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Reply to Criticisms of Reports of the Department of Docks and Ferries Re- lating to Manhattan Terminals at the Port of New York.

DEPARTMENT OF DOCKS AND FERRIES,
Pier A, North River.

NEW YORK, December 16, 1910.

HON. WILLIAM J. GAYNOR,

Mayor of the City of New York.

SIR—The within report discusses criticisms which have been directed to my prior reports, and which appeared for the most part in the *Journal of Commerce* of this City. Drawings and models of these proposed improvements are now being prepared and I expect will soon be ready for submission, together with a statement of the difficulties and opportunities which are likely either to retard or progress the undertaking.

GENERAL INTRODUCTION.

It was necessary in my original report to present the Manhattan dock problem as a whole in order that its ultimate scope and purpose might be understood. I realized then, as I do now, that such a terminal must be a growth rather than a creation; that as it develops it must be made to serve existing needs as well as to anticipate those of the future, that established uses may not be suddenly terminated; and, finally, that costs shall neither be burdensome upon the City nor upon the companies. Changes will be made slowly, and the conversion of the present inadequate

terminal into one such as that contemplated in my first report will proceed by successive steps.

In much of the discussion which follows it is evident that the financial magnitude of the enterprise and its complexity has startled and halted public opinion. In seeking a solution, the City and the railroads must make haste slowly. The necessary factors at present are: the connecting elevated railroad along the west side of the City, and the terminal float bridges for transferring cars to and from the car floats and the elevated railroad. The City can without undue strain upon its resources build the road, which will soon become self sustaining.

The present system of car float storage along the west side of Manhattan for the shipment and reception of freight was, until recent years, that most practical. It is necessary to have a clear understanding of this system. Early every morning numerous car floats bring cars from New Jersey to the Manhattan terminals; each car float is moored alongside of a pier, and during the early part of the day the cars are discharged, their contents being stored upon comparatively narrow piers, leaving a wide gangway capable of passing two trucks through the middle of each pier. Consignees send their drays to the piers to take away this merchandise and congestion ensues, as a consequence of the mixing of the teams with the large amount of freight which is piled up in narrow windrows on both sides of the trucking gangway. The railroads are obliged to hold the uncalled for freight at least forty-eight hours, and this temporary storage increases congestion. The cars, when empty, are loaded with outgoing freight which is delivered to the bulkhead shed, extending along the bulkhead between the piers. Each driver unloads his own dray. Hand truckers receive the freight and pass it over scales to the gangplank at the bulkhead and along the central runway of the car float, loading it into cars for which it is destined. Sometimes if two car floats are placed end-on the run is 600 feet. The process is slow and expensive, and the congestion of drays at the bulkhead shed in the latter part of the afternoon is serious. The car floats are pulled out late in the afternoon to catch the evening trains from New Jersey. Any freight received after that time must wait over until the next day.

This use of the waterfront has been outgrown. It is attended with great congestion and necessitates devoting an undue amount of frontage to the storage of car floats. If instead the cars

shall be passed over bridges, from the floats to the other side of the street, there to be loaded and unloaded, a comparatively small length of bulkhead would be sufficient for railroad commerce.

The most desirable point at which to dock the ocean ferry service is the west side of Manhattan. There is not room at the waterfront here for both steamship and railroad terminals. The railroad cars can be transferred to the inshore side of the street, the steamers cannot; consequently, arrangements should be made to so transfer the cars.

The demands for additional dockage in this district, and the physical impossibility of providing for these demands, together with the fact that the railroads are already working under great disadvantages, make it imperative that the present system of storing a movable flotilla along the west side of the island should give place to some such plan as that suggested by the Dock Department. It is impossible to take the cars across the surface of the street below Twenty-third street without destroying street uses. It is impracticable to transfer them from the car floats overhead or beneath the street, consequently the only method of access is by elevated railroad from float bridges located above Twenty-third street, where the waterfront may still be used primarily for railroad purposes.

At present the docks are only used to a height of about five feet above the ground level and a twenty-story city rapidly growing up behind them. If the cars shall be moved over to the other side of the street, terminals can be established there, in which the overhead space can be used for loft rentals, and the ground floor and second floor for railroad track uses, which could be supplemented by the installation of mechanical equipment.

In my second report to the Mayor I recommended that the railroads themselves procure lands necessary for their terminals both above and below Twenty-third street. As soon as one railroad company shall do this (and the necessities of the New York Central are such that it must soon conform to this policy), the other railroads will be obliged to do so; otherwise a disparity in terminal facilities will be developed which will be to the disadvantage of the roads not participating. The cost of acquisition of such lands, and of the loft building terminal improvements upon them, would not necessarily be burdensome on the railroads, considering the increased value of the

lands after the terminals shall have been established, which value can be capitalized.

The economic necessity of utilizing overhead space in terminals for storage and industrial uses has naturally created the impression that the Department seeks to attract industries and warehousing to Manhattan, instead of inducing them to go elsewhere. The impression is not in accordance with the policy of the Department, which is to provide such excellent terminal facilities at other points about the harbor, notably in Long Island and Staten Island districts, as will stimulate the migration of enterprises from Manhattan to places where cheaper lands, better railroad and water facilities and more sanitary surroundings for an industrial population can be found. The necessarily greater intensive use of land at the waterfront of Manhattan, which will result from modernizing the waterfront, should not be made an argument in favor of permitting existing conditions to continue. The water front of Manhattan must of necessity be modernized, and with this change will come industries and warehousing. If these new uses are planned for in advance the intensive use of the land will not bring congestion.

DISCUSSION BY MR. CHAS. W. BUCHHOLZ,

Consulting Engineer, Erie Railroad Company.

I first wish to express my appreciation of the valuable articles which appeared in the columns of the *Journal of Commerce* a number of years since on this same subject. The outcome of that discussion was largely determined by Mr. Buchholz's arguments and his clear perception of the fact that the harbor waters constitute the belt-line about the City.

Mr. Buchholz's opposition to the present suggestions of the Dock Department, as I understand them, may be briefly summarized and replied to as follows:

(1) That a large terminal located north of Twenty-third street will tend to produce congestion in that vicinity.

Reply—While it is contemplated that the principal railroad terminal on Manhattan will ultimately be located above Twenty-third street, still the final development of this terminal is in the future, and ample opportunity is afforded for planning and guarding against congestion. The dray approach will be through Tenth and Eleventh avenues instead of along the waterfront

itself: Arrangement of the passageways for drays and mechanical apparatus for handling freight in the terminal buildings admit of great possible improvements, which cannot so well be availed of immediately on the waterfront as now used.

By planning in advance of needs, it will be possible to secure the maximum utilization of the exceptional natural opportunities of this district. The sub-terminals located on the east side of the marginal way below Twenty-third street also afford an indefinite opportunity for commercial expansion, and will be availed of first. It must be remembered that the policy of the City should be to provide terminals in outlying boroughs and to do everything possible to divert manufacturing away from Manhattan rather than attract it to Manhattan.

(2) That the co-operation of the railroads cannot be secured for joint tenancy of such a terminal.

Reply—It remains to be seen whether the New Jersey roads will promptly take advantage of the opportunity which the City may present to them of acquiring permanent terminals on the west side of Manhattan. It is now evident that existing terminals cannot be greatly expanded, and it is physically impossible to secure more bulkhead space for storing car floats. Will not future conditions impose upon the New Jersey roads the obligation of co-operating with the City? Again, the New York Central must elevate its tracks and must secure terminals contiguous to them. If the New Jersey roads do not follow a similar policy, they will be placed at still greater disadvantage to the Central, which will then become the controlling railroad on the west side of Manhattan. I frankly admit that the disinclination of the railroads to co-operate with each other and with the City is a serious obstacle. The policy of the railroads till now has been to secure, each for itself, needed facilities without regard to others. Adequate organization in Manhattan, including a connecting railroad, can only be attained through mutual co-operation and concession. The force of developing circumstances is such that the roads cannot much longer follow their old separatist policy. St. Louis has a joint freight terminal; Chicago is building one; New Orleans, San Francisco and Montreal are operating connecting dock railroads.

The City will always exercise a large degree of control over the waterfront, in spite of long term leases—which will ultimately fall in—and it is permitting a substantial part of the

marginal way to be used for temporary storage at nominal rates—which will not be much longer possible—so it is clear that the City holds in reserve powers of persuasion which cannot be disregarded.

(3) That the New York Central Railroad would effectively oppose the entrance of other railroads into Manhattan, since “that company has apparently an undoubted right to its all-rail entrance into the very heart of the Borough of Manhattan.”

Reply—I know of no such right to which the New York Central is entitled. Although it is to be expected that this road will urge as exclusive a degree of occupancy as possible, yet in my conferences with its officials I have found them reasonable, and no such sweeping claims have been made. If the New Jersey roads desire permanence of tenure in Manhattan, there is no reason they should not obtain it. It would be as absurd for the White Star Steamship Company to endeavor to exclude the Cunard Company from docking at Manhattan as for the Central to attempt to keep out the other roads.

(4) That the railroads themselves will take care of their own development, and since their interest is identical with that of the shipper, the question of handling freight traffic will be solved properly if the municipal authorities will assist in a liberal spirit.

Reply—I doubt if the railroads themselves will be able to work out the terminal problem. As above noted, their general policy heretofore has been opposed to co-operation. Furthermore, if they are disposed to do so, I question whether they will be able to provide for the future in any adequate manner without the City's help, since changes of City plan can best be undertaken for a number of roads rather than for individual roads. The interests of the roads are not identical with those of the shipper. It is comparatively immaterial to them how long the drays wait at the waterfront; since if the roads do not receive the freight today, they will get it tomorrow. It might be noted parenthetically that neither are the shippers especially interested, since they all bear the burden alike, and the out-of-town merchant foots the bill for exasperating delays and excessive terminal expense. In the last analysis, it is apparent that the City's commerce rather than any particular individual suffers.

(5) That the railroad companies should buy lands on the

east side of the streets and secure permission from the City to cross the marginal way with tracks for the purpose of transferring cars from floats to the receiving yards, under restrictions of not using the crossings except at certain fixed hours.

Reply—I gather in general from Mr. Buchholz's arguments that he desires as many separate terminals as possible for individual roads about Manhattan. This, undoubtedly, was the original plan for railroad access to Manhattan by car floats.

The Chelsea dock system wiped out several such convenient terminals in which cars were taken from the floats and transferred to back lands. It is impossible to provide such terminals below Twenty-third street; but above Twenty-third street I am planning for them. The endeavor will be to segregate each road's terminal business as much as possible, since such is the evident desire of the roads; but the connecting railroad must, of necessity, be used by all.

(6) That the railroad ferries crossing the Hudson are being given up for passenger service, and can be more effectively used for transferring merchandise on trucks at reduced rates to railroad freight terminals in New Jersey.

Reply.—The Hudson River, like the East River, ferries are being converted from passenger ferries into drayage ferries, and very probably the railroads will follow the example of the City at South Brooklyn by altering the boats so that passengers will be confined to the upper decks, and the lower decks availed of for four drayage gangways instead of two. This, with reduced ferry charges to drays, will have the effect of stimulating the transference of merchandise on drays to car terminals in New Jersey. This may or may not be an advantage. I fear it will add very greatly to drayage congestion along the marginal way. Long lines of teams at certain hours of the day can now be seen waiting their turn for passage, and the street itself is filled with waiting teams. I look to a development of this service, but I also anticipate a growing congestion as the consequence of it. Experience alone can test its merit.

MR. H. McL. HARDING,

Consulting Engineer.

Mr. Harding's discussion relates principally to the advantage of mechanical apparatus for handling merchandise at terminals.

He agrees in a general way with my suggestion for an elevated railroad and for storage terminal facilities on the east side of the marginal way, but suggests that connections be made, not by spur tracks, but by mechanical conveyors.

He says: ["Below Twenty-third street no railroad tracks should pass upon the piers, either upon the first or second decks or into the warehouses except into the terminal buildings at the loop ends of the elevated. Connections should, however, be made by overhead freight conveying machinery between the first and second decks of the piers and the surface platforms of the 'farm'* structures, and the platforms upon the elevated railroad level. There should be arrangements for free and unrestricted freight movements in both directions between the first and second decks of the piers, the farms and elevated railroad platforms and the first three stories of terminal buildings, either directly opposite to any platform, or to either side within a reasonable distance. There should be four elevated platforms in connection with the four elevated tracks. These platforms should be of ample length and width. Freight can be transferred between any square foot of these elevated platforms, the decks of the pier and the second and third stories of the warehouse, and with any square foot of the ground-level platforms, with the greatest rapidity and economy."]

I agree with Mr. Harding in thinking that there should be no spur connections between the elevated railroad and the piers below Twenty-third street. I am also in full accord with him in thinking that every opportunity should be taken to install electrical mechanical appliances, at terminals where they shall be found to be practicable. Railroad terminals are far behind well-equipped factories in this respect. Hand truckage has been enormously extended over acres of land at terminals, which, if displaced by any adequate system of mechanical conveyance, utilizing one or more overhead floors, would, in my judgment, add greatly to the economy and speed of freight handling at terminals and classification yards. Officials themselves are beginning to recognize this lack of enterprise in terminal equipment. Terminal expenses are mounting up disproportionately to transportation costs between terminals, and as

* By "farm," is meant the marginal way between the street and the bulkhead.

business expands it will be found necessary to utilize several levels, and substitution of mechanical equipment for the expensive hand truck. I believe, however, that it will be necessary to conduct spur tracks from the elevated railroad into terminals on the east side of the street, and I think these terminals can be made accessible from the piers by mechanical conveyance conducted over the elevated railroad. If the railroads shall give up storing their floating terminal along the waterfront so that the steamships can use the piers, then such mechanical conveyance between the first and second decks of the steamer piers and the easterly warehouses will be found to be advantageous. I question the practicability of elevating and lowering freight by means of mechanical conveyance from platforms parallel with the elevated railroad to street surface platforms, located directly under it, or from the piers to such elevated platforms. Neither do I think the elevated tracks can be used for any purpose except car transit. If, however, the suggestions have merit, they can at any time be adapted to the west side elevated railroad plan.

Mr. Harding, in a subsequent article, calls attention to the fact that there should be a number of canal terminals located at frequent intervals about the harbor, equipped with suitable loading and unloading appliances, so that the canal traffic may be promptly served. He realizes that the canal must be equipped with terminals if it is to hold its own against the railroads. These suggestions for canal terminals and open piers for general wharfage have been very fully considered in my original report, and I shall not discuss the matter here further than to state that I agree with Mr. Harding's views.

EMIL L. BOAS,

Resident-Director Hamburg-American Line.

Mr. Boas states that he is unwilling to criticise the details of the plan of the Dock Department, "as that report has especial reference to a joint railroad terminal in Manhattan on the North River above Twenty-third street." "The steamship position," he says, "is distinctly different from that of the railroads. The freight unit of the railroads, the car, makes the question of distribution for them entirely dissimilar from that of the steamship companies, whose unit is the vessel."

Mr. Boas then proceeds to discuss the question of terminals from the steamship standpoint, laying especial stress upon the large amount of freight which is brought to the steamers by lighters in comparison with that brought by trucks or railroads.

Mr. Boas is correct in stating that the present discussion relates primarily to provision for a west side railroad terminal in Manhattan. In the original report, however, terminals for steamships were touched upon and the position of the Department indicated. Mr. Boas proceeds: "The construction of such docks may be possible in certain parts of New York harbor on the outskirts, but these are too far away for present purposes and for much of the miscellaneous cargo that is coming in the large vessels that combine the passenger and freight traffic of the ocean steamships." I am in accord with Mr. Boas in this view, and I have stated in my supplementary report, page 12—"Such service is not possible of attainment on the Island of Manhattan below Fifty-fourth street, but can be secured at South Brooklyn, Staten Island and other parts of the Port.

There is one phase of the present discussion, however, which Mr. Boas, like other steamship men, seems to have overlooked, namely, that the only way in which we can hope to secure many additional piers for steamship use on the west side of Manhattan is by providing land terminals instead of waterfront terminals for the railroads. The railroad commerce which now seeks Manhattan is by a process of natural selection that which it is most necessary for Manhattan to provide. Steamers bring some things to Manhattan which are not destined for that borough. The railroad cars which come here, it is safe to say, bring very little not destined for use in Manhattan; consequently, this railroad traffic must be cared for first; but not as at present. If the railroads can be induced to give up the waterfront, the passenger and express freight steamers will obtain much of it; otherwise, I do not see how it is possible to provide for them.

The interests of the City will be adversely affected if the ocean ferry service shall not be provided with Manhattan terminals, but this can only be done in the manner indicated, and so the modernizing of railway terminals in Manhattan is of even more interest for steamship companies than for railroad companies. The latter are provided for in an ineffective way; the former cannot be unless the railroads shall vacate the waterfront.

DISCUSSION IN PART ANONYMOUS.

The fourth article calls attention to delays in railroad deliveries which tend to drive commerce away from New York City. It states that delivery at distant points outside of a zone of 250 miles from New York is frequently more rapidly effected than at towns within that distance.

"This can only be attributed to the congestion of traffic in entering and quitting the terminals of Jersey City, Manhattan and Brooklyn."

"A steady exodus of manufacturing and wholesale distributing warehouse plants has been during the past few years and is still going on from the centre of Manhattan to the outlying districts of Jersey City, Harlem and The Bronx and Brooklyn."

"The drift toward the Jersey shore has latterly been unmistakable, etc. Factories and storehouses, however, placed even a short distance from the waterfront, find themselves handicapped, although having railway switches at their command, because owing to the present freight system of the railways which have concentrated their terminals on the west side waterfront of Manhattan, they cannot get quick service for their freight without sending it by truck to that point of assembly." * * * "Freight originating in New York (the Port) which should be dispatched to nearby and distant interior points is conveyed by team and truck across the North River ferries to the terminal along the river side at Twenty-third street, and has again to cross the river after its delivery to the railway carrier."

These are matters over which the Dock Department has little or no control, but they illustrate the fact that the present badly organized west side terminal is the principal and most sought after terminal in the Port of New York, and is being used in a most extravagant way to the disadvantage of the City and at the expense of shippers and consignees. The statements also bear out my contention that it is important that both New York and New Jersey carriers should provide convenient outlying terminals which shall relieve the central terminal of the strain now being placed upon it.

Mr. Robert H. Forbes, in the same article, fears that the cost of the terminal above Twenty-third street would entail such overhead charges as to make it impracticable, and that undue congestion would result from the concentration of business at that locality. These arguments I have replied to.

ALEXANDER R. SMITH,
*Secretary, Barge Canal Terminal Commission, State of
 New York.*

Mr. Smith's criticism is generally favorable. He naturally avoids discussing the engineering details and suggests that the City should not adopt a plan of terminals involving so large a cost without the subject receiving the most careful study. And he suggests that the Dock Commissioner should be authorized by the proper City authorities to form a committee for the study of this plan and for a report upon it.

This last suggestion is a good one. It was the procedure the Board of Harbor Commissioners of Montreal followed at the instance of the Dominion Government before adopting their final plan, and I believe the City of New York should do likewise, securing the advice of the best experts on port development in the world. When the plans of the Dock Department shall be completed, I hope the City will most thoroughly sift its findings in this manner; but I believe that such criticism should emanate from disinterested, outside technical experts.

Mr. Smith says:

"There is every reason to believe that, with the increased growth of the Port of New York, another dozen years will see another doubling of the water-borne traffic of the Port of New York. Manhattan is the pivot. Everything centres on Manhattan. The City of New York has utterly failed to make provision for this increased commerce and one of the marvels is that the port is able to accommodate it despite the congestion on the west side of Manhattan."

This congestion is not general elsewhere about the port, and freight in transit is cheaply transferred. The records of this Department show that to meet the increase of commerce, the following linear feet of additional wharfage have been annually made:

	Net Increase in Linear Feet of Wharfage.		Net Increase in Linear Feet of Wharfage.
1900	16,021	1906	38,741
1901	15,513	1907	11,352
1902	20,675	1908	9,158
1903	11,432	1909	7,971
1904	18,719	1910 (estimated)..	10,000
1905	7,576		

MR. WELDING RING,
President of the Produce Exchange.

Mr. Ring criticises the great cost of the terminal, as described in the original report, and the tendency to local congestion above Twenty-third street, due to concentration. Both of these criticisms I have replied to in my introductory remarks and reply to Mr. Buchholz (1).

He states:

"From experience and observation of the congested section of our City it appears to me that what we want is more of a general distribution than a concentration of depots or stations. * * * More particularly are stations in different parts of the City needed that would be contiguous to certain lines of trade so as to reduce the cost of cartage to as low a point as possible and give facilities for quick delivery and receipt of merchandise. * * * Terminals must be provided for the use of the canal."

The suggestion is made that the East River be used for the Sound and ocean traffic from Corlears Hook to One Hundred and Twenty-fifth street.

With Mr. Ring's general proposition that terminals should be distributed as far as possible in order to break up congestion and to limit the haul, I am in general accord, and the policy of the Department will be to induce development on these lines. The suggested East River development, however, I fear will not work out, since the dray haul will be increased. That is the principal reason why the Sound steamers and other carriers do not care for an East River location. If the easterly shore of Manhattan should be made more accessible by a subway or elevated system of passenger transportation, I think much could be done to divert traffic from the west side. The east side problems will be considered later.

The natural outlet for Sound traffic is on the east side of the island; from the manufacturing and wholesale districts of Manhattan, however, it is a much longer haul to the east than to the Hudson River, where terminals are now located. The difficult navigation of the East River and the swift current detract from its use for general commercial purposes. I am gradually coming to regard the East River as the back door of New York City, to be utilized for the reception and delivery of coarse local freights, but I think it can be better utilized than at present.

BY MR. A. B. POUCH,

Vice President American Dock and Trust Company.

Mr. Pouch argues in favor of maintaining Manhattan as the terminal for the ocean ferry service. This is in accordance with my suggestions. He says:

“If our forefathers could have foreseen the development of the Port of New York, and laid it out scientifically, no doubt they would have planned the development differently, and the bulk of the cargo docks would probably have been along the Staten Island and Jersey shore, where direct all rail connection could have been had, thus avoiding the three cents per hundred pounds lighterage which has been imposed on the Port of New York for so long.”

This is largely true, not only of New York but of most great ports of the world, except Rotterdam, Antwerp, Hamburg and Bremerhaven, which have been developed since the railroads have become the principal factor in distribution. The earlier ports were planned almost exclusively for marine commerce, and the expense and inconvenience of reorganizing them is now a serious problem in most countries.

The Department's plan for an elevated railroad in Manhattan and a belt-line in South Brooklyn are admitted to be “good ideas so far as they relate to present needs under present conditions; but it seems to me it is working in the wrong direction on a wrong theory for relief of future congestion and further development. Instead of trying to foster growth of floating, lighterage and draying, it would be better to minimize it by having freight not needed for local consumption and not originating from local points handled at railroad terminals, which are not dependent on floats, which are not only expensive to operate but are subject to the delays of stormy weather and the congestion of the river traffic. * * * If increased business is brought to Manhattan, more piers must be set aside for receiving stations for the railroads.”

I agree with Mr. Pouch in thinking that bulk cargo freight should be handled as far as possible at railroad terminals. As Dock Commissioner for the City, I should, of course, naturally recommend the improvement of such facilities in New York State, although I believe it essential for the good of the whole Port that the New Jersey terminals should be planned and coordinated with those in New York.

A fallacy, however, I believe, lies in his statement that "if increased business is brought to Manhattan, more piers must be set aside for receiving stations for the railroads." This does not follow and is not in accordance with the plan which I have outlined. Mr. Pouch states: "Owing to the geographical location of Manhattan and Brooklyn the railroads cannot be brought to the docks without floating or lightering, but docks can be built where there is direct rail connection independent of float system, and this, in my opinion, is the safest way to minimize the congestion in the Port."

Of course, the City cannot build docks in New Jersey, although it can collaborate with New Jersey authorities for an orderly rearrangement there. The City, I believe, should stimulate the development of the dock system at Staten Island in every way.

I understand the Staten Island Rapid Transit Company, instead of making a reasonable switching charge for transferring Baltimore & Ohio and other cars to its Staten Island terminals, charges a flat rate of three cents per hundred on all freight carried in such cars, which is equivalent to the regular harbor lighterage charge. This, I do not think reasonable. More than any other cause, it tends to delay the terminal development of Staten Island. An opportunity at least fully as favorable as that at the Bush Terminal in South Brooklyn here awaits the installation of a great terminal for heavy ocean freight. The waterfront conditions are such that long piers with their attendant warehousing, factory and railroad equipment can readily be provided, and the land values are low.

ANONYMOUS DISCUSSION.

Valuable for the clear description of the methods of the Pennsylvania Railroad. It is, however, not particularly helpful in considering the present problem, which has to do with local terminal congestion on the west side of Manhattan Island. Freight in transit should be taken straight through the City without stoppage or obstruction of streets or terminals, or around the City via the Poughkeepsie Bridge, or any future bridges or tunnels which may be links in a circumscribed belt-line, such as that of the New York Connecting Railroad on Long Island. The commerce of the Port of New York is already so great and is attaining such still larger proportions that we need not seek to

compel any through commerce to pay tribute to this City by halting it here. Whatever traffic New York can exclude in this way will in the larger sense be as advantageous to her as that which she attracts. Like the through commerce which it describes, the argument of this paper travels around the present problem and misses the point at issue. This is to be regretted, since the writer is evidently a man of large practical railroad experience.

He says:

"The natural advantages of New York Harbor give it a superiority not only over its rival ports on the Atlantic coast, but over nearly every one of the great ports of the European and Asiatic continents. They have been lessened by the occupation of the waterfront as the various railroads approached the shore to get at the heart of Manhattan without due provision for proper co-ordination and preparation for the immense rapid growth of population and its commercial needs. The narrow confines of Manhattan Island, though 13 miles long in the city's boundaries, obviously do not allow sufficient room for the delivery and distribution of freight by the railroads on the longitudinal axis, and the New York Central system accordingly resorted to the occupation of the river front and used a flotilla of lighters in the distribution of its goods and traffic round the island and to points on the other side of the harbor or in transfer to other railroads. These other roads have only been able to make a lateral movement by lighters and floats and have remained content with their New Jersey terminals and landing places on Manhattan to which they could carry passengers by ferry boats, in relation to which freight ferriage was a secondary consideration.

"The exception is the Pennsylvania Railroad, the heads of which conceived the great idea of making New York a through traffic depot. This involved a through traffic of passengers and freight on a latitudinal axis. The Pennsylvania improvement, with its tunnels under the North and East Rivers, linked up the Jersey and Long Island shores with the heart of New York City in the comprehensive scheme of the late President Cassatt, and went further. The present tunnels under the franchise granted to the Pennsylvania can carry freight trains, and it is possible that at certain hours, when passenger traffic is comparatively light, they may be so utilized. But these can be but a mere adjunct to the freight traffic system devised in the construction by the Pennsylvania of the Greenville piers with its ferry of train car floats to the connecting piers at Sixty-ninth street, Bay Ridge, and a belt-line round Brooklyn, crossing the East River by a bridge to connect with the New York, New Haven and Hartford Railroad so as to give a through freight service between the West and South and the New England manufacturing districts by way of New York City."

* * * *

At this point, the following quotations from the interesting

and able report of the United States Commissioner of Corporations, Mr. Herbert Knox Smith, are pertinent:

"Many criticisms have been aimed at channels, when the real trouble lay in the terminals. The terminal to-day is, in fact, one of the weakest links in the chain of water traffic.

"Any important harbor has two prime functions, technically known as 'commercial' and 'industrial.' The commercial function deals chiefly with 'through' freight. It concerns the transshipment from rail to water lines and vice-versa (or between water lines) of freight not destined to nor originating at the harbor itself. The industrial function, on the other hand, deals particularly with so-called 'local' freight destined to or originating in the territory immediately adjacent to the harbor.

"Primarily, the commercial function is merely a matter of efficient connection between transportation lines at the water's edge. The industrial function is much more complex. It requires, in the first place, transportation connection between the local industries, distributing houses, etc., and the wharves; and, second, sufficient warehouse and storage facilities at the wharves, so that local freight may be assembled there in quantities large enough for cargo loads (a matter which sometimes requires considerable time), or where, after being unloaded, freight may remain for assortment and local distribution. The interests of the locality are, as a rule, far more deeply concerned in this, the local industrial function, than in the mere passage of through traffic.

"Most of our harbors exercise both of these functions, while very few of them are now so organized as to allow the proper working of both. Instead, many important cities have allowed the commercial use of their waterfront to interfere seriously with the industrial or local use. Our large harbors are mostly the result of casual development, influenced more by extraneous economic conditions—land values, geographic limitations, etc.—than by any well-defined policy of organization.

"The organization of a harbor as a whole from the standpoint of these essential functions is important. A proper organization requires, in general, the segregation of through freight terminals at relatively outlying parts of the harbor, leaving the central portion more free for the transportation of local business, most of which necessarily originates or terminates near the business centre of the city. Most of the modern plans for harbor improvement contemplate such a separation, and in some harbors, it has been at least partially accomplished. Of course, in many large harbors there must be considerable space for local passenger traffic, and in some cases it is essential that the terminals for through passenger traffic be centrally located."

Speaking of the Port of New York, the report proceeds:

"This absence of any general rail-water co-ordination and the present lack of organization of the harbor with respect to its important functions undoubtedly exert a deterrent effect upon the commerce of the port. This is especially true because the present system necessitates a very large

amount of rather expensive intraharbor transfer and rehandling by light erage and drayage. In the current phrase, 'freight is brought from the interior to Jersey City, stored in Brooklyn, and shipped from Manhattan,' an expensive process which involves a great deal of rehandling, and itself indicates a lack of harbor organization."

* * * *

"Possibilities for improvement: There are many possibilities for improvement in conditions at New York. One would lie in removing at least a part of the commercial use of the harbor, that is, the through traffic, to a point away from the more central district, thus relieving the congestion there and allowing a wider industrial use. In making such a separation, it is, of course, the general rule that the through terminals are the ones which can be moved, since the industrial traffic is more directly bound up with the central economy of the municipality and much less capable of a change of location."

While the principle involved is correct and ably stated, still I believe that a careful examination of the facts will show that, so far as relates to freight in transit, the conditions at New York are not especially defective.

BENJ. C. MARSH,

Secretary, Committee on Congestion of Population.

Mr. Marsh says:

"The need for a joint terminal in New York City is apparent, and the general plan of distributing freight is commendable, but if the plan has been correctly understood it seems to have two fundamental weaknesses:

"*First*—It creates congestion not only of traffic, but as well of population, or else necessitates a great and avoidable loss of energy, time and carfare in the housing of the workers in the factories and warehouses proposed."

In reply to the criticism as to the congestion of traffic, I refer to my reply (1) to the argument of Mr. Buchholz.

As to congestion of population, I quote as follows from page 23 of my original terminal report:

"Provisions should also be made for securing adequate light and circulation of air in the streets, which can be accomplished through the establishment of an angle of light in the streets as is the practice in European cities, without unduly limiting the height of tall buildings. It is immaterial how tall a building is, provided the street lights are preserved. Interference of buildings with each other as regards light and air, on other than street lines, can safely be left to private interest. If

the street lights are preserved, the tendency will be more and more to utilize the city block instead of the city lot as the unit for tall building construction.

"Finally, subways must of necessity be rapidly developed to disperse excess population to suburban districts. To accomplish this, the city must retain control over new subways at the center—municipalizing them instead of permitting them to pass under private control. Suburban extensions should be paid for by local assessment upon property benefited, so that such extensions may be *promptly* had without involving unduly high rates of fare. If the city shall now establish this policy of complete municipalization and make it alternately possible to operate such new subways as extensions of existing concessions, or independently, the present operating corporations must perforce take them over on a profitable basis for operation, which the city should seek to provide. Complete city monopoly in extensions and partial monopoly in service—also gradually to be made complete—should be the end sought."

The principal argument advanced against modernizing the waterfront of Manhattan is that this will tend to still further congestion in its streets and terminals. This will be the inevitable result unless the City shall control its passenger traffic so that it may supplant a Manhattan proletariat by an out-living population which shall daily flow to and from the central borough quickly and cheaply.

The cure for congestion of population in Manhattan is not to be found in restricting the intelligent overhead use of its lands, or in the municipal regulation of private wages, but rather in a cheap and rapid subway service under constant municipal control. Centralization at Manhattan is the controlling and vivifying fact of our City's rapid growth, but it must be orderly and decent. Experience has shown that convenience, economy and beauty are all served by concentrating public and private business and dispersing residence.

Mr. Marsh's second argument is:

"It fails to make provision for handling freight for the existing factories, the lack of which is a serious item and waste in the cost of manufacturing in New York City."

This is very true and the situation is not susceptible of any radical cure. I shall turn Mr. Marsh's own argument against him here by saying that these central factories *should vacate*. It is the policy of this Department to stimulate this exodus by creating the most advantageous terminal facilities with adjacent factory sites in the outlying boroughs and to substitute for the

present disorderly factory arrangement in the interior of the island a better planned location about its periphery. Tall factories, like tall office buildings, are not necessarily objectionable if proper provision shall be made for light and sanitary regulation. The reason for the location of factories at the centre of Manhattan is mainly because the waterfront was not properly organized in the first instance. I directed attention to this fact on page 2 of my supplementary report to the Mayor.

Mr. Marsh states:

“New Jersey is the economic and geographic Port of the country, and not New York City—least of all Manhattan.”

There is sufficient truth in this statement to make it incumbent upon New York City officials to do what they can to promote terminal development in the City of New York in order to retain tax values here. If northern New Jersey were coherently organized, as is New York City, the interstate competition would be keener than it now is. Before this shall be accomplished, the State and City of New York should enter upon a far-sighted policy of public improvements.

Mr. Marsh sums up by saying:

“Every advantage of location and operation of factories indicates that the provision of a joint railroad terminal and the development of factory sites should be first completed in some of the other boroughs before Manhattan.”

My answer is that such improvements should proceed coincidentally in all boroughs and that Manhattan's commerce should not continue to be throttled at the waterfront. Provision for the necessary supplies for the tall city which is growing up back of the river alone demands a prompt modernization of its waterfront.

MR. IRVING T. BUSH,

President, Bush Terminal Company.

Mr. Bush, as a consequence of his experience in successfully developing the Bush Terminal at South Brooklyn,—the model waterfront organization at the Port of New York—in my judgment, is the man best qualified to discuss the matter at issue. At his terminal, he has harmonized the rivalries of the

railroads, has attracted to his piers a very large proportion of the steamships carrying heavy freights, has developed a most effective warehouse and delivery system, and finally, he has provided the equipment which should accompany a properly organized terminal; namely, buildings designed for manufacturing, with railroad spur connections; and back of all, he is building model tenements and dwellings for the industrial population of his locality.

His argument contains so much condensed information that I have included it in full, taking exception only to a few of the statements that he makes.

"I fully agree that the waterfront of Manhattan should be reconstructed, but I believe it should be designed for the uses for which it is best fitted and apportioned in a manner to best serve public interest. Until the consolidation of Greater New York a few years ago the territory now comprised within the Borough of Manhattan held the business and industrial heart of the entire community. Everything was viewed from the standpoint of Manhattan Island. We are outgrowing that custom, but our industrial success will never be complete until our commercial unity is recognized and our commercial development conserved from the viewpoint of the entire City.

"In early days industrial localities were chosen because of waterfront facilities—the railroad being in its infancy and less important. To-day such locations are selected primarily because of facilities to ship and receive commodities by rail. Congestion, therefore, is usually found where the railroads terminate. Many associate the congestion in Manhattan with the City's waterfront improvements. In this case the reasoning seems well founded, but the real reason for the congestion on the west side of Manhattan lies in the fact that the geographical configuration of the City compels the use of the waterfront for rail terminals, thus concentrating in a small area both rail and ocean borne commerce, the main utility of which is to feed a much larger territory. This is only another way of saying that the territory of Manhattan is too small for the industries which are crowded into it, for it makes no real difference in this particular problem whether the railroads terminate on the waterfront or a few blocks back of it. In finding a solution the first policy to determine is whether or not it is wise to create additional facilities by the erection of elevated freight roads, etc., or whether it is better to improve conditions elsewhere in the City, with a view to transferring to other boroughs some of the business now conducted in Manhattan, and thus relieving congestion. The adoption of the first policy is merely a palliative and will eventually intensify the west side congestion. By all means, do everything to improve Manhattan's conditions, but let the effort and expenditure for this purpose be directed by business common-sense. The recent census shows a population of nearly 5,000,000 in New York, and if we include within the so-called Metropolitan District the population of the

neighboring communities in New Jersey, which are actually a part of this industrial center, the total will exceed 6,000,000. If the possibilities of trade are properly fostered, the population will exceed 10,000,000 within the life term of a middle-aged business man. In the face of our present congestion and this almost certain growth shall we continue to crowd into Manhattan industries which do not belong there, or shall we set aside that borough for the uses for which it is best adapted, of providing the business headquarters for the entire community, the financial heart of the country and the hotel center of the Eastern coast?

"It is important that we not only do not encourage the location of manufacturing in Manhattan, but that we develop industrial centers in other sections of the greater City in order to retain our commercial position. Natural conditions are against modern Manhattan as a manufacturing center, and even though we spend large sums in an attempt to provide there for such enterprises, the effort will ultimately prove futile, for the ordinary laws of trade will drive manufacturers away from a locality where ground costs from \$15,000 to \$50,000 for a lot 25 x 100 feet, and where construction costs are so great. They will move to other and less costly communities unless we encourage the development of similarly advantageous centers within our own boundaries. The crude material for manufacturing any heavy commodities should never enter Manhattan, and only that portion of the finished product actually consumed on the island should be hauled through the streets.

FACTORY LOCATION NEEDS.

"A factory can no longer be successfully located haphazard on any street where property can be purchased. It may be successfully operated for certain special trades, but it is no longer a safe investment. A modern factory is located and constructed with a view to the maximum advantages in shipping and insurance. The lack of facilities of this character has kept away from New York countless industries requiring them.

"As a nation we are nearing the period when we must export more manufactured products. At the port of New York the trunk lines of the East meet the greatest carriers of ocean commerce and the principal lines engaged in coastwise trade. We have a wonderful labor market, and we are the principal port of entry for immigration, and the headquarters for the landing and storage of crude products from foreign countries. We are the financial center of the country, and with the completion of the Panama Canal will enjoy vastly increased opportunities for trade with the west coast of South America and the Orient. The Erie Canal will be of material advantage in the handling of coarse products to and from the West. We are a great trade center in every sense, but are doing little to retain and attract the manufacturer.

"Some steps must be taken in the immediate future to provide, in New York, locations where factory communities can be created upon inexpensive land, and upon land so located as to offer modern facilities for shipping and receiving freight at the factory door without cartage. Unless this is done we cannot attract other manufacturing industries, but will

gradually lose even the garment trade, and with it our position as a manufacturing center. The desired result cannot be accomplished by the municipal purchase of property in Manhattan, by demolishing existing buildings, and at great outlay creating more shipping facilities by means of an elevated structure. If New York is to compete with other centers for industries, it must compete upon a basis of a rational expenditure, and not hopelessly handicap the venture at the outset by a burden of interest charges which competitive conditions cannot support.

ADEQUATE "SHIPPING FACILITIES."

"Adequate 'shipping facilities' must include not only a terminal where freight can be received and dispatched by all lines, but they must be so located as to insure a prompt movement. Time is an important element in modern business, and the location of the point where cars are loaded for destination has much to do with securing dispatch. This is not generally understood, and if its importance were fully appreciated we should hear less of schemes to still further concentrate in Manhattan these points of dispatch.

"The proper point at which to load cars for destination is where freight from all parts of the City can get to it in time to catch the fast trains out the same night. At the present time most of this loading is done along lower Manhattan, and much freight is carted through the streets of the congested district in order to get it into these cars. This works against upper Manhattan, Staten Island and a large part of Brooklyn. The completion of the City piers in South Brooklyn, together with the Bush Terminal development, will create a sufficient volume of small shipments at that point to make it possible to load cars there for destination, but this will not benefit the other sections of the City. It is my judgment that the thing to do is to rearrange the present system, with a view to increasing its efficiency, and to encourage the other boroughs to relieve Manhattan of much of its heavy freight and manufacturing.

WATERFRONT FREIGHT ROAD A FOLLY.

"The disadvantages of the waterways which encircle Manhattan are sometimes pointed out. Great natural advantages are usually accompanied by some disadvantages. We should be thankful for our rivers, and shape our development to overcome the few disadvantages which they present. They provide the most simple and economical means of transferring freight, and one of the most absurd of the many freight transit schemes which have been advanced for Manhattan is the construction of an elevated freight road to serve the piers. If it were not for the great cost, the increased congestion and other reasons of similar character, an elevated road for points in the interior could be of great service, but to construct such a road along the waterfront, for the purpose of handling freight to and from the piers, seems folly gone wild.

MUNICIPAL OWNERSHIP IN INDUSTRIES.

"Municipal ownership and development of industrial facilities is a much more dangerous experiment than city ownership of transit lines and similar public utilities. Properly guided, such a development could do much to foster the commercial and industrial growth of New York. In the wrong hands, it could be a most dangerous weapon.

"If the city ownership of subways has prevented private capital from supplying our requirements, as is claimed by some, it has affected only our comfort. But if a situation should develop as acutely affecting our industries as the transit facilities have affected our comfort, would not the fundamental result be more serious? So long as the industries thrive our population will increase and prosper, but cripple their facilities and the industries will soon find other locations. I have always thought that the City's effort in industrial development should be limited to powers of supervision, except in certain directions, where municipal credit can be safely utilized. The individual will not compete with the City, chiefly because experience has shown that municipal operations are conducted without regard for business results. We have seen the City enter the transportation field and the individual stop new construction.

"It is now too late to discuss whether or not the policy of city ownership of waterfront is wise. We are committed to it, and unless serious harm is to be done construction must always be maintained a little in advance of actual needs. The present condition is that the City has frightened the individual out of the field.

"Mayor Gaynor has earned the admiration of all business men by the commonsense methods he has used since he has been in office. A plan of development should be adopted, however, not with reference to conditions under his administration, but one which will be safe under his successors, no matter who they may be. A great danger, both in public and private life, is that plans are conceived and the work started by able and honest men, but sometimes completed by incompetent and unscrupulous individuals. The important thing to New York is the adoption of a permanent policy which can be carried to a successful conclusion within the resources of the City; a policy sufficiently well-defined to enable the individual to determine where his effort can be safely expended without fear of competition from a city investment on an unbusinesslike basis. Let us measure all our plans by the standard of business commonsense. I do not wish to be understood to be arguing against the City ownership of piers.

AN INDUSTRIAL COMMISSION SUGGESTED.

"Under the present arrangement of a new Dock Commissioner every few years a permanent policy is unlikely. On the other hand, control by a permanent commission has disadvantages. The ideal is, perhaps, unattainable, but I believe the best we can secure is a commission of, say, five members, one of whom retires each year. This gives reasonable assurance of a permanent policy, and of new blood from time to time. Under this commission should be placed the conduct and supervision of industrial

matters. This would include the proposed Jamaica Bay improvement. This project can be made of great service to New York, or become a sinkhole for millions of the City's money. It is not needed for ocean commerce, and probably will not be needed for that purpose for generations. Some of its friends who inflame public imagination with pictures of its use as a world's harbor are doing it much more harm than those who, like myself, recognize that the undeveloped waterfront near New York is enough for our present consideration, but see a great need for the Jamaica section's development as an industrial center."

With most of Mr. Bush's conclusions I agree, and a careful perusal of my original and supplementary reports, together with the prior discussion in this report, will be found to be in line with his thought. Especially is the importance of a permanent, comprehensive policy vital to the City at this time. I cannot avoid the conclusion, however, that Mr. Bush, like other gentlemen who have approached this problem, occasionally loses sight of the comprehensive plan in the discussion of local details. It is difficult in so great a scheme to keep visually before one's mind the relation of each local terminal improvement to the general plan, and Mr. Bush, like others, seems to think that my plan for modernizing the waterfront of Manhattan, in a manner generally similar to what he has found effective at South Brooklyn, neglects to provide the requisite outlying terminals in the other boroughs. This is not so. The present series of reports necessarily considers in particular the Manhattan problem, and I have only incidentally called attention to the desirability of establishing outlying terminals, the location and details of which will be considered in future reports. His statement that "effort and expenditure should be directed by business commonsense," I think, might be amplified by reading, "public business commonsense"; and his statement that an elevated railroad along the waterfront of Manhattan seems "folly gone wild" is based upon the erroneous assumption that the waterfront is to be generally connected with the elevated railroad by spur connections, similar to those which lead into the warehouses on the east side of the marginal way. The whole drift of my original and supplementary reports laid stress on rail connection between terminals on the east side of the marginal way and the elevated railroad.

Mr. Bush has secured a surface railroad which connects with his terminal by car floats and with the Pennsylvania Railroad terminal at Bay Ridge. It will be possible in the future to extend this marginal railroad north across Gowanus into the Erie

Basin district, possibly as far as Atlantic Basin. He has provided ample sidings for car storage and for switches to his tall factory buildings in the rear of his piers and bulkheads. Why should not Manhattan follow his example to the limited extent that its higher land values will permit of? As the transverse traffic to and from the docks grows in South Brooklyn, it will sometime be found necessary there, as in Manhattan, to remove the tracks from the surface of the street and place them upon an elevated railroad. At the present time the New York Dock Company finds it impossible to connect by rail their disjointed terminals extending from the Brooklyn Bridge to Red Hook, for the reason that they cannot cross Fulton street, Hamilton avenue or Atlantic avenue with a surface road. Even now, in planning for the approach to the Thirty-ninth Street Ferry in South Brooklyn, we are taking into consideration the probability of elevated or subway tracks to supplant existing tracks crossing the ferry entrance. The future extension of Mr. Bush's railroad north to connect with the railroad of the New York Dock Company is likely to be objected to on the ground that surface tracks should be excluded from some populous streets through which they must pass. It is now quite evident that at some time, not very far distant, coincident with the industrial development of this South Brooklyn district, it will be necessary to substitute elevated railroads for surface roads.

In view of the above facts and probabilities, it is rather surprising that Mr. Bush should object to a marginal elevated freight road in Manhattan, and that he should make the statement that "it makes no real difference in this particular problem (Manhattan) whether the railroads terminate on the waterfront or a few blocks back of it." Termination "on the waterfront" implies storage of car floats at bulkheads and piers which would otherwise be devoted to marine commerce. A very small part indeed of Mr. Bush's waterfront is obstructed by car float bridges, and no waterfront storage of car floats whatever is permitted. Nearly all his docks are occupied, as the docks of Manhattan should be, by steamers, lighters and canal boats, and the railroads occupy an entirely subsidiary waterfront position at the south end, utilizing car float bridges for access.

There are certain kinds of traffic which seek Manhattan and must be provided for there. First, railroad deliveries of commodities intended for Manhattan or originating in Manhattan. Secondly, the ocean ferry passenger and express freight service.

Thirdly, a part of the coastwise service, although some of this is improperly located on Manhattan now. Fourth, the Hudson River boat service. Fifth, occasional opportunities along the waterfront for the canal service which will come here, and, finally, an occasional open pier or bulkhead for bringing in coal, building materials, lumber and coarse freights generally, to obviate the expense of long cartages. If the railroad uses to which so large a part of the Manhattan waterfront is now unnecessarily devoted, could be terminated, most of this marine traffic which seeks dockage at Manhattan could be cared for there; a proper system of mechanical conveyance installed in warehouses on the east side of the street, and congestion ended on the marginal way. The railroad cars must be brought to the east side of the marginal way to be loaded and unloaded.

If the plan of occupation under long leases shall give way to a policy obligating the City to find berths for vessels, i. e., permanent berths for the more important liner traffic and open berths available for other traffic, the City by keeping its docks fully occupied could provide for more business than is now seeking entrance in Manhattan. Coincidentally with this policy, if the improvement at South Brooklyn shall be extended north into the Gowanus and Red Hook sections, and south toward the Pennsylvania terminal, and if similar terminals shall be planned for at Staten Island, in The Bronx, in Queens and in the Williamsburg section of Brooklyn, a halt can be called on the intensive use of the Manhattan waterfront. Such is the general plan the department has in mind, the details of which I shall hope to present to the City in a sequence of reports.

I agree with Mr. Bush that the City is committed to a policy of gradual municipalization and improvement of its waterfront. This process is proceeding toward completion in Manhattan, and has been entered upon in South Brooklyn, and the necessity for securing occasional open docks for canal and local commerce and for terminals will gradually impose a similar policy on other boroughs.

I believe that in municipalizing the waterfront the City should seek to include in its acquisitions for terminal purposes the back lands necessary for transshipment sheds and for a marginal railroad. These are all integral parts of a port's equipment and should not be separated. I agree with Mr. Bush, however, in thinking that the City should not undertake the functions of ware-

housing and manufacturing. While it is incumbent upon the City to place its waterfront under a continually increasing degree of public control, I shall probably recommend that through leases and permits on City property private lessees shall be guaranteed either permanency of occupation or indemnification against change. It should be the City's policy to seek to stimulate in every possible way private enterprise in warehousing and industrial development.

The gradual municipalization of the waterfront should be undertaken as not to discourage private enterprise, but in a manner which shall give assurance not only to the holders of backlands, but also to the private holders of waterfront property that their interests will be safeguarded until such time as the competition of this port with other ports shall gradually make necessary public ownership and control of the entire waterfront.

The City should seek to avoid entering into harmful and exhaustive competition with private parties who may be in a position to make waterfront improvements on private lands. The City should execute no more leases like that of the Thirty-first street pier at South Brooklyn.

Mr. Bush agrees with me "that the waterfront of Manhattan should be reconstructed"—but how? If he has any general or detailed plan I should be pleased to have him submit his constructive suggestions. His only remedy apparently is to leave Manhattan waterfront conditions as they are, and by squeezing business out and away, he expects to relieve the local tension. In other words, his argument is that congestion will cure itself if permitted to take its course. Coincidentally, he advocates a policy of developing terminal facilities at South Brooklyn and elsewhere, which will tend to draw commerce and manufacturing away from the central borough. Since business will inevitably gravitate to the best terminals, and since these are now to be found at South Brooklyn, that district will naturally secure most of the overflow resulting from such a policy.

The suggestion for a continuing commission, in order to maintain a permanent policy, merits special consideration. The administration of the docks of the City of New York should not be dependent upon the changes incident to recurring City administrations. I believe that it will ultimately be found desirable to provide for several commissioners whose terms of office shall overlap so that continuity of policy may be assured. In no

respect does the policy of the Port of New York differ more from that of the other great ports of the world than in this lack of provision for permanence of administrative methods.

Under date of December 1, 1910, W. G. Besler, Vice President and General Manager of the Central Railroad Company of New Jersey, writes as follows:

“(a) Reviewing the matter further, and after consulting with our local people as well, it does not seem to us that that which you propose is as a whole desirable. The last paragraph of your supplementary report gives the gist of the matter, so far as it relates to the territory above Twenty-third street, and apparently the principal reason for the elevated tracks to serve that district is to take care of the New York Central.

“(b) Where it is practicable to put in float bridges and carry tracks from the street grade across the marginal street and West street to available territory on the east side of the street, it is doubtless desirable to do so, but our experience in attempting to secure property or to secure the necessary franchise to accomplish such purpose leads us to believe that the matter is practically hopeless, from the standpoint of ability to secure the property at a cost which would be justified, or to secure access thereto even if the property could be secured. Surely there are no such points at the lower end of the City.

“(c) In the judgment of our best posted men there is not any economy, and they do not feel that it is desirable in any way, to locate great freight terminals east of the marginal street, with factories above them, in order to relieve the congestion which exists at certain times of the day. We believe, as a practical question, it would be much more desirable to locate the facilities on the pier and bulkhead as at present, and where whatever congestion there may be arises from the fact of insufficient stringpiece to load trucks; and where it might be possible to carry conveyors across the marginal street to ground secured on the other side, thus affording additional stringpiece for receiving and distribution purposes. The amount of land required for such purpose would be very much less than under the plan you have contemplated, and by making use of suitable conveying machinery and appliances the capacity of the terminals could be very largely increased from time to time as necessity required. Furthermore, the expense of conveying the freight in this way would unquestionably be very much less than to attempt to move it by the car itself, carrying it across the street, there to be unloaded, and bringing it back to a float bridge, even if this were possible.

“(d) Under the present arrangement the freight which goes over from Jersey City to New York to be distributed over the City, and the freight which originates in the City of New York for movement to the West, seeks those piers most conveniently located with reference to the district to be served, and the location of the industries and the selection of the piers, has all been accomplished by reason of this condition or situation. The freight thus to be moved is delivered to or from freight drays along the stringpiece of a very wide avenue which permits free trucking

north and south, and ready distribution to the different cross streets. If, on the other hand, this broad avenue were to be filled up with elevated and surface tracks it would preclude its maximum use for trucking, and the large terminals proposed on the east side of the street, fronting on comparatively narrow streets, would be points of great congestion, or if property were to be acquired and demolished for the purpose of increasing width of streets, it would add very considerably to what we believe will be found, even under plans already considered, to be beyond reach.

“(e) Thus the difficulties of getting the freight away from the terminals and distributing it over the City would, we feel, be very much greater than under the present arrangement, and, as pointed out, the capital account of the terminals would be so greatly increased that we could not expect any reduction in the cost of moving traffic, but rather the reverse.

“(f) We feel that in the matter of the suggestion toward improving the arrangement for the exchange of freight by ship and rail, such could not be accomplished unless the proposed elevated tracks are carried onto the piers, and even if this were to be done, there would not be any benefit derived except perhaps to the New York Central, for again considering the element of cost, it would be cheaper for the railroads located on the New Jersey side to handle their traffic from their Jersey City piers by lighter, and, as at present, direct to the steamer’s side.”

Reply.

Reviewing Mr. Besler’s letter, I would reply to the several paragraphs as follows:

(a.)

The elevation of the tracks and the proposed terminals above Twenty-third street will fit in with the plans and purposes of the New York Central road. It is also intended to serve the uses of lands acquired in this locality and now used by the following railroads: D., L. & W., B. & O., Erie, Lehigh Valley and Pennsylvania railroads. It will permit of the removal of the west side surface tracks of the New York Central. My desire and intention is to keep this improvement from benefiting the New York Central Railroad exclusively, to make it available for all the railroads seeking entry by car-float to the west side of Manhattan, and by so doing to obtain for the west side of Manhattan equal shipping advantages over all these roads.

(b.)

There are such points for terminals all along the west side of Manhattan accessible by spur tracks on the east side of the proposed marginal elevated railroad. Grade connections can be made with the car-floats above Twenty-third street, but not be-

low Twenty-third street. Proper railroad terminals in both of these districts can only be obtained by the general co-operation of the railroads with the City and with each other. As regards cost, it can, in large part, be met out of the increased value which will be given to these west side lands after the terminal improvements shall have been made; i. e., the land with the terminal will be worth more than the land without the terminal upon it, and this increase in value will serve as a basis either for municipal or railroad bond issues out of which the cost can be met, at least in part.

(c.)

Mechanical conveyance across the marginal way between the piers and bulkheads and warehouses to the east was in conformity with my first thought when I began to study this problem. It will be noted that in my supplementary report I have suggested a system of telpherage for connecting steamship piers with such warehouses over the elevated railroad. It will be a more difficult matter to apply this system to narrow and insufficient railroad bulkhead sheds and to piers used for railroad purposes. Should it be attempted, I believe it will be necessary to exclude drays from the piers entirely and from access to the bulkhead sheds; this would also make it necessary for trucks and drays to go to the terminals located on the east side of the marginal way, and the expense of acquiring the land for this purpose would have to be faced in any event, and to this expense would be added the double handling of freight in the terminal building and at the waterfront. This in itself, I believe, to be a fatal objection to such a plan. It was considered a fatal objection to the Wilgus plan, which necessitated extra handling. The insurmountable objection, however, to any such plan is that it does not release the dock front from railroad to marine use. This I believe to be the essential thing to be provided for. The west side railroad terminals constitute the base of supplies for the island of Manhattan. Nothing can be permitted to obstruct access by the railroads until other facilities as good or better shall have been provided. I believe the initial responsibility and risk for the provision of such needed facilities should be undertaken by the City itself. No one railroad company can afford to take this risk, and jointly they will not do so. The necessities of the New York Central are such that the City will probably secure the initial co-operation requisite from that corporation, and when the success of the plan

shall be demonstrated it may be expected that the other roads will promptly seek to avail of the benefits. The roads that act first will secure the lands cheapest. The New York Central has already been forehanded in this matter in the district above Twenty-third street.

(d.)

The terminals on the east side of the elevated railroad will doubtless be selected for convenient access and distribution of freight with the same judgment that piers and bulkheads have been chosen for this purpose. Presumably each road will seek to erect its terminal building back from and in proximity to the waterfront which it now occupies. There will be no surface tracks on the marginal way, and the elevated railroad will be constructed so that its columns shall interfere as little as possible with the transit uses of the surface. Care will be taken to preserve street lights and to minimize noise, and to make the structure as artistic as possible. The elevated railroads of Berlin in these respects have overcome many of the objections to such structures. It is admitted that the presence of these numerous tracks along the marginal way will be the first move toward transforming the marginal way as far as the building line into a double decked street, with elevated sidewalks on either side, the one on the river side constituting a wide promenade for pleasure purposes as well as to meet commercial needs. The terminal buildings below Twenty-third street would each doubtless occupy a block, and the dray approaches and passageways at grade, together with the surface platforms, would include the entire ground floor; in other words, these buildings would be arcaded, standing upon columns, and except for the space occupied by the West street sidewalk and by the freight surface platforms within the buildings, the street surface would be increased by the entire area extending back as far as Washington street. The danger point for congestion would be in the transverse street approaches to these terminals, but with so much additional room available on the marginal way, on West street and under the terminals, it would seem reasonable to assume that with proper traffic regulation congestion may be avoided.

(e.)

The difficulty with the present arrangement is that it is inelastic and cannot be extended or indefinitely continued. Nothing proposed is simpler than to bring the car-float to Manhattan,

unload it on the piers and load from the bulkhead, but railroad traffic is rapidly increasing and the waterfront cannot be added to. If the change shall be gradually effected, as indicated in this discussion, the overhead charges need not be burdensome either to the City or the railroad corporations.

(f.)

I agree with Mr. Besler in thinking that it will not be found to be practicable to bring the railroad cars on the piers at Manhattan, especially at the lower end of the island. The river itself, as Mr. Buchholz said many years since, is the cheapest switching system of the Port, and the car-float and the lighter will undoubtedly be brought to the side of the ship in the future as in the past.

The terminals of the Port of New York, with the exception of Mr. Bush's enterprise, consist of a series of unrelated railroad waterfront yards—insufficiently planned as regards their industrial and marine uses—and a badly organized Manhattan general terminal. All of these must be brought into proper relation with each other, and with the New Jersey, New York and New England railroads.

In closing, I wish to express my appreciation for the helpful criticism and suggestions referred to in this report, and also for the frank and kindly personal interchange of information with railroad and steamship officials.

Respectfully submitted,

CALVIN TOMKINS,

Commissioner of Docks.

