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TRANSPORTATION AND NATIONAL SECURITY

Mr. Gayton E. Germane

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Reviewed by: Colonel Thomas C. Keach, USAF

Date: 24 March 1960

INDUSTRIAL COLLEGE OF THE ARMED FORCES

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Reporter: Ralph W. Bennett

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GEN. HOUSEMAN: We are going to continue discussing the service areas of national logistics and this week, among other topics, we're going to take up transportation. This morning we are having the first of two talks on the subject in its various aspects. In Materiel Management and other parts of the course you have had transportation being discussed in various peripheral ways, but the subject of transportation as such has not been given adequate coverage so far.

This morning's talk is going to be a general discussion of the subject. We're going to talk about national transportation; the various agencies of the Government that are involved and the problems which they face; the integration of the various modes; and then transportation in general, in its broadest sphere.

Our speaker this morning I've known for quite some time. He is very well known in academic circles in his specialty, and at the same time he's very well known in industry. We are very happy to have this morning Mr. Gayton E. Germane, Director of Transportation Policy, Office of the Assistant Secretary of Defense (Supply and Logistics).

Mr. Germane.

MR. GERMANE: Thank you, General Houseman.

Ladies and Gentlemen: It's a pleasure to be here. As I think you know, this is my first opportunity to come as a guest speaker. I hope

that I'll be able to cover some of these topics that General Houseman mentioned as being of special interest and significance for you.

For those of you who are particularly interested in transportation and national security, I'd like to recommend this little booklet of hearings before a subcommittee of the Armed Services Committee, House of Representatives, completed in October of 1959. Its title is "Adequacy of Transportation Systems in Support of the National Defense Effort in Event of Mobilization." It has a lot of general material on our transportation capabilities and problems, and a good many specific comments by leaders in transportation and Government, along with statistics relating to performance and situations concerning particular modes of transportation.

I would like to emphasize now that the comments I make today represent my personal opinions only and should not be attributed to any organization or group in the Government or in industry. But I will feel free to say what I personally think. I hope you will feel equally free to challenge any statements that you think appropriate and ask me questions about them. I'm not at all sure I can answer your questions. I'll do my best; and if I don't have an answer for you, I'll see if we can't get one and have it supplied to you through the courtesy of your instructor.

Today I've been asked to deal with four general topics under this heading of transportation and national security. These topics are the importance of transportation in our economy, recent developments and prospective improvements relating to transportation, the evaluation of

current conditions and some weaknesses in our transportation system, and the Federal Government organization concerning transportation. On Wednesday of this week, Major General Besson, the Chief of Transportation, Department of the Army, will talk with you in considerable detail about transportation control in emergencies; and in anticipation of his remarks, I will confine my comments on Federal Government organization for transportation problems to a more general area.

I'd like now to turn to this matter of the importance of transportation in our economy. I think we're all aware of transportation, and, given a moment's consideration, realize that it is important. Unfortunately, I think that because there is so much transportation used in our lives, and because in general it operates fairly well, we tend to take it for granted, pretty much like the air we breathe. But it is, nonetheless, of extreme importance to all of us; and I'd like to devote a few minutes here this morning to reminding you of some of the ways in which it is important.

Not the least of these is that transportation, cheap and efficient transportation, is one of the elements responsible for our high standard of living in this country. As the result of cheap and efficient transportation, we can have regional specialization, which allows our economy to be more efficient. Just take the area of food, for example, with which you are all concerned and familiar. If it weren't for cheap and efficient transportation, we wouldn't have Florida oranges and California lettuce and Maine lobsters and Kansas beets here at prices you could afford or

at prices perhaps which any but the gourmet restaurants could afford. These things are brought to us as a result of cheap and efficient transportation. They permit us to get the benefit of the regional advantages and the special situations in climate and soil and so on of the different parts of our country.

In addition to permitting regional specialization, we get a similar benefit through the fact that cheap transportation permits mass markets to be developed; and mass markets permit us to achieve the advantages of mass production and production-line techniques. This, then, is an advantage in giving us lower unit costs of production, quite aside from the fact that the distribution of these inexpensively produced products can be handled over wide areas of the country.

A further result from cheap and economical transportation, efficiently managed, is that it permits an increase in the number of competitors or the number of suppliers who can serve any particular market area. This means that the customer then has a greater choice, or, putting it differently, that we have an increase in the number of potential competitors, and this sometimes results in an increase of effective competition. You notice I say "sometimes." In any event, it does mean that we have potentially not only a greater variety of suppliers, which protects us against crises, strikes, weather difficulties in any single area of the country, but it does give us the possibility of lower prices through increased competition.

In these various ways, then, transportation enhances our standard

of living and strengthens the economy of this country. I think these are ways which we are aware of but don't often give much thought to.

Now, there are many different analogies that we could make for transportation in the economy. One that you have probably heard many times is that transportation is a link in a chain. I don't think this is quite fair, because, really, it seems to me that transportation is not one link but a series of links in the chain of production and distribution. If you will think for a moment to some major industries, such as the steel industry for example, it's transportation that takes the supplies out to the mining sites and makes it possible for people to stay there and conduct the extraction operation. Then it's transportation that takes the ore after it is mined to the mill, and transportation that supplies the other products that must be combined with the iron ore in the production of steel. And, again, it's transportation that takes the sheets and the tin plate and the fabricated shapes out to the distribution system or to the places where the sheets and rolls will be further modified. And transportation again enters the system when we carry the product from its final processing point on to the wholesaler and the retailer and finally to the consumer. So transportation appears not once but many times in our economic process in most of the basic industries and to a lesser extent in some of the service industries.

I think another analogy that we might consider is the human body. Transportation is like the blood in our body. Communications are like the nervous system. The cells, as individual units, might represent

consumers. The cells, functioning in groups as muscles and organs, might be thought of as the producers in our economic system.

The point I want to make here is that transportation is vital. We can't say that it's the most important segment of our economy. I don't think you can say that about any particular segment. Nor can you say that about any particular organ or function of the body. But you can say that there are a number of functions or activities which are indispensable to successful operation of the whole. Transportation is one of those activities in our economy.

I'd like you to see some measures of the role and importance of transportation in our society today. (Chart 1) You will notice here that it represents over 16 billion dollars worth of expenditures in 1958. That's about 4 percent of our gross national product. Quite a few people gain their livelihood from transportation industries. And in terms of service, in ton-miles of cargo, and passenger miles provided in 1958, again it represents a significant level of activity.

Now, you can find statistics of this sort on almost every function of importance in the economy. I thought you would find it interesting to see what the statistics were for transportation.

Some of the characteristics of the various modes of transportation I am sure are familiar to you. But I'd like to review them briefly, and perhaps slightly inaccurately, to give you some idea of the contrast, as well as the similarity. For example, in terms of speed of transportation, I don't think there's any doubt that for long movement, air trans-

portation is far and away the fastest mode, followed perhaps by rail and truck transportation, then water transportation, and the slowest, but in some other respects the best, pipeline transportation.

Another characteristic which you have to think of in planning your transportation services is flexibility--the ability to handle loads of varying sizes and to make deliveries to varied destinations. In the continental U.S. probably truck transportation is more flexible than any other common carrier mode. Perhaps rail would be next, with air, water, pipelines following possibly in that order.

Another factor to consider is the security of the cargo or the passengers. Of course this is greatly affected by the care taken in any particular case regardless of the mode of transportation with which you are concerned. And, of course, in recent years, containerization has been of great assistance, particularly with the land and water carriers, in reducing the damage to cargo. Nonetheless, we can here also array the modes of transportation in the approximate order. It's commonly thought that damage is less frequent by air, and then perhaps by truck and rail and water; and, of course, it's hardly applicable in the case of pipeline transportation.

A final element, which you would probably always consider in connection with transportation problems, is the cost of transportation. (Chart 2) I'd like to show you a slide on relative cost.

It's difficult to give you any meaningful figures in terms of rates. So what I've done here is to put down the figures relating to the average

revenue per ton-mile by the various modes of transportation. In the case of air transportation you can see that in 1958 it was 19 cents per ton-mile. If we limited our figures only to the certificated trunkline carriers in the United States, it would be up around 23 cents; but including the charter operators, contract operators, brings it down to an average of about 19 cents a ton-mile. Notice the trucks--approximately one-third of the air cargo rate--6.4 cents a ton-mile. The rail 1.46; the petroleum pipeline about 4 mills.

I couldn't get any reliable figures on the petroleum tankers--the large vessels carrying petroleum products. But it is generally stated that their costs are in the neighborhood of 2 mills per ton-mile. So that would be about one-half the cost of movement of petroleum products by pipeline. You can see, therefore, why the large oil companies use petroleum tankers in coastal service even when where pipelines are available.

I'd like you to notice the contrast between the rail average revenue per ton-mile and the truck. Some of my friends in transportation were aware of the problems of the railroads and one of them had asked me: "Why don't we just let the railroads go to hell if their management is no better than that, and rely on the trucks?" This is part of the answer, because, although they are highly competitive on many runs and many types of traffic, the railroads do represent a great deal cheaper form of transportation than the trucks--roughly in this case one-fourth the cost of truck service.

I think you have all probably heard a lot about the competition

between rail and truck. I'm not sure that you are aware that there is this basic difference in the cost of operation. One of the reasons that this basic difference does not appear more significantly is that in years past the railroads were substantially a land transportation monopoly, and, as a consequence, their rate structure developed on a basis which allowed them to charge more than the full cost of service for commodities which could afford to pay the tariff; in other words, to charge some commodities largely on the basis of the value of the service. Other commodities which would contribute to the overhead but which couldn't meet the full cost of the service were carried at less than full cost.

This was fine, this was economic, and this was justifiable and desirable for our society when you had one mode of transportation. As the trucks became a more important comparative element in the situation, however, and because of their cost structure, which caused them to concentrate on the commodities which could carry the higher cost, the truckers went after the high-rated business. So over the years the railroads have lost more and more of the high-rated commodities which paid an excess over full cost; and because the low-rated commodities couldn't stand rate increases, and because nobody was trying to take them away from the rails in any significant quantity, those rates were not raised.

The railroad reaction to the erosion of the high-rated traffic was in general to have across-the-board rate increases which applied to the class rates. This did not apply in general to the low, below-full-cost commodity rates. This simply pushed more traffic up into the price

range where it was attractive to the truckers, and they scooped off more of it. The result has been that, although in years gone by the railroads were able to cover the full cost on the low-rated traffic by the extra income from the high-rated traffic, now they have lost much of the high-rated traffic, have lost very little of the low-rated traffic, and their total revenue picture is very unfortunate.

This means that the rails are having to move more and more in the direction of a rate structure based on cost. And I think as a generalization you can say that whenever two modes of transportation with significantly different cost structures are competing, it will mean over a period of time, pressure to bring rate structures more nearly in line with the actual cost of service. It's the only way that the carriers will be able to take fullest advantage of their inherent economic situation.

In thinking about your transportation problems, your choice of carriers, and so on, I am sure you would all say that the choice of the best mode of transportation depends on the job to be done; that you would want to consider your requirements for speed, for flexibility of service, for cargo or personal safety, and the rate or charge involved. Then there would probably be other special considerations to take account of in each particular case.

Having looked at some of these characteristics of the various modes of transportation, I'd like for you to see what has happened in terms of the distribution of traffic. (Chart 3) Here in red you see the distribution of traffic in intercity freight ton-miles as percentages of the total. The

red is 1940 and the green is 1958. These are changes in the percentages of the total intercity ton-mile traffic. You will notice that the railroads have dropped 15 percentage points. The trucks are up 10, doubling their relative importance in our transportation of freight. Inland waterways, including the Great Lakes, are down slightly. Petroleum pipelines have almost doubled. And this may be a surprise to you. The airlines are hardly a drop in the bucket in spite of the tremendous advances in air transportation since 1940.

On the other hand, if you were to look at passenger-miles, you would find that the airlines now represent about 30 percent of our intercity passenger-miles. And in 1957, for the first time, the airlines surpassed the railroads in the number of passenger-miles carried. However, the airlines are still an insignificant part of our total economy in terms of their contribution to intercity freight ton-miles.

I think that these figures also indicate one of the reasons that many people are concerned about the plight of the railroads today. If we were to assume in a national emergency that transportation facilities would be of as much importance and used in the same proportions that they are now, then you would say that the railroads are going to represent about 46 percent of our freight capability. If you think that in another national emergency, transportation movements in the continental U.S. will be similar in volume and distribution to what they were in World War II, then you would say that the railroads were going to represent about 97 percent of our transportation capability.

So if the railroads are sick, it's a matter of extreme significance for all of us. Not less than 46 percent of our total ton-miles of intercity freight traffic is now carried by the railroads. We can't afford to have a serious weakness in any mode of transportation which is of such great significance to our economy.

I'd like to touch now on the second general topic I was asked to comment about, and that's the recent developments in transportation and some of the impact which they may have.

One of them, that I mentioned earlier, was containerization. I think you have all seen examples of this through the Konax containers in the military services and through the pictures in newspaper articles on containerization in various commercial activities.

Another important development in transportation has been the increased interest in coordination among the various modes of transportation. Here again containerization has played a large role in making this coordination profitable and important.

For example, let's take piggy back, which is a prize case of cooperation among modes of transportation. The growth of piggy back in recent years has been tremendous. In 1958 there were over 200,000 cars loaded in piggy back service. That represented a 62 percent increase over the car loading in 1957.

In ocean transportation I think you have all seen pictures and movies about the new container ships. And in air and surface transportation also, coordination is moving ahead. Northwest Airlines has signed

through-bill and through-route arrangement contracts with numerous truckers, developing what they refer to as "sky truck service," which will be faster than rail or truck, faster than railway express, slower than air freight, but cheaper than railway express and possibly competitive with air freight in its cost.

In the new equipment area there have also been many developments. I'd like to race through a few of them.

As you know, in Europe, electrification of the railroads is proceeding apace, with improved service and higher speeds of trains. In this country we have had experiments with nuclear power for locomotives. The Union Pacific Railroad is operating gas turbine locomotives in revenue service. Some of the railroads are experimenting with the use of powdered coal in their diesel fuel to increase the economy with which they can operate. Automatic trains, which can operate without crews at all and still perform in safety, are technically possible; and there has been successful experimentation with them. Several of the railroads are experimenting with the remote operation of multiple-unit locomotives scattered through a train. This will allow longer trains to be operated without the danger of pull-aparts through the concentration of all the motive power at one end of the train. I think you have seen pictures of the new super tank cars, carrying approximately twice the cargo that was formerly handled in the normal car. And then there have been numerous specialty cars developed as well.

In truck transportation you may not be aware of it, but there have

also been experiments with gas turbine power plants, with pneumatic springing, with movable axles which allow the center of gravity of the trailer to be adjusted, aluminum bodies, and all manner of improvements to increase speed of loading and the net tonnage that can be carried in a truck-and-trailer unit.

One of the developments that is now coming to the East is the expansion of the service area, particularly on some of the toll roads, in which so-called doubles or tandem units can be operated. This is a tractor pulling a semi-trailer, followed by a full trailer--so-called "railroads of the highway."

In the pipeline field the developments have been spectacular but more conventional--bigger pipelines and higher pressures to achieve greater volume and reduced unit cost. In addition to this, there has also been experimentation with the movement of solids by pipeline--grain, coal in solution, and so on. This is a very promising development. It does have certain difficulties, however. If you shut down the pipeline for any length of time, the solids in suspension settle out; and when you start pumping again, the solids are not picked up to any appreciable extent by the liquid. As a consequence, it is very difficult and expensive to get your slurry solution, or whatever you call your mixture, back into the system as it originally started out.

Conveyors are a development that has moved ahead rapidly in the last few years. They are longer than they were before. Sometimes they are being used with limited freight service rather than just bulk commodities.

And they are talked about now in a number of cases for the handling of personnel over fairly long distances.

In water transportation we have many different developments. In the field of power plants you are familiar with the S. S. Savanna, the nuclear-powered ship. They have been trying gas turbine power plants of various sizes in vessels, free-piston drives, and so on.

The actual driving mechanism has resulted in further development. We have ducted propellers, vertical any-direction propellers. In hulls they have the roll-on, roll-off special hulls; the lift-on, lift-off special hulls; jumboized hulls, where they take an existing ship, cut it apart, stretch the bow and stern, insert a new mid-section; and in some cases have gotten not only increased capacity, but higher cruising speeds with the same horsepower. So this is a very fine type of improvement.

In addition, and going to the more spectacular areas, there is, as you know, experimentation going forward, in which the U. S. Government is participating, on the development of large-size hydrofoil vessels, which will move fast on underwater wings which lift the main part of the hull out of water. And the British, at least, have developed plans for a giant nuclear-powered submarine cargo liner; since, if you really want high speeds at sea, they can be achieved more economically in submarine vessels than in surface vessels.

In addition to these developments, which relate mostly to ocean transportation, inland water transportation has also seen its own advances, particularly in the development of streamlined integrated tows, which

means that the barges and the pusher units on the inland waterways have been built to fit snugly together as semi-rigid units, with considerable increases in speed and great increases in the economy of operation.

In air transportation, power plant development in recent years has seen the advent of the straight jet, the turbo-prop, the turbo-fan, and, of course, the experiments with rocket and nuclear propulsion.

The size and speed of aircraft have both increased. We have promising developments in vertical take off aircraft, which might reduce to an embarrassing state some of our investments in giant airport runways; in these giant helicopters, which are in the role of flying trains at the moment and may develop further; and in the cost per ton-mile, which I think is a matter of great importance. The new swing-tail turbo-fan cargo planes that are on the drawing boards or in production offer the possibility, according to their manufacturers, of producing a ton-mile transportation cost below 5 cents.

Now, you remember on the diagram that we had on the board a few minutes ago that the average revenue per ton-mile for the trucks was 6.4 cents. The average revenue per ton-mile for the airlines was 19 cents. If the airlines actually in the next few years get a plane which will allow them to operate at 5 cents or less per ton-mile, I think you can see what a tremendous increase in air freight we can expect in this country. Instead of being less than .4 of one percent of the intercity ton-miles, it might easily assume really major proportions by providing both increases in speed and reduction in cost.

So this matter of the economy of operation of the new all-cargo aircraft that are being developed is something which we should all watch with a great deal of interest, because it would have tremendous impact on the distribution systems, substituting premium transportation, so-called, for warehouses, and tremendous impact on the balance of transportation services by the various modes within this country.

Another area of significant development has been the management control area. Communications have been improved. Mathematical analysis, linear programming, and so on are being utilized by management to get better answers to their problems. Automatic data processing is being used by many organizations to help them manage by acceptance and to help in the processing of the volumes of information necessary for effective mathematical analysis of some of the complex problems.

The third topic was the current conditions and prospects. I haven't paced myself very well, so I'm going to have to speed up here a little. I would like to touch on a number of these current conditions and give you my ideas about their significance.

In terms of the domestic transportation requirements, we know what our military transportation requirements are on the domestic economy in time of mobilization. We do not know what the emergency requirements for the civilian economy will be. This is a significant and unfortunate situation.

Since we don't know what the emergency requirements for the civilian economy will be, we don't know whether or not we have a shortage,

a slight surplus, or a truly acute problem in the various modes of transportation. We can only say that the total transportation capability in the various modes is in general adequate for the total requirements of the Department of Defense in this country. Truck and bus meet our requirements. Ocean transportation we have ample capability in, based on current war plans. Rail freight capability is satisfactory. In rail passenger capability, where you might think we would be very worried, actually it turns out that the number of passenger cars is more than adequate for the Department of Defense requirements. We are actually going to unload some of the Department of Defense pool of Pullman cars unless somebody can come up with a demonstrated requirement that we need them. In the air freight and passenger service there also is considerable capacity.

I'd like to turn now to something about the carrier prospects. One of the problem areas here is the erosion of the common carriers. Over the years, private carriers and contract carriers have been getting an increasing share of the business. As a consequence, the common carriers, who in many ways form the backbone of our transportation system, are not as strong as they used to be; and many people, including myself, feel that they are not as strong as they should be.

The railroads are in particularly bad shape. I'd like to read you some figures from the House Committee report on the return on investment. The railroads, you realize, are the most heavily regulated mode of transportation in the country. Six percent, as you will recall, has

frequently been cited as a reasonable return on investment for a regulated industry. In 1958 the Class 1 railroads of the U.S. returned 2.76 percent on their investment; and the Pennsylvania Railroad, one of the prominent eastern carriers, returned less than one half of one percent on its investment. This is a period of prosperity. If this is what happens to the railroads in a period of prosperity, what in the hell is going to happen to them in the next recession?

Let's take a look at a contrast here. I'll have to change the base of the figures slightly and talk about return on net assets. For a five-year average ending in 1958, the total manufacturing industries had a 12.8 percent return on net assets, total amusement service industries 11.8, total mining and quarrying 10.0, total financial industries 7.6; and in the public utilities field--electric power and gas and so on--9.8, telephone and telegraph 9.2, air transportation 10.1. These are five-year averages ending in 1958. Class 1 railroads 4.7; and the Pennsylvania Railroad, representing the hardest-hit eastern carrier, 1.8 percent return on net assets. So I think it's fair to say that the situation is serious in connection with the railroads.

A prominent railroad president here in the East, at a breakfast meeting a little earlier this year, made a statement to this effect: that in his opinion the railroads of the United States would be nationalized within three years, because, he felt, the eastern railroads would suffer bankrupcy in large numbers at the next recession, and he anticipated some kind of a recession within three years; and with the eastern railroads--

and he defined them as those operating between the Mississippi River and a line roughly running between St. Louis and New York--if the eastern railroads went under, he felt that it would be impracticable for the railroads of this country to operate half slave and half free. So he felt that for operating reasons, the Government would have to take over all of the railroads, and he didn't feel that this would be any solution to the problem, because, as another speaker once put it, a change in the pattern of ownership does not change the operating problems of the organization. They would remain. So I would simply want to emphasize that the railroads, which represent 46 percent of our present intercity ton-mile service on freight, are in bad shape. A lot of people in the industry think that the crisis is near at hand.

Now, this raises some long- and short-run problems for us; and also for some of the carriers. Look at the problem of the truckers, for example. They want to get more of that railroad traffic. On the other hand, they can't afford to win by too big a margin, because when they look at the experience of Great Britain, they see that after the railroads there were nationalized, the truck service was strictly regulated in order that the competition would be on a more equitable basis with the nationalized railroads. So the larger truckers of this country, looking to the future, realize that they have an important stake in maintaining the railroads as private enterprises in this country in order that the truckers may continue to have freedom to grow and to develop according to their inherent economic advantages.

From the shippers' point of view the railroad situation also presents a problem. None of us like to pay more for transportation than we can help. On the other hand, if various branches of the Federal Government, State governments, and large shippers continue to appear before regulatory agencies to obstruct and protest every rate increase suggested by the railroads, they will save on their transportation charges in the short run at the expense of a deteriorating service and possibly abandonment of service in the long run. So it appears to me that all of us representing shipping organizations should look with a little more attention to our long-run interest and perhaps give less attention to the short-run savings which might be effected through holding down rates here or there for another six months or for another year or so.

Another area of transportation conditions that I would like to comment on is the military transportation movement. As you know, the Military Traffic Management Agency provides rates and routes for military transportation movements of 10,000 pounds or more on the continental U.S. It has been interesting to me to discover that, far from getting cooperation from various shipping agencies, there is in many cases a very active program of evasion under way. A transportation officer of one of the services told me that his organization, which is one of the major shippers of the country, used every effort it could to evade coming under MTMA jurisdiction, and that they would do anything short of cutting a jet engine in two to keep their loads under 10,000 pounds.

Another problem in this connection is the planning and scheduling

system for transportation. The various services have their own systems. I understand that the Air Force is now developing an additional system to be used exclusively in connection with the scheduling and movements of components for missiles. And the poor old Army transportation terminals at the various ports are really stuck, because everybody has developed his own documentation system and procedures and paper work to go with his shipments. And I believe that when General Houseman commanded the Atlantic Transportation Terminal Command, they had to contend with, I think it was, eleven different systems of documentation.

Now, this is a hell of a note. This is all Government traffic, and here we're trying to run with eleven different paper work systems and conduct an efficient operation. It really seems that we ought to be able to get our heads together and settle on one system for the planning and scheduling and documentation of our transportation.

Another problem in this area of military transportation movement is that there is no provision for movement controls on through bill movements. And yet through-bill cargoes are becoming increasingly important. But we have no system of keeping track of where they are, or of handling diversions if they become necessary.

Then in the overseas transportation movements we get some other problems. First of all, the oversea supply agency, which is the Department of the Army, and the Army Transportation Terminal Command, both work with the same information to a considerable extent. But because of a policy developed in years past, that transportation was entirely

separate from supply--and please don't confuse transportation information with supply information--there is this duplication of information and a remarkable lack of coordination among them, in spite of the personal good feelings which many of the senior officers have been able to develop between their organizations.

In the overseas ports we are still a little bit slow to learn. In World War I we jammed up our U. S. ports because we didn't have any port release system. In World War II we smartened up. We had a port release system, to be sure; but we jammed up our overseas ports because we didn't have any port release system for movements between the U.S. and overseas. As a consequence, in World War II and also in Korea, stuff arrived at the overseas ports in quantities which couldn't possibly be unloaded by the port facilities available.

Recently the Army Transportation Corps has undertaken a number of studies on developing an improved transportation movement system; and one of these studies, with which I had the good fortune to be associated, was concerned with avoiding these bottlenecks once the cargoes arrived at the overseas ports, taking account of the transportation capability, the receiving capability, the unloading capability, and so on.

But this still didn't provide any shut-off under the control of the overseas port commander. He was still going to be the victim of the U. S. terminal's desire to outload the maximum tonnage and make the best possible record. This is something that we've got to smarten up on and put a stop to, so that we have a system which avoids the bottle-

necks, rather than contending with them by simply dumping the cargo you can't handle in the fields and labeling it "one half acre of spare parts," and things of that sort.

Another problem which the overseas ports have, in addition to not having a control over their input, is inadequate information. Sometimes they don't get the manifest on a vessel until after the vessel has arrived. I was told by an outspoken port commander in Europe that they refer to these events as "Christmas." They just go and open the hatch and see what they have.

In a visit in 1957 to Europe I happened to be in the company of a general officer of the Transportation Corps; so we were getting the five-dollar tour of the transportation activities in the Gar de Les in Paris. This included a complete explanation of the lost and damaged baggage-handling activities in the basement of the station. This sergeant was explaining just what they did about lost baggage; and if you were a lieutenant, they did it this way; and if you a colonel, they gave you this much extra service in trying to locate the bags, and so on. We noticed a large stack of IBM documents on his desk and we inquired about those. He said: "Oh, those. Well, every day I go over to the Air Force postoffice to see if they have any mail for us, and they usually have one of these big bundles." It was about this long and about that high and about that wide. And he said: "I bring that bag over here, and after I get the baggage situation straightened out, then I open it up and sort it up into destinations, and re-wrap these packages; and if things aren't too busy, I get

it back to the postoffice the same day." These are the manifests.

Another example of the problems of the overseas ports and the transportation movement system, I think, is the contrast between what was going on at Bremerhaven in 1957, the biggest military port in Europe, and what was going on at Chateau Roux air freight terminal, which was two bays of a warehouse. Chateau Roux had a complete IBM punch card installation for the operation and control of data relating to these two warehouse bays of air freight. Bremerhaven, which had hundreds of warehouse bays, was turned down on a request for any IBM equipment.

Now, this is in part a result of budgetary problems. It is also in part a result of the fact that Chateau Roux could claim a requirement for data-processing equipment because it was a part of the standard information system that the Air Force supply people used, while Bremerhaven could not make such a claim as requiring data-processing equipment because it was a part of the standard system.

There were a number of problems also after we got inside the theater area. I'd like to read some summary comments about the transportation movement system between the ports and destinations in the theater. This is from the study report.

"The present transportation movement system has a number of basic faults. It is inherently inaccurate, because it's based on unreliable information; significantly incomplete, because it ignores destination receiving capacity, omits all shipments of fresh subsistence, and omits all cargos on through billing or on first destination delivery end

of procurement contracts; dangerously slow, because the communications facilities are inadequate, even at peacetime traffic volume; and preparation of a movement program requires over 30 days lead time."

The balance of the chapter goes on to cite examples and to explain in detail. I think that a system which in peacetime is inherently inaccurate, significantly incomplete, and dangerously slow is a mighty weak reed to rely on in an emergency.

Now, in civilian traffic management in the United States, the Office of Civilian Defense Mobilization is the top organization. I think you've heard a good deal about it in the past and know that it has a tremendous job to do. To my way of thinking it's the most important transportation job in the country.

Unfortunately, a lot of people, many in the Bureau of the Budget apparently, don't recognize this; and in my opinion the OCDM transportation people are woefully short on money and on staff. So far as I am aware, they have no significant transportation management force in operation, but they are supposed to control transportation management for the whole economy in an emergency.

Further, at present they have no figures on the magnitude of the transportation requirements of the economy in an emergency. They haven't had the money or the staff to get them. They are working hard, under the direction of Mr. Owen Jones, Deputy Assistant Director. I think it's important that all of us give them every aid that we can. Their job is vital. If they fail in an emergency, the military forces can't

long survive.

The Department of Defense is considerably better off in terms of traffic management and transportation planning and scheduling than OCDM. This is unfortunate, because if somebody had to be better off, it would be far more important that it be OCDM, since their role is a far more significant one.

Now, in terms of Federal Government organization for transportation--and I have already mentioned the significance of OCDM--all of these regulatory and promotional agencies of the Government are directed by OCDM in an emergency. The Department of Defense goes to the OCDM to request allocations of civilian transportation for military needs. So we are a user. We hope that we will get from OCDM the transportation capabilities which we require.

I'd like to mention quickly some of the most important organizations concerning transportation in our Federal Government, just to let you see how many cooks there are stirring the broth.

Under air transportation we have the Civil Aeronautics Board, an independent agency providing the economic regulation; the Federal Aviation Agency of the Department of Commerce, with the air traffic control and air navigation regulation and the promotional responsibilities; the Weather Bureau of the Department of Commerce, with service. In ocean transportation the Federal Maritime Board--economic regulation and support--an independent agency; the Federal Maritime Administration of the Department of Commerce, providing the promotion and some

administrative control. Here there is a little coordination, because the Maritime Administrator is by law the Chairman of the Federal Maritime Board. So our promotion and our economic regulation necessarily are fairly well coordinated. Then, of course, the Coast Guard provides navigation and police services. They are under the Treasury Department in peacetime.

In highway transportation it's the ICC again for economic regulation; and the Bureau of Public Roads, which perhaps occasionally tips its hat in the direction of the ICC, handling the promotion and development of the highway system.

So far as I have been able to learn, however, the ICC had no significant role whatsoever in the development or evaluation of the national highway program on which we're going to be spending a great many billions of dollars in the next two years. All the ICC has to do, by law, is to regulate land transportation so that the inherent advantages of the various modes of transportation are developed. And, of course, if you're going to develop the inherent advantages of transportation, it would be nice if you had some say on how many billions of dollars are spent on transportation facilities of the various modes. But this is one of the deficiencies, in my opinion, of our present Government organization. In many, many cases the regulatory policies and the promotional policies are not consistent, and there is no legal way in which you can make them consistent. There are many legal ways in which it can be done if we change the laws, but under the present law you can't force

consistency of policy.

On inland and coastal waterways, ICC again, with the economic regulation; the Army Engineers occasionally tipping their hat to the ICC, but in general completely independent of ICC, handling the development and promotion; Coast Guard providing navigation facilities; St. Lawrence Seaway Development Corporation running the St. Lawrence Seaway.

Again, the ICC played no significant role in the development of plans or evaluation of the prospects on the St. Lawrence Seaway. All it does is to play hell with railroad rates in the northeastern U.S., and provide all sorts of problems on the inland water and Great Lakes transportation rates. But we haven't for some reason gotten around to providing the coordination between our regulatory policy and our promotional policy.

The petroleum pipelines and the railroads have some economic regulation, but no promotion or support. So their situation is simple.

What's wrong? Well, as I have indicated, perhaps there are too many cooks stirring the broth. Second, there are differences in policy among the transportation regulatory agencies. Third, there is a lack of coordination among the agencies concerned.

The differences of policy among the agencies result in the varying laws. The ICC is told to develop the inherent economic advantages of the various modes of transportation. The Federal Maritime Board is told to maintain and develop a merchant marine of certain suitable

characteristics that we need for this country--maintain and develop. They are given the authority to pay operating differential subsidies, which is really a differential payment to put our merchant marine, we hope, on a more nearly competitive footing with typical foreign lines. But they do support and encourage. Then the Civil Aeronautics Board is given the positive direction in the Civil Aeronautics Act, now called the Federal Aviation Act of 1958, to develop a suitable air transport system and to encourage aeronautics.

One of the things that is specifically involved is that in the calculation of the airmail pay to be given particular carriers they are to take account of the carriers' needs for mail pay in addition to all other revenue such that the carrier under honest, economic and efficient management will be able to develop along the lines which are felt appropriate. In other words, the mail pay is to be adjusted so that there is enough profit in air transportation to develop it as we see fit.

But we have three different sets of standards here then--the ICC, regulating many carriers, supposed to just see that the inherent economic advantages are recognized;the Maritime Board told to encourage and develop; the Civil Aeronautics Board required to encourage and develop.

I think we need a single statement of national transportation policy, and that we need a change in our organizational structure to assure coordination of policy and consistency between promotion and regulation.

I've taken much too long. I'd like to take just one more minute and highlight some of the topics that we have touched on.

Transportation is one of the essential elements in our economy, and I think is an important factor in making possible our high standard of living.

Second, new equipment and transportation coordination offer prospects for still better service in the future.

Third, our civilian transport capabilities generally exceed our military requirements at present.

Fourth, in future emergencies we may face a serious transportation shortage unless our railroads can be restored to operating health.

Fifth, military transportation management at home and abroad needs to be improved.

Sixth, we don't know the total requirements for transportation in our economy in an emergency. We may face serious shortages as a result of not knowing what our requirements are.

Seventh, it's essential that we give the Office of Civilian and Defense Mobilization all possible help in its job of determining requirements and in establishing an effective emergency transportation control organization.

Eighth, the Federal organization for handling transportation problems is unsatisfactory, because of policy differences and lack of coordination; and basic changes will be necessary to correct these deficiencies.

I don't want to seem gloomy. There are plenty of problems here. However, I think progress is being made on almost all of them. The

difficulty is, we need still more progress. I hope you will lend a hand wherever you have the opportunity. It will be needed and appreciated.

CAPT. SMITH: Gentlemen, Mr. Germane is ready for your questions.

QUESTION: If I interpret your remarks correctly, you think we are in pretty bad shape in certain areas. Do you think there is ever any chance politically to get these things straightened out, or is it too involved in politics regionwise?

MR. GERMANE: I am perhaps a confirmed optimist, but I really think there is a chance of getting things straightened out. There are a number of organizations working hard on it right now.

The United States Chamber of Commerce Committee on Transportation and Communications Policy is interested in the area. The Transportation Association of America has been working over a number of years on policy issues. The organization of the Government is one on which they have not yet taken a stand, but they have an interest and a smooth-working organization to review that matter if they think there is any prospect of getting action. Then, as you know, the Department of Commerce of the Federal Government has a series of investigations relating to transportation policy under way; and it's quite possible that Government organization will be one of the topics that will be touched on. In addition to this, the Senate Committee on Interstate and Foreign Commerce has a special task force and staff, under the direction of Major General Doyle, formerly Director of Transportation, Headquarters,

U.S. Air Force; and they are looking at all manner of public policy issues; and I know specifically that the organization of the Government is one of the areas in which they are particularly interested.

So it seems to me that there are more powerful organizations interested in this area than have been active for a decade. It is quite possible, it seems to me, that we will see some progress. However, I am impressed with the fact that in order to achieve progress in public policy, at least in transportation, and, I think, in general, you must make it in a series of individual steps, the smaller the better. If you try to put in an omnibus bill, anybody that is opposed to any part of the bill has to object to the whole thing; and as a result not much is accomplished. However, I think that if a series of individual bills are introduced, we might very well see some progress in this area.

I believe that many of the regulatory agencies themselves feel that there should be a clarification and improvement of our policy. You will recall that a recently resigned member of the Civil Aeronautics Board took the hide off an inch deep in connection with his organization, while one of the members of the Interstate Commerce Commission has called for a reorganization of their activity, and so on.

With all of this interest at very high levels of the Government, I just can't help but feel that we might get some action.

QUESTION: We see that the Southern Pacific has [redacted] barge lines and that they are now in coordination with the Illinois Central in their use of the John Hayes Barge Lines. Do you see for the future a great amalgamation

and mergers of railroads and great industrial transportation systems that have to compete in the transportation field ?

MR. GERMANE: I think there is a natural tendency in that direction. However, there is a very strong resistance to the idea by the carriers that are smaller, because they feel that they would be left in a very dangerous and difficult comparative situation.

However, it seems to me that the pressure of events is very heavily in the area of increased coordination of transportation. Whether it's going to be as a result of integration into the single department store type of transportation company, or simply improved coordination in working arrangements, as in the sky truck service between Northwest Airways and various truck lines, or in the container service between, say, rail, truck, and water carriers, I don't know.

One of the things that provides this impetus to increased coordination and integration and consolidation, however achieved, is the fact that transportation rates to a considerable extent, although they have gone up, have not gone up as fast as our gross national product; and, in consequence, transportation is relatively cheap compared to the cost of the product which is being moved. Under these circumstances, over a period of time this means that transportation becomes a smaller and smaller percentage of the total delivered cost or value of the product; and therefore that they can afford to ship further for the same percentage of the product value. Or, putting it differently, the transportation becomes more attractive than warehousing in branch distribution systems.

Under these circumstances, then, if you can ship further for 10 percent of the delivered value of your product now than you could in 1950 as compared to previous years, then what we have is a demand or desire or economic incentive on the part of the shipper to use more transportation to expand his marketing territory at the expense of perhaps his competitors and certainly at the expense of as much warehousing as he has done in the past.

With this increased demand on the part of the shipper for longer hauls, and with his tending to abandon branch warehousing and use more scheduled or premium transportation, you get on the one hand a need for the transportation company to be able to coordinate efficiently for longer moves, which will be an impetus toward coordination and integration; and, on the other hand, a need to make those moves more dependable by providing a higher proportion of scheduled service, by running schedules on schedule, and so on.

These things, it seems to me, all mean that as a result of transportation remaining relatively cheap compared to the manufactured product, we have an economic incentive, not tremendous in any one year but steady pressure over the years, to increase the length of haul, and therefore to increase the pressure for coordination among transportation organizations, consolidation, integration, however it is achieved; and to use transportation instead of so much branch warehousing.

It just seems to me that when you have a steady, continuing economic pressure, the political facts of life fall in line sooner or later; maybe

not this week, maybe not this year. But I think there will be a general increase in the amount of transportation coordination; and that to a certain extent you will see more consolidations or integrations within modes of transportation and some increase in it among modes of transportation.

QUESTION: The aircraft industry is almost dying on the vine. What is being done within the Department of Defense to buy jet-type transport and turbo prop transport to modernize our airlift picture?

MR. GERMANE: Well, there is an effort being made, but not highly successful at the moment. As you know, one of the difficulties in the past has been that the commercial airlines have felt that the Military Air Transport Service had a vested interest in using its own facilities and building up its own equipment fleet at the expense of the commercial carriers. As a consequence, because of the believed policy of MATS, the commercial carriers have in general opposed the expansion or the modernization of the MATS fleet in any area where it looks as if it related primarily to passenger traffic.

At the present time there is a report on the Military Air Transport Service and its proposed reorientation, with approved courses of action, adopted by the President, which is to be announced at a press conference tomorrow; and I think this will do much to change the attitude of the commercial airlines and to increase the prospect that the Military Air Transport Service will get modern turbo-fan cargo aircraft with long-range and high capability in the years ahead.

In addition, there is legislation being proposed which would guarantee loans to various airlines if they purchase aircraft with the requirements stated by the Federal Aviation Administrator and the Department of Defense. If this guaranteed loan legislation goes through, then many of our large certificated airlines will feel that they can afford to go out and buy these twin-tail turbo-fan jet cargo transports that are now on the drawing board or being manufactured.

So, because of the legislation in prospect and the MATS report which will be announced tomorrow, I think there are good prospects that the commercial carriers of this country and the Military Air Transport Service in the next few years will get modern, high-speed, long-range cargo aircraft.

QUESTION: With regard to the railroads, will you give us some examples of the low-value commodities that they have had to haul? And why doesn't the Government share them with the truck companies in the regulatory sense?

MR. GERMANE: The railroads are not compelled to haul these low-rated commodities. They have hauled them in the past because they felt that they contributed something to the overhead and that therefore it was better to haul these commodities. Cars were going by empty anyway, let's say. It was the light-traffic direction. Why not build up that traffic even though it didn't cover full cost, because you could demonstrate that they were financially better off to take that traffic than to leave it.

The difficulty is that, as the years roll by, the equipment that is devoted to this particular traffic wears out, and the revenue from that traffic has not provided you with the funds to replace the equipment. For example, let's look at coal or gravel or most any of these basic raw materials which move by rail. In many cases you have a reduced rate because the cargo is moving in the light-traffic direction. But what happens when you put in that reduced rate if the business develops to the point where you have to add extra cars to your train, and that requires an additional diesel unit to head into the train? The traffic department just sees that they are doing a fine job on selling the traffic, the operating department is pleased because business is better and they have more units operating; but the revenue from this additional traffic isn't going to pay for the purchase of that new diesel locomotive.

Many times it's very difficult to pin down where it is that this additional below-full-cost traffic really becomes a handicap. If the trains become longer as a result of this below-full-cost traffic and you have to increase the length of a siding, I don't think there are very many railroads where anybody goes out and says: "Why is it we're having to increase the length of these sidings? Wouldn't it be better to ~~increase~~ change the rates and drop off some of that traffic?" And so on.

The basic problem, I am sure, is one of perspective; that at any particular time you can made a study and you can prove that you are better off to keep that traffic this year than to abandon it. But twenty years from now where are you?

Well, you're going to be retired twenty years from now. So why the hell should you go out and raise hell and get a lot of important shippers mad at you and complaining to the president of the company about the way you're running the traffic department, take the time of your people to make special studies on this area when they really ought to be out making studies on how to bring in more profitable traffic? Why go to all this trouble over cargo that doesn't cover its full cost?

There are many personal and economic reasons why this happens. However, the major railroads have come to realize that these long-run problems have to be faced up to in the short run or they just never get taken care of; and many of the railroad managements are looking in this direction.

This is one of the factors that is involved when you get a situation in which the plush side of your revenue scale is being curtailed by competion, but there's nobody taking the low-revenue side of the traffic off your hands. I think that as the railroads get their rates more nearly in line with the cost of service, this condition will be minimized.

CAPT. SMITH: Mr. Germane, we have additional questions, but time is going to require that we cut them off. On behalf of the Commandant, the faculty, and the students, I want to thank you very much for coming down here and giving us this very excellent presentation on our transportation systems.

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