

2012

TRANSPORTATION AND POWER.

Address by Major G Van B Wilkes before the Army  
Industrial College, March 5, 1930.

1. It is impossible to cover even inadequately the broad subject assigned to me in the time allowed, so instead of attempting to do so I propose to discuss some of the details which are particularly interesting to me and which have some bearing on the plans of The Assistant Secretary of War or of the Supply Branches. I am going to confine myself to freight transportation by steam railroad and to Central Station Power. Committees of your class will later render reports on Power and Transportation separately, which will cover the general subjects much more completely than I propose to do. In my talk I intend to go from one subject to another with little regard to continuity or logical sequence and I trust that if I do not make myself clear to anyone or if anyone desires more information on any detail of my subject that it will be brought to my attention by questions either at this session, or later in my office, and I will try to supply the deficiency.

2. Transportation difficulties are described either as car shortages or congestion of terminals. The railroad network of the country is so manifoldly connected and the line capacity of a railroad is so great that these are indeed the only ways in which a general failure could occur. An examination of the great railroad crises of the past indicates that there has always been an adequate supply of cars to move the freight tendered for shipment and that the apparent

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shortages were caused by congestion of terminals and yards. These congestions are due to mismanagement, abuse of privilege by shippers, failure to comply with car service rules, non-cooperation between railroads, bribery of railroad employes by shippers, and other similar causes. It is said that one of the worst congestions in railroad history was caused by railroad managements adopting a principle of larger average trains. Yard masters were directed to hold cars in the yards longer so as to make up these heavier trains.

This upset the routine. Soon some of the yards became congested. Trains which ordinarily would be classified in the congested yards had to be cared for in those adjacent thereto. The congestion spread until finally the entire railroad system of the country was more or less tied up. The classification yards of any railroad system form a unit which has grown up simultaneously with the load and which has adapted itself to a particular method of operation. A very slight change in routine may cause a good deal of trouble. It is said that a new yard master often causes congestion in his yard by some apparently innocuous change of policy. If trained railroad men can cause trouble by meddling with yard management, there is no doubt that a novice could easily turn things upside down.

3. A shipper located in territory tributary to a particular railroad obtains cars by requisition direct on the agent of this road. The law requires the railroad to provide itself with sufficient equipment to render satisfactory service to its shippers and the Interstate Commerce

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Commission is charged with the duty of seeing that it does so. Every railroad has an organization more or less complete that has charge of its car supply. This involves estimate of car requirements and timely provision for obtaining sufficient of each class to move the freight offered. The cars may belong to the road or may be rented from some other road for a particular use. The mobilization of cars for the great seasonal movements of foodstuffs and building material is of particular interest. Cars are collected by the railroads involved at strategic points before the movement commences and are martialled during the movement in accordance with the circumstances as they develop

4. Cars loaded with freight move freely from one railroad to another. The transfer between roads is effected at a junction point. The road in control of the car places it on an exchange track and supplies the other road with the waybills and other data required by that road. An agent of the receiving road inspects the car to see that it is in satisfactory condition for movement and that the seals are unbroken. If everything is satisfactory the car is received and moved on toward its destination.

5. The rate charged the shipper for a movement of this nature is either made up by addition of the rate to the junction and that from it to destination, or it is a through rate ordinarily less than the combination of local rates which is divided between the railroads concerned in a proportion mutually agreed upon.

Shippers have the right by law to route their shipments from origin

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to destination but much freight is routed by the initial railroad. In this case the railroad makes use of its control of routing for its own profit. It is unthinkable that a railroad would ever short route itself, and it is certain that the freight will be delivered at the junction where the initial railroad will get the largest cut of the through rate regardless of the interest of the shipper.

6 Many industrial and commercial concerns have included a traffic department in their organization. Such a department is charged with routing shipments so as to obtain the lowest rates, best delivery, or certain special services offered by the available roads. The traffic manager becomes a specialist in the transportation of the product of the concern and is able to represent its interests before classification committees, freight agents, state railroad commissioners or the examiners of the Interstate Commerce Commission. Many trade associations provide a similar service for their members. A traffic department is also a regular part of a chamber of commerce or a city club. It is very rare that a regular shipper leaves the routing of his freight to be determined by the railroad.

7. Cars must be returned promptly to their owners after they have completed a transfer of freight that takes them into other territory. The return of these cars is necessary (1) because the railroad that owns them should have the benefit of their service (2) because when they are on a foreign line they do not receive the same careful maintenance that they do at home. The railroads of the United States have evolved a set

of so called Car Service and Per Diem Rules to secure this return of equipment: These rules provide (1) A rental of \$1.00 per day will be paid for each freight car not owned by a railroad while such car is on its lines either moving or standing on a siding. This applies only to cars which belong to a signer of the rules. (2) A railroad must not use one of its own cars for a shipment off its lines when a car not owned by it is available. (3) A foreign car must be loaded only for shipments in the direction of the owner, to a point on a direct connection of the owner or so that the owner will obtain some revenue from the movement (4) Otherwise the car must be returned to the owner empty by the same route over which it traveled loaded. In this case the movement empty is made without charge to the owning railroad. If it is desired to have it returned more promptly, the owner may order it "short routed" in which case he pays at the rate of six cents per mile for the return.

The Car Service rules have been signed by the majority of railroads. They are being constantly violated in particulars, but in the main govern the movement of empties in normal times. Experience in 1916-1917 indicates that unless enforced by the power of the Government they are of little value in emergencies.

8. Theoretically, a railroad as a common carrier must receive any freight tendered to it. It often happens, however, that congestion of yards or terminals, washouts on the lines, failure of connections, or other causes interfere with the operations of a railroad so that it cannot dispose of the freight offered to it. If a railroad is unable to receive cars

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delivered to it by a connection, the Car Service rules make it liable for the per diem rental not only of the cars actually tendered it but for other cars delayed elsewhere on the connection and for double per diem on the empties delayed by its failure on their journey toward home. It can only protect itself by declaring an embargo. An embargo is a temporary refusal to receive cars of certain kinds of freight destined to certain specified points. A railroad is responsible for cars loaded within 48 hours after the embargo has been declared, but is not responsible for freight loaded later than that. An embargo is declared on the responsibility of a particular railroad. Only in certain specified cases can an embargo be declared by the A.R.A. and then it acts as an agent of a number of roads. We think of an embargo as an unusual occurrence but actually many embargoes are declared by the roads each year. The railroads have framed a set of rules governing embargoes. These rules deal with priority of articles to be excepted from embargo and provide a method for promptly distributing notice of an embargo to all the roads of the country. The I.C.C. must be informed promptly of the laying or raising of an embargo as it is the only agency that can lawfully lay an embargo and it must tacitly give its consent or the embargo is not legal.

9 Now let us leave the railroads for a while and consider power. The railroads of the United States form a continuous network serving the entire country. Each railroad forms an essential element of this network and to a certain extent renders service to the entire country Superpower

enthusiasts prophesy that some day our power lines will similarly constitute a national unit, that power houses wherever built will be connected into it and that industries and municipalities will draw from it. This is far from the case at present. To be sure, three phase, 60 cycle alternating current has become almost standard for long distance transmission, but we have several standard voltages and instead of a single connected network there are a great number of detached systems. A detached power house must have stand by capacity to meet the peak load and also to ensure continuity of service. By combining several such plants in a connected system a greater variety of load is obtained and the number of stand by units can be reduced. Water power has several peculiarities not possessed by steam plants. Among these may be noted low operating expenses, high fixed expenses, and the probability of storing water without loss to provide power at some later date. Steam units in a stand by condition ordinarily require some of the boilers to be banked with the accompanying profitless consumption of fuel. Power systems are practical since they permit the rational combination of several types of power plant and of various classes of users to the advantage of all, but there is an economical limit to their territorial extent and this limit has about been reached under present conditions. The interconnections between systems which one reads so much about in the newspapers are invariably quite weak and were made to serve local purposes and not the movement of a large block of power from one system to another.

10. The power industry is noteworthy in the extent to which it has

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planned its future growth, based on the development of the territory served. Power stations and transmission lines are designed with an eye to probable conditions ten or even fifteen years in the future.

11. The coordination of the power business is secured through immense holding and finance companies which own or control systems scattered over the country and having little or nothing in common. The regulation of power companies has been left almost entirely to the States, the Federal Government has taken practically no control. The holding companies escape State regulation almost entirely and State commissions find the greatest difficulty checking up on the charges for their services which are carried in the operating accounts of the power companies proper.

12. The power industry is extremely jealous of public ownership. This has been amply demonstrated by the recent revelations of the investigations of the Federal Trade Board. This is probably due to the large number of municipal power plants which are in satisfactory operation everywhere and to the realization that most of the arguments used to justify the large holding companies which feature the industry apply just as well in favor of public ownership. Moreover, it has as its customers large utilities and industries which are often inclined to question the bases of rates and the value of the services which are charged by the holding companies and other extraneous overhead. Industry always resents the idea of Government operations in its own field but is usually more than willing to have it take over some other industry if it can in any way profit thereby.

13. The Power industry is well organized. There are a number of

associations and organizations which all seem to head up in the National Electric Light Association. This is a typical national trade association. It has a widely spread membership, a democratic loosely connected organization, a permanent staff operating under control of an elected board of directors, and a number of standing and special committees made up of members and associate members. The association is organized on geographical and functional lines. It engages in all kinds of research and investigations relating to the Central Station Power Industry and cooperates with other national associations and societies in this work. It is aggressive and active in the defense of the financial and commercial organization of the industry against anything that may be considered injurious to it.

14. I propose now to return to the railroads and discuss the American Railway Association which occupies somewhat the same status for railroads as the N.E.L.A. does for the Power Industry. It is a never ending source of wonder to me to see the way in which this association has captured the Army imagination. In a war plan prepared last year in the War College, for instance, it was stated that the American Railway Association shall be charged with the coordination of Bus and Truck, Railway, Electric Interurban, and Internal Waterway transportation within the continental limits of the United States. It is almost safe to assume that any plan or article dealing with transportation prepared by an Army officer will indicate the delegation of immense powers of control to this organization. This immense prestige is due to its efficient handling of troop movements during the War and since that time and to the very effective propaganda put out by the Chairman of the Car Service Division.

15. The American Railway Association is almost a typical trade association in organization and function. It is supported by dues assessed against the members and associate members. An Army member may withdraw at any time if his dues are fully paid up. The failure to pay dues for two consecutive years is considered as a resignation. The object of the Association, as expressed in its published articles of agreement, is "by recommendation, to harmonize and coordinate the principles and practices of American Railways with respect to their construction, maintenance, and operation." The work of the Association is performed under eight divisions known as the Operating, Transportation, Traffic, Engineering, Freight Claims, Mechanical, Purchases and Stores, and Motor Transport. Each of these divisions is in effect a separate Association with its own officers, committees, associate members and annual convention. In addition to these divisions, made up of the members of the Association, there is an organization known as the Car Service Division which consists of a permanent paid force which serves the Association as a whole. I intend to discuss this division later on as it is most important from our view point.

16. The American Railway Association is the great research body for the railroading profession. It formulates and interprets such codes and regulations as the Car Service rules, and the rules governing weighing, demurrage, car interchange, embargoes, etc. The Association in spite of its democratic form actually represents particularly the interests of the larger railroads and some of the rules it formulates are oppressive

to the weaker lines. These are coerced in several ways. As a side light on the nature of the Association I will read from the findings of the I. C. C. in the case recently decided against the Association and in favor of the short line roads, re Car Service and per diem rules. "Articles of organization of the A.R.A. provide that only those railroads which operate 100 miles or more of road shall be eligible to become members, that each carrier may exercise the right of one membership for each 1000 miles of road or fraction thereof operated by it, and that in the adoption or revision of per diem rules one vote may be cast for each membership. Carriers which operate less than 100 miles of road must become associate members to gain admission to the per diem agreement. As subscribers and associate members they share the expense of the Association and agree to abide by its rules and regulations but have no vote in the establishment of the rules Associate members have no representatives on A.R.A. committees which formulate and interpret per diem rules.

To be made effective, proposed rules must receive affirmative vote by a majority of the memberships A proposed change in the rules may be defeated by negative votes representing one third of the freight cars plus one. More than one third of such cars are controlled by eight large carriers "

17. In 1916-1917 the railroads were striving to keep from being taken over by the United States and were under constant pressure from the I C C. to make them live up to their own car service rules.

During this period there was a commission on Car Service made up of railroad officials high in the service, which was charged by the railroads with the enforcement of the Car Service rules. After the railroads were returned to private ownership, The American Railway Association was reorganized and a permanent organization known as the Car Service Division was created to police the Car Service rules. The authority of this Division is assigned to it in the rules themselves and every member and associate member must accept and endorse them. Each sub-member is required to pledge himself to name the Car Service Division as his agent for the service of orders from the Interstate Commerce Commission.

The Car Service Division has been assigned the mission as described below

- a. To supervise the operation of the Car Service and per diem rules. Infringements are reported to the railroad on which they occur, and in flagrant cases to the board of directors of the Association.
- b. To suspend temporarily the operation of the rules in an emergency and to issue necessary orders for the movement of specified classes of cars until the emergency is cleared
- c. To transfer the equipment of one railroad to the rails of another when necessary, due regard being had to ownership
- d. To act as the agent for each of the members of the association to receive service orders and notices from the I C C

e To act as the joint agent of the members of the Association.

1 To direct the movement of open top cars, grain cars and refrigerator cars in the great coal and crop movements, in which all are interested and for which all supply equipment.

2. To act as a joint agent in arrangements for military movements,

3 To carry on certain publicity and propaganda work for the railroads as a whole.

18. The Car Service Division has divided the country into 14 districts in each of which, except one, there is located a Manager and a small force of inspectors. The shippers in the district are organized into a Shippers' Advisory Board which meets once each quarter. The Railroads pay the entire expense of this meeting. Railroads serving the district are represented by a railroad contact committee. A large part of the time of the Boards is taken up with railroad propaganda but there is no doubt but what the boards are very helpful in securing a better feeling between the shippers and the railroads and in giving each a better understanding of the others problems. The usefulness of the boards in certain cases is illustrated by the following examples

For some reason navigation on the Great Lakes becomes temporarily inadequate. In order to prevent the piling up of grain in Duluth it was decided to place an embargo against that port and send the heavy

wheat movement South through Minneapolis, St Paul and Chicago. Ordinarily this would have caused a great deal of trouble with the business men of Duluth, but the matter was easily explained in the Shippers' Advisory Board and the emergency passed without any particular difficulty.

The meeting of the Shippers' Advisory Boards in the North West and in the Trans Missouri-Kansas Districts, just preceding the grain harvest is always featured by detailed reports from each of the railroads serving the areas, giving its forecast of the expected wheat movement and what arrangements have been made by the road to handle the movement, including a comparison of what had been done in the year preceding and how it had turned out. A member of the staff of the Car Service Division is also present at the meeting and shows what reserve in cars is being built up by the Car Service Division in readiness to help the railroads on the firing line.

The real estate boom in Florida caused a congestion of the Florida Railroads. Material of all kinds was being shipped into the State from every direction. The Florida Railroads in self protection laid an embargo in October, 1925. An attempt was made to regulate the flow of material into the State by a system of permits. The permits got into the hands of speculators and there was the beginning of a very disagreeable scandal.

At this juncture the Car Service Division took a hand. The Florida Section of the South Eastern Advisory Board took charge of the situation.

The State of Florida was divided into a number of terminal Districts. In each terminal District the receivers of freight were organized into commodity committees. The railroad announced how many cars it could move into each terminal District during a given period. The Shippers divided these cars among themselves and issued permits for their passage through Jacksonville. This system would probably have put an end to the confusion if it had been given a chance to operate but actually the matter was taken out of the hands of the railroads and was brought into order by the I.C.C.

19. There has been a marked tendency since the war to take the distribution of cars among shippers out of the control of the railroads and either place it in the hands of the shippers themselves, or make it a matter of percentage on a scale of ratings established by a neutral agency. In no case does the Car Service Division have any control over this delicate matter, except to assist in the organization of the shippers and in publishing the rules decided upon.

20. I will close this talk with a general description of the Interstate Commerce Commission, this organization provided for the Federal regulation and control of common carriers and for the protection of shippers and the public in general.

21. The Interstate Commerce Commission is a unique organization charged with both administrative and judicial duties. It consists of eleven commissioners appointed by the President of the United States and of fourteen bureaus. The commissioners are organized in six divisions,

three assigned to each division. The divisions are each charged with responsibility for specific classes of cases by order of the commission. Each division has by law the full authority and jurisdiction of the Commission over the cases assigned to it and may order, certify or report as it judges best and the seal of the commission is the seal of each separate division. Procedure before the Commission is very formal and is modeled on that of the Federal Courts.

22 The Bureau of Formal Cases consists of a board of review and a corps of examiners who act along lines similar to masters in chancery in preparing the immense amount of data necessary to the consideration of the important formal cases that come before the Commission. The examiners hold public hearings when necessary, either in Washington or elsewhere if more convenient and submit a tentative report and recommendation to the Commission, copies of this report are furnished parties at interest and they may submit their objections to the Commission. The final decision is of course with the division of the Commission having jurisdiction.

23. The Bureau of Informal Cases serves as an intermediary between complainants and railroad companies in adjusting complaints without resort to the formal process of litigation. One section of this Bureau examines all voluntary settlements made by railroads with complainants so as to make certain that no unlawful rebates are being given. The decisions of this bureau are not necessarily final as either party may demand a formal hearing. On account of the great difference in cost,

however, a great many cases are thus settled to the mutual satisfaction of both parties. In 1928 there was thus settled 8,211 cases and 11,722 voluntary settlements were reviewed.

24. The Bureau of Service was created in 1917. It is concerned with the use, control, supply, movement, distribution, exchange and interchange of locomotives, cars and other equipment especially in times of emergency. It has demonstrated its capacity for action several times since its creation.

This Bureau is normally skeletonized, but is so organized that it can be readily expanded by the organization of a headquarters in each of the 15 zones into which the country is divided with trained agents in all important terminals and transfer points. The pressure of this Bureau on the Car Service Commission of the railroads was of great importance in 1917 in enforcing reasonable car service rules. The normal peace time organization is sufficient to handle any ordinary emergency.

25 The other Bureaus are, Administrative, Law, Accounts, Statistics, Finance, Valuation, Traffic, Inquiry, Safety, Signals and Train Control and Locomotive Inspection. The Commission has about 2,000 regular employes and can be expanded to any extent necessary in time of war or other emergency.

26. The Interstate Commerce Act gives the Commission complete control over the railroads. The following are some of its powers.

a. Car service and per diem rules are filed with the commission, they must be fair and reasonable. The commission may give these rules the force of approved rates at any time.

b. The commission may in cases of emergency suspend car service rules. It may transfer temporarily or permanently, the cars, locomotives or other equipment from an owning railroad to another railroad. It may compel the joint use of terminals or other facilities including portions of main track. In these cases it has the power to determine the fair terms of compensation between the interested parties.

c. The Commission in times of emergency may give preference or priority to specified traffic, enforce embargoes, etc.

d. In time of war, the President may certify that it is essential that certain traffic shall have preference. And the Commission shall then have the power and authority to order such preference.

e. If a railroad for any reason is unable to handle the traffic, the Commission may order a diversion of any or all of it to another road and may fix just terms of compensation.

f. The Commission may compel any carrier to provide itself with adequate facilities and equipment.

27 This concludes my talk. I have purposely avoided discussing the plans for control in war as these matters will be considered when your committees report. I am now prepared to try to answer your questions if you have any.