movement could be effected. The unit permit, when issued, was more than just a release to ship; it specified the route and contained all

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[29] Capt. W. H. Schmidt, Jr., Control of Port Bound Traffic During World War II, p. 53.

transportation instructions necessary to make shipment. Routings were supplied by the Freight Traffic Branch of the TCD.

It has been noted previously that the AAR lent its full cooperation to the furtherance of the war effort. This was particularly true of the aid rendered the Army in the ticklish job of control of portbound traffic. Even after the start of ODT, the Office of the Quartermaster General was receiving wire reports from the carriers (at the carriers' own expense) on the movement of all export shipments of one car or more. These reports were furnished by the origin carrier, the destination carrier, and by any carriers enroute when a car was laid up for a considerable period of time. In early 1943, the War Department relieved the railroads of this extra expense, and all such wires were then sent collect.[30]

The carriers also volunteered to help in the portbound freight control problem by refusing to accept shipments that did not have unit permits. This arrangement was later solidified by ODT. Instruction No. 1, May 21, 1942.[31] After its emergence upon the national scene, ODT assumed some of the functions formerly performed by the AAR. Among these were the submission of passing reports and arrival notices by destination carriers to the shippers. Other valuable aid rendered by the carriers included a compilation of "average transit times" of carload freight from various locations all over the nation. This computation lessened the possibility of error in the issuing of unit permits to insure the arrival of freight at ports at the proper time.

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[30] Humphreys, Op. cit., p. 45.

[31] Ibid., p. 45.

TCD early realized the value of statistics in analyzing a given situation, and had therefore built up an efficient reporting system, even before the creation of ODT. The following reports were handled by TCD:[32] P-1 Report--prepared by the C & I Branch, showing permits issued and carloads moved. Submitted daily to the ports and weekly to ODT; P-2 Report--prepared by the Transportation Economic Section of TCD from summaries of forwarding wires received from the railroads; furnished to the ports and ODT; P-3 Report--an attempt to supply a perpetual inventory of portbound freight based on all statistics gathered by TCD and ODT; not too successful; P-5 Report--showed car arrivals and disposition at ports. Information received from railroads through Transportation Port Officers; used in cancelling cards in suspense file on cars enroute to ports. These reports were very helpful in keeping a continuous picture of the situation before the traffic planners, but railroad manpower shortages led to the eventual abandonment of most of them.

The Army's problems in the control of lend-lease portbound freight was more difficult than those met in the handling of strictly WD freight. Lend-lease freight shipments had to be planned on manufacturers' estimates of when they would have the required materiel finished, while WD freight could generally be shipped from some depot which acted as the collecting agency.[33] In addition, the Transportation Control Committee issued block allocations for lend-lease against which the International Section of TCD issued

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[32] Schmidt, Op. cit., p. 67.

[33] Humphreys, Op. cit., p. 49.

permits, while the C & I Branch itself made over-all allocations for Army cargo. Lend-lease vessels were also furnished to a greater degree by foreign governments, and their loose schedules many times precluded the meeting of shipping dates. The Army also had little advance notice of the arrival of these foreign ships at port. This also complicated the control picture.

The WSA attempted to coordinate the arrival of shipping with the arrival of cargo through the FAS (Forwarding Authorization Permit) which authorized the movement of Lend-lease and commercial freight through the ports. The shipper had to get an FAS from WSA before TCD would issue a unit permit. The C & I Branch controlled the movement of all Lend-lease to the ports except that procured for the Navy.

Several control procedures were available to the C & I Branch, among which were the following: Routing--designating the course over which the shipments moved, directing equal and feasible distribution of the Nation's military traffic load. It was sometimes possible to route freight over five or six roads in a shorter transit time than could be achieved over a single road.[34] Diverting and Reconsigning--a change of shipping instructions while a move was enroute. Used principally to prevent congestion in a given area. Tracing and expediting--the location and rapid movement of a particular shipment to its destination may prevent delay of substantial quantities of other cargo. Embargoes and other orders--prohibiting the acceptance and handling of freight to alleviate a particular condition at a given point.[35]

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[34] Ashton, op. cit., p. 62.

[35] Lt. Col. W. E. Stephens and L. M. Perkins, Movements General - Government and Civilian Regulatory Agencies, TSM, 1947, p. 3.

3 - FIELD AGENCIES, TRAFFIC CONTROL DIVISION

The Traffic Control Division of the Office of the Chief of Transportation in Washington was greatly aided in its control functions by three WD installations manned by the Transportation Corps: Holding and Reconsignment Points, Regulating Stations, and the Port Agencies.

H & R Points were located so as to act as reservoirs to the port which they supported. These were depots, where freight was retained until shipping space was available, (Figure No. 12). This storage of supplies within a twenty-four hour run of the port area lessened congestion in the port and held cargo readily available pending the arrival of shipping. There were two general types of storage installations, the Army H & R points and railroad open storage yards. The open storage yards performed the same general functions as the H & R Points. The need for intransit depots such as these was felt as soon as the shipping shortage became apparent early in 1941. This need became more marked as the Lend-lease program to the United Nations got into full swing.

A preliminary step towards providing this intransit storage was taken with the purchase of a factory at Shamokin, Pa., in May of 1941. This site soon proved impractical and a building program was launched. The first two depots built were at Voorheesville, N. Y., and Marietta, Pa. Original plans were for these depots to have about one million square feet of closed storage space and about two million square feet of open storage space. This plan was followed in building six additional H & R points, one for the South Atlantic ports, two for the Gulf Ports, and three to back up the

The Pasco Holding and Reconsignment Point as seen from the air.

Pacific ports.[36] The only exception was that one of the points in the South was to be only one-half the regular size. An additional two were later built, one in New York and the other in the State of Washington, making a total of ten.

The supplies handled by the Holding and Reconsignment Points fell into two broad classifications: supplies headed for the ports but held in the depots pending the arrival of shipping, and materiel shipped directly to the point to be held until called for by some recipient of Lend-lease. Permits to move supplies from these Points were issued by the Traffic Control Division, OCT, and an attempt was made to hold H & R storage of Lend-lease supplies to a minimum.

Seven of the ten H & R Points eventually included in their functions the storage and issue of Transportation Corps supplies. Other agencies also used the depots for miscellaneous storage, space permitting. Control of the first two H & R Points constructed was vested in the Supply Branch of G-4 and the old QMC was later given technical supervision. In March, 1943, the Chief of Transportation was made responsible for the operation of these depots, and he promptly established a Transit Storage Division to coordinate their activities.

After control of these depots passed to the Chief of Transportation, a constant effort was made to assure the most efficient operation possible. Constant attention was focused on ways and means of upping the production of labor employed, and much progress was made.

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36 Gross, op. cit., p. 32.

The railroad open storage yards served the same purpose as the H & R Points but were owned and operated by the railroads under contract from the Army. There were 48 of these yards in operation at various times during the war, all but one of which were situated east of the Mississippi River.[37] As mentioned previously, the Transit Storage Division of OCT was responsible for the technical supervision of both the H & R Points and the railroad open storage yards, while their actual operation was supervised by the Zone Transportation Officer.[38] There were nine zones, paralleling the area of the nine Service Commands, and the Zone Transportation Officers were on the Special Staffs of the Service Commander, as well as being field representatives of the COT.

These intransit storage facilities protected the port on many occasions, and the volume of supplies they handled was tremendous. From the start of their operation until V-J Day, the H & R points received and stored approximately 300,000 carloads of Army and Lend-lease supplies and the railroad open storage yards handled approximately 100,000 carloads.[39] Total holdings of the ten H & R Points on December 27, 1944, were 30,566 carloads. Of this quantity, 62.8% was in open storage, and 37.2% was in closed storage. At this time, there were about 116,346 carloads of commercial traffic per day in this country. Therefore, the holdings of H & R points averaged about one-fourth of one day's commercial

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[37] Ibid., p. 35.

[38] Humphreys, op. cit., p. 62.

[39] Gross, op. cit., p. 35.

traffic loadings. CD carloadings at this time were approximately 10,811 carloads per day, so the H & R holdings equalled about three days movements. Carload movements to ports for export under War Department control were roughly 5,000 carloads per day. Compared to this, H & R storage averaged about six days movements of port bound freight.[40]

The scarcity of good ports on the West coast was emphasized when the tempo of the war in the Pacific mounted. The port of San Francisco was hard hit initially, as it was handling the bulk of all Army and Navy shipments to the Pacific. Its rail network was not adequate to properly support the port. In addition, the Army maintained a large General Depot which stored great quantities of supplies to be used in the western states, rather than for export. The situation was finally cleared up by moving the depot from San Francisco, moving cars out of the port area, using every available bit of storage space, and controlling the arrival of cars through Regulating Stations.

These Regulating Stations were established at strategic points on main rail and truck routes leading from the East coast to the Pacific; at Ogden, Utah; El Paso, Texas; Albuquerque, New Mexico; Salt Lake City, Utah; Denver, Colorado; and Spokane, Washington.[41] Like the H & R Points, the Regulating Stations were under the control of the Zone Transportation Officers and were established to control the movement of carload or truckload freight into coastal areas known to be in danger of congestion.

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[40] McMahon, op. cit., p. 38.

[41] Gross, op. cit., p. 50.

The Quartermaster General, and later the Chief of Transportation were designated as being responsible for the operation of these stations, but the actual movement of materiel between the stations and the west coast was under the direction of the Commanding General of the Western Defense Command.[42]

Stations were later opened in Edmonton, Alberta Canada, to control freight movement over the Alaskan Highway, and through the port of Prince Rupert, British Columbia; and at Montreal, Quebec, for the purpose of controlling moves through that port.

Since there was actually a possibility that the western United States would become an active theater of war in late 1941 and early 1942, the Regulating Stations were modeled after those used to control traffic into a combat zone. The Commanding General of the Western Defense Command was therefore given control of those stations.

The Regulating Stations were set up to: Advise authorized agencies, particularly the ports, of traffic passing through the control area; change routings or perform other functions in connection with the movement of freight as indicated by TCD, or in some cases, the shipper concerned; tab government shipments headed west to port areas and N & R points and all Army shipments to destinations west of the station.[43]

As noted above, the Regulating Stations were originally set up to control traffic moving into the Western Defense Command, and served as virtual representatives of the Pacific port. When the

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[42] Humphreys, op. cit., p. 56.

[43] Ibid., p. 57.

danger of invasion diminished in the summer of 1942, this function was changed to that of controlling domestic shipping of portbound freight. Technical supervision rested with the Traffic Control Division, OCT, and the responsibility for operating these stations was placed with the Zone Transportation Officers. A lack of uniformity in operation existed under this set-up, so as a consequence, a standardizing regulation was published.

Agents of the Association of American Railroads were located at each of these Regulating Stations and were empowered to act in the name of the Association as the occasion demanded. The Regulating Stations were given commensurate powers, in that they could act directly on requests of shippers involving traffic originating or moving in the area west of the Mississippi River. The combination of Regulating Station and Association Agent formed a smoothly working team.

The Commercial Traffic Branch of the Office of the Quartermaster General established the first of the Port Agencies in October, 1941, at the Port of New York. This organization was called the "Commercial Traffic Agency," and when such operations became the responsibility of the Office of the Chief of Transportation, the name was changed to Port Agencies.[44] Their purpose was to help in the control of Army and Lend-lease traffic. Agencies were later established at all Army ports and at all ports used for Lend-lease at which no POE existed.

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[44] Ibid., p. 63.

The main function of these Agencies was to help in the movement of Lend-lease supplies, but they were later used as the source of important reports on the fluidity of port traffic conditions. These reports were of great value to control bodies interested in port conditions.

Although the Port Agencies operated directly under the supervision of the Zone Transportation Officers, they also worked closely with the Traffic Control Division, and were a chief source of information on frustrated cargo. In addition, the Agencies handled all paper work on Army procured Lend-lease, receiving copies of all pertinent documents from the time the cargo left the shipper until it was safely aboard ship.

The control measures practiced by OCT, ODT, and the AAR, resulted in a nearly normal "bank" of cars at the ports of from five to seven days, compared to the New York area bank of ninety days during the period of 1917-18.[45] A "bank" of cars refers to the relation of the number of cars in the port area to the average number loaded per day. Some bank is necessary, due to the complexity of port operations. For instance, three types of cargo are generally used in loading a single ship; heavy or bottom cargo, middle cargo, and top or deck cargo. In other words, a bank of seven days would mean that cars were detained in the port area only seven days.[46] The smallness of this car bank is even more impressive when it is considered that between the years of 1940

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[45] L. M. Perkins, Civilian Trade Associations, TSM, Mv 530, 1947, p. 7.

[46] McMahon, op. cit., p. 17.

and early 1945, the average number of carloads of export freight (excluding coal, grain, and bulk liquids) unloaded daily at Atlantic Coast ports increased from 1300 to 3410, while the same average on the Pacific Coast increased from 203 to 1847 carloads per day.

It was inevitable that in a country as large as ours, under wartime conditions which required the movement of such tremendous quantities of men and materiel, that there would be thousands of instances in which special coordinating efforts would be necessary in order that a particular operation would not be stalled for lack of some critical item. This is not a strictly wartime problem, as even in peacetime, most large commercial firms have traffic managers whose jobs are to contend with such emergencies. However, in wartime this problem was greatly enlarged.

The War Department early felt the need of an expediting service. The first step in this direction was taken in December, 1941, when the Commercial Traffic Branch, OQMG, was made responsible for all requests for expediting, tracing, diverting, and reconsigning.[47] Changes were made as the need for them became evident. Finally, an Expediting Section was established in the Control and International Branch, of the Traffic Control Division, OCT. As previously noted, the regulating stations set up west of the Mississippi River acted as branch offices of the TCD, and requests could be made directly to them for service in connection with traffic movements west of

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[47] Humphreys, op. cit., p. 67.

the Mississippi. Port Transportation Officers were also authorized to act in connection with freight already in their port areas.

One of the main services performed by the Expediting Section was to insure the speedy transit of those shipments or trains containing materiel of critical importance. An example in point was the expedited movement of 169 tractors from Peoria, Illinois, to the San Francisco POE and subsequently to Attu and Kiska,[48] for use in the invasion of those islands. As in other cases, arrangements were made with the AAR for this service after it was decided by OCT that the shipment deserved preferential treatment.

Another function of the C & I Branch which was inherited from the Commercial Traffic Branch, Office of the Quartermaster General, was that of tracing shipments. This involved the location of goods already in transit, and was only used when action had to be taken in regards to the routing of the shipment involved. A good example of the state of efficiency reached by the Traffic Control Division in its tracing activities is offered by rapid location of six cars of damp ferro silicon scattered in transit from the East coast to California. Notice was received that this material was very dangerous when wet, and that an explosion was possible at any time. Further instructions were to remove the silicon barrels from the cars as soon as possible and to shoot holes in them. These six cars were located within the extremely short time of one and one-half hours. Sixteen barrels were taken out and perforated as directed, and twelve of them exploded.[49]

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48 Gross, op. cit., p. 27.

49 Minutes, Transportation Conference, Seventh Service Command, Omaha, Nebraska, Feb. 25, 1944, p. 79.

Automatic tracing was carried out on all shipments whose arrival date at the port were very close to the sailing dates of the vessels involved. As in other cases, the Traffic Control Division worked through the Association of American Railroads in all its tracing operations. In 1944, the Port Agencies and the District Transportation Officers located in port cities were authorized to ask for tracing on export shipments.[50]

Permits authorising diversions of export freight were also issued by the C & I Branch, TCD, OCT. Diversions of domestic freight were also accomplished by TCD working through the Military Transportation Section of AAR.

It is evident that the Office of the Chief of Transportation performed the same highly specialized functions for the Army as do Traffic Managers for the many large corporations operating in this country today.

6-Freight Car Saving Practices

Doctor Herbert Ashton of the Industrial College of the Armed Forces, has stated that wartime transportation problems derive from two principal sources: The increasing volume of business which results from adding a large military traffic, much of which takes preferential movement onto the already large civilian load; and the inevitable scarcities of labor and material which develop.[51] This paper has already dealt with the means by which military freight was added to civilian traffic. Now the second part of the problem

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[50] Capt. W. H. Schmidt, Jr., Control of Port Bound Traffic During World War II, p. 70.

[51] Ashton, op. cit., p. 4.

will be considered. As in other industries, the railroads lost many employees to the Armed Forces (135,000). This loss was made up by hiring women (over 100,000), and by increasing the output per worker. The traffic unit per employee, measured in revenue ton miles combined with passenger ton miles, increased from 1917 to 1940 by about 50%, and from January 1940 to August 1943 there was an additional increase of approximately 55%.[52]

Among the many unusual conditions attributing to the car shortage during World War II were the following:[53]

1. A movement by rail of petroleum to the East which increased in volume from almost nothing (3,000 carloads per week in 1941)[54] to a peak averaging more than a million barrels or more than 42 million gallons per day, (Figure No. 13.) This switch from tanker to tankcar resulted from heavy destruction in shipping along the Gulf and Atlantic Coast by Nazi submarines and from the appropriation of tankers to fill heavy Army and Navy fuel commitments. The tankcars used at the beginning of the war to haul petroleum and petroleum products were owned almost entirely by the oil companies, and were utilized primarily for short haul operations. They had to be conditioned to stand up under the hard pounding of long hauls. Sixty routes were set up over which solid trains of petroleum and petroleum products moved from the Southwest to the East for an average haul of between 1500 and 2000 miles.[55] These trains moved

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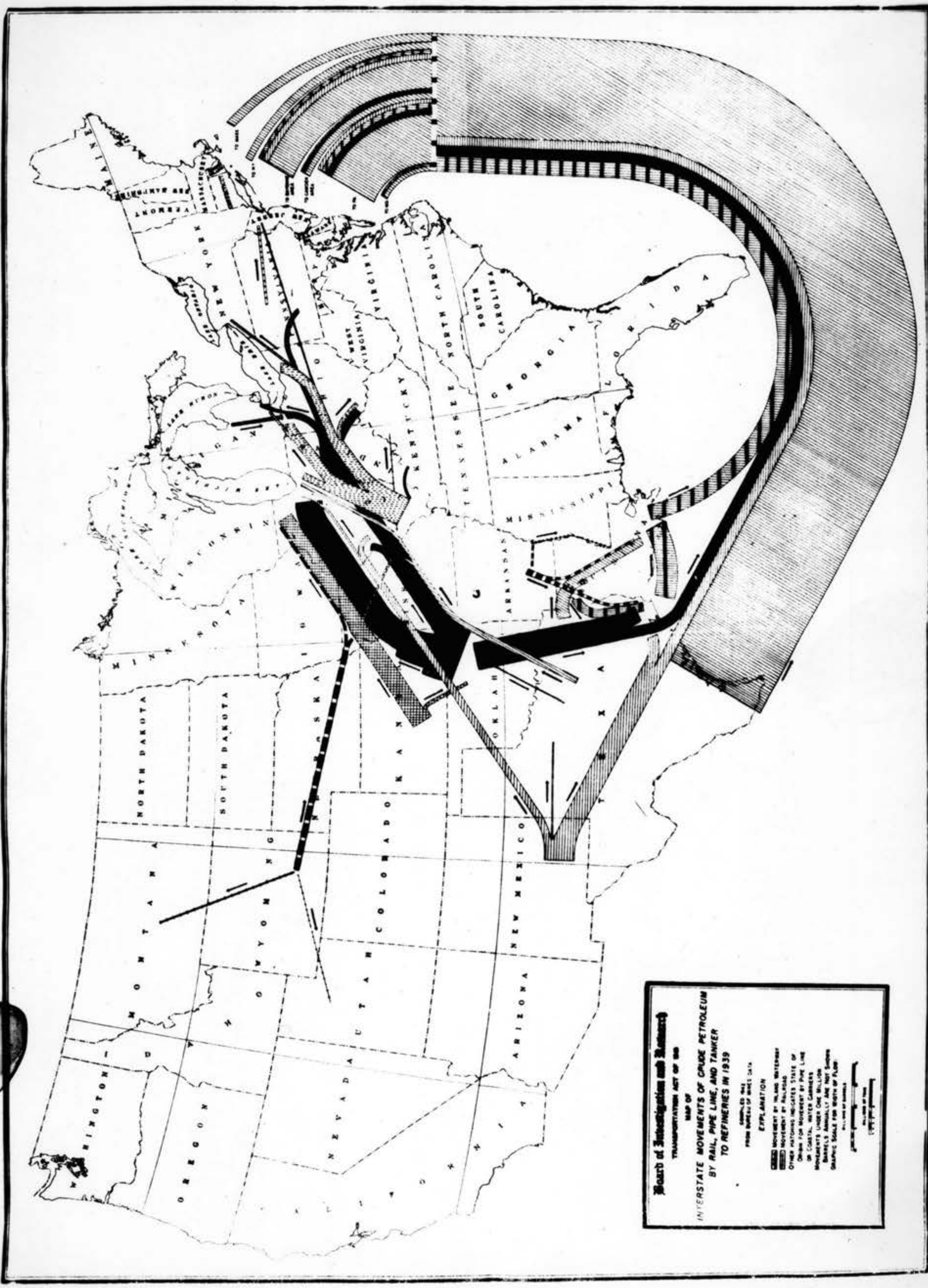
52 McMahon, op. cit., p. 22.

53 Gormley, op. cit., p. 8.

54 Herbert Ashton, "Problems of Wartime Freight Movement", The Annals of The American Academy of Political and Social Science, Vol. 230, (November 1943), 16.

55 Ibid., p. 16.


Board of Investigation and Research
TRANSPORTATION ACT OF 1940
MAP OF
INTERSTATE MOVEMENTS OF CRUDE PETROLEUM
BY RAIL, PIPE LINE, AND TANKER
TO REFINERIES IN 1939
EXPLANATION
MOVEMENT BY INLAND WATERWAY
MOVEMENT BY RAILROAD
OTHER HATCHING INDICATES STATE OF ORIGIN FOR MOVEMENT BY PIPE LINE OR COASTAL WATER CARRIERS
MOVEMENTS UNDER ONE MILLION BARRELS ANNUALLY ARE NOT SHOWN
GRAPHIC SCALE FOR WIDTH OF FLOW
MAINE
NEW YORK
PENNSYLVANIA
WEST VIRGINIA
VIRGINIA
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
FLORIDA
ALABAMA
MISSISSIPPI
TENNESSEE
KENTUCKY
ARKANSAS
WISCONSIN
MINNESOTA
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
OKLAHOMA
TEXAS
MONTANA
WYOMING
COLORADO
NEW MEXICO
IDAHO
UTAH
NEVADA
ARIZONA
OREGON
WASHINGTON

under special symbols and at times rated priority even over passenger trains. This added traffic was easily absorbed in the beginning of the move, but as excess capacity which made this possible was used up, the operation became very tight.[56] Empty cars received the same preference as loaded cars, in order to cut down turn-around time. Heavy fuel commitments made it imperative that the Armed Forces acquire additional cars of their own, and by the end of the war the Army alone had 4,000 tankcars.[57] Pipeline construction, barge lines, and more effective anti-submarine measures finally relieved the railroads of much of this burden, but only after the peak demand had been successfully met.

2. A change was made in the method of transporting coal from Hampton Roads to New England from collier to rail and to water and rail combined. Prior to the war, the Northeast received 70% of its coal by water. By 1943, water movement had declined 50% and the slack was being taken up by the railroads, resulting in longer turnaround times and tied up gondola cars.

3. Heavy grain crops moved rapidly to market because of high prices. Heavy withdrawals were made at the same time from old stocks in order to fill the heavy food needs of the war, and this created a drain on the boxcar supply.

4. A switch was made from water to rail in the shipment of large tonnages of lumber from the Pacific Northwest to the East

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[56] Boyle, op. cit., p. 11.

[57] Gross, op. cit., p. 36.

coast. Prior to the war, these shipments moved through the Panama Canal in large freighters.

5. A heavy movement was noted in the transport of sugar and other such products from Cuba and Central South America by rail, inland from the Gulf ports. This was formerly an all water move up the East coast.

6. Heavy shipments of coal to our allies and other destinations tied up gondola type cars.

7. Heavy imports of critical ores were made through the ports. An example in point was the movement of some 3,000 carloads per month of bauxite from the New York Port to Arvida, Quebec, a distance of over 800 miles.

8. War service to the hundreds of new military camps and installations tied up cars and required the construction of much additional facilities.

9. Large scale moves were made by tactical units to and from maneuver grounds, particularly in the South and Southwest sections of the country. This severely taxed local transportation facilities. An idea of the number of cars tied up by these moves may be gained from the fact that it required from 30 to 35 trains to move an Infantry Division, and from 70 to 75 trains to move an Armored Division.[58] TCD, OCT, cut this figure drastically by convincing Army Ground Forces to leave equipment in training areas, and to move only the men. This will be discussed later.

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[58] Schmidt, op. cit., p. 6.

Strict ODT measures designed to compel conservation of motor vehicles and parts, particularly those involving rubber, made a vivid impression upon the car-owning American public. ODT and ICC regulations covering the use of rail freight equipment were no less severe. Among measures instituted by these agencies with the cooperation of commercial shippers and the Armed Forces were:

1. A heavy increase in the demurrage rates. These rates were normally not over $5.00 per day, but at one time during the war, refrigerator car demurrage had increased to $44.00 per day.[59]

2. Permission was issued to load refrigerator cars in lieu of boxcars in order to release other equipment for movement of the bumper wheat crops. This kept refrigerator cars from moving empty.[60] Such measures concerning refrigerator cars were made necessary by the critical shortage of those cars which developed in 1945. At that time, Chairman Kendall of the Car Service Division, AAR, advised that while there were 1,000 less cars in use than there had been a year previously, car loadings were up 13%.[61]

3. Turnaround time was reduced by speeding loading and unloading operations and by reducing terminal delays.[62]

4. The minimum amount of freight that could be loaded per car was increased by ODT Order No. 1, effective May 1, 1942, for LCL

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59 L. M. Perkins, Governmental Control Agencies, TSM, Mv 530, 1947, p. 1.

60 Ibid., p. 1.

61 Ibid., p. 1.

62 Ashton, op. cit., p. 17.

freight and by ODT Order No. 18, effective November 1, 1942, for carload freight.[63] The effectiveness of these two rules may be judged from the fact that an estimated 141,000 cars were saved in 1943 alone.[64]

5. Movements of all types of empty cars were reduced as far as possible.

6. ODT Order No. 7, dated March 7, 1942, assumed control of tankcar operations. As was mentioned before, the tankcar situation became critical when the railroads assumed the burden of oil transport to the East because of the submarine menace and heavy Armed Forces use of tankers. In December, 1943, there were 66,760 cars assigned to the East coast and approximately 38,000 to the West coast. The use of tankcars for hauls of less than 100 miles was prohibited except under special permit. This was later increased to 200 miles.[65]

The Chief of Transportation waged a constant battle to save the Army money in transportation and to increase the effectiveness of the equipment in use. The storage in transit privileges clause was made applicable to many Army installations through the effort of COT, saving an estimated $60,000 a year.[66] A study of cross-hauls and backhauls was made, and procuring agencies were required to take steps to eliminate them. A widely circulated report

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[63] Ibid., p. 17.

[64] L. M. Perkins, Governmental Control Agencies, BM, Mv 530, 1947, p. 8.

[65] Ashton, op. cit., p. 18.

[66] Gross, op. cit., p. 25.

showing the detention times of cars unloaded at over 200 of the Army's largest installations resulted in a competitive effort which in one year's time increased the percentage of cars released before the expiration of twenty-four hours from 62% to 71%, and decreased the percentage held beyond the forty-eight hours freetime from 14 to 7%. Constant attention to full utilization of freight car space increased the average weight of WD freight loaded per car from 28.9 tons in August, 1943, to 30.0 tons in June, 1945. Experiments were conducted in palletizing, and the amount of shipments so handled increased. Palletizing is the name given to that method of securing relatively small articles into a larger block of items, and fastening the whole to a light platform or pallet, so constructed as to be speedily handled by forklift truck. In December, 1942, TCD persuaded the Army Ground Forces to leave heavy equipment in maneuver areas and to move only the troops concerned. Freight savings of one million dollars per month were effected by this change, and the number of trains necessary to move a division was cut from 70 to 30.[67]

ODT regulations were checked by the military authorities in order that military traffic could be excepted if necessary. OCT accomplished this by reviewing ODT regulations prior to publishing.[68]

The freight car picture was further complicated by the lack of coordination and planning in securing of equipment by the rail-

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[67] Schmidt, op. cit., p. 84.

[68] Gross, op. cit., p. 29.

roads themselves and by the government agencies involved. Many railroad equipment plants converted to war production and could not deliver cars and engines to fill orders of long standing placed by the operating companies. In addition, WPB placed the production of railroad equipment in the same priority category as other civilian requirements. This effectively kept the railroads from replacing equipment which was being worn out daily.

Finally, ODT was given the status of an independent claimant agency on a par with the Army, Navy, and other agencies. The railroads then had to convince ODT that the new equipment needed was actually the minimum requirement under which they could operate.

The railroads themselves were partly to blame for their plight. In the first place, they had no way of accurately predicting the amount of traffic they would be required to haul, therefore, had no idea as to exactly how much equipment they would require in order to operate. This lack of planning resulted in a failure to make adequate preparations for replacement stocks. In the face of the difficulties under which they operated, such an error is easily understandable.

However, the railroads made another error which was largely avoidable. With an eye on postwar competition, they continued to solicit additional business, including trying to get additional war plants founded in their particular areas, even when they were barely able to meet current commitments. The psychology of excess capacity lingered on in the minds of the railroad executives long

after that capacity was gone.[69] As a consequence, many plants were located with regard to the labor supply rather than transportation facilities.

Trucks were substituted for railroad LCL cars within metropolitan switching limits, and for way transportation on light traffic lines, effecting considerable economy in freight car utilization.

The need for a WD consolidation service for LCL freight became apparent early in the war. It might be well at this time to further define the term LCL. This term refers to "less carload lots". A carload is any freight shipment of 20,000 pounds or more by rail, or less than 20,000 pounds by rail, if exclusively occupying the rail car. An "express carload" is a shipment of 12,000 pounds or more by express. A "truckload" is a shipment of 10,000 pounds or more by truck. An "LCL" shipment or an "LTL" shipment is any shipment lighter in weight than those applicable weights above.[70]

Forty percent of the total number of WD shipments in the first war year were LCL, and as such were taken over by the railroads and consolidated into carloads. This freight thus passed out from under the control of the Army, and the usual delays were encountered, in addition to the higher costs involved. An experimental station was set up first in Chicago to consolidate the shipments to California. The success of this station lead to the establishment of further stations in New York, Philadelphia, St. Louis, and Cleveland. Freight distributing agencies for their surrounding areas were established at Philadelphia, Chicago, Memphis, Atlanta, San

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[69] Boyle, op. cit., p. 21.

[70] Lt. Col. J. T. Goodley, "Introduction to the Mission of the Transportation Corps, TSM, 1947, p. 5.

CHART NO. 14

SHORT TONS OF FREIGHT CONSOLIDATED AND FORWARDED MONTHLY BY THE ARMY - NAVY CONSOLIDATING STATIONS

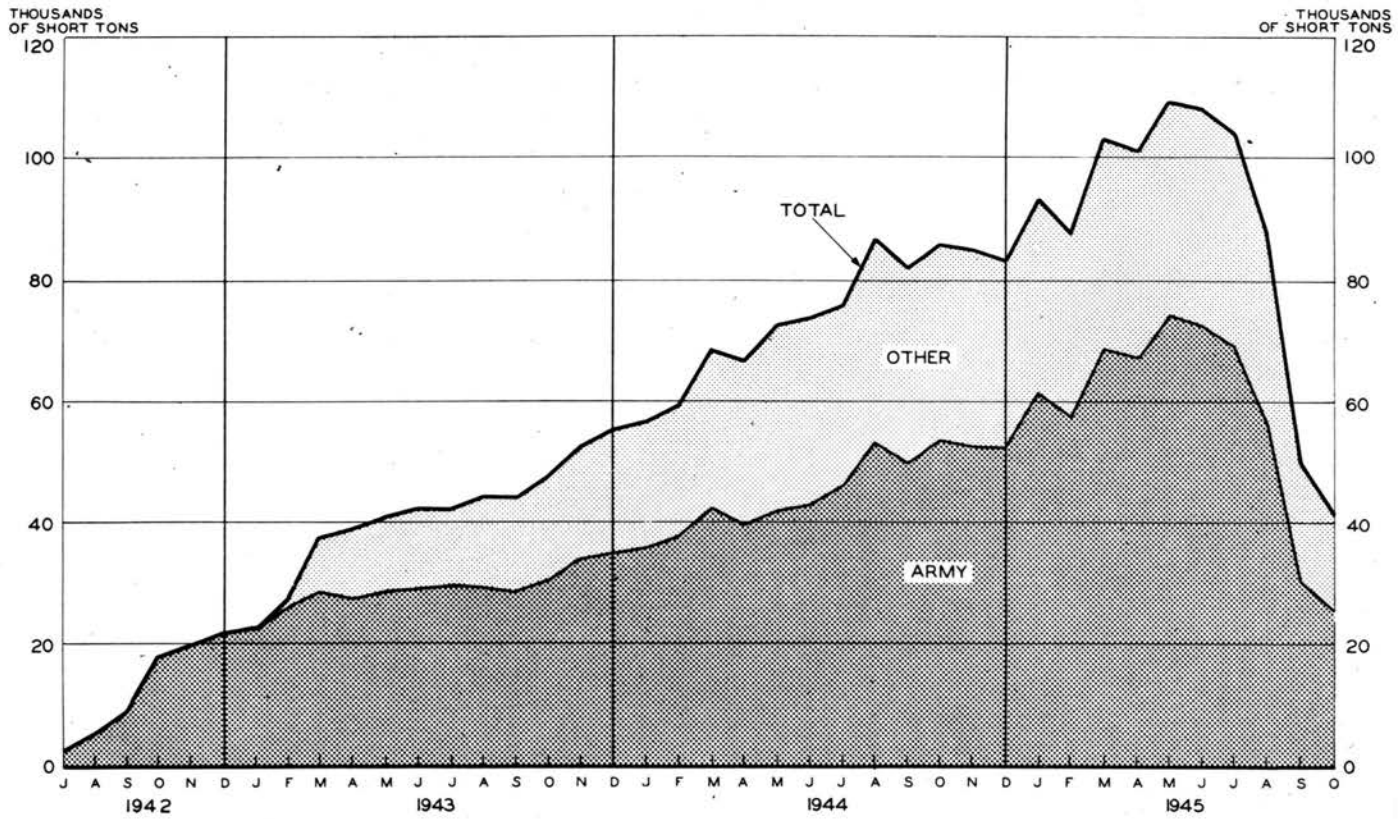

Fig. No. 14

Antonio, Fort Worth, El Paso, Ogden, Spokane, Seattle, Tacoma, Portland, Los Angeles, Oakland, and San Francisco.[71] In 1943, the Navy began participating in this plan. From July, 1942, through August, 1945, a total of 140,000 carloads were handled by these stations. (Figure No. 14) Sixty-five percent of this total belonged to the Army and the rest to the Navy. Included in the figure were 45,782 refrigerator cars which would otherwise have been deadheaded to the West coast.[72]

5-Military Utilization of Supporting Modes of Transportation

The proportion of total freight moved by highway was reduced from approximately 8% in 1939 to less than 6% in 1943 and 1944.[73] This resulted from rubber and gasoline shortages which developed during the war and to the measures taken by the OPA to conserve available supplies, together with restrictions imposed by the WPB on the manufacture of replacement vehicles.

Order L-1-C, WPB, January 1, 1942, froze the sale of all new commercial vehicles. Order M-100, issued jointly by WPB and ODT, effective March 9, 1942, provided for the release of these new vehicles on certificates of transfer issued by the WPB on application forms provided by ODT.[74] Additional orders by ODT required motor carriers to haul capacity loads for a "considerable portion of the haul" in both directions. The establishment

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[71] Gross, op. cit., p. 27.

[72] Ibid., p. 28.

[73] Herbert Ashton, Allocation of Transportation and Other Public Utilities, Study of Experience in Industrial Mobilization in World War II, WD, 1946, p. 75.

[74] Wilson, op. cit., p. 18.

of joint information offices by any two or more motor carriers for the purpose of complying with the various recommendations of ODT was authorized. These information services were established at practically every city of any size in the United States.

ODT issued an order requiring that all commercial vehicles have certificates of war necessity, and no such vehicle could obtain tires or gasoline without such a permit. Various other ODT orders eliminated duplicate competitive services, and moved to reduce "empty mileage". Many other difficulties tended to restrict the use of this motor transportation. Chief among these was the fact that there were thousands of individual operators, each of which was his own boss and owed allegiance to no such central body as was the case with the railroads. This lack of a strong representative truck body with powers comparable to those enjoyed by the railroad association made dealing with the operators difficult, and control nearly impossible.

Truckers were often criticized for their tendency to skim the cream off traffic. Many of them were willing to haul traffic that would pay well, but would not handle other less remunerative traffic over the same route. In land grant territory they were not willing to sign land grant equalization agreements, but were willing to quote special rates on movements which they would like to handle. In addition, it was necessary that all parties to a joint haul through land grant areas be signators to the same agreement.[75] The term

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[75] Minutes, op cit., p. 43.

"land grant railroad" originated from the practice of giving government land tracts to certain railroads in return for their agreeing to carry government traffic at a reduced rate. The smoothly working arrangements with the AAR presented quite a different picture to the very busy WD representative.

The fact that the truckers used the public roads added additional obstacles to the efficient use of that mode of transportation. In the pre-war years, various state legislators had so bound up truck operations with varying regulations, both logical and otherwise, that standerdization of equipment and procedures to the degree enjoyed by the railroads was impossible. These laws were so restrictive that they had already seriously interferred with the progress of long haul trucking operations. In 1943, for instance, Ted V. Rogers, President of the American Trucking Association, Washington, D. C., estimated that 88% of all trucks on the road were owned by farm operators (who possessed not more than three trucks each) and manufacturing or merchandising companies. He further estimated farmers to own one million trucks and the various industrial companies to own three million. "For hire" trucks totaled 600,000, of which 50,000 were in operation between cities within state borders, 550,000 handled goods intra-city, and 200,000 were on interstate hauls. This last category was hauling essential war supplies as approximately 75% of its loads.[76] These interstate truckers were the only lines that could compare, and this not

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[76] Ted V. Rogers, "Motor Truck Transportation", The Annals of the American Academy of Political and Social Science, Vol. 230. (November 1943), 65.

favorably, with the railroads' ability to move cargo long distances in sustained operation. Naturally, veen these truckers could not compete with the railroads in moving large tonnages of heavy bulk freight.

The breakdown given above points to the prime use of the motor truck on the American scene. It is at its best as a short haul carrier of items other than strictly bulk freight. Its flexibility is unequalled, particularly in hauls of 100 miles or less. LCL freight may often be handled better by the truck lines than by the railroads, and many types of freight can be shipped without packaging.

The truck companies had much the same terminal problems as the railroads. Many of these terminals were placed downtown, and city traffic delayed the movement of freight. Many terminal facilities were duplicated in the rush of competition.[77]

Among additional uses of the truck as a substitute for rail transportation were the utilization of trucks instead of trap or ferry cars to convey freight between railroad freight depots or transfer stations and to handle volumes of freight too small to pay for the use of freight cars. Trucks were used to speed up small freight movements within terminals. Additional uses were to collect freight from sub-stations, to carry freight between the piers and the terminals, and in lieu of gliders, barges, or car floats, where such services were performed between freight houses

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[77] Major M. E. Parr, Coordinated Transportation, TSM, Mv 513, 1947, p. 4.

or stations of the railroads, steamship piers and industrial plants in the harbor areas.

In summary of this coverage of the Army's use of commercial trucking facilities during the war, it is evident that trucks were not nearly so widely used for the transporting of War Department freight as were the railroads. Chief among the reasons for this Army preference for the railroads were: The fact that the truckers were prepresneted by no strong nat onal organization that could act for them, and were thus less amenable to control; and WD freight generally had to move at the lowest cost possible generally over long distances, and was very bulky in proportion to its weight. These characteristics made War Department freight definitely not ideal cargo for truckers. Army tactical and service units made wide use of the motor truck in all phases of their operation, and the military truck proved itself capable of sustaining long haul freight movements in such operations as the Red Ball Express in Europe and over the Burma Road in China.

Although the pipeline is limited by its nature to the transport of liquids and gases, it turned in a very creditable performance during the war years. It has been estimated that between 8% and 12% of the total ton miles of transportation supplied by all agencies during the war years wore by pipeline.[78]

The pre-war pipeline net of the country was divided into two main groups, (Fig. No. 15). The main net served the Gulf Coast,

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[78] Herbert Ashton, Allocation of Transportation and other Public Utilities, p. 41.

Mid-Continent, and Illinois fields, and was connected to the Montana-Wyoming area by a long line from the Salt Creek section. The second system served the California fields. In 1941, this net totalled over 110,300 miles. By January 1, 1943, this total had increased to 133,000 miles.[79] Two giant lines were constructed, the 24 inch "Big Inch" from Texas to the East coast, and the 20 inch "Little Inch" from the Gulf Coast to the East. The capacity of the Big Inch was 300,000 barrels per day, and that of the Little Inch was 235,000 barrels per day.[80] New war-time construction included many other spectacular pipeline building achievements, but the two "Inches" overshadowed all other projects.

Petroleum transportation by pipeline was under the supervision of ODT, whose Liquid Transport Department established a division of pipelines to coordinate activities, especially with the Petroleum Administrator for War. The Army had little if any part in the control function exercised by this Division, but the consistent receipt of the vital products transported were of great concern to the conduct of the war.

Petroleum products moved by barges during the war years totalled 1,750,000,000 barrels, an average of 1,279,000 barrels per day. These barges moved on a vast network of navigable rivers which included 11,600 miles exclusive of the Great Lakes and intra-harbor operations. The Liquid Transport Department coordinated with the Waterways Department of ODT in research and planning on the operation

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[79] ODT, op. cit., p. 189.

[80] Ibid., p. 190.

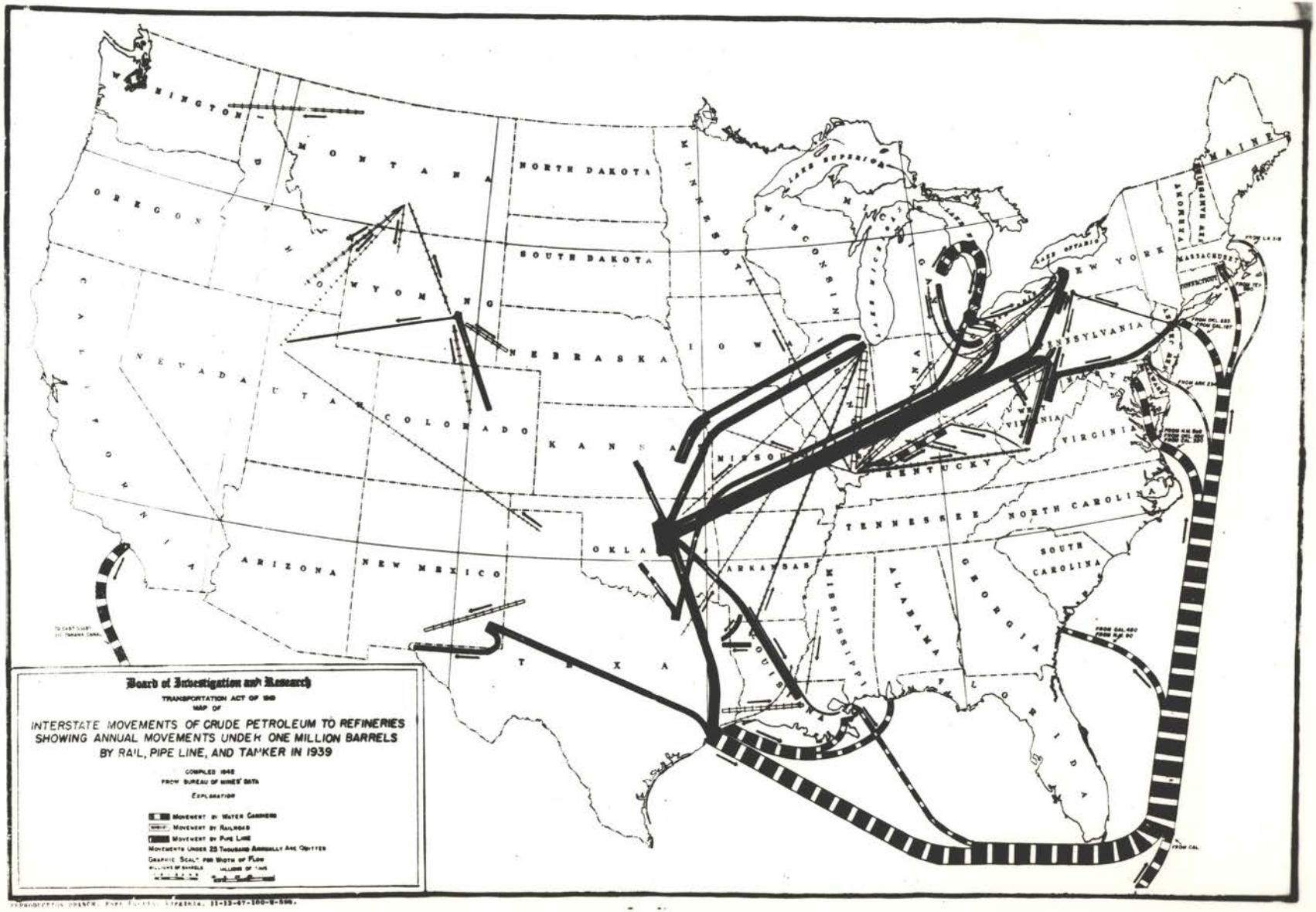
Board of Investigation and Research
TRANSPORTATION ACT OF 1940
MAP OF
INTERSTATE MOVEMENTS OF CRUDE PETROLEUM TO REFINERIES
SHOWING ANNUAL MOVEMENTS UNDER ONE MILLION BARRELS
BY RAIL, PIPE LINE, AND TANKER IN 1939
COMPILED 1942
FROM BUREAU OF MINES' DATA
EXPLANATION
Movement by Water Carriers
Movement by Railroad
Movement by Pipe Line
Movements Under 25 Thousand Annually Are Omitted
Graphic Scale for Width of Flow
WASHINGTON
OREGON
MONTANA
NORTH DAKOTA
SOUTH DAKOTA
WYOMING
NEBRASKA
NEVADA
UTAH
COLORADO
KANSAS
ARIZONA
NEW MEXICO
OKLAHOMA
TEXAS
MINNESOTA
IOWA
MISSOURI
ARKANSAS
LOUISIANA
WISCONSIN
ILLINOIS
MICHIGAN
INDIANA
OHIO
KENTUCKY
TENNESSEE
MISSISSIPPI
ALABAMA
GEORGIA
FLORIDA
SOUTH CAROLINA
NORTH CAROLINA
VIRGINIA
WEST VIRGINIA
PENNSYLVANIA
NEW YORK
MAINE
VERMONT
NEW HAMPSHIRE
MASSACHUSETTS
LAKE SUPERIOR
LAKE ONTARIO

Fig. No. 13

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of these barge lines.

The Waterways Division of ODT sponsored Regional Advisory Committees, formed of leaders of the Water Transport industry, and located at strategic points. ODT issued six general and three special orders aimed at bringing about more efficient use of water transport.[81] One of the most important tasks performed by the barge lines was expediting the movements of oil from the Texas fields to the Atlantic Coast. A pipeline, laid with its western terminus at Carrabelle, and its eastern terminus at Jacksonville, obviated the long trip around Florida. Various other combinations of tankcar, pipeline, and barges were formed in the struggle to feed the oil hungry East. The Mississippi River was an important highway for barge traffic in aviation gasoline for midwestern Army flying fields. During the period that these fields were consuming 91 octane gasoline in great quantities, the barge--tank combination furnished the bulk of the fuel needed. Late in the war, production of 100 octane gas in the St. Louis area cut down the demand for 91 octane gas and shorter hauls resulted. Flying fields around Walla Walla and Spokane in Washington were supplied with gas from barges on the Columbia River.[82] The Army also established and operated a barge line from Puget Sound to Alaska.[83]

The petroleum situation in the East became so critical that a program of wooden barge construction was started, even though

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[81] Ibid., p. 178.

[82] Ibid., p. 180.

[83] Gross, op. cit., p. 13.

they were considered impractical. A total of 269 barges were finally completed, but due to characteristics inherent in their construction, they were not successful and could not be used for the transport of other than residual oil. At one time, 84 of these barges were hauling 25,000 barrels per day of Navy residual oil. Most of the other barges were converted to some use other than the transportation of petroleum.

The Water Transport Department of ODT also had jurisdiction over the Great Lakes system, which includes probably the most important waterway haul in the Nation. The already heavy ore shipments from the Mesabi Range were stepped up by cutting down the volume of Eastern bound grain to the railroads. Even coal transportation was cut down in order to up the ore tonnage. A system of government guaranteed insurance policies was instituted in order to allow operation of the ore carriers beyond the normal season. Commercial rates would have been too high to allow this risky operation. No serious accidents occurred. Through the cooperation of the Treasury Department, it was possible to utilize Canadian vessels for transportation on the Great Lakes.[84]

ODT also took steps to meet the shortage of colliers for supplying the New England area. ODT permits were required prior to shipping coal from the Atlantic coast to any destination. Pooling of equipment was also required. Finally, any vessel operating between points on the Atlantic Coast could be required to move under ODT orders if needed.

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[84] ODT, op. cit., 182.

ODT also met the shortage caused by the conversion of sulphur hauling ships to ocean transport by barge movement up the Mississippi River, on the Great Lakes, and over the New York Barge Canal. This operation succeeded in moving 700,000 tons of badly needed sulphur to the industrial East.[85]

Although the Army had no direct control over these last mentioned shipments, their successful completion was of vital importance to its mission.

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[85] Ibid., p. 180.

CHAPTER III - PASSENGER TRAFFIC

1-Passenger Movement Agencies

We have already seen that the railroads handled the bulk of the Army's inland freight traffic during World War II, and this held true for WD inland troop traffic also. The Passenger Traffic Branch (generally referred to as PTB) of the Traffic Control Division, OCT, which controlled the routing of all of the War Department troop traffic in groups of forty or more (50 or more until January 1943) kept extensive records of all such routings issued by their branches. These records show that 33,778,771 troops were covered in routings issued by that branch. Of this huge total, 32,939,368 went by rail and the remainder, 839,403, or 2%, by commercial motor bus.[1] An estimated 15% of these moves were cancelled for various reasons and never took place. These routings were for Army personnel only.

The Passenger Traffic Branch, as of August 31, 1945, consisted of four sections: The Administrative Section, Travel Service Section, Army Reservation Bureau Section, and Troop Movements Section, (Figure No. 16.) The Troop Movements Section handled the more important aspects of the movement of troops in organized parties. This section consisted of six units: Record, Overseas, Domestic, Hospital Evacuation, Regulation, and Car Service.

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[1] Capt. W. H. Schmidt, Jr., "Inland Movement of Troops in Organized Parties During World War II", p. 1.

The Overseas Unit was further divided into two geographic sub-units. These served the nine Service Commands, one unit handling moves originating in the First to the Fifth Service Commands, and the other in the Sixth to Ninth Service Commands. This unit, as the name indicates, was concerned in the processing of all route and equipment information for troops destined for port areas for shipment overseas.

The Domestic Units performed the same services as the Overseas Unit, only for moves made within the interior, and not to a port area for shipment overseas. It was also broken down into two sub-sections similar to those of the overseas unit.

The Record Unit maintained complete files of wires and employed a checking system to follow moves until completed. It also made daily reports to all interested War Department agencies.

The Regulatory Unit kept Ports of Embarkation and Regulating Stations current on planned troop moves. It also issued changes made after Main Numbers had been established.

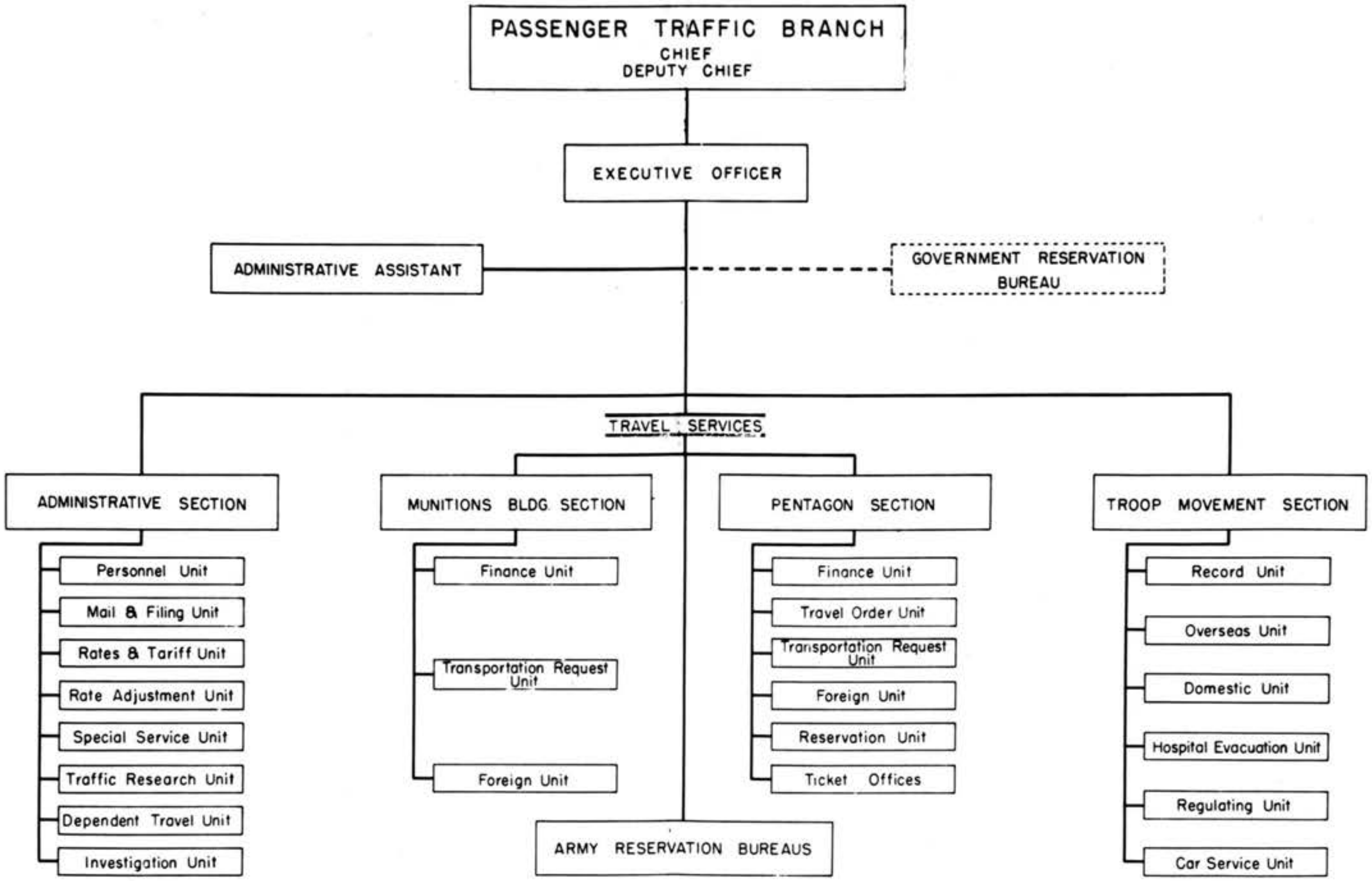
The Car Service Unit's main responsibility was to try to effect maximum utilization of equipment through matching of troop moves from and to ports in order to prevent as much dead heading as possible.

The Hospital Evacuation Unit handled patients, acting as liaison between the Surgeon General and the railroads in the planning of organized moves.

As in handling of freight, the TCD worked closely with the Military Transportation Sections of the Association of American Railroads in all matters concerning movement of troops by rail.

OFFICE OF THE CHIEF OF TRANSPORTATION

TRAFFIC CONTROL DIVISION



Approved: MAY 12, 1945 [redacted]

PREPARED BY–
'ORT ECONOMICS

The Military Transportation Section (referred to as MTS) of the AAR also maintained complete records of all routings issued by that office. This section served as liaison with all the Armed Forces, including the Army. Their records show that the railroads moved 57,264,000 persons in groups of 40 or more (50 or more prior to January, 1943) during the war years. Army troops made up the bulk of these movements, about 90%, until 1945. After that period, the Army's percentage declined to about 80%.[2]

The size of this troop moving job becomes even more impressive when it is compared with the total movements of World War I. During the entire course of that war, only 5,046,000 men were moved in special trains. Thus, about 6 times more personnel were moved in the interior in World War II than in World War I.[3]

Early in World War II, the Commercial Traffic Branch of the Office of the Quartermaster General (OQMG) had been issuing routings and obtaining equipment for all movements made by the Civilian Conservation Corps in groups of 25 or more and extending through more than one Corps area.[4] Moves of less than 25 men were handled in the field. The CCC Branch of OQMG assumed all functions formerly performed by the Commercial Traffic Branch on February 24, 1942. The QMG continued handling CCC moves even after the COT

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[2] Ibid., p. 1.

[3] Maj. Gen. C. P. Gross, "Report of the Chief of Transportation, ASF, World War II", p. 20.

[4] Schmidt, op. cit., p. 32.

assumed other responsibility for transportation, but OQMG was supposed to check with OCT before issuing movement orders. The FSA later relieved the War Department of responsibility for CCC movements.

The Military Transportation Section, a sub-division of the Car Service Division of the AAR, was the successor to the old Troop Movement Bureau which the railroads had established and maintained in the Office of the Army since the first war. This Bureau had concerned itself mainly with distributing the existing troop traffic among the competing roads. The MTS resulted from a series of conferences between representatives of the Transportation Division of the OQMG, Transportation Branch of G-4, and the management of the railroads. These conferences were called by the Army when the size of the impending passenger and freight movements became apparent. A. H. Gass, who activated the MTS, reports instructions from M. J. Gormley, Executive Assistant, AAR, were to "find out what the Army wants and give it to them." Gass succeeded in getting each major road to appoint a representative who could act for them on all matters. By the end of World War II, MTS employed 80 persons. This organization operated from offices in the Pentagon, but their salaries were paid by the railroads,[5] which also installed an elaborate communications system. The territorial passenger associations continued their routing services through representatives in MTS, just as had been done

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[5] Schmidt, op. cit., p. 18.

under the old Troop Movement Bureau. However, the main efforts of MTS were aimed at the conservation of vital car space and tight central control of railroad passenger operation in order to insure that possible military emergencies could be met.

In addition to its primary function as liaison between all the Armed Forces and the railroads, the MTS handled transportation problems for many other miscellaneous groups. Among these groups were: Allied Armed Forces Personnel; imported labor from countries such as Mexico; civilian labor moving under the direction of the Armed Forces; farm labor moving between various sections of the country; and evacuation of Japanese from the West Coast. This last function was carried on jointly with the WD and the War Relocation Authority.

The Military Transportation Section organization for troop movements consisted of three sections; the "Movements Desk," the Statistical Unit, and the Production Unit.

The Movements Desk assigned main or military impedimentia numbers, checked and corrected routings obtained from the passenger associations, obtained equipment for moves as needed, made arrangements with the railroads for all required handling of troops and equipment, and advised the railroads of scheduled changes made by the military authorities.

The Statistical Unit received and recorded all passing reports and maintained a complete card index on each main and MI number issued.

The Production Unit prepared joint wires relaying vital information on moves to the railroads concerned and to the Car Service District Managers, and prepared other communications as needed. It might be well at this time to stress the fact that the MTS offered service around the clock, and was in operation without interruption from the attack on Pearl Harbor until the war was over.[6] As mentioned before, the Army agency which maintained continuous contact with the MTS in regard to passenger transportation was the Passenger Traffic Branch of the Traffic Control Division, OCT. This office routed all organized moves of forty persons or more, (Fig. No. 17). The question might arise at this time as to why the "forty persons or more." Originally this central routing procedure applied only to organized groups of fifty persons or more. This arbitrary figure gave the local transportation officers the power to route groups up to 49 persons, and resulted in inefficient use of rolling stock, since a Pullman sleeping car with two men loaded in each lower berth would transport only 39 men. By central control of routings of groups of 40 men or more, all moves requiring more than one Pullman car were affected. This resulted in car saving, since moves in the same areas could be consolidated.[7]

In order to clarify the procedure through which central control was effected, let us trace a typical move. Suppose that a transportation officer at a particular pose has final movement orders for a shipment of men large enough to require central routing.

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[6] Schmidt, loc. cit.

[7] Ibid. p. 7.

The Transportation Officer would make a request to the Passenger Traffic Branch, for routi g and scheduling. PTB would make a a check of the move, and request the Military Transportation Section to furnish the required routing. MTS would secure this routing from a representative of the Territorial Passenger Association of the appropriate area. The War Department relied upon these Associations to properly distribute such traffic among the various carriers. When routings issued by these associations did not meet Army requirements, changes were requested and received. Passenger Association representatives were stationed at all the larger Army installations as well as with the TCD in Washington. These associations worked out routings for all groups of fifteen or more persons moving by rail.[8]

After the routing was returned to the Movements Desk of MTS, it would be checked for operating considerations (in order to avoid congestion) and for undue circuity (anything over 15% excess mileage over the direct traffic route). After this check, the routing would be returned to PTB. Through its wire facilities, the MTS would notify key men on each railroad concerned. The Pullman representative would be notified, as would the AAR District Car Service Manager of the origin territory. A "main" or "MI" number would also be assigned by the Movements Desk. These terms may require clarification. A "main" number is simply a code number given the move to identify it from all other moves. The use of such a number made unnecessary any later reference to units, origin, destination, and route. In this manner, it was also a valuable

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[8] Gross, op. cit., p. 20.

CHART NO. 817

TROOPS ROUTED MONTHLY BY RAIL, ORGANIZED GROUPS OF FORTY OR MORE, IN THE ZONE OF INTERIOR

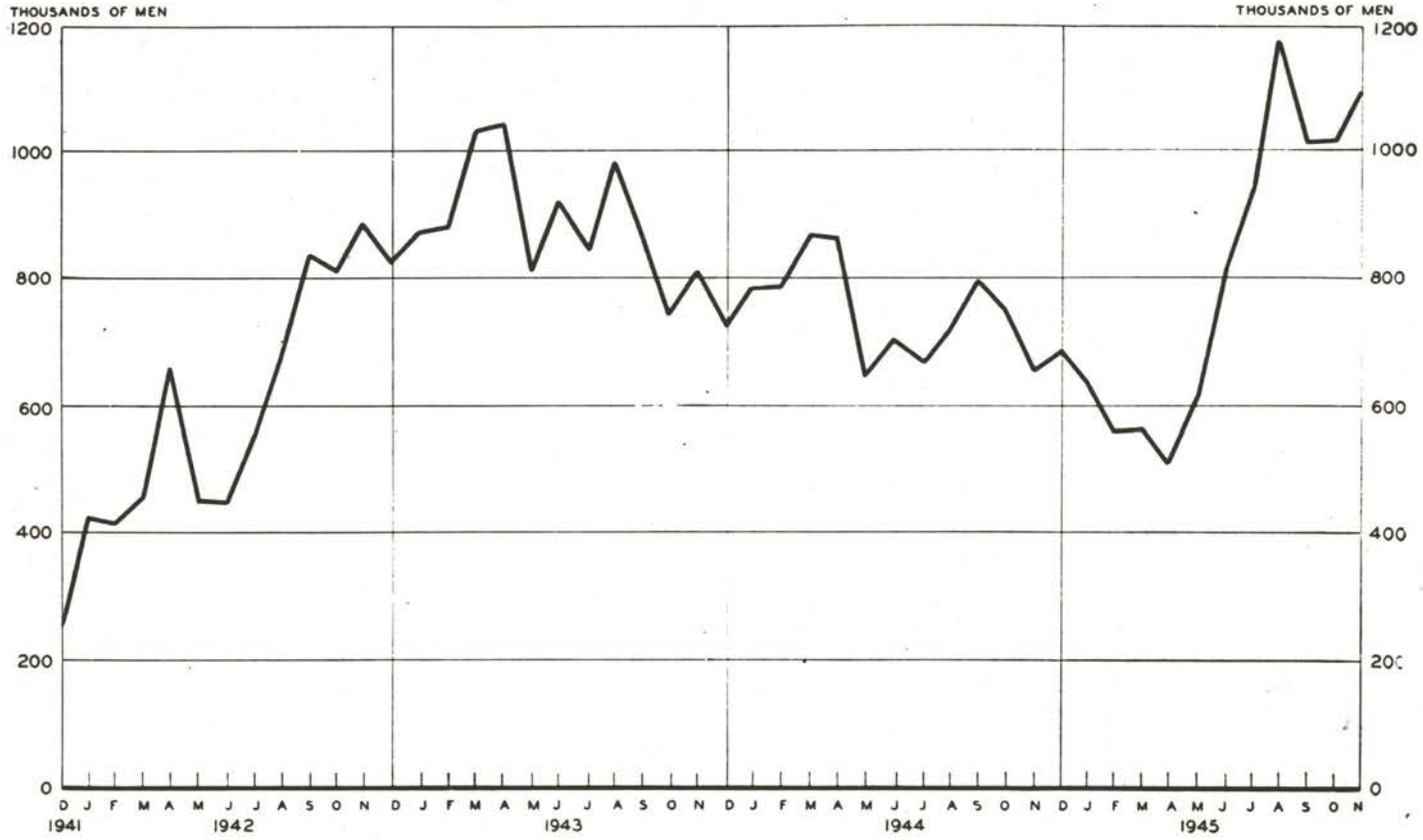

Fig. No. 17

security measure. An "MI number" or Military Impedimenta number was assigned and used in the same way, but applied to equipment moving with troops.

The final steps in the preliminary arrangements for the move would be taken when the Transportation Officer at the post was notified as to all necessary details concerning the move. The manner has already been described in which permission was secured from ODT for the equipment laden MI trains to accompany the particular troop trains which they complemented. In view of the close connection of the equipment with the troops themselves, the PTB was given the right to decide whether the shipment would be made under an MI number or as part of a mixed train. An important consideration in making this decision involved the number of guards that would be required to protect the shipment. Railroad rules limited the number of guards that could ride in a caboose to eight. If more than eight were needed, an extra coach had to be provided. This cost the government at least 22½ fares. A sleeping car for such purposes cost a minimum of 15 fares. Procedures followed in obtaining permission to ship military equipment under an MI number or in a mixed train were much the same as outlined previously for securing release from PTB for troop moves. Twenty cars or more made up an "MI" train which made the move from origin to destination without intermediate yarding except for fall out cars.[9]

The only radical difference between the handling of domestic troop movements and troop movements destined for overseas

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[9] Schmidt, op. cit., p. 55.

(See Fig. No. 18) was the fact that no such move could be made until it was "cleared" and "called" by the commander of the Port of Embarkation concerned. A "clearance" indicated that the port was ready to receive the shipment, and PTB was notified of this fact. On the other hand, a "call" was a definite commitment, giving the time that the move should reach the port and other details. This notice went to PTB and to major commands concerned. Authorizing symbols such as Main and MI numbers were generally issued after a receipt of a call from a port commander.

The Agency of PTB which was perhaps the best known to the average citizen during the war was the Army Reservation Bureau. As previously noted, the Army Reservation Bureau Section of Passenger Traffic Branch had staff and technical supervision of these offices, of which 92 were eventually set up in all the principal cities of the United States. The other components of the Armed Forces also had reservation bureaus and the complete organization was known as the "Government Reservation Bureaus." The Army Reservation Bureaus offered services to members of the other Armed Forces where other facilities were not available. The operation of these bureaus was the responsibility of the zone Transportation Officer concerned. They were started in 1943, and held blocks of car space for Army personnel. During the course of their operation, they handled 5 million requests for car space, and were unable to fill such requests in only 4.1% of all cases. Initially, the percentage of failure was rather high, 8.5% in 1943, but this fell to 3.0% in 1945.[10]

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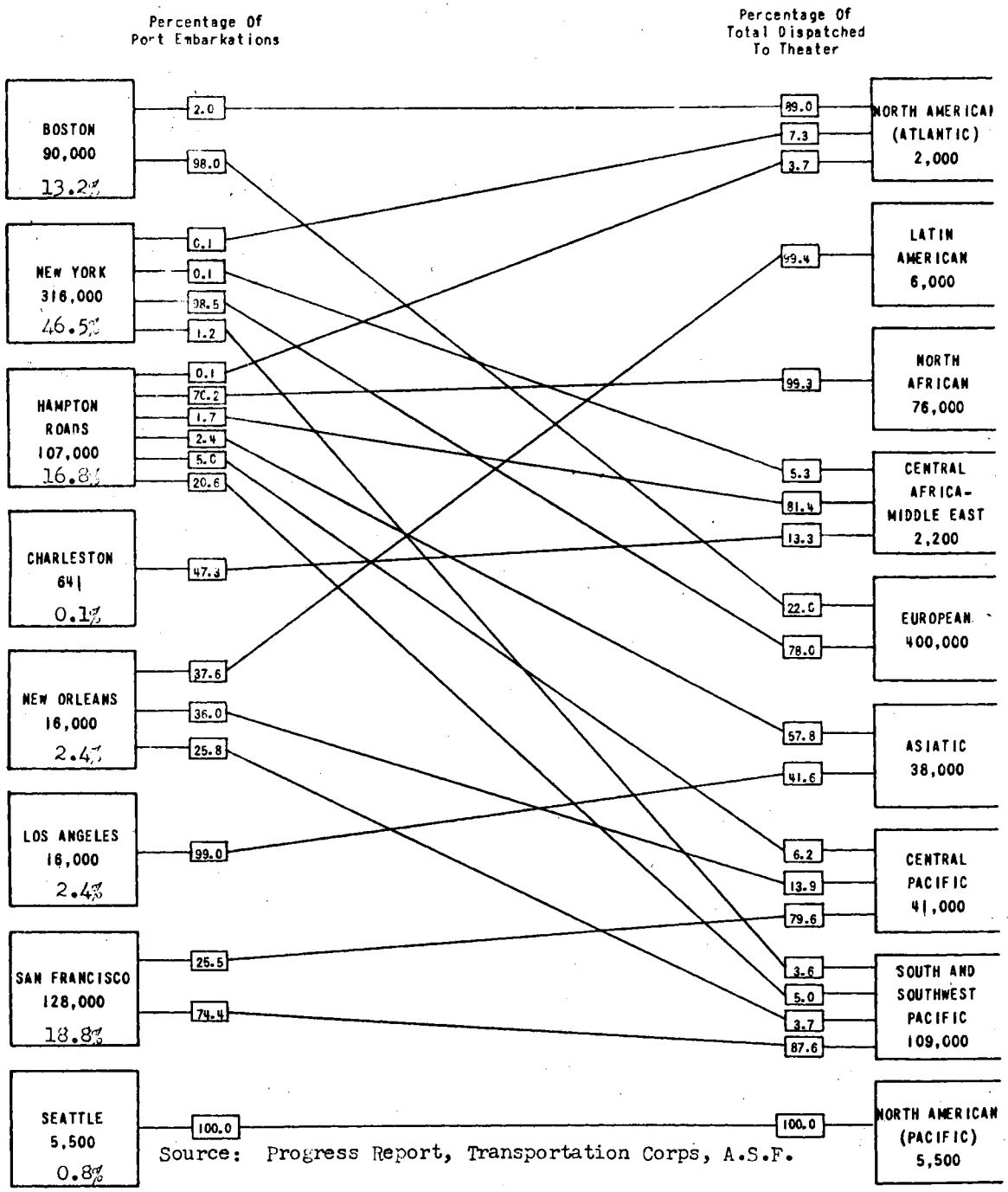
[10] Gross, op. cit., p. 23.

TROOP RELATIONSHIP

BETWEEN U.S. PORTS AND OVERSEAS THEATERS

BASED UPON PERSONNEL EMBARKED IN THE THREE MONTHS ENDED 31 DECEMBER 1943

The following chart shows the relationship between U.S. ports and overseas theaters in the embarkation of personnel by the Army in the three months ended 31 December 1943. Troops and other passengers amounting to less than 1% of the total dispatched to a theater from all ports have been omitted as unimportant to the objective of the chart.



Source: Progress Report, Transportation Corps, A.S.F.

The War Department publication which set the limit of operations for the Government Reservation Bureaus was AGO Memo W-55-40-43, dated August 24, 1943. These Bureaus were set up essentially to provide car space for Armed Forces personnel and OPA and WPB members en route ender competent orders. Military personnel on furloughs, leave, or pass, regardless of rank, were not authorized service from these Bureaus. Officers had to be on temporary duty or permanent change of station orders. Enlisted men and civilians had to be at least on temporary change of station orders. Parties of three or less that fulfilled these requirements were eligible for service by the Bureaus.[11]

Military personnel consolidated into groups by the Government Bureaus were assigned symbol numbers by the Railroad Passenger Traffic Association concerned, and moved through their entire journey identified by that number. This practice was first started in October, 1944.[12]

The Armed Forces, the WPB, and the OPA secured space to be allotted through the Government Reservation Bureaus by submitting their requirements through the railroads. Their requests were generally filled, but some difficulties developed. In some cities, the installations were understaffed. Duplicate sales were sometimes made because of the failure of Reservation Bureau personnel to insert ticket numbers in car diagrams before the reservation expired. Wire requests from some reservation bureaus to other bureaus

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11 Minutes, Transportation Conference, Seventh Service Command, Omaha, Nebraska, February 25, 1944., p. 17.

12 Schmidt, op. cit., p. 13.

were ignored. Through error, cancelled space was returned to the public pool rather than to the reservation pool. In spite of these operating defects, the Reservation Bureaus provided an indispensable service during the war years and were very efficient in most cases.

The fares of soldiers routed by these Reservation Bureaus were paid through the use of "TR's" or transportation requests, and their meals were paid for by "AMT's" or army meal tickets. These forms were prepared at the bureau office. The TR was an order on the transportation company to furnish transportation at the expense of the government, and were exchanged for tickets prior to entrainment.[13] The TR also constituted an order on the Finance Officer, U. S. Army, to pay for transportation services. The AMT's were authority for food vendors to furnish meals at the expense of the Government. In addition, they also constituted orders on the Finance Officer, U. S. Army, to pay for the food or meals furnished subject to the limitations printed on the ticket.

So many troop trains moved about the country during the war years that they lost their novelty for the average citizen. Despite constant effort on the part of the Army, many of these moves resulted in great discomfort to the troops being transported, particularly when coaches were used. This was true even of trains made up of sleepers, when such trains were loaded in warm areas and then proceeded to or through a destination in the northern part

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[13] Minutes, op. cit., p. 15.

of the country. Twenty car trains could be kept comfortable in mild temperatures, but it was difficult to keep even ten cars comfortable in mild temperatures, but it was difficult to keep even ten cars comfortable under very cold conditions.[14]

The Army tried to provide sleeping car service for all troops under way over 12 hours or whose journey ended after midnight. This was not always possible, due to priority movements and the shortage of sleeping car space. Thirty-nine men were generally assigned to a sleeping car. The general policy was to assign three men to two coach seats, and only one man per seat when long trips were involved. This assigning of three men to two seats utilized 75% of the capacity of the car. The Army policy of putting two men in a lower berth increased the normal capacity 50%.

For some reason, the Navy refused to put two sailors in a lower berth, until ODT Order No. 56, July 20, 1945, was published. This order forced all the Armed Forces to assign two men to each lower bunk in organized troop movements. The Traffic Control Division, OCT, had proposed this plan to the Navy by letter in the fall of 1942, and the Navy acknowledged receipt of that letter, but nothing further was heard from them on that score.[15]

Where possible, troop trains were made up and placed under the command of qualified Troop Train Commanders. These commanders appointed assistants; a baggage and mess officer; and a commander, either commissioned and enlisted, for each car. Kitchen cars

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[14] Ibid., p. 22.

[15] Schmidt, op. cit., p. 86

accompanied each train carrying 100 or more troops and an additional kitchen car was added if over 250 troops were assigned to the train.[16]

The Army did everything possible to provide palatable food for its men while in transit on troop trains. A Troop Train Ration was even set up which provided for the addition of one-third of an extra ration per day, and the QMG established supply points throughout the United States to provision such trains.[17] However, the providing of a good staple ration was not enough. It was also necessary that this food be properly prepared. When mess personnel to prepare this food were recruited from the troops being moved, the quality of cooking generally suffered. About the only inducement that it was possible to offer this personnel for the extra work required was the privilege of taking showers enroute. Kitchen cars were generally equipped with showers in order to insure that food handlers kept themselves clean.

The COT early realized this deficiency in the preparation of food aboard troop trains and proposed that transient mess personnel be replaced by permanent details. However, the Quartermaster General turned down this proposal because of the general shortage of qualified mess personnel, and this much to be desired practice was not instituted until redeployment hit the Army in 1945.[18]

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[16] Gross, op. cit., p. 20

[17] Minutes, op. cit., p.13.

[18] Schmidt, op. cit., p. 113.

2-Economy Measures, Passenger Cars

It became apparent early in the war that additional passenger car space would be required in order to transport the rapidly expanding Armed Forces. In the spring of 1943, for instance, the Army was utilizing 50% of the sleeping car equipment and 30% of available coaches. These heavy demands upon the railroads by the military authorities severely taxed railroad resources and caused great inconvenience to the general public.

As a result, orders were placed for the building of 1200 special cars to be known as "Troop Sleepers", and for 400 special troop kitchen cars with funds supplied by the Defense Plant Corporation. These special sleeper cars provided space for 30 men each, and when completed, were turned over to the Pullman Company for operation.[19] Twelve hundred and forty of these cars and 404 of the kitchen cars were added to the available supply by March, 1945.[20] An additional order, for 1,000 sleepers and 400 kitchen cars was placed in the spring of 1945, but strikes and shortages seriously delayed their completion.

An ODT news release of January 9, 1943, reported that nearly 800 lounge, parlor, or chair cars were being converted into three tier sleeping cars, which would add approximately 38,000 seats and a large number of berths to the existing supply. Earlier, in 1941, the Pullman Company had reconditioned 1500 obsolete sleepers for troop use.

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[19] Gross, op. cit., p. 21.

[20] Capt. W. H. Schmidt, Inland Movement of Troops in Organized Parties During World War II, p. 88.

A total of 320 hospital ward cars was procured, 200 from entirely new construction, and 120 from converted passenger cars. These cars were designed by the TC in collaboration with the Surgeon General. Fifty hospital cars were also built for operation with these ward cars.[21]

The Hospital Evacuation Unit in the Passenger Traffic Branch of OCT was instrumental in securing more efficient utilization of these hospital cars. In the month before this unit took over, 76 live miles of use were obtained from government owned hospital cars. In the first month under the supervision of the Hospital Evacuation Unit, 278,000 live miles of service were obtained from these cars, and the next month's total was estimated to be well over 300,000 miles.[22]

Early in the spring of 1943, the carriers complained that they were not getting sufficient time in which to assemble equipment. At that time, approximately 56% of the moves were handed to the carriers with less than 48 hours notice, and approximately 40% were given less than 24 hours notice. WD Circular 102 was issued in order to correct this situation, and set up the basis for handling "main" and "MI" movements. Principal authority was given to the Office of the Chief of Transportation to fix the dates of movements within certain limits. Strict adherence to the policy outlined in Circular 102 for the notification of the railroads resulted in cutting cases of short notification to a

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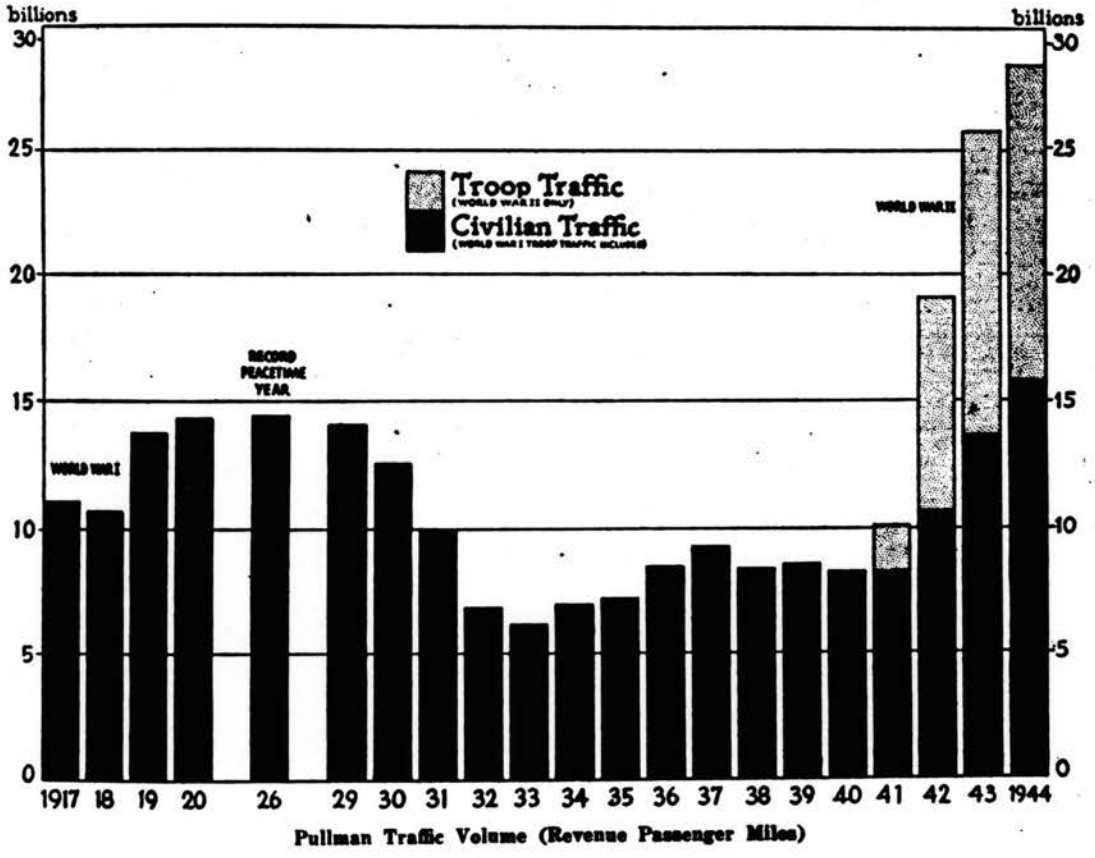
[21] Bulletin, Historical Unit, OCT, "Supply Program and Operations of the TC in World War II, May 1946, p. 162.

[22] Minutes, Transportation Conference, Seventh Service Command, Omaha, Nebraska, Feb. 25, 1944, p. 15.



Pullman Traffic Volume (Revenue Passenger Miles)

minimum.[23] Three conditions were set under which changes in the date of a move would occur: When port traffic had precedence, to save equipment, and when no cars were available.[24]

The Pullman Company took a very active part in supplying equipment for the Armed Forces, (Fig. No. 19). The pressure of the heavy military and naval needs added to the already large civilian demand for sleepers made the job of supplying this critical equipment very difficult. The ODT aided at various times by issuing orders restricting the use of Pullman cars for short runs. For instance, an ODT order was issued prohibiting the use of such cars for runs of less than 300 miles initially,[25] and this limit was later raised.

The Pullman Company filled requests for cars from its Chicago office until July of 1945. Territorial Passenger Associations had been filling requests for equipment on moves of less than 40 people, and the MTS, AAR, in Washington had been handling equipment for larger moves. Heavy demobilization demands made it preferable that a Washington office be established, and in July, 1945, D. R. Culver was appointed Special Pullman Representative to the MTS, with offices in the Pentagon.[26]

Some railroads complained that the Pullman Company would obligate itself to furnish cars and would then fail to furnish them on the dates specified. In order to correct this situation,

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[23] Ibid., p. 3.
[24] Ibid., p. 4.

[25] L. M. Perkins, Governmental Control Agencies, TSM, Mv 530, 1947, p. 9.

[26] Schmidt, op. cit., p. 20.

the following procedure was set up by the Traffic Control Division: When the Pullman Company could not meet its commitments, it was to notify the carrier concerned by 1:00 p.m. (originally 5:00 p.m.) of the day prior to the movement. The carrier would then resort to its own resources. If this failed, the carrier would notify the Military Transportation Section, who would notify PTB, who would pass the news on to TCD. If the moves were urgent enough, TCD would check with the AAR and determine what other moves were being made in the general area, so that some of them could be cancelled and the required equipment procured.[27]

3-Redeployment

The rapid demobilization of the Armed Forces overseas demanded by the American public following World War II placed the greatest strain in history upon the passenger transportation facilities of the Nation. Between May 12 and September 21, 1946, 1,555,000 members of the Armed Forces arrived in the United States by sea and air from overseas theaters. On August 22, 1945, the railroads handled their heaviest troop load to date, 60,745 men. Four large Eastern staging areas handled 59,157 of these personnel, requiring 61 trains for their movement.[28]

Much planning had already been done to meet these expected emergencies, and all such plans were well worked out by February, 1945.[29] V-E Day was declared effective May 8, 1945, and "R", or

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[27] Minutes, op. cit., p. 5.

[28] Schmidt, op. cit., p. 123

[29] Ibid., p. 121.

Redeployment Day was declared effective May 12, 1945. The following decisive steps were taken:

The Passenger Traffic Branch organized a Redeployment Planning Unit and assigned to it the responsibility of obtaining advance notice of arrival dates of personnel returning from overseas.

The Overseas and Planning Unit of the Troop Movements Section was reorganized into the Import and Export sub-units.

The Readjustment Control Center, Mobilization Division, ASF, was assigned over-all supervision of redeployment and demobilization.

A conference was called in Chicago by PTB in May of 1945, including all port, zone, district, and personnel center transportation officers for the purpose of discussing redeployment. This conference was also attended by 300 of the top railroad men in the Nation.[30]

The Defense Plant Corporation let contracts for the construction of 1200 additional troop sleepers, as already noted, and 400 additional kitchen cars. WPB also assigned high priority to construction of 664 additional standard passenger cars.

Two hundred passenger cars were secured from the AAR to be converted to semi-permanent kitchen cars for coast to coast service. This pool was later increased to 500 cars.

The Chief of Transportation asked ODT to stop the railroads from using all extra sleeping cars except those requested by the Army. ODT did not concur in this action, and it was not taken.

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[30] Ibid., p. 121

OCT requested that ODT restrict the use of sleeping cars for civilian purposes as much as possible. ODT Order No. 53, stopped the use of sleeping cars for runs of 450 miles or less (later 500)[31] which resulted in the release of 490 cars to the Army or 20,000 Pullman spaces nightly.

The Commanding General of the ASF requested the Army Chief of Staff to restrict all furloughs and to hold all training moves to a minimum during the control period.

ODT General Order No. 56, July 20, 1945, forced the Navy to load two men into each lower berth on Pullmans. This saved thirty to thirty-five thousand man spaces per month.[32]

TCD requested that available equipment be divided up among the Armed Forces according to a priorities classification of personnel. This action was taken.

A drive was instituted to encourage commanders of all installations in the ZI to promptly police and release equipment received by their posts.

Commercial Traffic Bulletin 35, War Department, July 10, 1945, requested that the MTS give the carriers and the Pullman Company at least 72 hours notice before a contemplated move was scheduled.

Order No. 52, ODT, stopped scalping of Pullman tickets to a large degree. This order, issued at the request of OCT, limited the period that Pullman reservations might be made from thirty days to five days.

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[31] Gross, op. cit., p. 24.

[32] Schmidt, op. cit., p. 124.

General Order No. 55, ODT, July 17, 1945, appointed W. C. Kendall of the AAR's Car Service Division, as an agent of ODT with complete powers over the distribution and assignment of railroad passenger cars other than sleeping cars.

The Tee Cee Project was instituted wherein staging areas were to set up permanent trained commands and mess personnel to accompany troop movements from their station.

The Transcon Project was implemented on July 31, 1945. Under this plan the Army relayed approximately 80 planes to commercial airlines to speed transportation of personnel from coast to coast. Transcon Centers were established at the POE's of New York, Seattle, San Francisco, and Los Angeles to handle this traffic. TCD designated personnel to move by Transcon with the following priorities: (1) personnel arriving from overseas at water and aerial ports, (2) personnel moves in the ZI from coast to coast, (3) units and individuals headed for Ports of Embarkation.

An OCT teletype dated July 12, 1945, authorized the furnishing of coaches for groups of fifteen or more (other than patients) persons who would be under way less than forty-eight hours. Sleeping cars would be assigned to such moves only when coaches were not available or when the cars would otherwise be deadheaded. This restriction was cancelled August 10, 1945, and another plan by TCD was substituted therefore. This plan authorized the movement of sleeping cars only between specified points.[33]

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[33] Ibid., p. 126.

ODT diverted 1,000 cars from regular train service, several hundred of which were deadheaded to the West Coast.[34]

Army cots were installed in 312 troop sleepers which were unfinished due to strikes and hospital cars were assigned to this dutywhen possible.

Thirty-two thousand troops moved by air, one-half from the East and one-half from the West Coasts. Ten thousand additional plane seats per month from the Pacific Coast were secured by the Armed Forces. Later additions to this figure took approximately 70% of the available eastbound space on commercial passengor air-lines.

Through utilizing the railroads, the airlines, the bus lines, and most of the other commercial means of transportation, the peak loads of the demobilization traffic were met with minimum delay to the homebound men.

4-Military Utilization of Supporting Modes of Transportation

Although the great bulk of troops transported in the ZI during World War II moved via rail, the bus lines offered a most important auxiliary means of transportation, (Fig. No. 30). This preference for rail movements by the Army resulted from the fact that long moves of large bodies of men by bus were unsatisfactory both from the standpoint of time consumed and the cost involved.[35]

Prior to Pearl Harbor, 85% of all inter-city travel had been by private automobile. Shifting of the automobile industry to

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[34] Gross, op. cit., p. 24.

[35] Herbert Ashton, Allocation of Transportation and Other Public Utilities, Study of Experience in Industrial Mobilization in World War II, p 71.

war production, shortages of tires and parts, and restructions imposed by the ODT drove much of this traffic to the railroads and to the bus lines. In 1942, 692,000,000 passengers, five and one-half times the total population of the United States, traveled between cities by motor bus. This was 75% above any peacetime year and was carried at an increase of only 25% in bus miles operated. Anyone who traveled the bus lines during the war years will well remember the packed aisles that made this feat possible.

In 1943, there were 21,480 inter-city buses in operation on the highways with a combined seating capacity of 630,000. At the same time, there were approximately 20,000 day coaches in operation on the railroads with a combined seating capacity of 1,440,000 or more than double that of the bus lines. This points to the much greater capacity potential of the rail lines.[36]

In 1942, the bus lines carried 692,000,000 passengers, over a total of 1,115,000,000 miles. During the same year, and with twice the capacity of the bus lines, railroad coaches carried 627,000,000 passengers for a total of 1,136,000,000 miles. This emphasizes the use of railroads for the longer hauls and to the utilization of the bus lines for the shorter, more frequent hauls.

The critical shortage of parts, tires, and gasoline, made conservation of bus rolling stock of prime importance. With this in mind, the ODT imposed a 35 mile per hour speed limit upon the bus lines. This raised the tire mileage obtained from 12,000 miles per tire to an average of more than 40,000 miles, with 75,000

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[36] Arthur M. Hill, "Intercity Bus Transportation", The Annals of the American Academy of Political and Social Science, Vol 230 (November 1943) 72.

miles not uncommon. In 1942, bus lines used only 4,000 tons of rubber, or .6 of 1% of all rubber used in the United States, from which they obtained 2,000 to 7,000 passenger miles per pound.[37]

Many other measures were taken by ODT to insure maximum utilization of bus equipment. Campaigns to improve maintenance were initiated, duplicate competitive schedules were eliminated as far as possible, parallel lines were eliminated as pooling of equipment was required in many cases.[38]

Public Law 779, 79th Congress, approved December 1, 1942, gave the WD and other federal agencies the right to provide transportation for war workers between their homes and places of work when existing facilities were found inadequate by ODT. This gave the WD power to provide such service in the vicinity of military installations, and the Highway Division of the Office of the Chief of Transportation was made responsible for this activity. Many old vehicles were acquired, including many old auto haulers which were converted into high capacity buses. By June 30, 1945, OCT had acquired 7,498 vehicles for this purpose. Of this total, 1,599 buses were in use in industrial locations; 5,536 were being used on WD installations, and 363 were in reserve pools.[39]

The Highway Division of OCT was charged with the handling of all matters pertaining to administrative vehicles for use in all phases of the Manhattan Project.[40]

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[37] Ibid., p. 72.

[38] Ashton, op. cit., p. 33.

[39] Gross, op. cit., p. 36.

[40] Ibid., p. 38.

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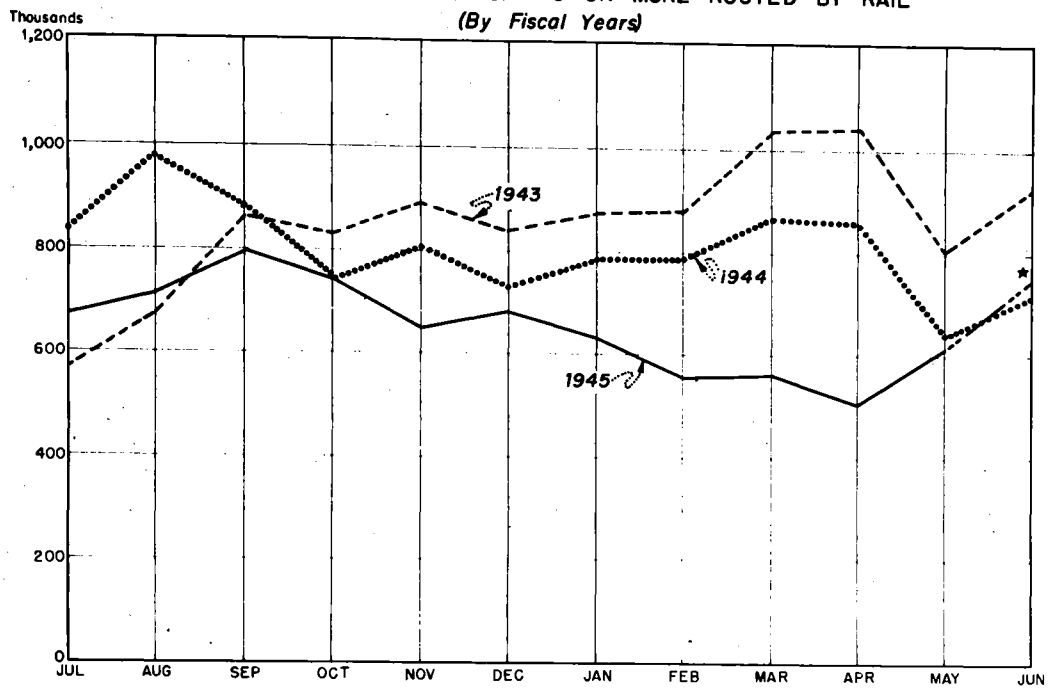
WAR DEPARTMENT

PASSENGERS IN PARTIES OF 40 OR MORE ROUTED BY RAIL

(By Fiscal Years)

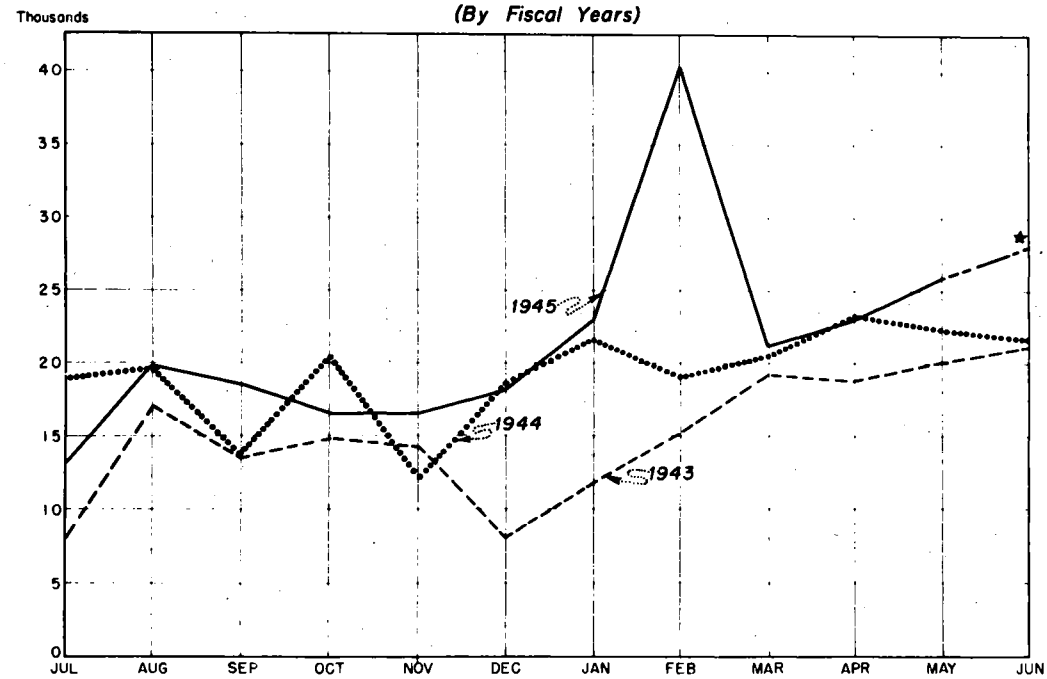


★*June Estimated*

WAR DEPARTMENT

PASSENGERS IN PARTIES OF 40 OR MORE ROUTED BY BUS

(By Fiscal Years)



★*June Estimated*

12 June 1945
Office of the Chief of Transportation
Traffic Control Division
Transport Economics Section

In addition to the large number of vehicles employed by the War Department for transporting war workers, at the end of the war there were approximately 115,000 administrative vehicles other than pool buses which were assigned to Army Ground Forces and Army Service Force installations. These vehicles were distributed among the various installations by headquarters ASF upon receipt of requests from the field. In March, 1945, the responsibility for the allocation of these vehicles for ASF was placed upon OCT.

The bus lines' lack of a strong representative body and the nature of their operation made them less amenable to control than the railroads. Therefore, when a routing request was received by the Passenger Traffic Branch for movement by a bus, it was checked from the cost standpoint and if otherwise practical, a Motor Route Order (MRO) was issued. This authorized the transportation officer concerned to make all arrangements for the move with the origin bus line. Either a per capita fare or vehicle charter basis was permissible.[41] Note the difference between the amount of control possible with a move by rail contrasted with this type of move.

Although the railroads and the bus lines carried the bulk of Armed Forces personnel moved in the ZI during World War II, the airlines provided thousands of man spaces for priority moves. The airlines were particularly hard hit for equipment, since in early 1942 the Government commandeered all transport aircraft in excess of 200 transport planes for use by the Armed Forces. Even these 200 planes were operated on schedules set by the Government.[42]

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[41] Schmidt, op. cit., p. 15.

[42] ODT, Civilian War Transport, p. 191.

An office was established in the Army Air Forces Headquarters to coordinate War Department activities in connection with the civil airlines and other interested Government agencies. Operating problems, included the procurement of additional planes, cleared through the Air Transport Command. War Department policy was to use the established civilian air transport agencies to effect this coordination whenever possible. The WD had the responsibility for fixing priorities for passenger and cargo operation. Priority on movement was given to those engaged in essential defense work and included Armed Force members, government representatives, representatives of foreign governments, and selected civilian personnel. Critical war materials also moved by air.

On February 5, 1942, ODT passed to the WPB its responsibility for reporting civil air needs. The responsibility of the ODT as a claimant agency for the civil air lines was also passed to WPB. Replacement schedules were reviewed by ODT before they were sent to the state directors of Selective Service for final review and approval.

It was decided to rescind the wartime priority system as soon as possible. Plans were made to reduce the volume of air priority to 10% of its former figure and then to abolish it entirely by October 15, 1945.[43]

However, the heavy passenger demands of the demobilization of the Armed Forces made necessary much additional priority movement. As noted before, General Order ODT No. 58 was published

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[43] ODT, op. cit., p. 191.

effective December 3, 1945. This appropriated not less than 70% of available airplane passenger space on planes flying East from critical western ports. This order resulted in the transportation of approximately 20,000 military personnel per month, till it was revoked on February 15, 1946.

In summary of this coverage of the military use of commercial passenger facilities in the ZI in World War II, it is apparent that the railroads carried the great majority of troops on organized moves, and that the bus systems provided a valuable auxiliary service for moves over short distances. The airlines' share of the traffic total, both passenger and freight, was not nearly as large as that of the bus lines and railroads, but the traffic so carried was important out of proportion to its volume. In emergencies, the airlines even provided the means for mass movement of troops as illustrated by their share in hauling the heavy mobilization traffic from the West Coast in late 1945 and early 1946.

CHAPTER IV - CURRENT TRANSPORTATION DEVELOPMENTS

As in many other fields, continuing study of transportation problems from a national viewpoint is essential if we are to maintain our present advantage. Past experience alone has shown the desirability of many changes. This chapter will be devoted to a discussion of recent developments that have particular significance in the national military transportation picture.

The continuance in being of an overall transportation coordinating agency is of first importance to our speedy mobilization. Happily enough, the agency chartered for this purpose by President Roosevelt in his Executive Order No. 8989 is still in existence. This office, the Office of Defense Transportation, is still operating, under Colonel J. Monroe Johnson, its wartime Director.[1] Colonel Johnson was recently picked to head a study group to advise the National Security Resources Board on the mobilization of surface transport and storage facilities in case of war. Six special "Task Forces" were organized to help in this work, with Chairmen as follows: Inland Waterways--Lawrence C. Turner, President, Great Lakes Towing Company; Railroad Transport--Charles H. Buford, President, Milwaukee Railroad; Streets and Highways--Guy A. Richardson, Member, Chicago Transit Board; Warehousing and Storage--Colonel Lee M. Nicholson, President, Nicholson Porter and List, Chicago; and Pipelines--Bruce C. Clardy, General Manager, Crude Oil Supply, Standard Oil Company of Indiana.

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1 Army Navy Journal, Vol LXXXVI, No. 21, (Jan. 22, 1949), 603.

Granville Conway, Director of the Office of Transport and Storage, National Security Resources Board, announced that similar studies are planned of ocean shipping and air transport.

The continued existence of such an agency, together with its emphasis on research and development, is heartening indeed. The main function of such an organization should be the formulating and maintenance of an uptodate plan for the total mobilization of the Nation's transport facilities, closely integrated with the Armed Forces plans for their use of the same. This plan should be maintained in the blueprint stage, needing only authorization to implement it. The existence of such a plan at the beginning of World War II would have been of inestimable benefit to the welfare of the Nation.

The eventual success of any plan depends upon its proper execution. The Federal Government is a tremendous user of transportation, but there is no one agency charged with providing this service. Consequently, any agency seeking to integrate transportation facilities must deal with myriad offices, each charged with the procurement of transportation. This fact has been evident to the more observant legislators. Senator Wheeler introduced a bill to provide for the establishment of a Central Federal Traffic Bureau in the 79th Congress. This bill died in committee, and an identical program, the O'Hara Bill, (HR 3307, 80th Congress) was introduced. This bill was not enacted either perhaps because the Bender Committee was still studying the question. Members of the Bender Committee have signified their intention to introduce such a bill in the 81st Congress. They have made extensive

studies of Federal Traffic procurement. The Hoover Commission has gotten considerable publicity on its proposals to establish central traffic management for the Federal Government. In brief, the establishment of such an agency has been advocated by sufficient competent authorities as to make such action seem most desirable.

This tendency towards the eventual establishment of control and coordination is not confined to the civilian branches of the Government. Section 202 (a)(3) of the National Security Act of 1945 directs the Secretary of Defense to eliminate unnecessary duplication or overlapping in the field of transportation. In partial answer to this requirement, the Army and Air Force have agreed to cross service each other, surface traffic management being the responsibility of the Army.[2] The Munitions Board is still studying this question of central traffic management.

A step forward that can and must be taken now is the total unification of the Armed Forces in fact as well as in name. This is pending at present, as indicated by recent statements of Defense Secretary Johnson. Unification must be accompanied by an increase in powers of the Defense Secretary sufficient to make him the real as well as the titular head of the Armed Forces.

The next logical step following unification is the establishment of a transportation service competent to route by land, sea, or air, and a control body to coordinate its activities. Strides

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[2] Letter from COT to Director, Logistics, GSUSA, dated Nov.9, 1948, subject: Proposed Moves of Certain Activities of Technical and Administrative Services.

have already been taken in this direction. Major General F. A. Heileman, COT, in a recent address before the Twin Cities Chapter of the Army Transportation Association, stated that coordination of all transportation facilities, air, water, and land, for military purposes will eventually be accomplished by some agency of the National Defense Establishment.[3] His views on the subject are aptly given in this quotation:

> "Transportation is the movement of persons and things. It cannot be confined by geographical boundaries, nor rigidly restricted to water, air, or land carriers. In many cases a single commodity must be handled by all these media. The important thing is not the means employed, but the efficient coordination of all means to the common end of efficient support of military operations."

General Heileman further stated that the group picked to effect this coordination was the Joint Military Transportation Committee (commonly known as JMTC) of the Joint Chiefs of Staff. This committee is composed of members of all three Armed Forces and will set policy, doctrine, and procedure in transportation matters.

The COT outlined the method by which this coordination would be achieved: The transportation requests of all three Armed Forces, the Army, the Navy, and the Air Force, would be submitted to the JMTC, who will screen them in regards to Joint Chief of Staff policy. Production transportation requirements would be added to this Armed Forces estimate by the Munitions Board and the estimate would be forwarded to the National Security Resources Board. This Board would add the transportation necessary for the

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[3] TC Reserve Components Bulletin No. III dated 15 March 1949, Hq. Transportation School, Ft. Eustis, Va., p. 1.

civilian economy to operate adequately. The NSRB would then break down the total amount of transportation available, allocating everything not absolutely necessary for the civilian economy to the Munitions Board. This Board would set aside what is needed for war production and would then allocate the remainder to the Armed Forces.

In addition, General Heileman stated that recent proposals of the Secretary of Defense in regards to assignment of sea transport to the Navy and of land transport to the Army are under study. This contemplated change is a very drastic one when reviewed in light of present practices and could be effected only through the close cooperation of all components of the Armed Forces.

Details of the above plan have not been made public as yet, but as the Army is already committed to the logistical support of the Air Force, this change would involve only the assumption of similar responsibilities from the Navy. Quoting General Heileman again:

> "While the details of the policy of the Navy operating sea transport have not been worked out, it is apparent that the Army can deal with the Navy on sea transport as it now deals with commercial shipping, currently handling 80% of Army cargo." [4]

With these statements in mind, it would appear improbable that the change could be effected without increasing the size of the Transportation Corps which is now charged with the responsibility of furnishing rail and highway support for the Army.

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[4] Ibid., p. 2.

Public mention has not yet been made of the fate of the Army's Ports of Embarkations under this new plan. These huge installations operated by the Army at New York, Seattle, New Orleans, and San Francisco, are essential cogs in the Army's supply complex, receiving and processing all requisitions from overseas areas. Supplies necessary to fill these requisitions are also assembled by the POE's, and shipment is made as required. Presumably, the Army would still operate these installations, but would utilize Navy shipping for water transportation.

The fact should be stressed at this time that inter-service conflict under present conditions is not unavoidable, as evidenced by the tonnage records set by the Berlin Airlift, a joint Army, Navy Air Force operation.

In a recent 24-hour period, 1398 flights were made from western bases to Templehof, Gatow, and Tegel Fields in Western Berlin. Cargo carried totaled 12,940.9 tons, an amount equal to 22 trains of 50 freight cars each. This figure was some 3,000 tons greater than the 9,000 tons of supplies moving to Berlin by rail from Western Germany prior to the establishment of the blockade.[5]

Military Air Transport Service pilots are flying the planes used on the Airlift operation. MATS, which was formed by combining the air transport services of the Air Force and the Navy, eliminated much duplication of effort, and points to the very real

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[5] Daily Press, Newport News, Va., Vol. LIV, No. 98, (April 17, 1949.)

advantages resulting from such inter-service cooperation.

MATS authorities are currently working on a mobilization plan that would make 1354 commercial transport planes available to the Armed Forces at the outbreak of hostilities. Both scheduled and non-scheduled are participants in this plan. Under the present set-up, the scheduled lines will supply 1054 planes and the non-scheduled lines will furnish 300.

Unification of the Armed Forces into one coordinated whole will facilitate the implementation of the next important step that must be taken. A Movements Control agency must be set up for the Armed Forces that will function much the same as did the Traffic Control Division of OCT, for the Army, during World War II. As noted in previous chapters, the Air Force operated its own traffic control system during the war, and the Navy did not bother to set up such a system. This divided control and lack of control among the services was a constant source of inconvenience during the war, and it should not be permitted to harass future planners. In addition to the full cooperation of the participating services, this new agency must provide for full coordination with civilian agencies, particularly those that will be shipping great quantities of cargo.

This need is reflected by the situation developing between the War Shipping Administration and the Traffic Control Division during the war. In the early stages of the conflict, WSA was actually controlling the movement of some inland freight through issuing ODT permits for commercial freight to move to the ports to meet shipping. In issuing these permits, WSA did not take

into account the fact that the amount of cargo that could be handled through a port was limited by the capacity of the installations of the port as well as by the vessel space available. Consequently, certain areas had to be embargoed.[6] This points to another principle of movements control; that in estimating movements capacity, it is necessary to consider the handling capacities of the shipper, operating capacities of carriers between origin and destination, and handling capacities of consignees.

The Traffic Control Division met this situation by installing agents in each port to check up on port conditions, and basing their releases upon the reports of these agents and of the port transportation offices. ODT directed the Association of American Railroads to refuse to furnish rolling stock to firms shipping to ports unless a TCD permit had been secured. This successfully bypassed the releases issued by WSA.

The above example, which is only one among many, adds emphasisto the point already made that the system of military traffic control must be well integrated with civilian agencies performing similar jobs for the civilian economy. The next war will undoubtedly be a total war in the fullest sense of the word, and destruction of transportation centers is to be expected. For instance, it is estimated that the loss of the Chicago rail yards would cut coast to coast capacity by 50%. Such destruction, added to the heavy load with which the carriers would already be saddled, might prove to be the final blow in reducing our trans-

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[6] Lt. H. R. McMahon, "Introduction to the Policies and Procedures of Movements Planning, TSM, Mv 550, Ft. Eustis, Va., 1948, p. 7.

portation not to a shambles. Under such circumstances, a control system that was already operating would be worth many times more than one which had to be set up to meet the disaster. Our involvement in another war will certainly reinforce our position as the world's top producer of war materiel. This will result in a traffic volume at least as large as that in World War II, and in view of the economic decline of our present allies and the increasing demands of each additional war, a greater percentage of civilian production will have to be turned over to the production of war goods. This will result in an even heavier volume of traffic, which will add to the need for control.

Reference has been made time and again to the advantages reaped by the Army through its ability to deal with the Association of American Railroads on all matters affecting the railroads. The same benefits should be realized from an arrangement whereby all carriers could deal with one military agency in all matters pertaining to military traffic. A similar plan has been advocated for the federal government by the Hoover Commission. This could easily be one of the functions performed by the proposed central movements control agency, or by its superior body, the JMTC. In any case, more highly expert traffic personnel could be hired without the services bidding against each other.

It is believed that the need has been clearly shown for the establishment of a central system of traffic control for the Armed Forces. This system should be set up and put into operation during peacetime, so that kinks could be worked out without costing men and materiel.

Just where should this central regulating body be located? Washington, D. C., seems to be the logical answer, however the capitol's proximity to the Atlantic seacoast makes it highly vulnerable to a sneak attack. The effect of such an attack, if successful, would be so paralyzing to the nation that an enemy could hardly afford to pass up the chance. Our leaders are well aware of this fact, and extensive studies have been made of alternative locations. The results of these studies have naturally not been made public, but there are many reasons why control from some central point is highly desirable.

In the first place, Washington, as the capital, has attracted the national headquarters of many country-wide transportation associations, such as the AAR, American Trucking Association, Freight Forwarders Institute, etc. This facilitates liaison with all these agencies. In addition, the headquarters of all the other Armed Forces, and of all the government departments are in Washington. This facilitates contact with them. For instance, during the war the Army integrated its traffic control work very closely with the ODT. In addition, skilled traffic personnel which are almost irreplacable, would probably refuse to leave Washington, and could easily find jobs with other branches of the government. Finally, Washington is a world transportation and communication center.

The character of the American transportation net makes it necessary that control be exerted from some central point. The country is so large and so many different factors enter into the transportation picture that a control agency must maintain an

overall viewpoint. The highly specialized nature of traffic control makes the procurement of expert personnel very necessary. The numbers of such personnel available are limited, even in peacetime, and the diffusion of one central control agency into several locations would make procurement of personnel even harder.

Traffic work requires an extensive file of tariff and rate quotations. OCT's file of tariffs is second only to that of the ICC.[7] Included in these tariffs are over one thousand "Section 22" or special quotations. Provision of such adequate tariff files to several control headquarters would be difficult if not impossible. In line with this, adjustment of rates made necessary by the changing volumes of different types of moves could not be made if traffic work were broken down into several managing agencies.

Army procurement officers currently arrange for the shipment of their purchases from site of purchase to the depots, and OCT handles this traffic. If several controlling agencies were involved, this work would be rendered more difficult.

Some one central body must have the power to assess priorities on movements. This would militate against control by several bodies. This is particularly true of control of portbound freight, without which our ports became so congested in World War I.

It is believed that as much control as is possible has already been delegated to the Transportation Officers in the field, and

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[7] OCT, loc. cit.

that movement control for all the Armed Forces should be exerted by a central agency, located preferably in Washington, D. C. Decentralization of control functions would result in much greater security for all concerned, but the loss of operating efficiency would more than outweigh this advantage, and the point has already been made that the development of guided missiles and the atom bomb by our enemies will render any point in the Nation subject to attack, however secluded its location.

Further study should be made of the location of Holding and Reconsignment Points and Regulating Stations in the light of the possibility of a port's being knocked out by enemy action. Regulating Station locations should be planned at strategic points on rail and highway lines behind the major ports, and should be so located with reference to the H & R points that traffic could be diverted into storage if the occasion demanded. Regulating Stations were so located, backing up the West coast ports during the war, and similar installations should be planned for the East coast ports.

Events during World War II revealed the lack of many features in the civilian transportation system that would make it more amenable to wartime control. Much has already been made of the need of a strong central body to represent the trucking industry in the same manner that the AAR does for the railroads. At present, no such comparable body exists.

There are many reasons for this lack of unity among the truckers. There are many times more truck lines than railroads. This is due to the much smaller capital investment required to

start the truck line, and to the fact that less technical knowledge is required. The truckers use the public road net as their right-of-way, and this works both for and against them. Their taxes are much less than those of the railroads, but they are subject to much discriminatory legislation, particularly concerning sizes and weights of their equipment.

In any event, both the trucking industry and the bus industry need strong representative bodies with which the Armed Forces could integrate operations as they already have with the railroads.

Many regulatory bodies concerned with the supervision of transportation agencies have become bogged down in their own red tape. This is particularly true of the ICC. Of the eleven members, only one is under sixty, the recently appointed Hugh W. Cross of Illinois.[8] Mr. Cross has publicly admitted that he knows practically nothing about railroads. Strangely enough, the appointment of a commissioner with these novel qualifications is not a new development. Only five of the eleven commissioners had any railroad or public utility experience before being appointed. The ICC was set up as a five man committee sixty-two years ago. It now has a seven story building, 2200 employees, and has just submitted a budget estimate of $11,000,000 for the coming fiscal year.[9] It is so far behind in its cases that even if no new cases were filed, several years would be required to clear its present backlog. The salaries offered commissioners, $12,000 per

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[8] Peter Edson, Editorial in Times Herald, Newport News, Va., Vol. 2, No. 88, April 21, 1949.

[9] Edson, loc. cit.

year, are not sufficient to attract topflight talent, even if politics did not enter into their selection.

In view of its importance to the transportation industry of the Nation, both in peace and war, it is believed that the ICC should be reorganized and restaffed to enable it to perform the job for which it was originally constituted.

As stated in the first chapter, the purpose of this paper is to describe the utilization of domestic transportation facilities during World War II by the Army, together with conclusions and recommendation drawn therefrom. This has necessarily led to a rather close study of the organization and operation of the Transportation Corps, the newest of the Army Service Forces. The TC, founded during the war, successfully coped with such diverse problems as the transportation from overseas theaters of "disturbed"[10] patients to the expediting of trains carrying critical cargo to the POE's. At the beginning its officers and men were necessarily drawn from the combat arms and the other services, and it was difficult to develop a team spirit. This has been done, however, and the Transportation Corps now possesses an espirit de corps that would do credit to any of the older services.

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[10] William C. Menninger, Psychiatry In a Troubled World, p. 372.

CHAPTER V - SUMMARY AND CONCLUSION

The performance of all modes of domestic transportation used by the Army during World War II was vastly superior to that of World War I, although the volume of traffic handled was many times greater. This improvement was attributable in large part to the complete cooperation effected by the Association of American Railroads and to the efficient traffic control system evolved by the Army. Close integration of operations with the AAR was particularly desirable, since over 90% of all War Department interior traffic moved via rail. These factors, combined with technological and operating advances that permitted greater speed and heavier train density accounted for much of the great improvement shown by railroad operations during World War II. In addition, supporting modes of transportation, such as the bus, truck, pipeline, barge, intra-coastal, inter-coastal, and Great Lakes shipping, and the airplane developed sufficiently in the period between the wars to add a much needed versatility to the transportation net that was sadly lacking in 1918.

World War I experiences convinced the Army of the need for an integrated transportation service. However, this need was disregarded by Congress in the Army Reorganization Act of 1920, and responsibility for transportation in the Army remained divided between several of the Services in the period between the wars. The greatly increased traffic demands of World War II made the formation of such an organization imperative, however, and the Transportation Corps was established in 1942. The Chief of Trans-

portation was made responsible to, "direct, supervise, and coordinate the transportation activities of the War Department." Wartime operations of the Transportation Corps in the interior included the procurement of specialized transportation equipment, operation of War Department utility railroads, and operation of installations such as the Ports of Embarkation, Holding and Reconsignment Points, Regulating Stations, and TC Supply Depots. In addition, the TC furnished Transportation Officers for posts throughout the Nation, and staff officers as needed. The Office of the Chief of Transportation carried on many functions pertinent to the wartime transportation needs of the Army, perhaps the most spectacular of which was the traffic control system evolved by its Traffic Control Division. This Division controlled all carload Army and Lend-lease port-bound traffic. The TC also carried on an intensive training program in order to supply troops for its world-wide operations.

Transportation Corps activities outside the continental United States included the operation of a maximum of 1706 seagoing cargo and troop vessels, plus harbor craft units, truck units, rail units, DUKW units, Ports of Debarkation, staging areas, and the many types of regulating units necessary for proper movement control. The rapidity of the growth of the Transportation Corps is illustrated by the increase in the number of its combined civilian and military personnel from 33,000 in March, 1942, to 434,998 in June, 1945.

Of special interest to this study is the traffic control system evolved by the Traffic Control Division of the Office of

the Chief of Transportation, with headquarters in Washington, D. C. Utilising a system of releases, and with the cooperation of the various transportation associations involved, this organization meshed operations with civilian regulatory bodies so as to control the movement of all Army and Lend-lease carload (or truckload) freight moving to the ports. At peak operation, this involved the issuance of 40,000 permits per month, succeeded in keeping the ports free of congestion. This was in happy contrast to the situation existing in East coast ports during 1917-18, when box cars were piled up as far west of the New York port as Pittsburg.

At present, the Transportation Corps is still in existence, having become the newest of the Army's Services, and its control system is still operative. Since the TC operates the Ports of Embarkation of New York, New Orleans, San Francisco, and Seattle, through which all supplies destined for troops overseas are processed, valuable experience is still being gained in the use of control procedures.

However, it is not believed that present procedures will be adequate in the event of another war. Control must be instituted over the traffic of all the Armed Forces. This will not be possible until the various components are actually unified. This in turn, is dependent upon Congress, which must endow the Secretary of Defense with powers commensurate with his present responsibilities. When this is done, traffic control for all the Armed Forces can be administered by one agency, and this agency should be a control body set up in the Office of the Chief of

Transportation. Present indications are that this body would work under the Joint Military Transportation Committee. The Office of Defense Transportation and the Office of the Chief of Transportation meshed operations to a considerable degree during World War II, and such integration of civilian and military controls will be a must during a World War III. This will be much easier when and if a central traffic agency is set up to handle the needs of all the non-military components of the Federal Government, a move that has been endorsed by the Hoover Commission. Central control of traffic will be even more necessary when the ports are subject to possible atomic attack.

Continued study of transportation problems with relation to the rapid and complete mobilization is a must. As noted in the preceding chapter, progress in that direction is being made. Mobilization plans should be so perfected that only authorization is required to put them into operation.

At this time, final results of the present trend towards making all sea transport the responsibility of the Navy, and all land transport the responsibility of the Army, is open to conjecture. Since the Air Force already has responsibility for air transport (jointly, in the case of the Military Air Transport Service) it would seem that this division of responsibilities would be more in line with the primary missions of the Services than is presently the case.

The development of representative bodies similar to the Association of American Railroads for the other modes of transportation is greatly to be desired. Government bodies presently charged

with the regulation of transportation, particularly the Interstate Commerce Commission, are badly in need of overhauling.

The exposed condition of Washington, D. C., with reference to the East coast, has led to much recent discussion as to its suitability as headquarters for wartime military and government operations. Current thought concerning military traffic control seems to be that no other site offers the peculiar advantages such as communication facilities, opportunities for liaison, tariff files, and skilled traffic personnel, that are essential to proper control.

Regulating stations should be so sited behind the East coast ports that they could furnish the same service as was accorded West coast ports during World War II. This is particularly important in view of the possibility of a port's being knocked out. The location of Holding and Reconsignment Points should be closely integrated with the location of Regulating Stations so as to permit diversions when necessary.

Finally, the very size of this Nation makes transportation very important to each of us. Our success in utilizing the transportation facilities which have been developed has been instrumental in achieving a victory in the war just past. The certainty that our next war will be total in scope, the advent of the atom bomb, and the guided missile, and the dispersion that successful defense against these will necessitate, will place an even greater strain upon our transportation facilities. It is believed that the lessons learned by the Army in its use of the domestic transportation facilities during World War II will be of great benefit to the Nation in the winning of a possible World War III.

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