

B U S T E R M I N A L ✓

BY

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BUS TERMINAL

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BUS TERMINAL

Definition: The word terminal is used in a broad sense to mean all facilities directly or indirectly used in the loading or unloading of cars and their repair. This includes not only truck station but also all industrial details connected with it, storage facilities and what ever contributes to the performances of the tasks mentioned above.

INTRODUCTION

Around one hundred years ago, Beirut was a small town. The stage coach was the only public conveyance known. These coaches had regular routes all over the country. Inns were established as waiting rooms for the travellers at different villages and towns all along the routes from Beirut to Damascus, Tripoli, Haifa or other main cities.

The first efforts toward transportation development started about fifty years ago with the construction of the rail road which replaced the stage coach for long distance travelling and five railroad systems became the overland means of transportation throughout the countries in the Middle East. Many thousands of pounds were spent in erecting buildings for the service, comfort, and convenience of the travelling public.

During the last twenty five years the population of Beirut has increased considerably. The increasing demand of the public for quick transportation has created a suburban need for

transportation which is being fulfilled nowadays by motor cars and trucks. It is apparent that the steam railroad companies are greatly alarmed by the keen competition of the buses, and in the near future we shall see many railways in Lebanon being replaced by motor lines.

Much of the present increase in the number of motor cars, buses, and trucks may be attributed to the fact there exists a need for rapid transportation. According to the official records the number of buses and trucks during the period 1939-1947 has increased from 158 to 620 for the buses and from 853 to 2800 for the trucks

Beirut at the present time is a commercial and transportation depot for the Middle East. It acts as a transit center. Being a link between Aleppo, Damascus, Haifa and Baghdad and many large cities in the Middle East, it has a direct effect on the development of transportation. Having Beirut thus situated, it becomes a necessity for a large motor terminal carrying on such a work to meet the need of the public.

Importance of terminals

A general review of the systems applied by the different companies for transportation in Beirut and in other towns, will show the importance and the need for up to date terminals. There is a large number of independent companies; but these are not well

organized on a stable business basis. This is shown by the irregular schedules and the high prices which are not fixed but depend mainly upon the demand for travel and the competition among the companies. There are 600 buses operated by fifty or more companies making 350 trips per day. They use street and alleys as terminal stands ^{in front} of or adjacent to important business houses and hotels in various parts of the city; particularly in the vicinity of "Place de Canon". These conditions have a certain disturbing effect on both the public and the transportation companies themselves. The average person does not know where to board a bus to Aleppo or Damascus, and the result is that many prospective customers take the train instead. The majority of these suburban buses are concentrated about "Place de Canon" square and north of the "Small Sarail". These places, during certain hours of the day, are the busiest traffic centers in the city. One can imagine the delay caused by such disorganization.

The passengers have to wait in rain or in the hot sunshine of summer for half an hour or so until the bus is loaded to its full capacity. No regular time for departure and people cannot know how long they will have to wait before the bus leaves. Therefore, it is evident that terminals are vitally important, not only from the standpoint of the public but also from the point of view of the employees.

A second reason for the construction of a terminal building is that it gives the bus company a respectable appearance of stability which it has lacked in many parts of our country. Stability increases public good will and promotes a harmonious feeling among the workers. This is especially true when union terminals are constructed. A terminal stabilizes business in that it tends to hold traffic steady throughout the year. The bus lines offering terminal facilities to passengers find much less seasonal and weather fluctuations in their traffic.

Professor G. Lloyd Wilson of the University of Pennsylvania gives five main functions for truck terminals. They are as follows: (1)

1. They serve as depots in which the operation of route carriers are centralized and concentrated.
2. They serve as clearing houses for interchanging freight among the carriers.
3. They supply storage places for goods which require ware housing.
4. They provide a central solicitation headquarters.
5. They also provide a concentrated billing and record office.

BENEFITS OF TERMINALS

The terminals benefit not only the operators of buses and truck lines but also of the consignees and consignors. In short they benefit all people.

Professor G. Wilson summarizes the benefits derived by the operators and the consignors and consignees as given below:(1)

1. Operating costs are reduced by avoiding duplication of facilities and by concentrating the clerical staff and platform facilities of all carriers.

2. The territories served by all carriers are extended by the establishment of arrangements for interchanging freight among carriers, by through joint route arrangements, and through rates.

3. The carriers are able, through the employment of traffic representatives and salesmen, to join in the maintenance of solicitation and traffic development services beyond the reach of the individual carriers.

4. Advertising and publicity programs, impossible if the carriers act individually may be financed by joint action.

5. Shippers are given a definite central terminal to which freight may be delivered for a large number of destinations and the carriers are relieved of the necessity of keeping the location of a number of individual terminals constantly in the minds of prospective shippers.

6. Unnecessary duplication of pick up and delivery service is avoided at the plants or stores of the same shippers and consignees by several or a number of operators serving

(1) The Commercial Car Journal, March, 1929, Page 31.

different routes. One truck can be used to make the required pick up or deliveries.

7. Truck can be operated with loads nearer to their capacities in pick up linehaul and delivery operations by avoiding duplications of services.

8. A uniform policy and practice with respect to pick ups-line haul, and delivery may be established and observed by the carriers acting as a group which would be impossible if the carriers acted individually. Unjust and unreasonable discrimination among shippers and consignees may be avoided through the use of terminals.

9. The operators of motor freight carriers routes are, through central truck terminals, able to publish and adhere to uniform schedules of rates which are fair to their patrons and to themselves.

10. Motor carriers functioning through cooperative central terminals are able to acquire better facilities or in more desirable locations than they could otherwise and they are enabled to coordinate the service with ware housing, with the steam railroad and with the steamships facilities.

TERminalBenefits to Consignors and Consignee:

The benefits that consignors and consignees derive from terminals are as follows:

1. Shippers and consignees are sure of a definitely established motor freight service, which maintains regular schedules

and serves a wide expanse of territory over a number of clearly defined routes.

2. Uniform rates and standardized billing practices which eliminate discrimination and uncertainty with respect to charges are assured.

3. Shippers know where to deliver freight and where to call for it or where to call for freight to be picked up or delivered.

4. Uniform liability for loss, damage, or delay in shipment is assured the owners of goods transported by the carriers.

5. Standardized shipping papers have definite contractual provisions and assured uniform interpretation.

6. Through rates or joint routes make long distance service practical without anxiety as to what happens to the shipments at the interchange points.

7. Shippers and consignees are enabled to use motor freight transportation service in conjunction with the steam railway, the express and the steam ship, transportation service and in conjunction with warehousing with greater certainty and at less expense.

With all the above functions and benefits which are derived from truck terminals there is no question as to the importance of motor truck terminals in the face of modern transportation.

Classifications of Terminals

The individual independent terminals in the past have been of the ordinary type. Any individual who owns a number of trucks or buses may maintain a terminal. This type has all the disadvantages of a total lack of coordination. Many times we find two or more of this type in one community each bus owner finding it necessary to build up his own station. Such an arrangement has two disadvantages. The first is an economic one. The cost to erect and maintain many stations is far greater than to provide one good terminal in the community. The second is that the passenger finding it necessary to change to another bus owned by another company must walk to another station in the city and in many times may miss a bus and must wait one or two hours. Moreover, a variation from this type eliminates the inconvenience caused to the passenger in walking to another station, that is the one in which the individual terminal rents a building to another company driving buses in the city. This arrangement seldom works satisfactorily for all parties.

The best type of a terminal is the union terminal where all the individuals work for a common cause and all the workers have the privilege to use. The entire cost being distributed on a reasonable basis among the companies. The station will be operated under a cooperative arrangement. It is the most convenient for the passengers. It affords the greatest the greatest economy in that one building is ample for all the companies operating in and out of the city.

The cooperative and incorporated terminals are organized on a different basis from the independent ones several individuals who are running regular truck lines that radiate from or concentrated at or through some particular city may form a truck terminal. They either rent or construct a building and employ a manager with some assistants. The manager has the entire charge of the operation of the terminal and conducts it without showing any partiality to any individual. The terminal advertises and solicits business for the various companies. It makes up routes and schedules, formulates rates, sorts freights, stores articles and does every thing that may facilitate the business.

The overhead expense is shared by the companies using the terminal proportional to the truck capacity of their truck lines. The control is unified at a central point and this does much to eliminate all possible disputes. Also both shippers and workers have a definite place to send or call for their merchandise.

The Terminal Unification

Every company operating in or out of Beirut is sent a written invitation to form a unified station. In this letter it is stated the general policy which the company should follow. Thus, such a company may be formed after a gathering of all members concerned.

The company being formed finds itself subject to government laws as to the use of public highways. Such laws are very old, but the company, as a unified body, may ask for changing these laws. Thus a concession may be granted only to one company to operate on a line and so prices may be controlled and travels become on a more scheduled scale.

Location of the Terminals Within the City

The physical features of a terminal are just as important as the managing and financing aspects of it. If the physical location and construction do not conform to the best practice, no matter how well a terminal is organized and systematized, failure is apt to come.

The special location of the terminal within the city must be chosen with care. It must be determined with reference to traffic, conditions, tracking distance and highway and other transportation conditions. Professor G. Lloyd Wilson says "that the terminal should be located in a district where the road ways are wide wellpaved and free from congestion, and near the roads or streets leading out to the routes served by the territories.

The location of the terminal has been fixed on the corner at a junction of Fakriddin street. An old type of building is located on the lot. This will be removed and other public structures are designed giving a very pleasant and aesthetic appearance to the public. The routes will be enlarged all along the property to give space for traffic. The terminal is centrally located in the city. It is well located with respect to the port, aerodrom and to the streets leading into or out of Beirut.

Construction of the Bus Terminals

There are numerous guiding principles which the designer or the architect must study in order to design the type of building best suited to the particular needs.

The terminal should be simple, massive in form that appears substantial and distinctive, this appearance will command the confidence and good will of the shippers, who will trust the handling of their valuable commodities to the terminal.

The terminal building must be absolutely fireproof. This calls for a construction of brick, concrete and sand stone for such a structure. These materials give the building strength and rigidity.

Size of the Terminal

The size of the terminal depends upon the number of buses operating and the number of people using the station, of the tonnage and the number of lines and trucks which the operators handle or intend to handle. It should be large enough for the necessary office force and to avoid all possibilities of congestion of freight and to allow ample space for traffic.

DRAWING DETAILS

As you can notice in the design, the benches are 15 feet long which afford an ample space for one hundred people to be seated at once, the total sitting capacity of the station is about 125. The toilets will be finished in white tile and will have excellent ventilation and light. The ticket room is fully equipped. It is located aside in the waiting room on the entrance to the buses. It means that it is facing the waiting room.

Large plate glass windows run across the whole front. The entrance being offset to allow for a door in and one out.

The natural and artificial lighting has a great effect in making a station more beautiful. Light is a form of a service and courtesy in commercial enterprises is essential to the satisfaction of the customers. The presence of good lighting in bus terminals is conclusive evidence that the operating concerns is aware of the need for giving the utmost facilities and service. For the large waiting rooms generally semi-direct lighting seems to be advisable for night illumination.

In designing, accomodation is made for drivers and other employees of the company. This is important for two reasons. The first is that the drivers need rest, recreation and instruction. Driving is monotonous and tires. It is necessary to get the driver's mind off his work during the few minutes that he is at the terminal.

Careful provisions must be made for the handling and distributing of baggage so that nothing becomes misplaced or lost. Therefore, the baggage room is located near the ticket room so as the passengers purchases his ticket and immediatly goes to the baggage window and dispose of all parcels or hand bags.

Three stories will be erected as a hotel. The passengers coming to Beirut during night will reside at the hotel to continue their trips in the morning without missing the bus.

Loading and Unloading Platform

Loading and unloading platform is an integral part of the construction of the terminal and is really one of the most important parts. Any delay due to the congestion in loading and unloading will increase the cost of transportation. The platform is the connecting link between the shippers room and the trucks or buses. For this reason its design and location is of great importance in the successful operation of trucks and buses.

Operation of Terminals

The information regarding the methods and economy of the operating regular bus lines should be ascertained and assembled. The operation of the terminal includes the following activities:

1. Details concerning Bus Loading.
2. Carrying of agricultural products from source to place of distribution.
3. Time schedules for departing and arrival
4. Advertising

Details concerning Bus Loading: The majority of passengers prefer to begin their journeys from waiting rooms. This is explained not only on account of weather conditions but also of the people want to know just how many minutes it will be before the bus leaves. This information is furnished at the station. Then too many people are afraid that the bus may change its route of travel and those waiting on a particular corner may be left behind.

Due to the fact that Lebanon is a summer resort for the Near East, the buses will be travelling between Beirut and other villages at regular times. At different intervals, from dawn to sunset, depending upon the area served, a bus should leave the terminal practically every twenty minutes. In extreme cases, such as feasts, trips, sports visits, etc., buses may operate during night.

2. Carrying of Agricultural Products from Source to Place of Distribution: The great field of the truck in connection with the movement of agricultural products lies in the transportation of perishable commodities such as fruits and vegetables and dairy and poultry products. The basic reasons why truck competition has become so important in these fields are the perishable character of the commodities which require rapid transportation and the large volume which is produced within trucking distance of one or more markets. The initial service required in the marketing of farm products is assembling for carriage in the producing districts. In the past, the unit of shipment was usually the carlot. Stations and towns were located along the railroad at distances largely based upon the territory from which such assembling could be carried on most effectively with horse transportation. With the entrance of the motor truck the area which might be served from one town was greatly increased.

From the packing house which may be located on the farm where the produce was grown or may be a private house at a convenient station, fruits and vegetables will be carried to the markets.

The advantages are faster service, better condition of product on arrival and the loss of the producer as to deterioration of his products is minimized.

Milk may be supplied by truck because of the convenience of the service which can be rendered at fairly low cost.

3. Time Schedules for Departing and Arrival: Each period of time, a consolidated time table of the companies operating from the depot are printed. The time tables contain a map of lines whose schedules are given information concerning free bus service from the terminal to the store and a small advertisement of the department store on the back cover in addition to the complete schedules of all the companies using the station. For the truck transportation shipper and consignees are just as much interested in knowing when goods will be hauled and when they will be delivered together with knowing what the transportation charges will cost.

To assist the bus operators, a desk used for the giving out of information is placed on the ground floor of the building

Bus Garage

To have a complete report, it is necessary to deal with housing and maintaining the fleet. Many companies have their garages and waiting room jointly together in the same place. This arrangement has several advantages, the most important of which is that there is no loss of time or revenue in transporting or driving the buses from the garage to the waiting room. Another advantage is that the minor repair work can be done while the bus

is being loaded at the loading platform.

But it is not advisable to have a combined garage and waiting room because of fire hazards resulting from combined building and the high valued land upon which the bus terminal is located does not warrant the construction of the garage. Cheaper land near the city limit serves the purpose for the erection of the bus garage. The extra expenses of driving the buses from the garage to the waiting room will not be great and the extra few minutes need not be considered.

The company garage has several advantages over the commercial garage which should be overlooked. The company garage may be located at the most advantageous position. It affords opportunity to develop the responsibility of the driver by putting him in charge of daily inspections and small repairs it enables the owner to get his work done at cost and it enables the owner to introduce inspections and accounting systems which he may thing desirable.

The company had decided to erect the building near the city limits to accomodate nearly 100 buses and 150 trucks. Ample space for the night washing, overhauling, and preparation for the next day's work is reserved and done. Moreover, it is desired that the garage should be well arranged to look after the most economical way for the repairing and inspection of the fleet.

In designing the garage, the first problem to be solved will be that the roof should be high enough and of such design as to require no intermediate supporting pillars so that the interior will be a clear space in which the buses could be easily maneuvered.

Garage is planned in three sections, first part is the garage proper, the second unit is the bus washing section, the third section is reserved for a building in which is located the spare parts and stores and a dormitory for the drivers.

The washing department with the repair section is equipped with all the necessary plant to enable the all night work on the vehicles to be carried out. As vehicles came into the depot they are washed, repaired if necessary and then run the usual inspection and lubrication.

It is also decided to construct two underground tanks with an high structure from which two gasoline pipes could be suspended thus enabling two buses to be filled simultaneously.

Financing

The first question which arises in respect of the financing of the terminal by the operator is the raising of the money to erect the building. One method is the raising of the money by the floating of stocks or bond issues. Perhaps a better way is by organizing companies which are subsidiaries to the operating bus companies. These organizations not only finance terminals but also manage and operate them. There are three distinct advantages of the operator financing and managing his own terminal pointed out by a staff article appearing in "Bus Transportation" April 1927. The first advantage is that the subsidiary company places the capital investment in terminal projects where it is a stabilizing factor for the transportation company and permits a reinvestment of operating surplus in other property of the carrier. Second, it establishes a terminal organization versed in the phases of such operation which results in more efficient and better performance of the project than if the management were in the hands of the transportation company. Third, being a specialized terminal company, it is possible for this organization to deal with the concessionaires in an intelligent and profitable manner. These dealings are usually outside the scope of the bus operating executives. In the case of union depot such a terminal organization is almost a necessity.

Thus, almost all the operators of terminals have their own method of financing. The available information indicate that the methods used depend upon the size and importance of the terminal.

Assuming that the terminal handles 360,000 passengers a month; then, the revenue and expenses for the handling of terminal would be shown by the following table.

<u>Capital Invested in Terminal</u>		<u>L.L.</u>
Cost of land	$\frac{6,000 \times 400}{6}$	400,000
Construction of the Ground floor		75,000
<u>Yearly Expenses</u>		
Interest on land at 5 %		20,000
Amortization of Building in 50 years at 5 %		1,500
Maintenance		5,000
Salaries	(Manager 6,000 (Assistant 4,500 (2 clerks 6,000	
Wages for 5 workers	<u>8,500</u>	<u>25,000</u>
Total Expenses		51,500
<u>Yearly Income</u>		
Bus-- 200 x 20 x 1 x 5 %	200	
Trucks- 50 x 1	50	
Cars-- 100 x 20 x 5 %	<u>100</u>	
Daily Income	350	
	x 300	105,000
Yearly Income		
Restaurant, Bar, and shops		<u>30,000</u>
Total yearly income		135,000
Total Net Income of depot		<u><u>83,500</u></u>

Conclusion

Transportation facilities and commodity interchange have been principal causes for the very existence of cities and towns. Without relying too far on a strictly economic interpretation of history in terms of trade routes and commerce it is obvious that points of interchange between carriers have been the locations where urban developments typically have started. Similarly, an examination of the growth of cities shows that both the directions and the speed of development have been largely controlled by the transportation facilities provided within the area at any particular time.

Highway, railroad, posts and airposts in urban areas are all working parts of a vital organism by working through a city plan each transportation agency can fit its program and function into a larger composition.

Although the motor transportation is a young business it has rapidly assumed an important place in the national transportation systems.

In our brief study, it was indicated that the ultimate goal of the motor transportation should be to insure that the people obtain the service they require in the cheapest and most efficient manner. And also it has shown that in order to operate regular bus lines most efficiently,, terminals are indispensable. They supply the necessary means for facilitating travels for passengers and speedy and cheap transportation of the freight.

