COMMUNICATIONS AND TRANSPORTATION AS ESSENTIALS OF MOBILIZATION

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GENERAL McKINLEY:

Gentlemen, we are particularly fortunate this morning in having General Leavey with us. I feel happy about it, because he is an old friend of mine.

General Leavey is a graduate of the U. S. Military Academy, class of 1917, and the Command and General Staff School, 1938. He was promoted through the various grades to major general on 29 February 1944.

General Leavey has had a rather impressive war career. I knew him before he started overseas, when I think probably he was gathering more gray hair than at any other time in his career, in the construction program early in the game, trying to get these camps built. But after that he landed in North Africa in November, 1942, and became Chief of Staff of the Mediterranean Base Section; and in February, 1943, was placed in charge of that command. After completion of the Tunisian Campaign he went to the Pacific for duty on the staff of the Commander in Chief, United States Pacific Fleet and Pacific Ocean Areas, in charge of logistics. I think that is a rather important assignment -- an Army Officer on a Naval Staff. In May, 1945, he was transferred to the Philippines to serve as Deputy Commander, Army Forces in the Western Pacific, with headquarters in Manila. General Leavey is now Chief of Transportation for the Army.

His subject this morning is Communications and Transportation as Essentials of Mobilization. I take great pleasure indeed in introducing to you Major General Edmund H. Leavey.

GENERAL LEAVEY:

General McKinley, Officers of the Staff, and Student Officers of the Industrial College:

It is a distinct pleasure for me to speak to you today on the subject of Communications and Transportation as Essentials of Mobilization. In this talk I shall use the term "Communications" in its broad sense, namely the nets, or lines, of travel and the equipment used in movement on them. Throughout American History, transportation, as a means of physical communication and movement has been a controlling factor in the development and settlement of unoccupied lands, the growth of agricultural and industrial production, and our national military capabilities. Development of transportation facilities and techniques has fortunately kept pace with requirements. This is one of the foundation stones of the progress in and of the United States.

As a new nation faced with opening up large undeveloped areas, the American people showed great powers of expansion. They spread from the Atlantic Seaboard to the shores of the Pacific Ocean and gradually supplied the intervening areas with population, agricultural development, and industrial plants. This expansion could not have taken place without corresponding progress in transportation facilities and technology.

Commercial transportation has likewise, under the conditions of a more settled economy, followed a progressive policy, and has been ready whenever it became necessary for this country to mobilize, although, like all other parts of our industrial organization, it had to expand greatly and rapidly to meet the situation.

Today, transportation and communications affect everyone and almost everything. The environment, diet, and habits of life of the average man have been gradually altered due to transportation. Warfare has become a world-wide affair with the impact of military operations being felt along the communication and transportation routes of all countries. Developments in the fields of transportation and communications have permitted the conduct of modern global war.

Mobilization for World War II was geared to the combined capabilities of all forms of transportation--water, rail, motor, and air. This was true not only in the earlier stages of mobilization but applied throughout the war, not only to the Zone of the Interior, but in world-wide theaters of operation.

For thousands of years, war was a pedestrian enterprise with some operations slightly accelerated by the use of animals. For the most part it remained so until World War I struck, when motor and rail transport permitted a faster tempo on land and comparatively fast ships carried our men and supplies across the Atlantic. Air transport had not arrived. In World War II, however, with modern transportation and communication facilities, and their accompanying increase in speed, we were able to mobilize the entire resources of the nation in an unprecendented period of time in supporting an Army of huge size engaged in a global war such as the world had never before experienced.

There are two significant points to be considered on the subject of transportation. One is the volume which can be transported, and the other is the speed or time it takes to transport it. We have all been face to face with these two factors in World War II from the highest to the very lowest echelons. A very difficult factor influencing military operations throughout the war was the time it required to accumulate personnel and supplies or the time required for a specific movement of two commodities. In this reference, the problem was not only the manufacture of the supplies or the obtaining of sufficient personnel, but it was also their movement. The speed and volume of movement in World War II dwarfed anything that had ever preceded it, and gives us a preview of the future. With the increase in the volume and speed of transportation, and I am sure

the future will bring both to a point not now dreamed of, I believe we can say for a certainty that, one way or another, the effect of war in future will follow the fact of war more and more closely and more and more effectively.

At the time of our entry into World War II, the administration of Army transportation lacked integration from an operating standpoint. In addition to shipping Army personnel and freight by commercial carriers, The Wuartermaster General of the Army was charged with the maintenance and operation of our Army transport service, and of a small fleet of small boats. At that time, the Army had only 250 vessels of all types, including only six ocean-going Army troop transports and two cargo vessels in operation. Two ports of embarkation--New York and San Francisco--although part of the Army's transportation machinery, were operated under the direct control of the War Department General Staff. Their organization and methods of operation, viewed from today's standards, were incomplete and inadequate.

The maintenance and operation of military railways were assigned to the Chief of Engineers. Motor transportation as a service was unorganized and several of the supply services had transportation units within their own organizations. General supervision of these various operating agencies and coordination of their plans and activities rested with the Assistant Chief of Staff, G-4, whose organization included a Transportation Branch or Division.

The exigencies of war made it quickly apparent that a closer integration and better organization of Army transportation functions was necessary. This was partly accomplished in March, 1942, by the appointment of a Chief of Transportation and the creation in the Services of Supply of a Transportation Division, which title was soon changed to Transportation Service. But this fell short of what was considered necessary for the proper performance of the Army's transportation functions. The Chief of Transportation had operating functions but still had no voice in the activities of Transportation Officers on duty with Army posts, camps and stations; he had no facilities for the procurement, training and replacement of personnel for transportation organizations; and his sphere of operation was greatly limited.

On 31 July 1942, the establishment of the Transportation Corps was announced. And by November 1942, many additional functions covering the entire field of transportation were added. Today, with little exception, there is concentration and integration of transportation in the Army--not to the final extent that we of the Transportation Corps believe it should be--but certainly it is a tremendous improvement over anything that has heretofore existed.

Transportation Agencies of the Government:

Before further elaborating upon the transportation Corps and in order to complete for you the transportation picture, it is necessary to briefly

describe several most important wartime transportation agencies with which the War Department deals.

The first is the Office of Defense Transportation, familiarly called the ODT, which controls and coordinates domestic transportation facilities such as rail, air, highway, inland waterway, coastwise and inter-coastal carriers. Under an Executive Order, ODT is authorized to develop measures to secure maximum use of existing facilities and to coordinate traffic movements with ocean shipping to avoid congestion in port areas. In performing these functions, ODT is directed to maintain close liaison with the War Shipping Administration, the Interstate Commerce Commission, and the War and Navy Departments. Not the least of ODT's functions has been the stimulation of the provision of necessary additional facilities by reviewing stated requirements and making recommendations to the War Production Board (now the Civilian Production Administration) with respect to the allocation of priorities and materials for such equipment.

The second agency which occupied a top position during the war was the War Shipping Administration, familiarly called the WSA, a subsidiary of the Maritime Commission, which controlled the operation, purchase, charter and use of merchant ocean shipping other than that owned or bareboat chartered by the Army or the Navy, and coastal and inter-coastal shipping controlled by ODT. During the war, the bulk of United States flag ocean shipping was thus formed into a shipping pool subject to allocation to the various agencies requiring such shipping facilities, in accordance with strategic military requirements and the relative importance of other demands. Since the end of the war, and under the reconversion program, the Maritime Commission has gradually reabsorbed the War Shipping Administration.

Working in close coordination with the Armed Forces were various civilian committees, one of which was the Intra-territorial Military Committee, which had to do primarily with the movement of personnel by rail. It was comprised of representatives of territorial associations of the railroads throughout the United States which were responsible for the routing of the personnel traffic of all branches of the Service--The Army, Navy, Marine Corps, and Coast Guard.

Volume of Transportation - Zone of Interior:

To handle the unprecendented volume of traffic in the zone of the interior necessary to support an Army of 8,000,000 men required the utmost in careful planning, skillful coordination and prompt execution, along with a system of central control and direction in order to distribute the load as evenly as possible and to keep it moving on schedule without congestion at any point.

To emphasize this volume--by reference to these charts--we see that: From Pearl Harbor to VJ-Day, there were 33,678,688 troops moved by rail and bus, of which 32,880,000 troops moved by rail, and 765,541 by bus in organized groups of 40 or more. The peak month by rail was August 1945, when

1,170,000 were moved in organized groups. These figures do not include military personnel traveling individually on official business or in groups of less than 40, nor do they include furlough travel.

Turning to freight, shipments totalling 324,890,000 short tons were shipped via rail, highway, and water carriers (inland waterway). There were 2,260,000 short tons of LCL freight consolidated into carload lots through the Army-Navy Consolidating Stations--which I shall subsequently describe.

We are proud to say that these record-breaking volumes of export traffic were handled throughout the war years without serious congestion at any of the ports--a direct contrast to World War I, when during the winter of 1917-18, a stifling accumulation of 200,000 carloads of freight alone were backed up for the Atlantic Seaboard as far west as Chicago.

Further, I might add that in the handling of this terrific volume of freight, the Transportation Corps was able to effect freight rate reductions since 1 January 1944, averaging $60,000,000 annually on the wartime volume of traffic.

Although we are interested here today primarily in the zone of the interior--it is necessary to consider the volume that went through our ports of embarkation since these were certainly the focal points to which were pointed lines of action from throughout the zone of the interior--7,293,354 troops and other passengers were embarked from American ports, and 126,787,875 measurement tons of cargo shipped overseas. To do this, the Army operated 186 Army-owned and bareboat-chartered ocean-going vessels and controlled the operations of 1,765 Army-employed ocean-going vessels (most of them operated by the War Shipping Administration). The United States controlled merchant fleet increased from some 1,100 vessels of 11,000,000 deadweight tons to over 5,000 vessels exceeding 50,000,000 deadweight tons during the war.

Organization of the Transportation Corps:

The Transportation Corps being born while this country was engaged in the throes of war was under the necessity of building up its organization and establishing procedures while also coping with difficult operating problems during the most critical phases of the war.

A chain of facilities from coast to coast was established and operated. There were placed in operation, in addition to the ports of embarkation of New York and San Francisco, which were in operation at the beginning of the war, six additional ports of embarkation and numerous cargo and subports. The six additional ports of embarkation were: Boston, Hampton Roads, Charleston South Carolina, New Orleans, Los Angeles, Seattle Washington.

In addition to the nine Zone Transportation Offices which operated directly under the Chief of Transportation and which were established to

cover the same geographical areas as the Service Commands, there were also established:

District Transportation Offices
Port Agencies
Holding and Reconsignment Points
Regulating Stations
Army-Navy Consolidating Stations
Army-Navy Distributing Agencies

Within these facilities, it was necessary to effect coordination with all forms of transportation--rail, motor, water and air--both civilian and military.

Traffic Control--Zone of the Interior:

A most complex and dynamic problem of transportation, and certainly one which demanded constant attention and action during the war, was traffic control. Controlling all of the various modes of transport--tying them all together over the vast net in the zone of the interior--as you can see on this map--demanded the major attention of all transportation agencies. During the past war, we had to have an effective system for keeping our ports and our lines of cumminication to the ports free from the congestion that proved so serious a handicap during the first World War. Comprehensive traffic control arrangements were instituted promptly on the consolidation of transportation functions under a Chief of Transportation.

For the control of freight, the system eventually established embraced a dual control, exercised through the issuance of block releases and unit permits. The block releases were issued by a Transportation Control Committee, established in early 1942, and consisting of representatives of the Army, Navy, Office of Defense Transportation, War Shipping Administration, and British Ministry of War Transport. The Committee met daily in the office of the Chief of Transportation, and its executive and staff were appointed by him. Based on estimates of the supplies which would be ready for export and the shipping that would be available for lifting them, the block releases indicated the maximum tonnage that could be shipped to each port during a given month. Having determined the block release in advance of the month, the Transportation Control Committee was authorized to change the tonnage, require that specific shipments be held or diverted, and direct that embargoes be placed against specific ports as subsequent developments might warrant.

The authority to issue unit permits for all government export freight, except that of the Navy, was vested in the Traffic Control Division of the Office of the Chief of Transportation. Such permits were issued for specific shipments upon applications filed by the shippers. The Navy issued permits for its own shipments and the War Shipping Administration was authorized to issue permits for commercial shipments, which it accomplished through the Association of American Railroads acting as its agent. The sum total of

unit permits for shipments to arrive at a given point during a given month could not exceed the pertinent block releases. The railroads were directed not to accept shipments at points or origin unless unit permits had been issued to cover them. The War Shipping Administration introduced another safeguard by issuing forwarding authorizations for all lend-lease shipments, in order to synchronize arrival of cargoes at the ports with the availability of ships to receive them.

This centralized control system was, and is, considered to be the most efficient system of traffic control. It is compatible with commercial common carrier operations, but it must be emphasized that such a system demands the very best in communications. At times, every action taken, every movement that took place was requested, described, and finally authorized by either telephone, teletype, radio, and last of all by air mail and ordinary mail. Only by having at our disposal every modern means of scientific communication were we able to exercise this close and centralized control. There are other systems, perhaps, that could have been placed in effect but the adequacy of modern communication in this country and the complete cooperation of all commercial organizations permitted us to install a system which we believe has proved to be the best which has yet been devised. Only fast communication makes it possible for high-speed transportation to be safely and efficiently operated and the two must always be studied in relation to each other.

To see how the control system actually works, let us look at the map for a moment, remembering that New York is our major east coast military port. Most of you have been in and around the City of New York and have seen the waterfront with its maze of piers and the greatest port rail network of any port in the world. Problems were not too difficult there and the release system did not have to be supplemented in order to make it operate. That was true, likewise, of Hampton Roads, Charleston South Carolina, and Boston Massachusetts. But when you go from the east coast and move to the wide expanse of the Pacific Coast, knowing that there are only a limited number of rail gateways from the Mississippi River Valley serving the three major ports on the west coast, a real problem is presented. When cargo is released from the eastern part of the United States, which is the great industrial area, and destined for a port on the west coast, it is by no means certain to move through on a smooth and undisturbed course--many things might happen to it from the time it leaves the eastern area until it arrives in Los Angeles, San Francisco, or Seattle. The following will illustrate what I mean:

Early in 1942, there was set up in the western part of the United States a regulating system with stations located at El Paso Texas, Albequerque New Mexico, Odgen and Salt Lake City Utah, and Spokane Washington, two being necessary in Utah because two different railroads go through that area connecting north and southbound traffic and tying them in with the west coast. When cargo originated in eastern areas, reports covering its shipment were teletyped or dispatched by air mail to the regulating

stations in the western territory. The regulating stations were in contact by direct wire with the ports. By constant communications, the ports knew exactly what cargo was flowing through to them. When a report came in, for example, that showed 10,000 tons of cargo enroute to Los Angeles for a vessel that was due in the Los Angeles Port on a certain date, but which unfortunately had been sent to the bottom by enemy action--what could be done with it? From the reports rendered and with the direct communication between the ports and the regulating stations, the cargo could be diverted to other terminal destinations or to a holding and reconsignment point, or a ship could be diverted to Los Angeles to receive it.

Behind each major port, there was set up one or more holding and reconsignment points. Cargo could be diverted to these points and retain its carload identity until the Port Commander was assigned another vessel to replace the one lost or otherwise made unavailable. These holding and reconsignment points were very large in area and had considerable open and covered storage space. Remember that the cargo funneled into these holding and reconsignment points was intended to retain its original carload identity. The development of the War Department shipping document and its use throughout the Army made this feasible. It also permitted better records to be kept and permitted the Port Commander to keep overseas theater commanders informed at all times as to what was available to him, when he could expect it, and in what quantity.

To provide more effective control on less-than-carload lots and to effect a saving in cost and to increase the efficiency in the use of equipment, there were established consolidating stations located generally at cities where large quantities of LCL cargo originated.

In the areas where the consolidating stations were set up, directives were sent out to shippers to insure that any LCL shipments they had for specified areas would be consigned to the consolidating station. At these stations, the shipments were grouped by common destination in carload lots and dispatched, when possible, in trainload lots.

On the receiving end of the line, there were set up distributing agencies to which carload shipments were consigned by the consolidating stations. The function of these distributing agencies was, of course, to break down and distribute the consolidated cargo, since there were often in one car shipments for the Army, Navy, Marine Corps and Coast Guard.

The volume of that movement grew to such an extent that it was possible in a short period of time to consign from each of the consolidating stations in the United States complete carloads of mixed commodities to each of the ports of embarkation for movement to common destinations overseas.

Moving over into the more specialized field of passenger traffic, the overall plan for the movement of military personnel, and it is still in effect, was primarily that of having large groups moving on "MAIN" numbers.

The passenger equipment of the railroads of the United States was utilized to best advantage by having a central agency in Washington route all "MAIN" numbered traffic, with the authority from their headquarters, both in the Navy and War Departments, to coordinate details of movement so as to effect the maximum utilization of railway equipment. A "MAIN" is a group shipment authorized and supervised by the central agency.

Within the War Department, there was organized, and is still in operation in the Office of the Chief of Transportation, a Military Transportation Section of the Association of American Railroads. Through the use of the complete communication system of the Association of American Railroads and its broad authority over railroads throughout the United States, the Transportation Corps was able not only to save the War Department thousands of dollars in communications in the coordination and utilization of the transportation system, but more important, it was able to effect that flexibility which was essential to accomplish the job.

Mobilization:

Our future planning and preparation for mobilization of both personnel and materiel must hinge largely on the speed with which that mobilization can be accomplished. Probably never again will we have the time to mobilize that we had in the past war.

Mobilization being largely dependent on transportation, the problem of speed in mobilization then to a considerable degree is reduced to the problem of the speed and adequacy of our transportation facilities and technology.

Since it has always been and probably will continue to be the general policy of the War Department to utilize the common carriers in the zone of the interior, rather than to establish and operate separate Army transportation systems, the strategic planning of the War Department must consider and foster the development of commercial transportation facilities.

Historically, the outstanding features of transportation progress in the United States have been five-fold:

1. Construction by private capital of a nation-wide network of tracks, over which privately owned railroads produce the great bulk of the public service of transportation.

2. Building by governments, national, state and local, of a system of rural highways and city streets used by individuals and by private companies in the transportation business.

3. Development almost entirely by the national government of inland waterways used by private transportation companies.

4. Construction and operation at government expense of a system of airways and airports, used by private companies in the business of air transportation.

5. Construction and operation, chiefly by private capital, of an extensive pipeline system used principally for the transportation of petroleum and its products.

That the future will bring sufficient expansion and development under the same policies as heretofore followed is a question yet to be resolved but one of supreme significance.

A study of the industrial production of the United States as it is geographically located and a comparison of this location to the density of transportation facilities presents a situation that should directly influence transportation planning. Areas of weakness are readily apparent--both in industrial production and transportation facilities. Some of these areas will forever be weak--others will be balanced in time. Our problem is to effect this balance or growth to fit the strategic needs of the country as well as the commercial needs. Perhaps the present system of government controls is adequate to effect this, or it may be necessary for the government itself to develop certain areas and facilities even if it is known in advance that they will operate at a loss and constitute a continuing expense. There is much to be gained by a closer relationship between government spending for development of transportation facilities and the allocation of contracts for the development of industrial plants for military purposes. In mobilizing this country industrially, certain concentrated areas are relatively easy to deal with, and with the awarding of contracts industry can begin production for war with little or no delay. These areas have a limit, however, and to obtain the maximum overall production of the entire country we must be able to put the entire country to work--not merely the factories in certain areas. This is a problem to be dealt with in the future planning of industrial and transportation facilities.

MILITARY INSTALLATIONS

Railroads

By referring to the map, we find that a maze of rail lines covers the nation. Yet we know of many areas of inadequacy and in planning a defense against an attack from any of the four cardinal compass points, there can be seen the need for strategic development in our rail systems. It is probable that current studies of underground sites for storage and manufacture will reveal a definite inadequacy of transportation, especially rail. A serious problem in our Pacific operations, as I have previously mentioned, during the past war was the limitations of the railroads serving the western ports. The railroads were geared to handle the normal peace-time export load which was much less in the west than in the east. During the war, the carriers and the Army took active steps to increase the trans-continental