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CHAPTER XV.

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CHAPTER XV

PRESENT FREIGHT TRAFFIC AND FACILITIES

FREIGHT TRAFFIC

The handling of freight, both as a subject by itself and in its relation to the elimination of grade crossings and the establishment of a union passenger station, is the third general subject of this report.

A careful study of present freight conditions was made with the purpose in view to better the present situation, if possible, and in any event, not to make it worse. During the hearings in these cases, the statement was repeatedly made that freight handling in Los Angeles was, on the whole, satisfactory.

It should be here noted that discussion of freight traffic and facilities involves the following roads, all standard gauge:

Steam Roads:

Southern Pacific
Atchison, Topeka and Santa Fe
Los Angeles and Salt Lake

Electric Interurban:

Pacific Electric Railway

The Los Angeles Railway, a narrow gauge system, does not enter into this phase of our investigation.

Car Movements

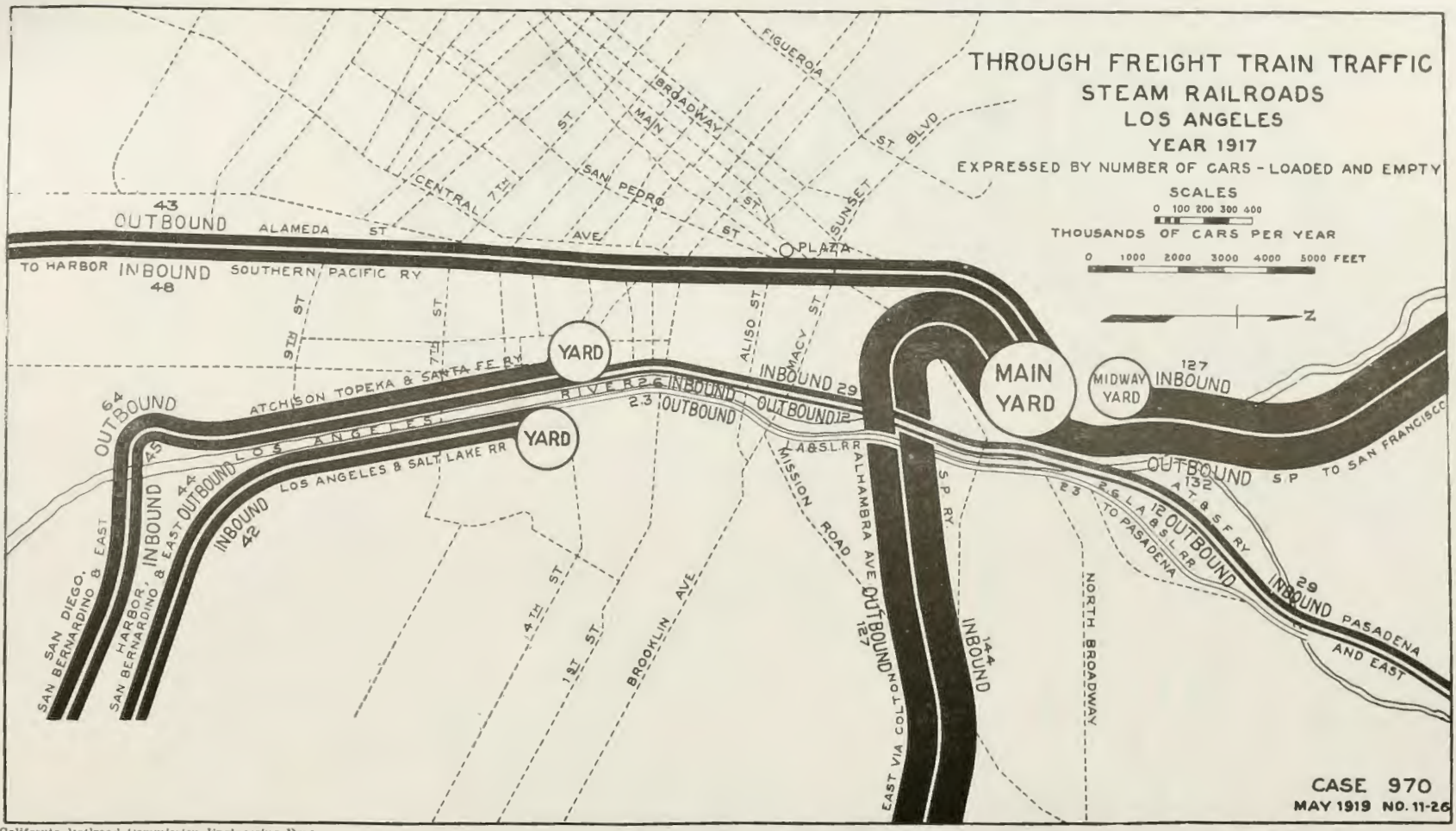
Table XXI gives the number of freight cars handled in and out of Los Angeles by the steam railroads during the year 1917, figures for both loaded and empty cars being given. In this table segregations are made according to the general direction of line haul referred to the approximate center of the industrial district; three divisions being made:

1. **Northwest:** This division included only cars handled to and from the Coast and Valley Routes of the Southern Pacific, which enter and leave Los Angeles by the main line, which runs along the San Fernando Road.
2. **Northeast:** This division includes the main line east via Shorb on the Southern Pacific, Glendale, and Pasadena lines of the Salt Lake and the San Bernardino line via Pasadena of the Santa Fe.
3. **South:** In this division are included the San Bernardino and Los Angeles Harbor lines of the Salt Lake; the Redondo, San Diego and San Bernardino, via Fullerton, lines of the Santa Fe and Los Angeles Harbor line of the Southern Pacific.

This segregation by directions was made in order to enable us to form an idea of the relative balance of the traffic and it should be noted that the number of cars handled in the three different directions is approximately equal.

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FIG. 135. THROUGH FREIGHT TRAFFIC

Routes and volume of through freight under present conditions are shown. Observe that the volume of in and outbound freight is about the same.

During the year over 864,000 freight cars were handled by the steam railroads in and out of Los Angeles; an average of about 2400 per day. Of these, two-thirds were loaded cars and one-third empties. If we use the same ratio of loads and empties for the Pacific Electric it will be seen that including this electric line, there are handled in and out of Los Angeles, approximately 1,000,000 freight cars per year, or about 2,850 per day. As a matter of comparison, we note that in 1912 the twenty-one operating railroads at Chicago received and forwarded approximately 15,000,000 cars or about fifteen times as many as are handled at Los Angeles.

Carload Freight

Figure 136 shows graphically the movement of carload freight in and out of Los Angeles, showing at the same time the destination or origin classified under several different headings. This chart is an exposition of the figures in Table No. XVI. The principal information may be briefly presented as follows:

ORIGIN AND DESTINATION OF CARLOAD FREIGHT

| | Loaded Cars—1917 | |
|---|-------------------|-------|
| | Number of Cars | Ratio |
| I. Inbound at Los Angeles | | |
| Set on Industry Tracks..... | 89,667 | 25% |
| Set on Team and House Tracks..... | 54,189 | 15% |
| Transferred to Other Roads for Line Haul... | 41,331 | 12% |
| Through or Passing Freight..... | 154,823 | 44% |
| Company Freight | 10,253 | 4% |
| Total inbound | 350,263 | 100% |
| II. Outbound at Los Angeles | | |
| Received from Industry Tracks..... | 54,118 | 16% |
| Received from House and Team Tracks..... | 65,486 | 20% |
| Received from Foreign Line Haul..... | 43,740 | 13% |
| Through or Passing Freight..... | 154,283 | 47% |
| Company Freight | 13,419 | 4% |
| Total outbound | 331,046 | 100% |
| III. Total Inbound and Outbound at Los Angeles | 681,309 | 200% |

It is necessary to state that the figures which make up this table were obtained with the greatest difficulty, and only after a great amount of effort were we able to obtain figures which check as closely as they do in the above table. No useful purpose would be served, we believe, by further refinement. In addition to the cars included above, there were handled during the year, approximately 10,000 cars having their origin and destination in Los Angeles, this number being included in the number of cars given above as transferred between the different roads. It is also important to draw out the percentages of total cars handled by the different roads, as follows:

FREIGHT CARS HANDLED BY DIFFERENT ROADS

| Road | Loaded Cars—1917 | |
|------------------------|------------------|-------|
| | Number of Cars | Ratio |
| Southern Pacific | 431,496 | 63% |
| Santa Fe | 133,319 | 20% |
| Salt Lake | 53,447 | 8% |
| Pacific Electric | 63,047 | 9% |
| Total | 681,309 | 100% |

Cars Transferred Between Roads

Fig. 136 also indicates that twenty-five per cent of all the loaded cars handled at Los Angeles are transferred from one road to another. This transfer is made within the city at eleven different points. These points and the number of cars transferred at each point are shown in Table No. XV. The table is based upon information received from the Chief Joint Inspector under whose direction all cars are inspected for defects in equipment and loading at the point of transfer, this service being paid for jointly by the different railroads interested. According to this table 291,407 cars were transferred from one road to another during 1917, an average of about 800 per day.

It will at once be apparent that while the totals in the various tables above do not run into the millions, the figures nevertheless, assume such proportions as to necessitate caution in proposing any plan which might upset the smooth working of the present system.

Cars Set on Industry Tracks

Inasmuch as the industry tracks and the traffic carried over them are an important factor in these proceedings, attention is directed to a peculiar situation which exists in Los Angeles with regard to industrial switching. The Los Angeles shippers are very anxious to retain the benefits of the present arrangement and we agree that nothing should be done to disturb existing advantages in this respect. The situation in brief is this; a car destined to an industry track is switched to that track without charge, no matter on whose rails the industry is located, or on whose rails the car was brought into Los Angeles.

The representative of the Associated Jobbers of Los Angeles, representing as he stated, seventy-five per cent of all wholesalers and manufacturers served by carriers, stated before the Commission that this present arrangement is almost ideal, that as above noted, all transcontinental roads have absolute and unrestricted access to all industry tracks, and that the association which he represented would be strongly opposed to any plan which would interfere with these conditions.

The number of industries in Los Angeles, within the free switching limits (including quite a few industries outside the city boundaries) is, of course, constantly changing and was, at the time of this investigation (April, 1918) about as follows:

INDUSTRIAL SWITCHING OF DIFFERENT ROADS

| | Industries | | Cars Set |
|--------------------------------|------------|-------|--------------|
| | No. | Ratio | 1917 |
| On Southern Pacific Rails..... | 340 | 40% | 38,515 Loads |
| On Santa Fe Rails | 371 | 45% | 40,869 " |
| On Salt Lake Rails..... | 109 | 12% | 8,879 " |
| Total, Steam Roads | 820 | 97% | 88,263 " |
| On Pacific Electric Rails..... | 25 | 3% | 1,584 " |
| Total—All Roads | 845 | 100% | 89,847 " |

Of the 340 industries on Southern Pacific rails, 278 are so located that the cars destined for them are hauled along Alameda Street.

Table No. XX shows the number of loaded and empty cars set at these various industries and also gives the same information for team tracks and the three Pacific Electric transfer tracks, also reached via Alameda Street.

Less Than Carload Freight

The following information is taken from Table XVII and shows the extent of this class of traffic, expressed in its common measure, the short ton of 2000 pounds.

LESS THAN CARLOAD FREIGHT TRAFFIC

| Road | Tons—1917 | | | Ratios |
|-------------------------|-----------|----------|---------|--------|
| | Inbound | Outbound | Total | |
| Southern Pacific | 55,432 | 164,258 | 219,690 | 46% |
| Santa Fe | 67,670 | 111,147 | 178,817 | 31% |
| Salt Lake | 34,107 | 24,629 | 58,736 | 7% |
| Total—Steam Roads | 157,209 | 300,034 | 457,243 | 84% |
| Pacific Electric | 34,968 | 59,274 | 94,242 | 16% |
| Total—All Roads | 192,177 | 359,308 | 551,485 | 100% |
| Average day | 624 | 1,166 | 1,790 | |
| Ratios | 35% | 65% | 100% | |
| Ton Per Car, Av. | 5.26 | 6.27 | 5.23 | |

It will be observed that the importance of Los Angeles as a jobbing center is well brought out, the package freight outbound being nearly double in tonnage the inbound, the wholesale merchants receiving freight by the carload and distributing it in smaller lots. Of course, freight originating in Los Angeles is also responsible for some of this excess of outbound freight.

The importance of the Pacific Electric in the Los Angeles freight field is also well brought out. Its more important package freight business lies in handling this class of freight between the boats at Los Angeles Harbor and the City, the Pacific Electric having access to the more important wharves, which are municipally owned.

FREIGHT FACILITIES**Freight Yards**

Freight, in entering a distributing center by railroad, is first handled in unbroken carloads at the yards. Here those cars, which are to be passed through without unloading, are segregated from those destined to the district served by a particular yard. The cars to be unloaded are then segregated into three general classes:

1. Carloads to be unloaded on team tracks.
2. Carloads to be unloaded on industry tracks.
3. Carloads of package freight to be unloaded at freight depots.

There are other classifications, but these are the principal ones.

The yard is, probably, the most crucial point in the handling of freight—the proper relation of its parts and its location with respect to the distributing tracks being the controlling factor with regard to delays, prompt and economical service and congestion.

Knowledge of present conditions, regarding the handling of freight cars in the Los Angeles yards of the various railroads, is essential to a study of any changes made necessary by a general plan for the elimination of grade crossings, by the establishment of a union passenger terminal, or for any changes toward an improvement in the handling of freight, with this in view, a brief description of the present location of freight yards and the general methods of operation is given.

Location of Yards

The Southern Pacific yard, which handles about 63 per cent of the number of cars entering and leaving Los Angeles, is located principally on the west side of the Los Angeles River, near North Broadway, but partly on the east side of the river, and north of Dayton Avenue. This latter location is the site of the future classification yard, the progressive construction of which is little more than started. The Santa Fe yard, handling 20 per cent of the cars, is located on the west bank of the Los Angeles River between First and Sixth Streets; the Salt Lake freight yard, handling 8 per cent of the cars, is located on the east bank of the river between First and Seventh Streets, and the Pacific Electric freight yard, handling 9% of the cars, is located along the west side of Alameda Street, between Seventh and Eighth Streets, and is commonly known as the "Eighth and Hemlock" yard.

Southern Pacific Yard Operation

For the purpose of handling freight trains, the Southern Pacific yards may be divided into four sections:

1. The "New Classification Yard" lying on the east bank of the Los Angeles River.

3. The "Upper Yard" includes that part of the yard along North Broadway which lies easterly from the lead which extends diagonally across the yard.
4. The "Lower Yard" which is that part of the same yard lying to the west of this lead.
2. The "Midway Yard" lying between the new classification yard and just north of the North Broadway bridge across the river.



FIG. 137. NEW CLASSIFICATION YARD—SOUTHERN PACIFIC

This new yard lies between the left bank of the Los Angeles River and the San Fernando Road. The southerly end is roughly outlined by the cars and tracks at the right center of the picture.



FIG. 138. SOUTHERN PACIFIC UPPER YARD

This view is taken from the overhead foot bridge across the yard near Ann Street, looking north toward North Broadway bridge, which appears in the background. The track on the left is one of the main line tracks in North Spring Street.



FIG. 139. SOUTHERN PACIFIC LOWER YARD

View taken from the overhead foot bridge across the yard near Ann Street. Redondo Street is immediately in back of the first telegraph pole on the left.

The Southern Pacific Company handles in and out of these yards approximately 620,000 cars per year and as high as 2,200 cars per day, and

this figure, which is the number of cars in and out on the main line, will be increased to about 3,000 cars per day, if all movements in and out of the yard, including cars originating and delivered at Los Angeles are taken into consideration. The size of the yards is indicated in the following tabulation:

SOUTHERN PACIFIC YARDS—TRACKAGE AND CAR CAPACITY

| Yard | Miles of Track | Standing Car Capacity |
|--|----------------|-----------------------|
| New Classification | 18 | 1609 |
| Midway | 4 | 320 |
| Main Yard (Upper and Lower Yards)..... | 25 | 2214 |
| Total | 47 | 4143 |

At the present time there are needed and constantly employed, approximately 58 switching crews with about 35 switch engines. These numbers vary considerably, depending upon the volume of business and also upon the supply of equipment.



FIG. 140. SOUTHERN PACIFIC MIDWAY YARD. LYING ALONG THE WEST BANK OF THE LOS ANGELES RIVER AND NORTH OF BROADWAY.

The hills on the left of the picture prevent any further expansion of this yard, which adjoins, at its south end, the Main Yard and, at its north end, the Classification Yard. The main line tracks are those on the right. The main line of the Santa Fe to San Bernardino, via Pasadena, is seen in the right foreground.

Trains from the North—Coast and Valley Routes—pull into the “Midway Yard” where the road engine is cut off and proceeds to the roundhouse at the shops on the east bank of the river. The conductor of the train rides the engine up to River Station, at North Spring and Sotello Streets, which is the yard headquarters. Here he leaves the waybills which give the yard authorities, in practically all cases the first information as to where the loaded cars in his train are to go. There are certain exceptions to this rule, notably in case of stock trains, where this information is telegraphed ahead of the train, and for a few other forms of special shipments, among which, at this time, are included certain classes of government freight.

In this yard the train is broken up into cuts for the following points. The information necessary to make this classification having been sent by wire ahead of the train:

1. Points on the Galveston, Harrisburg and San Antonio Railroad.
2. Points on the Texas-Pacific.
3. Points on the Rock Island.
4. El Paso and East.
5. Imperial Valley.
6. Upper Yard.

The cuts for the Upper Yard are then moved to this yard for further classification. It might be noted that the grade is approximately 1 per cent down from the New Classification Yard to the Lower Yard, so that movements in this (southerly) direction are down hill.

Following the arrival of the waybills in the yard office, tags showing the destination of the cars are made and tacked on each car by a boy from the yard office, who also gives the yardmaster of that section of the yard a copy of the switch list. The Upper Yard has 24 tracks, which are put to the following uses:

- 8 for receiving tracks for trains from the south and east.
- 1 each for the following destinations: empty oil cars, San Joaquin Valley, new classification yard, freight houses, San Joaquin Valley local cars, shops, locals east, cabooses, eastbound, Santa Ana Branch, Salt Lake transfer, Coast Division short hauls, short hauls east, cars to be weighed, Santa Fe transfer, lower yard.

As noted above, cuts from the Midway Yard are broken up into these divisions in the Upper Yard.

Trains from the East pull directly into the Upper Yard and are handled in a manner similar to that described for the Midway Yard.

Trains from the South are supposed to be reduced to approximately 25 cars in the vicinity of Forty-seventh Street before being pulled along Alameda Street through the city. This reduction of the train appears to be the result of what might be called a "gentlemen's agreement" with the City, and is not compulsory through ordinance or franchise, and we may add that our observation has indicated that this reduction is not always made—though possibly omitted at this time as a war measure.

These trains pull directly into the Lower Yard. It will be noted that among the tracks in the Upper Yard is one on which cars for the Lower Yard are placed.

In the lower yard a further segregation of cars is made. The usual classes observed being as follows:

1. "Yellow-ball District, running from the Yard east to Myers Station, which is usually switched during the day.
2. "Green-ball" District, which is south of 8th Street.
3. "Red-ball" District, which is north of 4th Street.
4. "Central" District, extending from 4th to 8th Streets.
5. Macy Street Team Tracks.
6. Pacific Electric Transfer. These cars are transferred to the Pacific Electric either at Aliso Street near Alameda, at 8th and Alameda, or at Clement Junction (at Alameda Street near 25th Street).
7. Santa Fe Transfer, which is under North Broadway Bridge.
8. Salt Lake Transfer, which is at the Los Angeles River and Alhambra Avenue.
9. San Pedro Branch.
10. Santa Ana Branch.
11. Duarte Branch.
The cars for these branches are further segregated to district and station order.
12. Bad order cars.

Santa Fe Yard Operations**FIG. 141. SANTA FE YARDS NORTH OF FOURTH STREET BRIDGE**

The passenger yard and station are in the left background, freight yard on the right.

**FIG. 142. SOUTHERN END OF SANTA FE FREIGHT YARD**

Taken from Fourth Street viaduct, this view shows the southern end of the yard with the main line tracks along the river. The coach yard is just beyond Seventh Street in the distance. The Los Angeles Ice and Cold Storage Company's plant is the largest single industry in Los Angeles from the standpoint of the number of freight cars received and delivered. These amount to approximately 7000 per year.

This freight yard has about 19 miles of track and will stand 1276 freight cars on the yard tracks proper.

Trains may enter the Santa Fe yards from either the north or south and are just as liable to come one way as another. All freight trains, excepting one, are operated as extras, the exception being train No. 35, which handles green perishables and is routed into Los Angeles via Pasadena.

On arrival in Los Angeles, the train is broken up, as far as Los Angeles business is concerned, into cuts for the following points:

"Canal" (This cut includes cars for the freight houses and the neighboring industries and extends from First to Fifth Streets)

"North Industrial District" (Industries from First Street to North Main Street)

"South Industrial District" (Including industries, roughly between Sacramento Street and Slauson Avenue; also including industries located between Redondo Junction and Hobart Junction)

"Patch" (Including industries between Fifth and Sacramento Streets and the "Market" on Alameda Street.)

"North of Main Street" (Including industries between North Main Street and Avenue 22)

"Southern Pacific Transfer"

"Salt Lake Transfer"

"Pacific Electric Transfer," of which there are two, one at Butte and one at Aliso Streets, the use of which depends upon the destination of the cars.

Practically all freight trains **leaving** Los Angeles leave the Santa Fe yard headed south—down grade at the start—as cars for the east are hauled to San Bernardino via Fullerton on account of the heavier grades via Pasadena.

At the present time the yard switching requires approximately 1170 engine hours per week, which, stated in another way, is a daily requirement of about 20 crews and 11 switch engines.

It seems important to note that the Santa Fe is able to switch the industries in the district between First and Ninth Streets and have all cars set within approximately three hours after the arrival of the train without the use of any longitudinal drill tracks, such as those on Alameda Street.

This yard has about 9 miles of track and a capacity of 795 standing cars. About 90 per cent of the Salt Lake freight traffic approaches or leaves the

Salt Lake Yard Operation

FIG. 143. SALT LAKE FREIGHT YARD NORTH OF FOURTH STREET

On the left is the Los Angeles River. The two tracks adjacent to the river are the main line tracks and all those to the right are yard tracks. In the center distance may be seen the coach yard.



FIG. 144. SALT LAKE YARD SOUTH OF FOURTH STREET

On the right is the Los Angeles River; next two main line tracks, which are considerably higher than the yard tracks on the left of the line of telegraph poles. Seventh Street bridge across the river may be seen.

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Salt Lake yard from the south, the business on the Pasadena and Glendale lines being, by comparison, very small with the Eastern and Los Angeles Harbor traffic. The operation of the yard is comparatively simple and needs little description, the freight trains simply pulling into the yard and being broken up according to the different classifications necessary.

With regard to cars destined to Los Angeles industries, it may be said that the territory within the Salt Lake switching limits is divided into two districts; the north district including all territory north of First Street, the principal business in this district being that of the canneries between Aliso and First Streets; the house and team tracks are also within this district. The south district includes all territory south of First Street, including the Santa Fe Alley track. This latter lies parallel to, east of, and about 150 feet distant from Santa Fe Avenue, and is joint property of the Southern Pacific-Salt Lake, and, previous to May 13, 1918, was switched during the last six months of the year by the Salt Lake and during the first six months by the Southern Pacific. Since this date, in order to reduce the amount of industrial switching on Alameda Street, the Salt Lake is switching this track the entire year.

At present (May, 1918) there are about nine switch crews and five switch engines employed in Salt Lake freight switching at Los Angeles. One engine and two crews are used in the north district, one engine and three crews in the yard and the balance is used in switching the south industrial district. Passenger trains require one crew and one engine.

This yard appears to be sufficient for present business and is satisfactory from the standpoint of operation, except that the classification must be handled across Seventh Street, which seriously delays the street car and vehicular traffic at this point, it being necessary, at times, to keep the gates down for two or three minutes at a time. North of Seventh Street the ladder track descends on rather a steep grade for four or five hundred feet, which is a very objectionable feature because of the amount of damage done to cars by too heavy collision when switching them on this steep grade.

The Salt Lake also has a small yard south of the City near Hobart, commonly called East Yard, which is at present used only for storage.

This yard has about 3 miles of track and will hold 186 freight cars. Cars reach the Pacific Electric yard in two ways: (1) those cars originating on the lines south and west of the City are hauled directly into the yard by Pacific Electric power; (2) cars originating on the eastern lines are delivered to the Southern Pacific at the Macy Street transfer; are hauled along Alameda Street and set on one of the Pacific Electric transfers usually at Eighth and Alameda Streets. Cars destined for points on the east lines are

Pacific Electric Yard Operation

FIG. 145. PACIFIC ELECTRIC FREIGHT YARD

White rows of paper are standing at the end of the freight shed on the left. The large brick buildings in the background are shop buildings; in back of these are the concrete buildings of the Los Angeles Union Terminal. Eighth Street is in the foreground.

transferred to the Southern Pacific at Clement Junction, hauled by it along Alameda Street to Macy Street transfer and thence to their destination over Pacific Electric rails.

Switching business in Los Angeles is handled by three day crews and three night crews; a day and a night crew, which may be classed as an outside crew, working south of Amoca Tower as far out as Fruitland, on the Whittier line, and as far as Slauson Avenue on the Long Beach line and two inside crews, which work north of the Amoca Tower (Amoca Tower is approximately at Long Beach Avenue and Twenty-sixth Street).

Recommendations

These recommendations are a direct result of other recommendations in this report. The existing freight yards in Los Angeles have not been the source of any complaint and our studies have indicated no criticism of their operation or location, except as the latter is affected by the general relocation of transportation facilities.

We have previously recommended that the present Southern Pacific freight yard be used as a union coach yard. We recommend, therefore, that a new freight yard for the Southern Pacific be established along the San Fernando Road, substantially as already planned by this road. (Southern

Pacific-Los Angeles Division—M. of W.—Drawing S-1794). All freight trains will then run directly into this yard, which will take the place of the present small development at this yard, the Midway Yard and the upper and lower yards between Spring Street and Broadway. The Midway Yard will probably be found useful as a transfer yard between the Southern Pacific and the Santa Fe. While it is at present larger than necessary for this purpose, the future business will justify this use. In our opinion, these changes will result in much improved operating conditions, both as to smoothness of operation and economy.

We recommend, as will be noted in a later chapter, a union freight station at the site of the present Santa Fe yard. This yard must, then, be moved to another location. We recommend, therefore, that the Santa Fe construct a new freight yard on the land already acquired just east of Hobart. All Santa Fe freight trains would then run directly into this new yard. Ultimately, the trains running via Pasadena would not cross the Los Angeles River at all, using the trackage on the east bank between Humboldt Street and Butte Street.

No changes are recommended in the use or location of the Salt Lake freight yard along the Los Angeles River between Fourth and Seventh Streets.

We recommend that the Pacific Electric join the three steam roads in a union freight station at the Santa Fe site and are also recommending elimination of transfer tracks between the Southern Pacific and Pacific Electric at the Pacific Electric freight yard. With these two things accomplished, the Pacific Electric will find it no longer necessary to maintain its present yard along Alameda Street between Seventh and Eighth Streets. In this connection, we may note that the land is well suited for industrial development, such as future extension of the Los Angeles Union Terminal, in which the Pacific Electric is financially interested (see Fig. 157 on page 428).

We have not, in our estimates, taken any credit for the release of this property from transportation use. All of our plans contemplate an elevated railway for the Pacific Electric along the easterly edge and across the southeast corner of this tract. The remainder, to the west, is the part that could be released from transportation use. This remainder, 803,000 square feet (18 acres approximately) in area, it is estimated, has a salvage value of \$1,364,100.

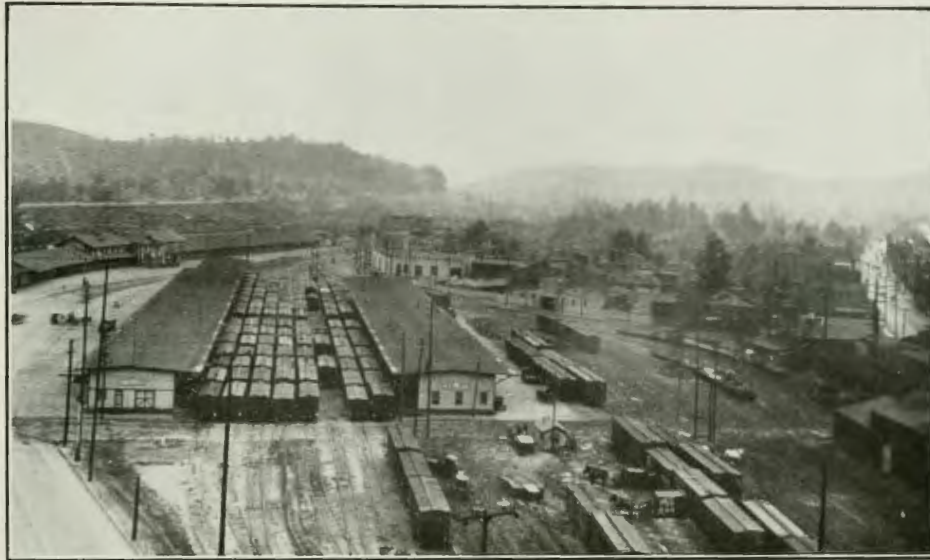


FIG. 146. SOUTHERN PACIFIC FREIGHT SHEDS AND TEAM YARD

On the left the tracks curve from Alameda Street into North Spring Street. Shed "A" is in the left background. In the left center are freight cars standing on the house tracks, the outbound shed "B" being on the left and the inbound shed "C" on the right. Farther to the right and in the foreground is the team yard.

Freight Station

Southern Pacific Freight Depot

The Southern Pacific less than carload freight station is located at Alameda and North Spring Streets, where, in addition to the freight sheds, a team yard is maintained. This station is located near the freight yard, a point of some advantage, as a minimum of time is lost in transferring cars between the yard and the station.

It may be well to point out that less than carload freight sheds are open for business about 308 days per year, being closed on Sundays and some holidays (perishable shipments are, however, handled 365 days per year). In all of our tables, wherein an average daily figure is shown, the calculations are based on 308 days. Cars are usually spotted for unloading alongside the inbound house during the early morning hours and, after being unloaded, are transferred to tracks nearer the outbound house and, in our tabulations covering the movement of cars in and out of less than carload freight stations, it will be understood that the total cars in and out includes in the outbound cars practically all of those reported inbound.

The Southern Pacific has three freight sheds, the principal characteristics of which follow:

PRINCIPAL CHARACTERISTICS—SOUTHERN PACIFIC FREIGHT STATION

| | Square feet | Outbound | | Inbound | |
|---|-------------|----------|---------|---------|--------|
| | | Shed B | Shed A | Shed A | Shed C |
| Area, House | | 24,000 | 28,320 | 21,384 | |
| Platform | " " | 9,720 | 18,466 | 12,200 | |
| Platform and Shed | " " | 3,108 | 4,800 | ..... |  |
| Total | " " | 36,828 | 51,586 | 33,584 | |
| Grand Total | | | 121,998 | | |
| Cars handled, average day..... | | 83 | 50 | | |
| Cars, spot capacity | | 96 | 102 | | |
| Tons handled, average day..... | | 533 | 180 | | |
| Area per ton per average day, sq. ft..... | | 68 | 473 | | |
| Team front per ton per average day, feet..... | | 1.59 | 8.0 | | |

Shed "B" is exclusively outbound and Sheds "A" and "C" exclusively inbound. Shed "A" is used for automobiles and inbound Los Angeles freight exclusively, and Shed "C" for inbound and transfer freight. The freight offices are located in the two-story portion of Shed "A."



FIG. 147. SOUTHERN PACIFIC FREIGHT DEPOT

This is part of Shed "A", extending along the west side of North Spring Street and North of Alameda Street. The offices are located in this building, which is of frame construction.

The Southern Pacific freight station is now rather poorly located. Many jobbers have moved south, away from it, but since the Southern Pacific serves so many points exclusively, shippers have, of necessity, had to ship there. The station is also inadequate, principally because Shed "B" is too small, not having been designed for the present business. The facilities

have been left behind in the march of events toward the more economical operation of freight stations, due to better design and the introduction of mechanical labor saving devices.



FIG. 148. SOUTHERN PACIFIC OUTBOUND FREIGHT SHED

This view gives some idea of the congestion during the busy period of the day. At the time this picture was taken, 116 vehicles were either at the shed or waiting their turn. This view emphasizes the necessity of the enlargement of these facilities within the near future, although closing time congestion seems almost impossible of elimination.

Shed "B" is 40 feet wide and 600 feet long. The loading length for teams is inadequate and the system of handling the freight from the teams to the cars is open to improvement, although this cannot be accomplished with the present design. While it is well known that the teams are thickest just before the time of closing the sheds for receipt of less than carload freight (at 4 o'clock P. M. in Los Angeles) and that this congestion occurs at all large freight stations, they are evidently detained too long at this shed. The figure of 1.59 feet of wagon frontage per ton shipped per average day is indicative of the inadequacy of team frontage.

The buildings are of frame construction, built at various times, as the traffic grew and not intended for the purpose for which they are now used. Freight is handled from the drays to the cars on hand trucks, the house tracks being placed alongside one another, without platforms.

The Santa Fe freight station, handling 32 per cent of Los Angeles less than carload freight, is located along Santa Fe Avenue, between Third and Fourth Streets, and consists of two very modern reinforced concrete sheds, the present inbound shed, 1080 feet long, half being 60 feet wide and half 40 feet in width, having been built in 1907, and the inbound shed, 950 feet long and 60 feet wide, in 1915.



FIG. 149. ANOTHER VIEW OF SOUTHERN PACIFIC OUTBOUND FREIGHT SHEDS

In the busy time of day, just before the sheds are closed for shipments, teams must often wait for a considerable time in order to unload. This lost time, in the aggregate, probably amounts to more than the time consumed in going to and from the freight house.



FIG. 150. SANTA FE INBOUND FREIGHT SHED

Located along west side of Santa Fe Avenue, between Third and Fourth Streets, this modern reinforced concrete and steel structure is probably one of the best facilities of its kind in the West. The outbound shed, shown in part in another picture, is of similar construction and size. Offices are located in the two-story portion in the foreground.

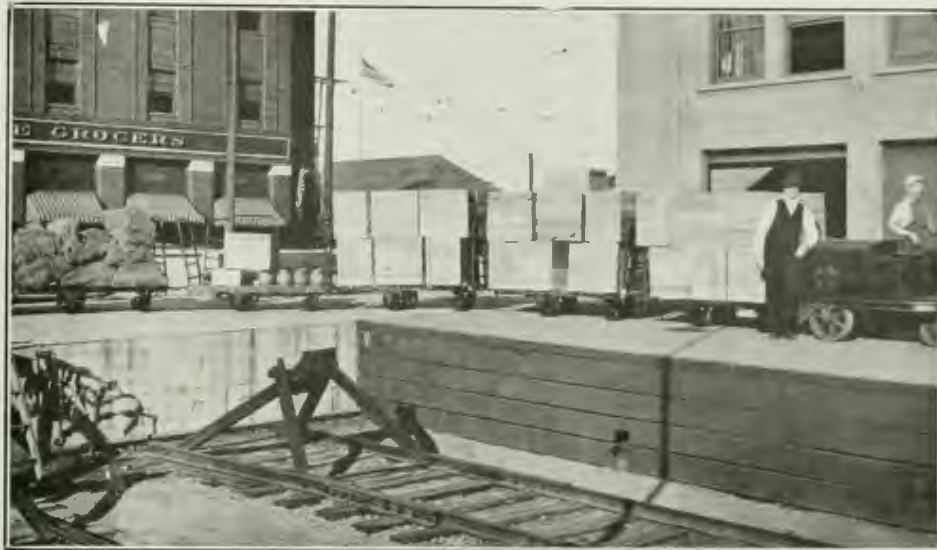


FIG. 151. MODERN PACKAGE FREIGHT HANDLING AT THE SANTA FE FREIGHT HOUSE

These electric tractors and special trucks are used to convey freight between the freight house and cars. This is the only modern equipment of its kind in the West. The tractor is hauling 8000 pounds of freight; a man with a hand truck usually finds his limit 500 pounds.



FIG. 152. SANTA FE STATION YARD

The passenger station is immediately in front of the large gas holder in the background. This view also shows the cars alongside the inbound freight house, with the island platforms between the lines of cars. Third Street is just this side of the grocery warehouse on the left.

These sheds are the most modern in the West. Structurally they are very similar. The outbound shed is completely equipped with dial scales, the quickest type for weighing freight. Between the sheds are platforms reached by electrically operated lift bridges from the sheds, these lift bridges being raised to admit the movement of cars.

One of the most noteworthy items is the use of electric tractors and specially built trucks for handling outbound and transfer freight between the scales and cars. This shed was designed for this method of operation, being 60 feet in width. Hand trucks are used for inbound freight, this method being more economical for the class of freight and width of shed.

The principal characteristics follow:

| PRINCIPAL CHARACTERISTICS—SANTA FE FREIGHT STATION | | | |
|--|-------------|----------|---------|
| | | Outbound | Inbound |
| Area, house | square feet | 48,000 | 54,000 |
| “ platform | “ “ | 1,885 | 1,885 |
| “ shed and platform | “ “ | 8,994 | 6,936 |
| “ transfer platform | “ “ | 14,998 | 15,878 |
| Total | | 73,877 | 78,699 |
| Grand Total | | 152,576 | |
| Cars handled, average day | No. | 62 | 37 |
| Cars, spot capacity | No. | 94 | 76 |
| Tons handled, average day | tons | 361 | 220 |
| Area per ton per average day | sq. ft. | 205 | 353 |
| Team front per ton per average day..... | feet | 2.63 | 5.70 |



FIG. 153. SANTA FE OUTBOUND FREIGHT SHED

This view was taken about closing time and shows the concentration of business at this time of day. Crane for unloading heavy freight appears at the left.

It will be noted that these sheds offer more room for the business done than the Southern Pacific, and our observation has been that there is less congestion, especially congestion of teams. This is, however, also due in part to the fact that during the war, considerable business was diverted to the other roads and the fact that "steamer day" loading tends towards less congestion at closing time. "Steamer day" (or "sailing day") loading means that less than carload freight is dispatched for less important points at intervals of several days rather than daily and that freight for such destinations will be received at the freight houses only on these certain days. The frequency depends upon the volume of business.

Salt Lake Freight Depot



FIG. 154. SALT LAKE FREIGHT STATION

These are the freight sheds at Aliso and Myer Streets. With the exception of a small concrete section, these buildings are of frame construction.

The Salt Lake less than carload freight station, at which 11 per cent of this class of Los Angeles freight is handled, is located along Myers Street, just south of Aliso Street. The buildings are of frame construction, except a part of Shed "B" which is concrete and brick. An extension of Shed "C" built in 1913 (on the east side of Myers Street), is of reinforced concrete, but as this building is leased as a warehouse, it is not included in the following data. Shed "A," inbound, was built in 1901 and 1902. Shed "B," outbound (and nearer to Aliso Street on the west side of Myers Street), was built in 1905, and Shed "C," in 1907.



FIG. 155. SALT LAKE AUTOMOBILE FREIGHT STATION

The main Salt Lake freight station is located at Aliso Street and too far from the center of the automobile industry. It was found necessary to locate this structure at Seventh Street. It lies just east of the Los Angeles River.

Pacific Electric Freight Depot

The Salt Lake also has an "automobile dock" on Seventh Street, just east of the river, which was built in order to provide facilities for handling this class of freight in a location fairly accessible to the automobile district, practically all of which is south of Seventh Street. This structure is of frame construction.

With the realization that the site of the present station was such that business would no longer care to go to the extra distance involved, the Salt Lake in recent years acquired a site for a freight terminal on Alameda Street, between Eighth and Hunter Streets. As discussed elsewhere, permission to install the necessary track crossings to enable the construction of tracks to the site was asked of the Commission, in Application 3037, and the matter is now held in abeyance pending the Commission's decision in these consolidated cases.

The Pacific Electric freight station is located along Eighth Street, from Hemlock to Naomi Streets. The sheds, part of which are two-story, accommodating the offices, are all of frame construction. This station was established about 1905. Seventeen per cent of all Los Angeles less than carload freight traffic is handled at this station. The inbound freight originates, to a large extent, at the wharves at the harbor while the outbound is destined to the many points in the large territory surrounding Los Angeles and served by this road.



FIG. 156. PACIFIC ELECTRIC FREIGHT STATION

This frame structure is located on Eighth Street near Hemlock Street and is the only less than carload freight station of the Pacific Electric in Los Angeles.

The essential data regarding this station follows:

PRINCIPAL CHARACTERISTICS—PACIFIC ELECTRIC FREIGHT STATION

| | Outbound | Inbound |
|---------------------------------------|-------------|---------|
| Area, house | 15,616 | 17,520 |
| “ platform | 2,032 | 4,412 |
| “ shed and platform | 11,928 | 3,600 |
| Total | 29,576 | 25,532 |
| Grand Total | 55,108 | |
| Cars handled, average day | No. 21 | 13 |
| Car spot capacity | No. 53 | 14 |
| Tons handled, average day | tons 192 | 113 |
| Area per ton, average day | sq. ft. 154 | 226 |
| Team front per ton, average day | feet 3.07 | 3.12 |

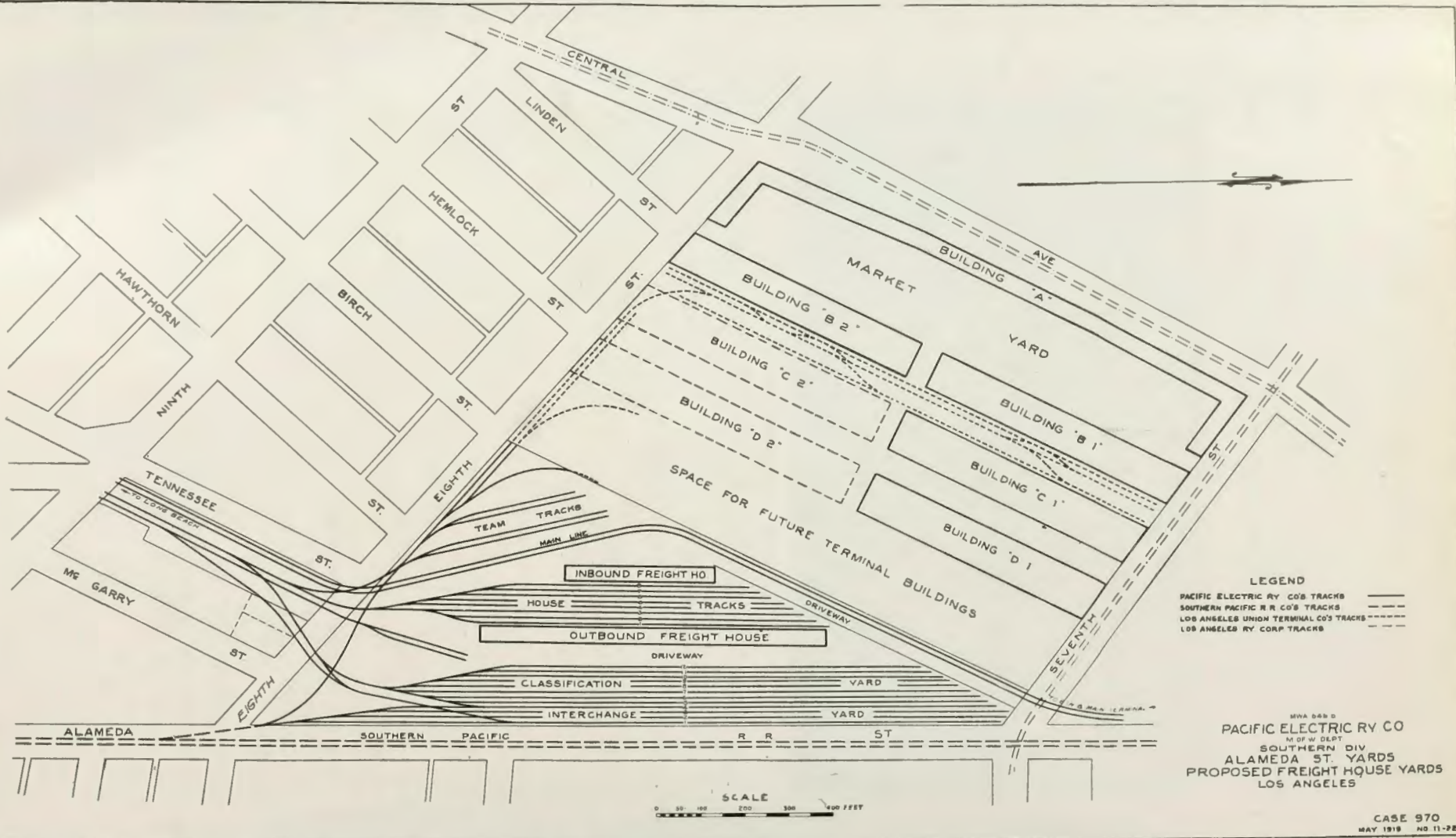
It will be noted that these facilities are fairly adequate for the amount of present business. It may also be stated that the Pacific Electric has plans for changing the location of this station, the new site being on ground now owned and occupied by shop buildings. This improvement is intended to include the whole arrangement of the team tracks and, in fact, the whole yard.

Recommendations

We recommend that the Southern Pacific, Santa Fe and Pacific Electric join in the construction and operation of a consolidated freight station at the

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California Railroad Commission Engineering Dept. (from map by Pacific Electric Railway)

FIG. 157. PROPOSED PACIFIC ELECTRIC FREIGHT HOUSE YARDS

This shows the industrial development of the Los Angeles Union Terminal Company. In the future this development may be extended to include the site of the proposed freight yard. A better conception of the extent and character of the market buildings can be obtained from the photographs (see Fig. 166).

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Santa Fe site, the existing Santa Fe freight station to become a part thereof. This is discussed more in detail later.

Under these conditions, the present Southern Pacific freight station site will be used as a team yard, the existing Salt Lake freight station site will be cleared and used in part as a team yard (it may be here noted that the recommended depression and expansion of the tracks along the east bank interferes to some extent with this freight station), and the Pacific Electric freight station will be abandoned.

Team Yards

Certain classes of freight, principally carloads, destined for consignees without spur track facilities, and large and heavy packages, such as machinery, are commonly unloaded, or loaded, directly from cars to drays, without being handled in the freight station at team tracks alongside good driveways, although at one or more points a crane is provided. It is advantageous to have at least one yard adjacent to the freight station.



FIG. 158. MACY STREET TEAM YARDS

Located at Alameda and Macy Streets, this property would be devoted to a station yard according to the Hawgood and Storrow plans for the establishment of a union passenger station.

The Southern Pacific team tracks are located at the site of the freight station at North Spring and Alameda Streets, at the corner of Macy and Alameda Streets and at the corner of Fourth and Alameda Streets.



FIG. 159. SOUTHERN PACIFIC TEAM TRACKS—FOURTH AND ALAMEDA STREETS

This team yard is largely devoted to a carload express business, which consists principally of perishable commodities. These cars are handled on passenger trains, and such a yard is necessarily near the passenger station.

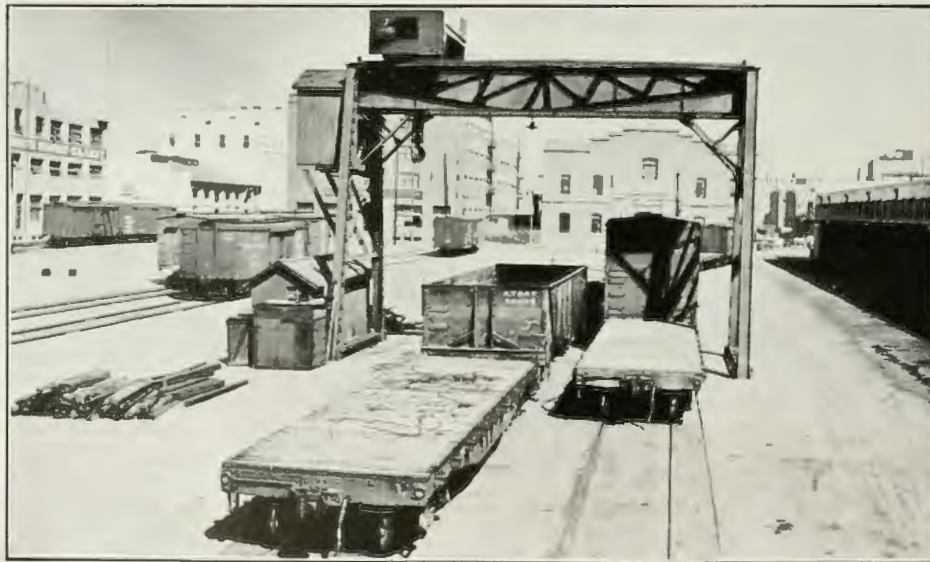


FIG. 160. SANTA FE TEAM YARD BETWEEN THIRD AND FOURTH STREETS

This is one of the Santa Fe Team Yards. Driveways are paved with granite block. A crane for unloading heavy shipments is shown.

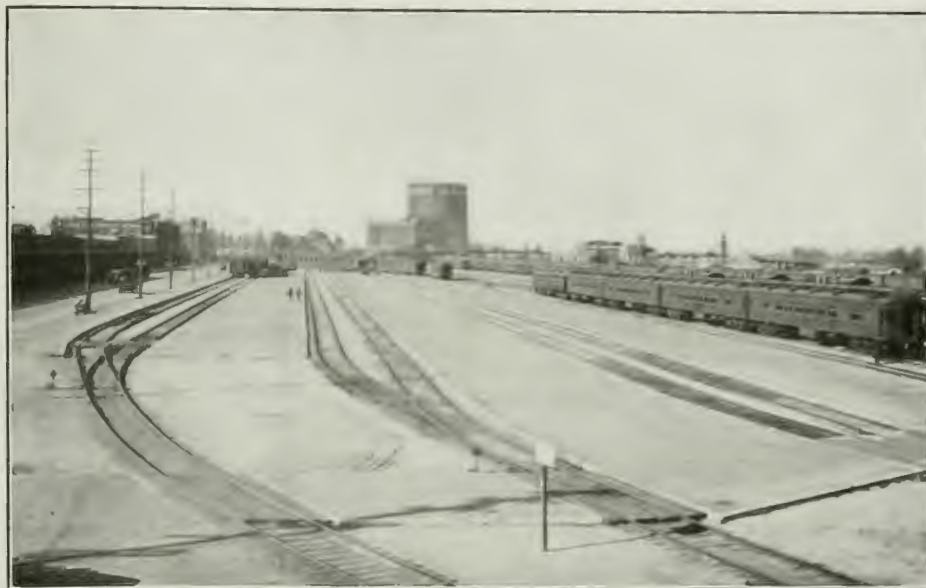


FIG. 161. SANTA FE TEAM TRACKS

These seven tracks are located along the east side of Santa Fe Avenue, between Third and Fourth Streets. The paving is granite block.



FIG. 162. SANTA FE TEAM YARD AT BAY AND LAWRENCE STREETS

These team tracks were constructed in 1914, but are used very little. Perhaps the most important point in this connection is the evident attempt of the Santa Fe to procure team tracks adjacent to Alameda Street. These are one block to the east.

Santa Fe team tracks are located along Santa Fe Avenue between Third and Fourth Streets, and also west of the Santa Fe freight station, between Third and Fourth Streets. The teamways in these yards are granite blocks on a concrete base and are, perhaps, the best paved of any in Los Angeles. The Santa Fe also has a team yard on Shearer Street, between Wilson and Lawrence Streets, which is also paved with granite blocks. This yard was installed in 1914 and represents an attempt of the Santa Fe to gain a location adjacent to Alameda Street south of Seventh Street.



FIG. 163. TEAM TRACKS AT SALT LAKE FREIGHT STATION

The first track on the left and the tracks on the right, in the foreground, are team tracks where carload shipments are transferred to vehicles.

Salt Lake team tracks are located at the site of the freight station along Myers Street, although some tracks in the yard north of Seventh Street are occasionally used for that purpose.

Pacific Electric team tracks are located at the site of the freight station and also at the corner of Anderson and Aliso Streets.

The principal physical characteristics of the Los Angeles team tracks are given in the following summary :



FIG. 164. PACIFIC ELECTRIC TEAM YARD AND TRANSFER YARD

In this view there are shown the Pacific Electric team yard at Anderson and Allso Streets, and Pacific Electric-Salt Lake transfer on Elliott Street, known as Anderson Transfer. Elliott Street is just to the right of the center of the picture. Mission Road is just this side of the building on which "Ben Hur" appears.

TEAM YARDS—LOS ANGELES

| Road | Area (Sq. ft.) | Trackage (feet) | Car Capacity (spot) |
|--------------------------------|-------------------|--------------------|---------------------------|
| Southern Pacific | 593,605 | 17,619 | 353 |
| Santa Fe | 391,800 | 13,661 | 280 |
| Salt Lake | 95,100 | 3,342 | 67 |
| Total Steam Roads | 1,080,505 | 34,622 | 700 |
| Pacific Electric | 48,300 | 1,765 | 36 |
| Total | 1,128,805 | 36,387 | 736 |
| (Alternate Units) | (26 acres) | (6.9 miles) | |

It may be noted that cars are frequently set for unloading at various other points not in the team yards above mentioned.

LOS ANGELES UNION TERMINAL COMPANY

The Los Angeles Terminal Company has recently completed a large part of its proposed terminal facilities between Seventh and Eighth Streets and along Central Avenue. The opening took place about May, 1918. This recent development houses practically all of the produce business in Los Angeles. In addition, warehouses are leased, principally for wholesale groceries and allied trades. Fig. 157 (see page 428) shows the location and extent of the buildings and, also, in solid lines, those already built.



FIG. 166. MARKET COURT—LOS ANGELES UNION TERMINAL.
An early morning view soon after the opening date.



FIG. 165. WAREHOUSES AND CARS—LOS ANGELES UNION TERMINAL

This view shows the concrete warehouses and manufacturing buildings and the freight cars on tracks along Buildings B-1 and B-2 (See Fig. 157). The Pacific Electric is the only road serving this terminal.

The property was acquired largely from the Pacific Electric Railway Company and this road is financially interested in the project. It is the only road having direct track connections.

CHAPTER XVI.

OUTLINE

Relation to Terminal Problem

Industry Spurs

Types of Spur Tracks

The Herringbone System of Spur Tracks

Recommendations Relative to Industry Tracks

CHAPTER XVI
INDUSTRIAL SPUR TRACKS—PLAN AND SERVICE

RELATION TO TERMINAL PROBLEM

In the terminal problem, spur tracks are important in their relation to grade crossings and in relation to the receipt and the delivery of carload freight. The elimination of such tracks or plans for their relocation can be considered only after a study of the business conditions surrounding their location and use has been made.

Before taking up any suggested or other plans for the spur track system, it is essential to know the extent of this business, the number of industries and tracks, the extent of the trackage and the number of cars which it is possible to set on these tracks.

INDUSTRIAL TRackage AND CAR CAPACITY LOS ANGELES
SWITCHING LIMITS, 1918

| Road | Number of Industries | Apprx. No. of Tracks | Miles of Track | Car Capacity |
|-------------------------|----------------------|----------------------|----------------|--------------|
| Southern Pacific | 340 | 166 | 25.61 | 1,626 |
| Santa Fe | 371 | 169 | 26.37 | 1,741 |
| Salt Lake | 109 | 47 | 7.92 | 657 |
| <hr/> | | | | |
| Total Steam Roads | 820 | 382 | 59.90 | 4,024 |
| Pacific Electric | 25 | ... | .... | .... |
| <hr/> | | | | |
| Grand Total | 845 | | | |

(Industries on Southern Pacific east of Alhambra Shops and on Santa Monica Air Line are not included.)

These figures change almost every day and for this reason only approximate figures can be given. Attention is drawn to the fact that 60 miles of track is required and that over 800 industries are served. This is indicative of the amount of capital invested in this phase of transportation in Los Angeles and its commercial importance.

We are more concerned, however, with the congested industrial district between Alhambra Avenue and Butte Street because of street and railroad traffic conditions and the large percentage of the shipping. Of the 820 industries above, 455 are located in this district. To these, in 1917, there were set 48,600 loaded freight cars, or 70 per cent of the total number set on industrial tracks. In addition, 20,600 empty cars were set for loading, a total of 69,200 per year, or an average of 230 cars per working day (300 days in a year), or 1 every 6 minutes. Eighteen of the 25 industries on Pacific Electric tracks are also between Seventh and Butte Streets. To these are set about 1,500 cars per annum. More detailed figures follow:

**INDUSTRIES, SPUR TRACKS AND TRAFFIC INDUSTRIAL DISTRICT
LOS ANGELES—YEAR 1917—STEAM CARRIERS ONLY**

| Section Street Limits | | Number of Active Industries | Approx. Number of Tracks | Number of Cars Set (Empty Incl.) |
|--|--------------------|-----------------------------------|--------------------------------|--|
| From | To | | | |
| College-Main | Alpine-Alhambra .. | ‡9 | 6 | 3,878 |
| Alpine-Alhambra | Macy | 6 | 9 | 9,089 |
| Macy | Aliso | 17 | 12 | 1,057 |
| Aliso | First | 33 | 29 | 8,974 |
| First | Fourth | *105 | 32 | 13,519 |
| Fourth | Sixth | 34 | 19 | 3,413 |
| Sixth | Seventh | 101 | 22 | 11,223 |
| Seventh | Eighth | 89 | 22 | 7,334 |
| Eighth | Ninth | 17 | 11 | 1,800 |
| Ninth | Butte | 44 | 27 | 8,923 |
| Totals | | 455 | 189 | 69,210 |
| Total, Southern Pacific & Salt Lake. | | 234 | 77 | 23,903 |
| Total, Santa Fe | | 221 | 112 | 45,307 |
| Total, Loaded Cars for Unloading... | | | | 48,569 |
| Total Additional Empty Cars for Load- ing | | | | 20,641 |

‡Omits Southern Pacific Spurs in Alhambra Avenue.

*Excluding Los Angeles Ice and Cold Storage Company at Seventh Street and River.

INDUSTRY SPURS

The name "Industry Spur" as usually understood means a spur track alongside the warehouse or business establishment of some shipper or located in part of his property, to which he has practically exclusive use. Cars are unloaded at his place of business and draying is obviated. This is, perhaps, the most important feature from the shippers' standpoint for, if the cost of obtaining this facility has not been excessive, all draying charges or equivalents are done away with. There is also less handling, and this is of importance with certain classes of freight.

These tracks are commonly built under an "Industry Track Agreement," of which there are two general forms:

1. The industry pays for all labor and perishable material (ties) and the carrier pays for the balance and bears the cost of maintenance.
2. The industry pays for both the labor and material, where the track is on its property, and the carrier assumes the cost of the balance. Maintenance costs are paid by the owners of such portions.

There are various ramifications of these two general propositions, dependent, as much as any other one thing, upon the business the carrier expects or ultimately receives from the industry. These tracks are located in the streets as well as being located in part on private property. The lat-



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FIG. 107. REGIONAL DISTRIBUTION OF FREIGHT CARS SET ON INDUSTRY TRACKS, AND INTERCHANGE OF FREIGHT CARS LOS ANGELES, YEAR 1917. THE LOCATION AND SUMS OF TRAINS FOR EACH INTERCHANGE ARE SHOWN WITH THE NUMBER OF LOADED AND EMPTY CARS.

ter is the usual case, however, in Los Angeles where, in the industrial district, the spur track privilege has a considerable effect on the value of land. In fact, the County Assessor's office recognizes this feature in making assessments for taxes.

TYPES OF SPUR TRACKS

These tracks are built to serve industries in different ways. Some are objectionable and should not be sanctioned, while others, having the same characteristics but differently located, cannot be regarded as objectionable. Still others have evidently been designed to accord, as far as possible, with the best practice of the time. It will be well to review the general methods in which these spurs are constructed in order to understand clearly the conditions which surround any plans for proposed changes.



FIG. 168. INDUSTRY SPUR IN ARCADE

This view shows an industry track constructed in an Arcade, under one side of a warehouse, leaving the sidewalk free for pedestrians. A freight train in Alameda Street is at the right.

Location of a spur track in an arcade leaves the sidewalk free for its normal purpose and does not block the street. This type of spur must be designed for a building at the time of its construction. The track is not susceptible to being changed, except at the expense of altering the building and, in the case shown by the photograph above, this would be prohibitive in cost to the owners. This type of spur is limited to one or two.



FIG. 160. SANTA FE ALLEY, NEAR VIOLET STREET

On the left it will be noted that the building is constructed so that a track is located in such a way that cars may run alongside the loading platform, while the upper stories of the building are not interfered with. The track on the right in the main lead in Santa Fe Alley and is owned jointly by the Southern Pacific and the Salt Lake.



FIG. 170. SPUR TRACK PLACED BEHIND SIDEWALK

This view shows one method of serving a warehouse with a spur track. By placing the track behind the sidewalk, no street traffic whatever is interfered with. Passenger train in Alameda Street appears at the left.



FIG. 171. WAREHOUSE WITH SPUR TRACK INSIDE

With this arrangement, the spur track turns from the main tracks in the street and enters the warehouse at an angle.



FIG. 172. SPUR TRACK ON ALAMEDA STREET NEAR FIRST STREET

There is not sufficient room for a vehicle between cars on the spur track and a train on the nearer main line track. Spur tracks in such locations on important thoroughfares should not be permitted. Note also the elevated sidewalk used for unloading platform.

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FIG. 173. SIDEWALK USED FOR UNLOADING PLATFORM

This view, taken in Banning Street, shows how the sidewalk has been elevated to approximately the level of the car floor and used as an unloading platform. It also shows that the car is standing in the street. This practice in unimportant streets does not appear to be particularly objectionable.

The spur track may be placed behind the sidewalk and the car frontage also used for team frontage. This is an excellent arrangement under some conditions, particularly when the cost of the land is not excessive for this use. Night switching is usually preferable to industries so located, so that switching will not interfere with teaming. This form of construction is also, in general, difficult to change to correspond to new switching leads. There are but few of this type of spur tracks in Los Angeles.

A few Los Angeles spur tracks turn off the lead tracks in the street and enter the shippers' warehouses on a curve. This arrangement is usually difficult of changing to another system of leads as it is dependent upon the track longitudinally in the street. There are many examples of this general type.

There are one or two spur tracks in the streets where freight is unloaded on the sidewalk, which is elevated. This has few objectionable features on a sidewalk but should not be tolerated on important streets such as Alameda Street. Neither should such construction be allowed where there is not room for a vehicle to pass between a car on the spur and a train on the main tracks. The general plan, having the future in mind, is not a good one since it demands tracks longitudinally on streets.



FIG. 174. FREIGHT CARS IN COMMERCIAL STREET

These cars stand on tracks located on one side of the street and are usually unloaded in the warehouse by means of hang-planks across the sidewalk. Note that there is no switching lead in this street and that to move any car it is necessary to disturb all of the cars behind it.

There are many instances where there is a spur track along the sidewalk, and gangplanks are placed across the sidewalk for unloading the cars. In some localities, this is objectionable; in others, the practice may be tolerated.

By far the largest class of spurs are those located upon private or carrier property or located alongside of warehouse or shipping platform within a city block. These spurs would require no change to improve grade crossing conditions, but practically all groups would need alteration because of a different approach. As at present these main leads turn off a track longitudinally in a street, they are difficult to change on account of the vast amount of work necessitated by the elimination of the main tracks in the street.

THE HERRINGBONE SYSTEM OF SPUR TRACKS

This system, which was referred to many times at the hearings before the Commission, was first mentioned by Mr. Samuel Storrow, a witness for the Central Development Association, in his testimony, from which the following quotation is taken:

"A. Our project does not include the removal of any industries from Alameda Street.

"Q. Then will you kindly state what you mean by the ultimate, if it isn't intended to remove those industries?

"A. The proposal is that all the tracks on Alameda Street—by that we mean tracks that run longitudinally on the streets—not the cross tracks but all tracks which now run longitudinally on Alameda Street—shall be taken up from the south city limits to the north end of Alameda Street.

"Q. Then how will the industries located upon Alameda at the present time be served?

"A. The suggestion is that, pending that removal, which, of course, would take time, because this thing has to go on somewhat slowly, it is a very large job,—during that time a system of freight tracks would be built out in a **herring-bone** fashion from the river bank, roughly speaking, perpendicular to the river bank, and that those tracks should be so arranged, adjusted, located and planned that they would reach not only every industry now on Alameda Street, or west of it, but many others which we hope will come. I admit it is an intricate problem which we are handing to the Railroad Commission. We have confidence in the Railroad Commission and its engineers." (trans. p. 373)

The "herringbone" system in Los Angeles has come to mean a system of industrial tracks turning to the west from the Santa Fe tracks along the river and running east and west on private rights of way between the principal east and west streets. From these main industrial tracks other and shorter tracks would be built within the city blocks to reach various industries. Under this system the east and west streets would be free from grade crossings, but the number of crossings on the north and south streets would be increased.

Another fundamental point in the "herringbone" plan, as noted by Mr. Storrow, is the proposal that all the tracks on Alameda Street should ultimately be taken up from the south city limits to the north end of the street. It was suggested to Mr. Storrow that the "herringbone" system would not reduce the number of crossings and, while he appears to have admitted this point, he contended that the advantage lay in the fact that the danger and delay to vehicular traffic would be materially less because these "herringbone" tracks, serving only a few industries, would not be used by the long trains which now operate along Alameda Street. That is, the traffic between the freight yards in the northern part of the city and the industries in the southern part would be hauled along the river instead of along Alameda Street and, so the witness stated, the traffic on the "herringbone" tracks would be only one or two car trains, under better control than the longer trains; and the danger and delay to the public would be correspondingly decreased.

There are, at present, few industrial tracks which cross the east and west streets. The Santa Fe Alley line crosses many streets, but Ninth Street and Twenty-sixth Street are the only ones of any importance because of present traffic conditions. The Santa Fe crosses Sixth Street near Mill Street and Third Street near Santa Fe Avenue, but neither is now of great importance. The Southern Pacific crosses Second Street near San Pedro

Street, which is a rather busy street. The principal east and west streets are, then, now not crossed to any appreciable extent, except by Alameda Street.

A study of the trackage (Fig. 179 on page 481) will show that the present industrial tracks are, to a large extent, already built along the "herringbone" plan, the most important exception being the Southern Pacific spurs off Alameda Street. But here the departure from the "herringbone" plan is the result of the tracks in Alameda Street. Another exception is the fact that many of the tracks are in the streets instead of on private rights of way.

RECOMMENDATIONS RELATIVE TO INDUSTRY TRACKS

The report of Messrs. Hamlin, Howell and Storrow, referred to before, contained the following recommendations with respect to the spur tracks:

- "1st: All grade crossings other than those of industrial spurs must be removed;
- "2nd: No industrial track permits should hereafter be granted for the use of the streets at grade longitudinally;
- 3rd: All tracks now longitudinally within any streets, to be confined to use for industrial purposes only, and finally removed as soon as access to the industries served can be obtained otherwise.
- "4th: That eventually all spur tracks shall herring-bone out east and west from leads along the river bank, and these leads and all other trackage throughout the city be for joint use by all railroads;
- "**Note:** A 1, 2, 3, includes Alameda Street, which should be handled in the following manner:
 - "1st Step: Eliminate through-freight and restrict the use of these tracks to passenger service and local car deliveries and removals.
 - "2nd Step: Eliminate passenger service.
 - "3rd Step: Finally remove tracks altogether.
- "5th: These requirements, of course, are susceptible to but one interpretation, namely: that the elimination of grade crossings for other than industrial deliveries and the maintenance of the minimum number of such grade crossings, with joint use of trackage, means a Union Terminal for Los Angeles, both passenger and freight, and it is only on this basis that the congestion and danger of railroad crossings can be avoided and minimized, and the best interests of the city at large and the railroads themselves can be conserved."

The industrial district is so nearly level as to make impossible any improvement in conditions by any separation of grades and the question resolves itself into how to plan for the least number of tracks and least traffic.

The construction of team tracks along the east side of Alameda Street would have a tendency to reduce the number of industrial tracks, for a shipper would forego, in many instances, the costly luxury of his own spur and use a convenient team track. This, however, would not offer sufficient relief.

We have given considerable study to the problem of general rearrangement of spur tracks and have come to the following fundamental conclusions:

(1) The large investment in buildings, tracks and commercial business connected with spur tracks, and the present large amount of spur trackage make it inexpedient to make any radical change in spur track locations at this time or in the near future.

(2) The shippers have reason to be satisfied with present conditions, which should be interfered with as little as possible. This is discussed in greater detail in the next chapter.

We agree with the 'Three Engineers' Report in the general propositions that:

"(1) All grade crossings other than those of industrial spurs must be removed.

"(2) No industrial track permits should hereafter be granted for the use of the streets at grade longitudinally.

"(3) All tracks now longitudinally within any streets should be confined to use for industrial purposes only and should finally be removed as soon as access to the industries served can be obtained otherwise."

With the fourth recommendation we can concur only in part. This recommendation was that:

"Eventually all spur tracks shall herring-bone out east and west from leads along the river bank and these leads and all other trackage throughout the city shall be for joint use by all railroads."

The general proposition that all spur tracks herring-bone out east and west from leads along the river is the best solution of the problem, but we would add that it is better to cross an unimportant east and west street than an important north and south street, such as Alameda Street or Santa Fe Avenue. We would modify this recommendation to that extent.

The question of joint use of all trackage throughout the city by all railroads is very broad. The principle of joint use is sound and we are not here concerned with the matter of property rights and exclusive benefits to owners. We are concerned, however, with the reduction of the railroad traffic in and across city streets to the absolute minimum in order to improve, as far as possible, the grade crossing situation. And when unrestricted joint use leads to an aggravation of direct and indirect crossing evils, it must be condemned.

In the chapter devoted to the Alameda Street grade crossings, we have taken up the diversion of freight switching by rerouting and have called attention to the fact that at present any car hauled into Los Angeles over any road may be set on an industry track of any other road without charge. Bearing this in mind, and taking cognizance of the large amount of capital invested in land, buildings and business largely dependent upon spur track facilities and track mileage involved, we make the following recommendations for immediate improvement:

A.—Duplication of Switching Service to Industrial Spurs should be Discontinued.

Such discontinuance was put into effect as a war measure and should be retained and made more rigid. This will reduce the number of train movements and will benefit both the public and the railroads.

B.—Santa Fe Alley Spur should be Removed North of Butte Street.

This spur, which is over a mile long, is owned jointly by the Southern Pacific and the Salt Lake, except for about 350 feet near Bay Street, where the Santa Fe owns 50 per cent and the other two roads 25 per cent each. It was built about 1907, apparently to cut off the Santa Fe from extending its spurs to the west, and, if such was the case, with the present free switching, it has outgrown the competitive conditions under which it was built. Santa Fe Alley is but 15 feet wide, allowing only standard clearance if there are no projections into the alley. There are such projections (poles, for example), and at present the clearance is impaired in several cases. If the spur is continued in use, it will, in time, become too long to switch. For the present, the portion north of Bay Street could remain until some other way is found to serve three large industries at Atlantic Street. To take care of the other industries served by this track in Santa Fe Alley, in four or five cases spurs from the Santa Fe tracks can be built in accordance with the general scheme of east and west spurs. In several other cases the Santa Fe spurs now serve the industries. For the remainder, the industries do not appear to be sufficiently heavy shippers to justify the retention of the spur to serve them.

C.—Macy Street Transfer should be Removed

If the rerouting of Southern Pacific-Pacific Electric transfer cars is accomplished, this will no longer be necessary. At present, the right of way is but 14 feet wide—too narrow to allow standard side clearance for cars.

D.—The Southern Pacific Spur Track in Alameda Street on the West Side of the Main Line Tracks from First to Jackson Streets should be Moved or Removed.

With a freight car standing on this track there is not room for a vehicle to pass between it and a train on the main line tracks. We are advised that this has been the cause of several accidents and the condition is too dangerous to continue.

For future plans, we concur, as stated, with the greater portion of the recommendations of Messrs. Hamlin, Howell and Storrow.

CHAPTER XVII.

OUTLINE

Present Condiitons Generally Satisfactory

Effect of Elimination of Grade Crossings Adjacent to the Los Angeles River

Effect of Establishment of Union Passenger Terminal

Union Passenger Terminal at the Plaza

Union Passenger Terminal at the Santa Fe Site

Union Passenger Terminal at the Southern Pacific Site

Establishment of Union Less-Than-Carload Freight Station

Branch Freight Stations Not Recommended

Union Freight Station with Union Passenger Station at the Plaza

Union Freight Station with Union Passenger Station at Southern Pacific Site

Union Freight Station at Santa Fe Site

Union Freight Station Not Recommended, With Union Passenger Station at Santa Fe Site

Pairing of Southern Pacific and Salt Lake Tracks Between Los Angeles and Colton

CHAPTER XVII

PROPOSED IMPROVEMENT IN FREIGHT HANDLING

PRESENT CONDITION GENERALLY SATISFACTORY

It has been noted that the present conditions surrounding the handling of freight in Los Angeles are generally satisfactory to shippers. This fact was brought out in the testimony before the Commission of Mr. F. P. Gregson, the representative of the Associated Jobbers of Los Angeles, representing, as he stated, approximately 75 per cent of the shippers. Mr. Gregson was practically the only witness who touched upon this subject from the shippers' side.

It will be well to quote some of his testimony since it deals with one of the most important subjects of this report:

"...In receiving of cars we have possibly an ideal condition and we have also an ideal situation. I know of no other city so ideally situated as Los Angeles, from a track situation. First you must understand that all transcontinental roads today have absolute access, unrestricted and untrammelled access to each other's side tracks. That is, a merchant located upon the Southern Pacific tracks upon Alameda, and I might say that when I say Alameda Street I refer to Central Avenue and San Pedro Street—no reference is made to those streets in the fish bone, or near it—simply to Alameda. Now, if the Santa Fe transports a car from Chicago consigned to a merchant on the Southern Pacific road at Los Angeles, that merchant has this car delivered to him upon the Southern Pacific tracks under the same conditions as he would if it was located on the Santa Fe, and that obtains also with the Southern Pacific and the Salt Lake, as well as the Santa Fe."—(Trans. p. 419)

"Commissioner Gordon: Are you opposed to any change of traffic conditions in Los Angeles, so far as the freight end of it is concerned?

"A. Freight end is concerned?

"Commissioner Gordon: Do you want everything left as it is now?

"A. No, we don't—

"Commissioner Thelen: Mr. Gregson, you want some more tracks do you, for freight?

"A. Yes, we would like to ask Mr. Sachse to take into consideration the suggestions to be made, always looking toward the economic handling of freight to the city, to the depots, and the interchange that we now have."—(trans. p. 423)

".....I want this Commission to understand our commercial proposition, that we don't want to be squeezed on Alameda Street between any two rival real estate propositions or between any two institutions in Los Angeles. We want a free and untrammelled right, as we have now, and we don't want the situation disturbed, only to make it better for us by the elimination of the trains on Alameda Street."—(trans. p. 424)

With particular reference to Alameda Street Mr. Gregson said further:

"Along Alameda Street we have large jobbing houses and manufacturers immediately located upon the street, and others served from Alameda Street upon laterals both east and west. You might say that Alameda Street is

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the very heart artery of the industrial section of Los Angeles. Now, the industrial section, briefly speaking, of Los Angeles is east of Los Angeles Street, inclusive of that street, and west of the bluff, what is known as the Boyle Heights Bluff. There we are confined within that district—I am not speaking altogether of a jobbing proposition, but as to industries of certain kinds—we are forbidden to go beyond those lines and the history of the jobbing center and jobbing street of Los Angeles is briefly this: In the early days we were located upon what is known as Los Angeles Street. Los Angeles Street served our purpose for years and years, but we were practically driven off of Los Angeles Street on account of the congestion created by the advent of the Pacific Electric from Aliso Street travelling up Los Angeles Street. When that railroad appeared upon Los Angeles Street, when we would back up our trucks to our door and we had only one way to get our freight out, and that was through the front entrance of the door, and we were rather crudely erected in those days. That created a congestion there that was unbearable. We then set up a more economic handling of our business and we went to Alameda Street, thinking we were fully protected by the ordinances that had been passed by the city. We have constructed on Alameda Street, at a cost of millions of dollars, large houses, concrete houses, and we have now constructed them with a number of objects, first, the object of relieving the congestion upon the streets, that is to say, that we may load and unload our teams from some point not upon the street as we did upon Los Angeles Street, so a great many of our houses now have provided themselves with arcades and sidings, places where the teams back in and load without any obstruction upon the street, leaving the street entirely clear to the pedestrians and railroads. As far as side tracks are concerned, we have—we are doing that today and have been for some time—have our tracks upon private property and in an arcade or within an arcade. So there we have our business located so that we are not a nuisance and so that we don't intrude upon anybody.

"While Mr. Storrow and Mr. Howell have pointed out to you possible nuisances and the necessity of reconstruction of railroads, they have left out a most important part that goes with a reconstruction, and that is relief of the congestion upon the streets of Los Angeles, and the best manner of handling that business from your wholesale houses and your retail houses. Upon Alameda Street you will see it is a very important artery. We can reach out in all directions from the wholesale houses and from the manufacturing places with our auto trucks going upon the streets that are not constructed in the jobbing district, utilizing convenient points in the city and making economical deliveries to consignees.....Now, in the early days, we might say in less than half a decade, the wholesale jobbing business, or 60 per cent of it, was located north of First Street, upon First and north of First Street. Now, that situation has been entirely reversed. It is upon First and going south. So you see that Alameda Street is an extremely important street to us. Now, we contend this, that either plan, may it be the north or the south end, that as one of its objects it must have the elimination of the train service upon that street, will satisfy everybody who are now complaining, and for this reason: We are perfectly willing to submit to our delivery upon the street either at night or any hours the Commission may so designate, but we want the Commission to bear in mind this, and when I say this particular thing, it is an entire objection to Mr. Howell's scheme or Mr. Storrow's scheme as to a freight proposition. That any scheme that is thought of—and I am now speaking especially of our friends here, the engineers—that any scheme that is thought of must be

that of an economic reception of cars and the forwarding of cars. Bear in mind at this time that we are here making drives to load and unload cars within a reasonable hour. Under our present situation our merchants are unloading cars within 15 minutes and ready to give them back to the carriers. That would not be possible and could not be under a belt line. That could not be possible under this fish bone proposition that we have before us and it could not be possible under any system of union terminal. Belt Line railroads are one of the curses of the country when it comes to the economic handling and the quick dispatch of cars."—(trans. p. 417)

The adoption of recommendations in this report for the elimination of grade crossings and the establishment of a union passenger terminal will somewhat disturb these satisfactory conditions and it is our purpose to substitute at least equally satisfactory facilities, and perhaps better ones. The main items we have to deal with refer to carload switching, to industrial tracks and to the location of the less than carload freight stations.

The subject of rerouting of freight has already been discussed in connection with Alameda Street grade crossings. (Chapter VIII.)

Effect of Elimination of Grade Crossings Adjacent to the Los Angeles River

The depression of the Santa Fe and Salt Lake tracks along the Los Angeles River from North Broadway to Butte Street, and the construction of viaducts carrying these streets across these tracks and across the Los Angeles River have very little effect on the handling of freight in Los Angeles provided that present passenger and freight depots are not interfered with and remain as they are. Recommendations, of course, are made by us, changing both freight and passenger facilities, but in order to maintain the general system of this report, the recommendations on the union passenger station and joint freight station will be ignored for the moment and the effect of grade crossing elimination **alone** will be dealt with.

As far as the Southern Pacific is concerned, there will not be any effect whatever on freight handling caused by this track depression, that is, simple depression of existing tracks uncomplicated by a union passenger or freight station, or both.

The Santa Fe freight business will, however, be affected to some extent. Some of the industry tracks which branch out from the river tracks will have to be rebuilt for short distances in order to provide satisfactory rates of grade. The freight yard along the river between First and Seventh Streets would have to be regraded at both ends, but the grades which could be established would not affect the haulage of freight. The Santa Fe-Pacific Electric transfer track, located at Aliso Street on the River, would have to be done away with, as the tracks of the two roads would be different in elevation by some 25 feet at this point. This transfer facility would either have to be provided for by the construction of a track along the southerly side of Aliso Street easterly from Keller Street and connected by a curve with the present Santa Fe line just south of Aliso Street; or the Salt Lake,

as outlined elsewhere, could handle Pacific Electric cars from the eastern division from Elliott Street to Butte Street and Santa Fe Avenue, where they could be exchanged with the Santa Fe.

Switching in the Salt Lake yard will be improved by the depression of the river tracks. The ladder tracks used in switching in the yard now descend sharply from Seventh Street to the north, causing considerable damage to cars when they are switched, by reason of too great velocity acquired. With the depressed tracks, this switching lead can be installed on a better grade.

The Pacific Electric freight business will not be affected by the depression of the river tracks, except as noted with regard to the Santa Fe-Pacific Electric transfer track at Aliso Street.

Effect of the Establishment of a Union Passenger Terminal

Union Passenger Terminal at the Plaza

The establishment of a union passenger terminal as recommended by us will be serious in its effect on the Southern Pacific. The site of the depot yard cutting across Alameda Street, as it does, isolates the present less-than-carload freight station, and the establishment of a coach yard at the site of the present Southern Pacific main freight yard will force the construction of a new yard.

This new yard would, in all probability, be built at the site of the present Southern Pacific new classification yard along the San Fernando Road (this is our recommendation). Sufficient land has already been acquired for this purpose and plans have already been drawn. The construction of a connecting track between the depot yard of the union passenger station and the proposed site of the coach yard will make it impossible to handle the cars in and out of the freight station and will necessitate moving the freight station elsewhere. This facility is now almost inadequate.

The Southern Pacific holds several pieces of land which might, at first thought, be used for a freight station. The Macy Street team yard site, at Macy and Alameda Streets, is too small. The site of the present Arcade Station, while large enough, is out of the question because of the increase in traffic on Alameda Street brought about by switching in and out of the freight station. The Los Angeles Public Market Company property along Sixth and Alameda Streets is large enough and might possibly be used for this purpose. The principal objection to this site is that grade crossings would result on approach tracks at Mateo Street and Santa Fe Avenue, and also at Mill, Imperial and Mesquit Streets. The present Southern Pacific coach yard is also large enough, the principal objection to the use of this location being the same as those for the Los Angeles Public Market Com-

pany property, except that in this case there is more travel on the streets to be crossed. Lastly, if a union less than carload freight terminal is established at the Santa Fe site, the Southern Pacific will find relief in the use of such a station.

With a passenger terminal at the Plaza, the west bank of the river will be left free for freight switching and the possible construction of trackage branching out from the Santa Fe will make it possible to switch such industries between Macy and Seventh Streets without using the present tracks on Alameda Street, except between the principal cross streets.

Union Passenger Terminal at the Santa Fe Site

If such a facility should be established, the principal effect on the handling of freight would be the necessity of the construction of a freight yard for the Santa Fe and the elimination of switching from Alameda Street. The Santa Fe has, however, acquired a site of 100 acres near Hobart, which could be used for a freight yard and, in fact, was acquired for that purpose. If all of the Los Angeles passenger traffic were handled along the west bank of the river, there is the possibility of interference with the freight business which has developed on trackage extending westerly. The passenger train and light engine movements would be so frequent that the number of switch engines required to handle the industrial switching would have to be increased. This would increase the operating cost—an increase which would go on year after year.

It will be noted that in the plan for the union passenger terminal at the Santa Fe site, provision has been made for the enlargement of the Santa Fe less than carload freight station at some time in the future, and it may be noted in passing that this arrangement would give the Santa Fe ample room for the future expansion of its less than carload freight station.

The Southern Pacific could continue to use its present freight station at College and Alameda Streets and would have more yard available for switching if the new classification yard along the San Fernando Road were constructed.

The Salt Lake could establish its proposed freight terminal along Alameda Street near Eighth Street, as contemplated in Application 3037.

The Pacific Electric freight business would not be affected by the Santa Fe plan and would continue to use its present facilities, modified, of course, by future necessities.

Union Passenger Terminal at the Southern Pacific Site

With this plan, the new freight yard along the San Fernando Road would ultimately be constructed, as is also recommended by us for the Plaza plan. The present freight yard could be used until such time as the

completion of the new yard proves advisable. The Southern Pacific would not be forced to discontinue its freight station, but since it is inadequate, we are recommending that it be abandoned. The Southern Pacific would use the union freight station, which, as part of the Southern Pacific (as well as of the Plaza plan), we are recommending at the Santa Fe site. Under these conditions the site of the present Southern Pacific freight station would be used for a team yard.

The effect on the handling of freight on the Santa Fe with a union passenger station at the Southern Pacific site would be the same as if the Santa Fe tracks along the river were simply depressed if we did not recommend, as part of the Southern Pacific plan, a union freight station at the Santa Fe site. Under this condition the effect on Santa Fe freight handling would be the same as under the Plaza plan discussed above. This consists of a new freight yard for the Santa Fe east of Hobart.

Under the Southern Pacific plan the Salt Lake freight yard would require remodelling to take care of the new passenger tracks and coach yard. It would, however, be continued in its present use. The Salt Lake freight station would be abandoned, this road also to use the joint freight station at the Santa Fe site.

The Southern Pacific plan has no particular effect on the Pacific Electric freight business, except, as part of the plan we would recommend that the latter road transfer its less than carload freight business to the proposed union freight station at the Santa Fe site along with that of the three steam roads.

ESTABLISHMENT OF UNION LESS THAN CARLOAD FREIGHT STATION

Branch Freight Stations Not Recommended

During the hearings in these consolidated cases held before the Commission, the establishment of several less than carload freight stations throughout the city was advocated, particularly by Chief Engineer Howell of the Board of Public Utilities of the City of Los Angeles and by Mr. Samuel Storrow, witness for the Central Development Association. This plan proposes that branch freight stations be established in different parts of the city so that the wagon haul of the shipper would be reduced and shippers would use the station nearest to their places of business.

We are not in favor of this plan. The principal objection to it is the loss of time and we are of the opinion that this is of more importance to the majority of Los Angeles shippers than the length of haul. The loss of time comes about in this way: If there were four such package freight stations, consignments for one point might be made at all of them. These shipments would be placed in cars at the four stations and taken to one

central station, where they would have to be unloaded, transferred around the sheds until the car or cars for destination were reached. The freight houses now close for the receipt of freight at 4 P. M., but the cars are not ready to be removed from the station until at least two hours later, and, under normal conditions, these trains leave the city before midnight. Transferring this freight picked up at the branch stations, would consume several hours more, and since it is absolutely necessary to afford the shipper prompt service, the adoption of this plan would probably result in many delays of twenty-four hours in the delivery of less than carload freight, since trains could not be held for all of the cars from the sub-stations. Of course, it is possible that solid cars for different points would at times be accumulated at these branch stations, but this would not be the rule. The principal less than carload outbound freight is destined for points in Southern California and in the northern part of the San Joaquin Valley. With the former, time competition with auto trucks must be met and in the case of the latter territory, Los Angeles competes with San Francisco and an early delivery is essential. It is also possible to expedite the handling of cars from the sub-stations, but as this is expensive, too much reliance cannot be placed in such performance.

The district in which the majority of such shipments originates is only approximately 4 miles north and south, and the average haul, therefore, cannot be over 2 miles.

Furthermore, this district will in all probability remain about the same size and in the same location, particularly if a union less than carload freight station is established at the Santa Fe site. This would tend to stabilize the jobbing district and there is plenty of room for development, due to the present vacant areas and the areas now used for lower classes of occupation. This stabilization is a good thing for the shipper as well as for the railroads: Property values are established and become of greater value as a credit asset, haul is reduced and the concentration of one class of business in one district is a great convenience to the many people who are concerned with this phase of industry.

At present the trucking and drayage companies in Los Angeles make the same charge for drayage to the Southern Pacific, the Santa Fe and the Salt Lake freight stations, although the haul to the Southern Pacific is considerably further since the station is located at one end of the jobbing district and the haul is all one way. We are advised by the draymen that the cost of drayage depends not so much upon the distance as upon the time consumed in loading and unloading and that the establishment of a union freight station would reduce the drayage charges, other things being equal. This, of course, is very important. A large part of the draying is done by two-horse teams and large low trucks. This method is holding its own over the motor truck for the reason that, in spite of the high price

of feed, it is more economical. This is because the investment is far less than in the case of a large-capacity motor vehicle which, in order to be economical, cannot stand idle. It would seem, then, that the controlling feature in the cost of handling less-than-carload freight at Los Angeles from the shippers' warehouse to the freight station is not the distance but the promptness with which the shipments may be loaded and unloaded. Distance, within reasonable limits, is a secondary factor.

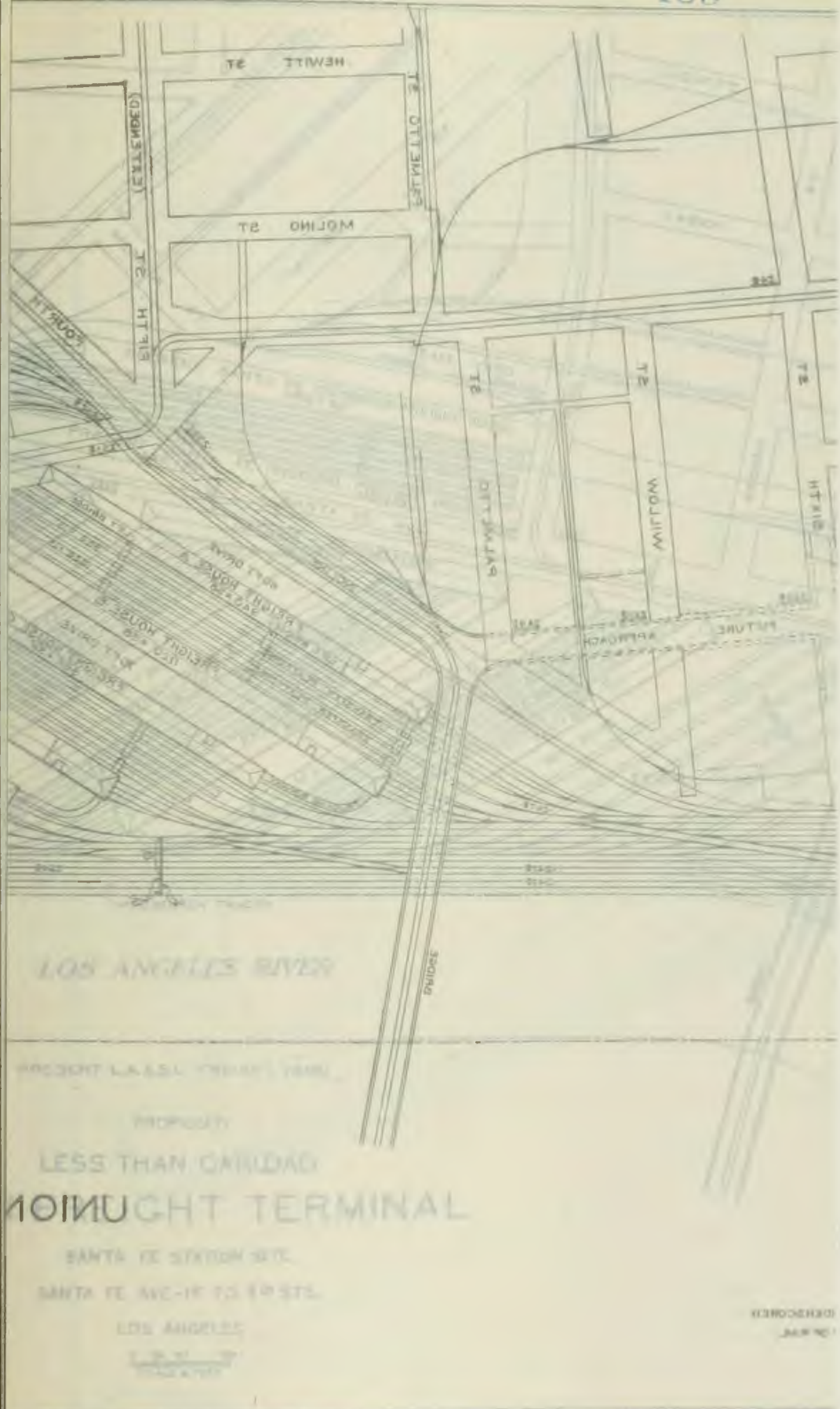
There is another reason against the establishment of branch freight stations. There would be considerable confusion with regard to **inbound** freight if this class of freight is handled at branch stations. If all inbound freight must be called for at one station, one of the objects of the branch depots is defeated, and if inbound freight may be called for at several stations, the possibility of confusion in proper shipping directions is present. More important, again, is the question of loss of time. These inbound shipments would have to be split up at some central station, handled about the freight house and loaded on the cars to be switched to branch stations. Of course, the outbound less than carload freight is approximately double the inbound freight in tonnage and these points are, therefore, of less importance.

Union Freight Station with Union Passenger Station at Plaza

Rather than establish branch freight stations, it would seem preferable to establish one union less-than-carload freight station to be used by all roads, including the Pacific Electric. If a union passenger terminal is established at the Plaza as recommended by us, the Southern Pacific will probably find it necessary to establish a new freight station considerably further south than the location of the present one at College and Alameda Streets. The Salt Lake admittedly has for some time been anxious to improve the location of its facilities along Myers Street on the east bank of the river. We believe that both these purposes may be accomplished and that shippers will be greatly benefited by the establishment of a union less-than-carload freight station at the Santa Fe site, together with the construction of two classification yards to serve Los Angeles, one north of the city on the property of the Southern Pacific along the San Fernando Road and one south of Los Angeles, near Hobart, where the land for such a yard has already been acquired by the Santa Fe.

Union Freight Station with Union Passenger Station at Southern Pacific Site

The arguments that apply in favor of a union freight station at the Santa Fe site with a union passenger station at the Plaza, apply equally if the passenger depot is located at the Southern Pacific "Arcade" site. Operating conditions at the freight station and its approaches would be even better, for the west bank of the river would be entirely free from passenger traffic, this latter to be handled on the east bank and carried over all tracks on the west bank.



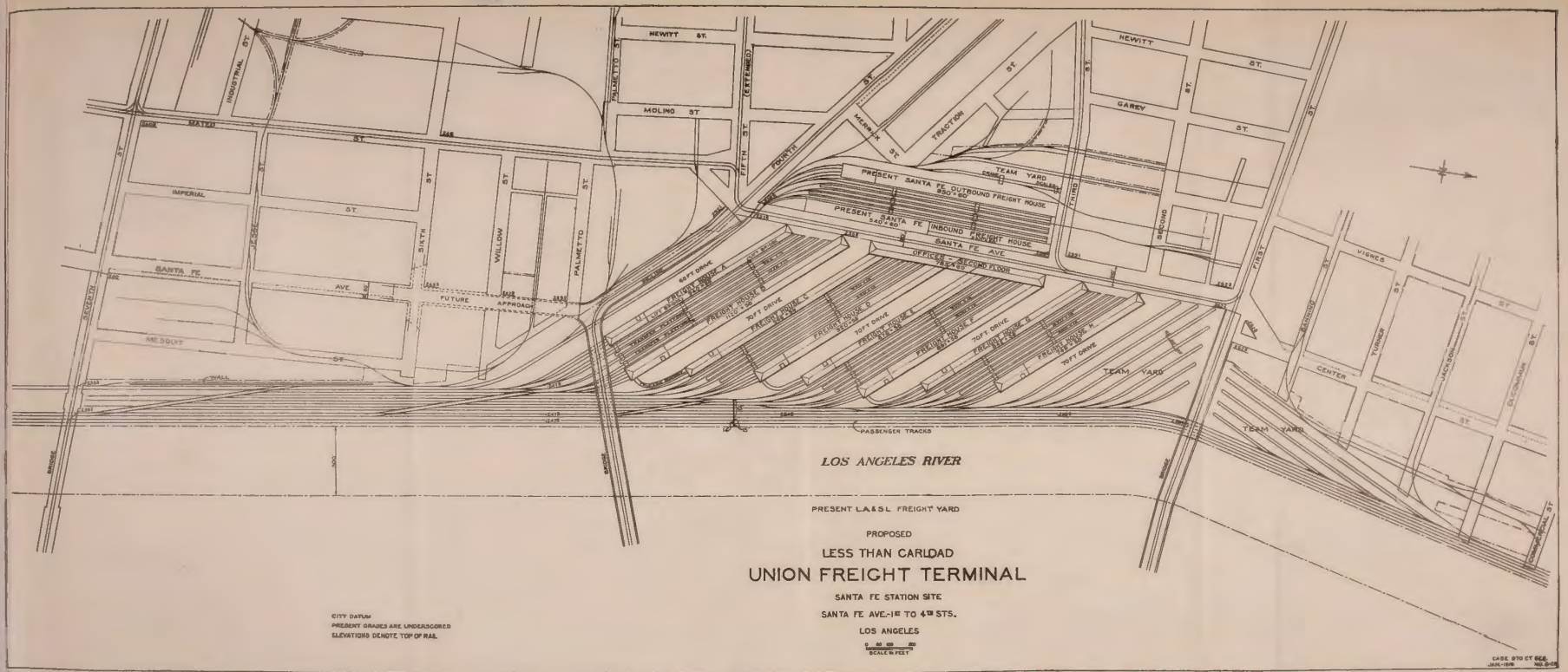
THE LOS ANGELES RIVER TERMINAL
 THE PROPOSED TERMINAL SHOWN IN RED IS TO BE CONSTRUCTED BY THE SANTA FE RAILROAD AND
 THE EXISTING TERMINAL SHOWN IN BLACK IS TO BE CONSTRUCTED BY THE SANTA FE RAILROAD
 THE PROPOSED TERMINAL IS TO BE LOCATED ON THE EAST SIDE OF THE RIVER
 THE EXISTING TERMINAL IS TO BE LOCATED ON THE WEST SIDE OF THE RIVER
 THE PROPOSED TERMINAL IS TO BE LOCATED ON THE EAST SIDE OF THE RIVER
 THE EXISTING TERMINAL IS TO BE LOCATED ON THE WEST SIDE OF THE RIVER

DESIGNED BY
 ARCHITECTS

LOS ANGELES
 SANTA FE AVE - 14 TO 16 STS.
 SANTA FE STATION BLDG.
LOS ANGELES TERMINAL
 LESS THAN ONE MILE
 FROM
 THE
 LOS ANGELES RIVER

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LOS ANGELES RIVER
PRESENT LA&S.L. FREIGHT YARD
PROPOSED
LESS THAN CARLOAD
UNION FREIGHT TERMINAL
SANTA FE STATION SITE
SANTA FE AVE. 1st TO 4th STS.
LOS ANGELES
SCALE 1"=100'

CITY DATUM
PRESENT GRADES ARE UNDESIGNED
ELEVATIONS DENOTE TOP OF RAIL

FIG. 175. PROPOSED UNION TERMINAL FOR LESS THAN CARLOAD PRESENT
This proposed terminal effectively uses the space now occupied by the Santa Fe station and freight yards. This land is too valuable to be used as a classification yard, but its strategic position opposite the business center and along the river makes it peculiarly adapted for the purpose of a great distributing center for less than carload freight.

Union Freight Station at Santa Fe Site

With these facts in mind, we have made a study of the possibilities of the Santa Fe site for a union freight station and this study finds expression in Fig. 175 (see page 459). The plan provides for the ultimate construction of eight freight sheds, with their trackage, and the establishment of a team yard at the same location. Based on this plan, it is possible to provide sufficient floor area, team frontage and car spot capacity for many years in the future, considering also that the present Santa Fe freight station would become a part of the union terminal. The driveways, as shown, are 70 feet in width; they should be 100 feet. Sufficient space is available for this standard dimension.

This plan, it will be noted, follows very closely the plan of the present Santa Fe freight station. The width of the houses is about the same; the arrangement of the trackage, with transfer platforms between, is also along the same lines. Similarly the use of electric tractors and special trailing trucks is contemplated as is also the construction of lift bridges crossing the trackage between the adjacent houses and raised trackways crossing the southwesterly ends of the driveways. The use of tractors and trailers reduces what has always been considered an extremely objectionable feature of a large freight terminal, i. e., the difficulty of transferring freight between sheds which are not adjacent. The use of lift bridges across the tracks between sheds and truckways at the far end of the driveways will allow a tractor to transfer freight from any one shed to any other one and would do away with the use of transfer cars, which are always necessary at the larger freight stations and which are necessary in Los Angeles between the stations of the above roads.

Whether the railroads ultimately are to be owned by the government or whether they remain in private control, there is little, we believe, that can be said against the establishment of such a station. It seems desirable here to go somewhat into the proposed operation of the sheds. It is proposed that a dray, loaded with different shipments for different places, will deposit its load at one place. Here it will be weighed and the shipments will be segregated to destinations and placed on trucks which, at short intervals, will be gathered into truck-trains by the tractors and taken to the cars. This would indicate the possibility of too long a tractor haul. This can be overcome by more or less regional assignment of the sheds.

If the railroads return to private control, the assignment of space can be made on the basis of requirement. While this would require a drayman to unload at different points, it surely would be an improvement over the practice of taking part loads to several widely separated locations. Transfer of all freight destined to a point on another carrier's line could be made between the various sheds without the use of cars, the freight being hauled

across the lift bridges and truckways at the southerly end of the sheds. As shown in Fig. 175 (see page 459), the areas and capacity for cars and teams provided in the plan are as follows:

**PROPOSED UNION LESS THAN CARLOAD FREIGHT FACILITIES
SANTA FE SITE**

| Item | Area—square feet | | Car | Team |
|--|------------------|---------------------|------------------|-------------------|
| | Freight House | Transfer *Platforms | Capacity Car—43' | Frontage Lin. Ft. |
| Freight Houses A & B (Dwg. 8-20) | 115,080 | 37,765 | 149 | 2,040 |
| “ “ C & D “ | 113,344 | 29,700 | 153 | 1,860 |
| “ “ E & F “ | 104,917 | 27,000 | 139 | 1,750 |
| “ “ G & H “ | 83,626 | 26,035 | 127 | 1,587 |
| Total New | 416,967 | 120,500 | 568 | 7,237 |
| Present Santa Fe | 102,000 | 30,876 | 170 | 2,203 |
| Total Ultimate | 518,967 | 151,376 | 738 | 9,440 |
| Present Southern Pacific and Salt Lake | 215,941 | 30,876 | 324 | 4,337 |
| Increase | 303,026 | 120,500 | 414 | 5,103 |
| Increase | 140% | 390% | 128% | 118% |

*First floor of sheds only; uncovered platforms not included.

This plan will provide for 140 per cent increase over the present area of sheds and 118 per cent over the present area of sheds and platforms of all kinds, except transfer platforms.

While undoubtedly objection will be directed against the establishment of such a station (for competitive reasons, principally) we are satisfied that the plan is sound and that while it may be improved in detail, there is no valid objection which should prevent the consummation of the scheme as a whole.

Having in mind the congestion which occurs at closing time, we have paid particular attention to the frontage available for teams. Our plan will certainly create conditions as satisfactory as any that can be obtained and far better than those that exist at present at the Southern Pacific station. The car capacity has also been studied and the arrangement of tracks is designed to give sufficient trackage for all the cars necessary.

Another feature not to be overlooked is the facility with which the house tracks may be switched. With this in view, the trackage, as shown, provides sufficient length of drill track so that an engine can pull all cars along one track at any of the yards without fouling switching operations going on at another yard. The southern portion of the buildings are shown as open sheds, and against the end of these sheds several tracks have been brought for the unloading of automobiles and other freight in end-opening cars.

It is further assumed that the operation of this station would begin with the transfer of cars from the classification yards north and south of the city to the yard. This movement is in the nature of transfer service to be performed by heavy switch engines, and the trackage proposed has been laid out with this in mind.

Table No. XIX shows the estimated cost of the buildings as shown in Fig. 175 (see page 459). It will be noted that this table is arranged and subdivided for different steps of construction. The first step includes the construction of buildings A and B. At present the Southern Pacific and Salt Lake have 238,131 square feet without transfer platforms, or 269,774 square feet with transfer platforms, which should be ample for the present. While this latter figure is smaller than that of the combined area of the present Southern Pacific and Salt Lake sheds, we call attention to the fact that the Salt Lake has at present more room than is necessary and the space at the Southern Pacific is not well arranged. It is estimated that these four buildings, including the two-story front office portion, the transfer platforms between the buildings and the lift bridges, would cost as follows:

**ESTIMATED COST OF BUILDINGS AND DRIVEWAYS
PROPOSED UNION L. C. L. FREIGHT STATION
AT SANTA FE SITE**

| | Area Sheds Only | Fireproof Roof Class A | Wood Roof Class C |
|--------------------------|-----------------------|------------------------------|-------------------------|
| Step 1, Sheds A & B..... | 119,480 sq. ft. | \$496,443 | \$471,568 |
| “ 2 “ C & D..... | 109,388 “ “ | 422,242 | 399,511 |
| “ 3 “ E & F..... | 102,486 “ “ | 657,340 | 621,003 |
| “ 4 “ G & H..... | 92,046 “ “ | 352,481 | 333,275 |
| Totals | 423,400 “ “ | \$1,928,506 | \$1,825,357 |
| Difference | | | \$103,149 |

The buildings, as estimated, are of the same construction, except the roofs, and all are 60 feet in width, but of varying lengths, and follow closely the design and appointments of the present Santa Fe outbound freight yard.

The cost of removing the present trackage, buildings and facilities and compensation for carrier and private facilities abandoned is also a part of the cost of establishing the station. The total cost is estimated as follows:

**ESTIMATED COST OF UNION L. C. L. FREIGHT STATION
SANTA FE SITE**

| | |
|---|------------|
| (Including Allowance for Contingencies, Engineering, Interest, Legal and General) | |
| Grading, etc. | \$ 171,124 |
| Trackage | 179,134 |
| Buildings (Class A) and driveways..... | 1,926,193 |
| Paving, team tracks | 98,128 |

here enough space. The operating conditions, moreover, on the approaches—particularly with a union passenger station at the Santa Fe site—would be so bad that we cannot recommend this location.

The site purchased by the Salt Lake along Alameda Street between Hunter and Eighth Streets, has possibilities. The approach tracks would cross but one important street—Ninth Street—and nearly all of the land necessary is already railroad owned and is vacant. After some study we have decided that while the Salt Lake traffic alone could be handled across Ninth Street at grade, the combined traffic of the four roads would be too heavy even at this time, to say nothing of the future. It is also not feasible to separate the grades of Ninth Street and the approach tracks.

PAIRING OF SOUTHERN PACIFIC AND SALT LAKE TRACKS BETWEEN LOS ANGELES AND COLTON

In our "Report on Immediate Unification and More Economical Operation of Railroads with Resulting Betterment of Grade Crossing Conditions in Los Angeles and Vicinity," dated August, 1918, the following recommendation was made:

"It is agreed by the engineers of the Southern Pacific and the Salt Lake and of the Commission that all traffic on Southern Pacific and Salt Lake tracks between Colton and Los Angeles can best be handled as an east and west double-track proposition. Their recommendation is to make **eastbound track** the Salt Lake Line from Los Angeles to Ontario and the Southern Pacific from Ontario to Colton; and to make **westbound track** the Salt Lake from Colton to Ontario and the Southern Pacific from Ontario to Los Angeles. This will bring all Salt Lake and Southern Pacific westbound passenger and freight trains into Los Angeles over the Southern Pacific Alhambra Avenue line, and will take out of the city all eastbound business of both lines over the Salt Lake line east of the river via Hobart. The map on page 107 shows profiles, proposed routing and connections.

"This arrangement will be an essential factor in the economic operation of any union passenger terminal in Los Angeles. The estimated costs and savings of this plan, according to an estimate made by the engineers of the Southern Pacific and the Salt Lake and checked by us, are as follows:

"Estimated Capital Expenditures

| | |
|---|-----------------|
| Pomona | |
| New Crossover | \$ 2,142 |
| Ontario | |
| Connecting Tracks and Interlocking | 21,527 |
| Colton | |
| Track Changes | 14,082 |
| Los Angeles (Alhambra Avenue and East Bank of Los Angeles River) | |
| Relay Connecting Track and Replace Transfer Facilities | 23,061 |
| Cudahy | |
| Connecting Track | 12,000 |
| Total | <u>\$72,812</u> |

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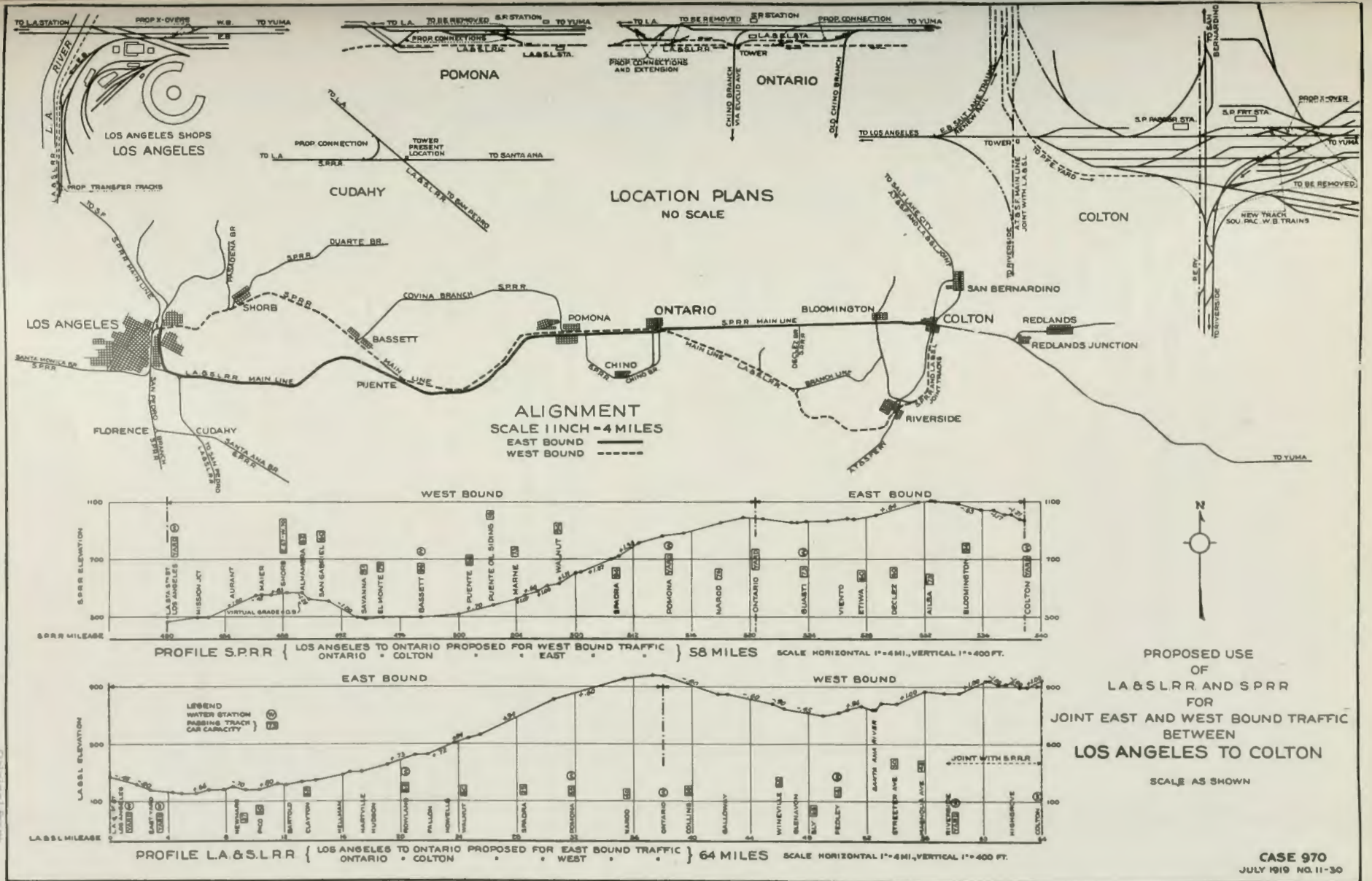


FIG. 177. PROPOSED JOINT USE OF THE SALT LAKE AND THE SOUTHERN PACIFIC TRACKS BETWEEN LOS ANGELES AND COLTON

It is recommended that the Salt Lake and the Southern Pacific lines be operated jointly as a double track between these two points. The Salt Lake would be used for east bound traffic as far as Ontario, whence the Southern Pacific would be used to Colton. Westbound traffic from Colton would use the Salt Lake to Ontario and the Southern Pacific the rest of the distance.

| "Estimated Saving in Operating Expenses" | | Per Month |
|---|---------|-----------|
| Saving | | |
| Due to increased train loading..... | \$9,284 | |
| Due to shorter running time..... | 4,449 | |
| Due to fewer relief crews..... | 1,000 | |
| Due to fewer station forces..... | 2,000 | |
| Due to fewer dispatchers..... | 370 | \$17,103 |
| <hr/> | | |
| Increases | | |
| Due to additional switch engine..... | 1,800 | |
| Interest on new money expended..... | 365 | |
| Maintenance of additional connection..... | 200 | 2,365 |
| <hr/> | | |
| Net Saving | | \$14,738 |
| Net Saving per year | | \$176,856 |

"This simple arrangement, if continued in the future (and I can see no reason why it should not be continued under Federal or private operation), will be equal to a capitalized saving, at 5 per cent of over three and one half (3½) million dollars. This sum is far greater than the total capital outlay required for the immediate terminal unification in Los Angeles.

"It should be here noted that this plan contemplates quite an important change in the handling of Southern Pacific through freight between Los Angeles and Los Angeles Harbor. It is proposed that all freight trains in leaving Los Angeles will leave the Upper Yard; back around the curve on Redondo Street with a switch engine on the rear end, and proceed along Alhambra Avenue to and beyond the Los Angeles River. The train would then transfer to the Salt Lake tracks by means of the present connection at this point; use the Salt Lake tracks on the east bank of the river to Hobart and transfer to the San Pedro branch of the Salt Lake which would be followed to Cudahy. At this point a connecting track with the Southern Pacific Anaheim branch would be constructed. These trains would then pass around this connecting track, proceed to Florence, and then turn south to the harbor. Movements in the opposite direction would simply be a reverse of the above. This will be taken up later under a discussion of the freight situation."

In the supplemental report on the same subject, dated January 15, 1919, this recommendation was repeated. The report dated January 15, 1919, of the engineers representing the federally controlled railroads entering Los Angeles and made a part of our supplemental report, also recommended the pairing of tracks between Los Angeles and Colton, as outlined above, but the estimate of capital expenditure necessary was changed to \$136,812 instead of \$72,812, as previously estimated, and the net saving per year was estimated at \$173,028 instead of \$176,856. Their recommendation was made with the proviso that "satisfactory arrangements are first made to take care of Salt Lake passenger traffic on the west side of the Los Angeles River." This demand is now met, it will be noted, if the recommendations in the present report are adopted.

The plan of operation as proposed for temporary unification was somewhat different from the plan which accompanies our recommendations for

terminal improvements in connection with a union passenger station at the Plaza site. For immediate and temporary unification, it was proposed that all east bound Southern Pacific freight trains leaving Los Angeles would be made up in reverse order in the Upper Yard, back around the curve on Redondo Street and proceed along Alhambra Avenue, east of the river, then, reversing the direction, the train would transfer to the Salt Lake tracks by means of the reconstructed present connection and proceed south along the river.

For the immediate future, the plan of operation would be the same as proposed for temporary unification except that the new classification yard along the San Fernando Road would take the place of the present Upper Yard, the latter being proposed as part of a union coach yard.

This operation is greatly simplified, however, under the ultimate arrangement now proposed. Southern Pacific eastbound freight trains would leave the new classification yard along the San Fernando Road and proceed south along the east bank of the river by means of new trackage to be constructed between Humboldt Street and the new classification yard. Westbound Southern Pacific trains would change from the Southern Pacific tracks in Alhambra Avenue to the river tracks at the Los Angeles River. Southern Pacific trains from Los Angeles Harbor would leave Alameda Street at Butte Street, use Butte Street tracks to the east bank of the river and follow the east bank to the new classification yard. Trains to the Harbor would reverse this movement.

Southern Pacific and Salt Lake passenger trains to the east would turn south from Alhambra Avenue, follow the proposed tracks on the west bank of the river, turn east just south of Butte Street and reach the Salt Lake tracks by means of a new connection at Hobart. Southern Pacific trains for the Anaheim Branch would follow the last mentioned route and transfer to the Southern Pacific Anaheim Branch at Cudahy, also by means of a new connection.

While this pairing of tracks between Los Angeles and Colton is an improvement in the handling of freight and does not affect particularly the freight situation in the City of Los Angeles, the recommendation may properly be considered as part of a freight terminal plan. The estimates show, further, such a large saving that we are convinced that the recommendation should be put into effect. For an investment of \$137,000, \$173,000 a year may be saved, that is, the expenditure will be returned in less than a year. The saving results, for the most part, in a conservation of resources and is largely due to the fact that the more favorable grades allow more tonnage to be handled at less expense. The saving in fuel oil, now an important item in railway operating expenses, is considerable.

We recommend that the Southern Pacific and Salt Lake tracks between Los Angeles and Colton be paired for operation, as follows:

| Limits | Operate for | |
|--------------------------|-------------------------|-------------------------|
| | Westbound Trains | Eastbound Trains |
| Between Colton & Ontario | Salt Lake track | Southern Pacific track |
| “ Los Angeles & “ | Southern Pacific track | Salt Lake track |

The construction of the necessary connecting tracks and other details as given above are included in this recommendation.

PART V—REAL ESTATE, FRANCHISES,
FINANCIAL MATTERS AND
ESTIMATES

Chapter XVIII—Real Estate Studies.

Chapter XIX—Franchise, Legal and Financial Matters.

Chapter XX—Estimates.

CHAPTER XVIII.

OUTLINE

Character and Method of Studies

Historical Discussion

 Trend of City Development

 Business Development

 Industrial Development

 Residential Development

 Character of Industrial District Lands

 Industrial Development East of River

Present Conditions of Occupancy of Industrial District
 Improvements

Magnitude of Railroad Holdings

Recent Large Developments

Probable Future Development

 Business

 Industrial

 Residential

 Effect of Recommendations

Land Estimates for Various Plans

 Southern Pacific Plan

 Santa Fe Plan

 Plaza Plan

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Damages Caused By Proposed Viaducts

Lands That May Become Unnecessary for Railroad Use

Land Summary for Adopted Final Recommendations

Effect of Recommendations Upon Development and Land Values

 Immediate Benefits

 Ultimate Benefits

CHAPTER XVIII
REAL ESTATE STUDIES

CHARACTER AND METHODS OF STUDIES

It was the purpose of the real estate studies to establish values and probable costs of private lands proposed to be acquired, values for all lands in present railroad use and estimates of the probable value of land which might be deemed unnecessary for railroad use. The several plans under investigation also proposed to acquire a considerable amount of land in present private ownership. As an outgrowth of this original project came a study of the entire industrial district, and later a study of the probable effect upon development and land values as the result of the adoption of any of the three principal plans.

These cost estimates are based upon information pertaining to similar and adjoining lands. Our "total estimated cost" was based upon the present market value of the property, which value is developed after an analysis of the various factors affecting value. In addition to the market value, there has been estimated for privately owned lands an "estimated additional cost to acquire," varying in amount according to the particular property to which it is applied, and based upon facts gathered through extensive analysis of real estate purchases by railroads in different parts of the state.

The purpose of all estimates is to find, as nearly as may be, first, the amount of new money required for each project, and, second, the cost, or value, of all facilities—both new and existing property—included in each project. All lands now in carrier ownership, as also all lands now owned by the public (City or County), are therefore included in our estimates at their actual present normal market value, without the addition of any multiples or any estimated costs of acquisition. It is not assumed that it can be the purpose of either the carriers or the City to make a profit out of the transfers of lands now devoted to public use to some similar or other public use such as would be the case if lands occupied by freight trackage, for instance, should become necessary for passenger station use, or if lands owned by the City should be devoted to park purposes.

From the standpoint of equity and in view of the fact that the recommendations in this report are bound to benefit all interested parties, especially the City of Los Angeles, the railroads and the private property owners, it would seem altogether fair if all of the lands needed for the recommended projects should be acquired and paid for at their actual fair market value without any additions for multiples or other artificial costs of condemnation.

It is to be hoped that the City, the railroads and the Commission will unite and use all power vested in them and all influence they may possess to acquire the necessary real estate for the strictly beneficial public purposes contemplated in this report, at the lowest possible figure. In the case

of city-owned lands, as has been indicated elsewhere in this report, it is our opinion that Los Angeles can well afford to donate such lands for purposes of street improvement, grade separation and union terminal use. We are also of the opinion that with a tactful and efficient handling of the matter, and with the benefits that will accrue to private property properly understood by private owners, it will be possible to secure a considerable portion, if not all, of the private lands required in the form of donations, properly safeguarded and removed from private speculation.

When the present railroad situation, under strict regulation, as we find it, and indeed devoted almost exclusively to the service of the public, is compared with the conditions of by-gone days such as have been sketched in Chapter III of this report, it must be evident to all fair-minded people that an arrangement such as the one suggested is just and to the ultimate interests of all concerned.

The real estate investigation comprised a more or less general appraisal of the entire industrial district of the City, with particular study of railroad lands and private lands which might become necessary in any of the plans under consideration. Real estate totaling upwards of \$75,000,000 was appraised during this investigation, aggregating a total area of 100,000,000 square feet (2300 acres).

The large extent of this work would not permit us to pursue our usual method of obtaining the opinion of various reliable informants, and it was necessary to take very material short-cuts in compiling our information in order to arrive at reliable results with the expenditure of the least amount of time.

Use was made of all possible sources of information. Among the more important data available to us was the entire appraisal of the Joint Bureau of Appraisal made in 1915. We used this appraisal to very good advantage. We were also furnished by the railroads appraisals covering their lands in the district, together with an amount of underlying data making up their appraisals. We also had access to certain appraisals of railroad lands made by this department and by others. Much of this data is in controversy before the Interstate Commerce Commission and we were asked to consider such information as executive and confidential.

We have also on file a very considerable amount of information pertaining to the Los Angeles industrial district which has been accumulated through the valuation of the properties of the Los Angeles Gas and Electric Corporation and of the Los Angeles Railway Corporation.

All this information, together with the information that it was possible to obtain without making public the trend of our final recommendations, furnished sufficient data for a fair, reliable and well balanced appraisal of all lands involved.

HISTORICAL DISCUSSION

Trend of City Development

The development of the City of Los Angeles has been at such a remarkable pace during recent years that there has been a rapid shifting of business, industrial and residence districts. The result of the sudden expansion has been the creation of a number of prospective permanent locations, with the owners of properties in each of these sections jealously watching any development which may in any way influence the desirability of their particular district. The result is that the down-town district is divided into several active and antagonistic factions. As a matter of fact, the growth of the City is so certain, and its development will necessarily be so extensive, that all factions will be taken care of if they are only satisfied to abide by the natural and normal development.

Business Development

The business development of the City of Los Angeles has seen some rather remarkable changes. This business development has progressed from the original center at First Street at the intersections of Broadway, Spring and Main, to its present location at Seventh Street between Spring and Grand.

In early days, the Plaza formed the axis around which the business of Los Angeles radiated. From this point, development spread south upon Los Angeles, Main and Spring Streets, and as time passed, the improvements originally erected in this vicinity became out of date or inadequate in size and made necessary the erection of more modern buildings. As the district in the immediate vicinity of the Plaza was already occupied, other locations were promoted and this expansion naturally extended south along Main, Spring and Broadway. This was due to the fact that expansion north of the Plaza encountered natural obstacles. The territory immediately north of the Plaza was in the early days a portion of the old bed of the Los Angeles River and was undesirable on account of lowness and the possibility of flooding. It will be noted that at the present time the boundary of the old original river-bed follows the high ground. This is very apparent between Main and Los Angeles Streets. The high ground formed the original westerly boundary of the river.

Another difficulty of the location of early business development was the narrowness of the streets. The obsolescence of the improvements was only one cause of the shifting of the business center.

The increase of business and of vehicular and pedestrian traffic also invited a change to streets where traffic interference would be as slight as possible.

Extension of development along Spring and Broadway in a southerly direction was further accentuated by the hills that rise immediately west of the Plaza. Development gradually grew around the base of these hills and extended over on to Broadway and Hill Street. The natural trend of the City has always been in a southerly direction, principally on account of the two topographical basic reasons.

Industrial Development

The industrial development of the City has kept pace with its business development. A very rapid increase in the values of lands in the industrial district lying east of Alameda Street, together with the remarkable rate at which these lands have been put to industrial use, has forced industrial concerns requiring any considerable area to seek cheaper locations than can be found in the principal industrial district of Los Angeles. About 1910 this movement first became apparent and from that date to the present time a very steady development has taken place in the cheaper industrial lands in the vicinity of Vernon. As there is practically an unlimited amount of this acreage property which furnishes desirable locations to industries requiring a considerable area, it is reasonable to predict that the present cheap prices will pertain to these properties for a considerable time in the future. The fact that these cheap lands are available and desirable will tend to create a more intensified industrial district east of the business center of Los Angeles due to the gradual elimination of large holdings and the cutting up of these properties into smaller parcels.

The territory immediately east of the business district will remain permanently desirable to the smaller class of industrial concerns which require spur track facilities and a location close to the center of the city. The natural growth of the city will probably require the occupancy of all satisfactory lands in that portion of the industrial district close to the business center.

Residential Development

The residential development of the City of Los Angeles has been very markedly in a southwesterly direction. The present high class residential section of the city lies in the Wilshire district along Wilshire Boulevard with the better class of smaller homes bordering on this high class district on both the north and south. Great development has also taken place in the City of Pasadena and in a number of outlying sections within commuting distance. Considerable development of homes of a smaller and less expensive character has occurred in the southerly portion of the city but the permanent and manifest direction of residential development will continue toward the southwest.

Residential development east of the Los Angeles River appears at this time practically at a stand-still. Only normal progress residentially will

probably take place east of the river. Elimination of grade crossings will, no doubt, render this property more desirable, but it cannot compete as a permanent residence section with the new territory coming into existence to the south and west. The section east of the river, however, may become very desirable as a district of homes for people employed in the various industries along the river as its location will be in close proximity to the point of employment.

Character of Industrial District Lands

The principal industrial district of Los Angeles being that portion of the city lying between Main Street on the west and the bluff on the east side of the river on the east and south of North Broadway, comprises the low level lands adjoining to and bisected by the Los Angeles River. This large level section is what was formerly the old river-bed of the Los Angeles River, subject to all its irregularities and occasional seasonal floods. The river has been confined to a permanent channel, thereby reclaiming all of these at one time annually flooded lands. As the overflowed area was naturally of a level character, it rendered itself immediately adaptable to industrial development. Owing to its flatness and lowness, it was not desirable for residential purposes and its natural use was that of an industrial character. The old original river-bed is very apparent even at the present time. It follows the high ground at the intersection of North Broadway and the river and extends along the west side, following the high ground along Alameda and Main Streets until this high ground disappears south of Tenth Street. On the east, the bluff is a physical handicap, as in portions of the undeveloped sections is rises to a considerable height above the lower land and has in the past offered considerable detriment to development upon the east side of the river, rendering the grades rather steep and generally detracting from the desirability of the the district.

Industrial Development West of the River

Industrial development west of the river is extensive and permanent. The district bounded by North Broadway, Ninth Street, Alameda Street and the river, makes up the principal industrial district of the city. In this territory are located practically all of the business concerns requiring railroad connections and varying in character from small shops occupying one-story buildings to the larger industries such as the Moreland Truck Company and the Oil Well Supply Company. This is the permanent industrial district of the city and will become more intensely occupied through the gradual development of the future.

Industrial Development East of the River

The industrial district east of the river is practically undeveloped. A very considerable percentage of the adaptable land is held by the Salt Lake

Railroad for its own development and is therefore not now available for private enterprise. The chief objection to this district, however, is the fact that its location is on the opposite side of the river from the center of the city. Access is further interfered with now by the great number of grade crossings which exist in the district west of the river.

PRESENT CONDITION OF OCCUPANCY OF INDUSTRIAL DISTRICT

The principal section of the industrial lands of Los Angeles lies within the district bounded by North Broadway, Ninth Street, Alameda Street and the Los Angeles River. There is embraced therein a total of 869 acres. Investigation was made as to the ownership of this property and it was found that of this total area, 605 acres, or 70 per cent, are privately owned and 264 acres, or 30 per cent, are railroad owned.

A study was made of this district with the object in view of ascertaining the amount of property not now absorbed for industrial purposes; in other words, property not actually occupied at this time by a permanent industrial concern. It was found advisable to segregate this district into the following classifications:

- (a) Permanently Occupied,
- (b) Temporarily Occupied,
- (c) Unoccupied (Vacant).

Permanent occupancy means that the area referred to is being put to actual use by an industrial concern of a more or less permanent character. Railroads are considered permanent occupants of the land they possess since there is no large amount of non-operative railroad property in this district. Also, active operating industrial concerns are considered as permanent occupants whether all of the property owned by them is really in use or is being held for future development. For example, the lands of Wilson & Company, meat packers, are not entirely covered by improvements, but though entirely used only a portion of the time, it is considered that the absorption of this amount of land is complete.

Permanent occupancy, however, refers to its present condition and does not mean that it will always be so occupied, for it is very probable, in fact it is a practical certainty, that a considerable amount of this at present fully occupied land will at some future date be released for more intensive use: large parts are devoted to uses that fundamentally desire and require cheap land and in time lands within this district will become of a greater value than can consistently be devoted to uses for which cheaper lands are satisfactory. Occupants of this class will in time seek other locations where cheap lands are available. This situation exists today and has been a constant phase of past development and will continually recur until the

district reaches its full development. The release of land now held in parcels of considerable area will not necessarily throw it out of the permanent industrial classification for it will gradually be absorbed and devoted to a more intensive and higher priced use.

By temporary occupancy is meant occupancy of lands that are not entirely vacant but which are occupied for purposes other than industrial. A very considerable amount of real estate within this district is held for prospective industrial development and is occupied at the present time by cheap and quite dilapidated shacks which are rented largely to Mexican laboring people. This old district before the encroachment of industrial enterprise formed the residence section of a large per cent of the foreign labor population of Los Angeles on account of cheap ground and ready accessibility to the industries of the city. As the district developed to one of an industrial character, property became too valuable to be considered as residential and it has been practically all bought up for speculative purposes. Where it has been improved, it has been rented for whatever amount it would bring. On account of its low rental value and the ever present possibility of sale, none of these buildings have been maintained and are all in a very poor condition. Many of them, in reality, are nothing but shacks.

The phrase "temporary occupancy" is intended to convey the idea that the property referred to is not of an improved or permanent nature and that whatever improvements exist of an industrial or residential character are temporarily attached to the property. In other words, it is generally considered that this class of land has not reached its highest use and that it will in all probability at some time in the future be actually occupied by substantial industries through the general development of the district.

As a result of the study we find that of this total area, 449 acres, or 52 per cent, are permanently occupied; 282 acres, or 32 per cent, are temporarily occupied; and 138 acres, or 16 per cent, are entirely vacant. In other words, only one-half of this large and permanent industrial section is entirely developed today and the balance is either immediately available or available within a short period in the future for permanent development.

This large area has been broken up into nine smaller sections, using as boundaries the principal streets transversing the district. Following is a table showing the result of our occupancy study of this district. Following this table is a map allocating the result of our findings. Referring to the map, Fig. 179, it will be noted that the highest percentage of permanency exists in Section 1, Section 4 and Section 7. Section 1 is the district embracing the River Station Yards of the Southern Pacific Company and is 100 per cent permanent. Section 7 is the district in which lies the station and yards of the Santa Fe and is the next highest, being 65 per cent permanent. It is interesting to note that the percentage of per-

manency is uniformly below 40 per cent throughout the entire district, with the exception of the three above mentioned sections.

Improvements

Fig. 178 shows the location and class of buildings in that portion of the industrial district in which we were more particularly interested. It also shows the occupancy of the various buildings as determined from field survey, segregated to several general classes. This map gives graphically an idea of the unoccupied areas (see also remarks in Chapter XX).

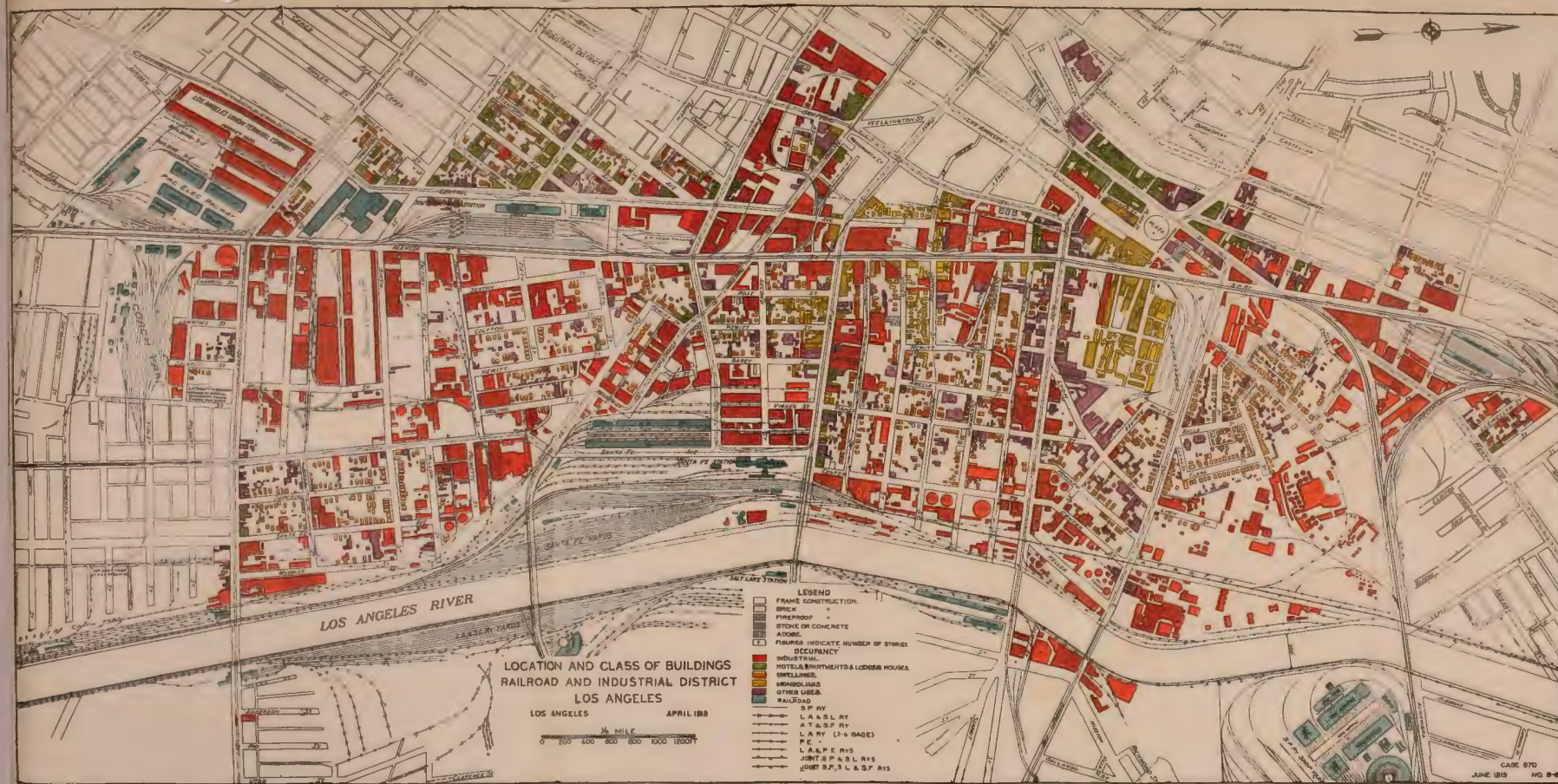
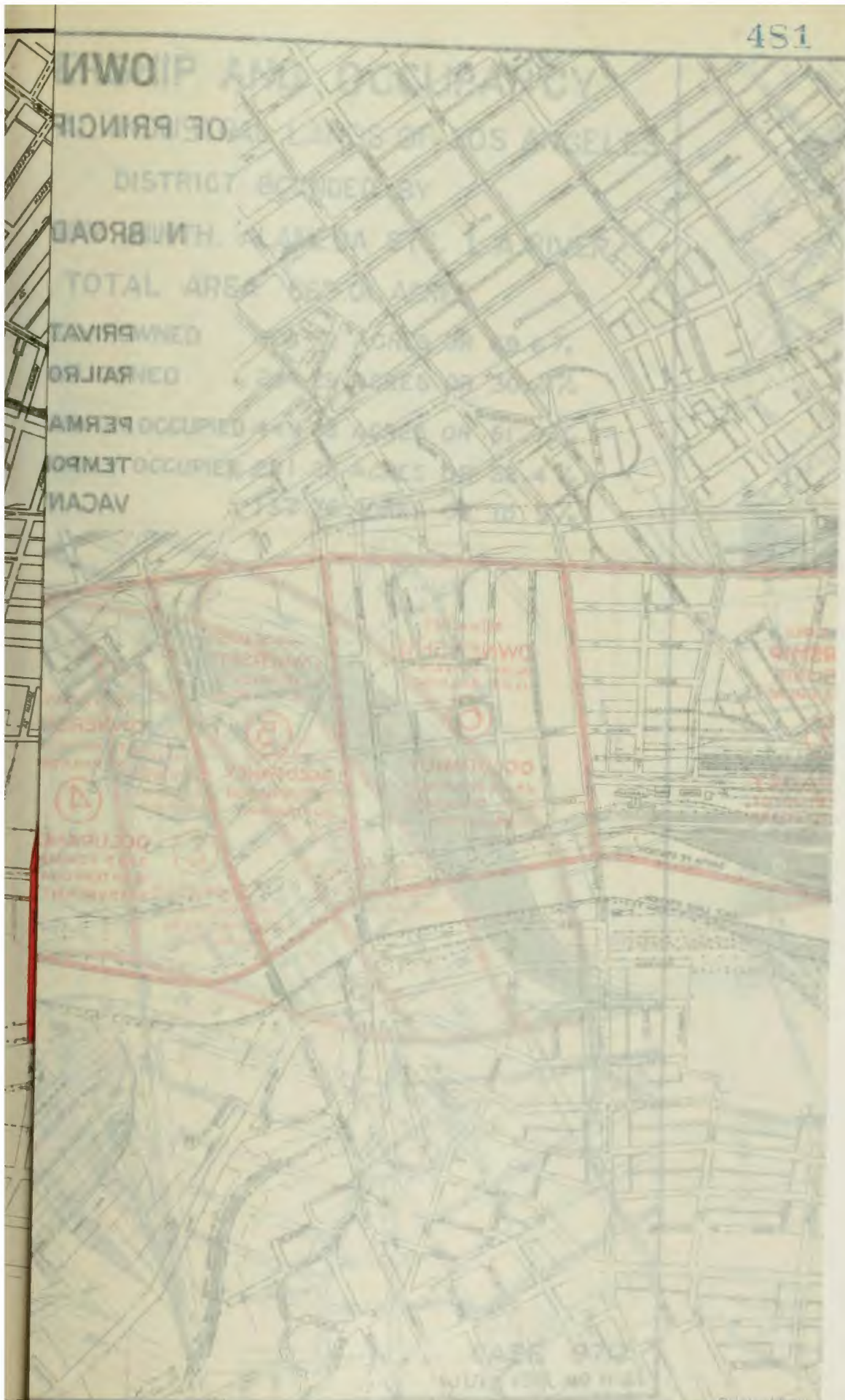


FIG. 175. LOCATION AND CLASS OF BUILDINGS IN THE INDUSTRIAL DISTRICT
 Note the substantial character of the industrial development, and the fact that the small dwellings are gradually being displaced throughout the district.

OWNERSHIP AND OCCUPANCY OF PRINCIPAL INDUSTRIAL LANDS OF LOS ANGELES

DISTRICT BOUNDED BY NORTH BROADWAY, NINTH, ALAMEDA STREETS AND LOS ANGELES RIVER

| Section Boundaries | Total Area in Square Feet | Classification by Ownership | | | | | | | | | | | | Classification by Occupancy | | | | | |
|--|---------------------------|-----------------------------|-------------|------------------|-------------|----------------|-------------|---------------|-------------|------------------|-------------|-----------------|-------------|-----------------------------|-------------|----------------------|-------------|----------|-------------|
| | | Private | | Southern Pacific | | A., T. & S. F. | | L. A. & S. L. | | Pacific Electric | | Los Angeles Ry. | | Permanently Improved | | Temporarily Improved | | Vacant | |
| | | Per Cent | Square Feet | Per Cent | Square Feet | Per Cent | Square Feet | Per Cent | Square Feet | Per Cent | Square Feet | Per Cent | Square Feet | Per Cent | Square Feet | Per Cent | Square Feet | Per Cent | Square Feet |
| (1) North Broadway, North Spring, College, Los Angeles River | 2,675,877 61.43 | 18.4 | 493,272 | 78.9 | 2,110,960 | 2.7 | 71,645 | | | | | | | 100 | 2,675,877 | | | | |
| (2) San Fernando, North Main, Alameda, Los Angeles River | 2,424,033 55.65 | 82.4 | 1,997,593 | 14.4 | 349,290 | 1.4 | 33,350 | | | | | 1.8 | 43,800 | 35.5 | 859,625 | 64.5 | 1,562,987 | | 1,421 |
| (3) North Main, Alhambra, Los Angeles River | 2,043,735 46.91 | 94.1 | 1,923,205 | | | 5.9 | 120,530 | | | | | | | 39.5 | 806,405 | 28.9 | 591,065 | 31.6 | 646,265 |
| (4) Alhambra, Macy, Alameda, Los Angeles River | 4,603,436 105.68 | 88.7 | 4,084,984 | 1.2 | 55,714 | 10.1 | 462,738 | | | | | | | 60.8 | 2,798,769 | 18.9 | 868,824 | 20.3 | 935,843 |
| (5) Macy, Aliso, Alameda, Los Angeles River | 2,638,902 60.58 | 78.3 | 2,067,276 | 13.5 | 355,275 | 8.2 | 218,351 | | | | | | | 33.6 | 885,520 | 66.4 | 1,753,382 | | |
| (6) Aliso, First, Alameda, Los Angeles River | 3,713,953 85.26 | 86.8 | 3,223,768 | .7 | 25,570 | 12.5 | 464,615 | | | | | | | 43.3 | 1,609,484 | 51.5 | 1,912,504 | 5.2 | 191,965 |
| (7) First, Sixth, Alameda, Los Angeles River | 7,947,242 182.44 | 58.4 | 4,639,924 | .5 | 37,624 | 41.1 | 3,269,604 | | | | | | | 65.2 | 5,178,140 | 20.1 | 1,596,920 | 14.7 | 1,172,182 |
| (8) Sixth, Seventh, Alameda, Los Angeles River | 2,951,496 67.78 | 69.3 | 2,044,716 | 25.1 | 742,238 | 5.6 | 164,542 | | | | | | | 43.2 | 1,275,094 | 25.1 | 740,292 | 31.7 | 936,110 |
| (9) Seventh, Ninth, Alameda, Los Angeles River | 8,855,306 203.30 | 66.3 | 5,866,960 | 13.6 | 1,199,686 | 12.7 | 1,126,137 | 7.4 | 656,923 | | 5,600 | | | 39.4 | 3,485,308 | 36.7 | 3,253,076 | 23.9 | 2,116,922 |
| Grand Total { Square Feet | 37,853,980 | 69.6 | 26,341,698 | 12.9 | 4,876,357 | 15.7 | 5,929,602 | 1.7 | 656,923 | | 5,600 | .1 | 43,800 | 51.7 | 19,574,222 | 32.4 | 12,279,050 | 15.9 | 6,000,708 |
| { Acres | 869.01 | | 604.72 | | 111.95 | | 136.12 | | 15.08 | | .13 | | 1.01 | | 449.36 | | 281.89 | | 137.76 |



DISTRICT
 TOTAL AREA
 RAILROAD
 PERMANENT
 TEMPORARY
 VACANT

DOWNTOWN
 CITY CENTER
 DOWNTOWN
 CITY CENTER
 DOWNTOWN
 CITY CENTER

DOWNTOWN
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MAGNITUDE OF RAILROAD HOLDINGS

There is shown upon the Land Index Map, Fig. 180 (see page 487), approximately 6,000 acres of land. Of this amount, 1284 acres (21 per cent) are in public utility ownership and 1134 acres (19 per cent) are railroad owned and controlled.

The various holdings with the appraised values by this department are shown below:

PUBLIC UTILITY LANDS IN INDUSTRIAL DISTRICT

| Company | Area in Acres | Value by Engineering Department |
|---------------------------------------|------------------|------------------------------------|
| Southern Pacific | 555.6 | \$11,405,490 |
| Santa Fe | 199.9 | 9,218,510 |
| Salt Lake | 271.4 | 4,315,003 |
| Pacific Electric | 106.6 | 6,574,349 |
| Total | 1,133.5 | \$31,513,352 |
| L. A. Ry. (Incl. H. L. & I. Co.)..... | 124.7 | |
| L. A. Gas & Elec. Corp..... | 17.9 | |
| So. Cal. Gas Co..... | 8.2 | |
| Grand Total | 1,284.3 | |

It should be understood that wherever general land appraisal figures (made by this department) are shown, the valuation was made by methods discussed in the first portion of this chapter. Such figures are included in the report as a general index of the magnitude of interests involved rather than a determination or expression of opinion of the actual present day market value of such holdings.

This is true of general land valuation figures. In cases where we have made estimates of costs or values of lands actually required in any of our different plans, it is our opinion that the real estate estimates, as other classes of estimates, represent actual and fair costs and values.

Following are four tables showing the areas and values by the engineering department of the holdings of the three transcontinental steam roads together with tentative figures for the properties of the Pacific Electric:

AREAS AND VALUES

BY ENGINEERING DEPARTMENT

SOUTHERN PACIFIC COMPANY LAND HOLDINGS IN INDUSTRIAL DISTRICT, LOS ANGELES

AS SHOWN ON "LAND INDEX MAP"

| Index Map, Parcel No. | Location of Section | Area, Square Feet | Present Value (1918) | |
|-----------------------|---|-------------------|----------------------|--------------|
| | | | Unit | Total |
| S. P. 1 | New North Yards—Station 883+60 to East Bank Los Angeles River | 12,249,595 | 3,370* | \$947,040 |
| S. P. 2 | Midway Yards | 30,300 | 20 | 6,060 |
| S. P. 3 | River Station Yards | 310,561 | 25 | 77,640 |
| S. P. 4 | Freight Yard Site | 2,110,960 | 70 | 1,477,672 |
| S. P. 5 | R. W.—River and Alhambra Avenue | 328,572 | 913 | 299,809 |
| S. P. 6 | Non-carrier—Gibbons Street and Alhambra | 55,714 | 50 | 27,857 |
| S. P. 7 | Shop Yards | 53,578 | 40 | 21,503 |
| S. P. 8 | Macy Street Team Yards | 5,473,664 | 30 | 1,642,099 |
| S. P. 9 | R. W.—Macy Team Yard to Lyon Street | 340,813 | 1 20 | 408,976 |
| S. P. 10 | " Jackson Street Spur | 14,462 | 90 | 13,016 |
| S. P. 11 | " Corner Alameda and Jackson | 21,258 | 1 00 | 21,258 |
| S. P. 12 | " Ferguson Alley to First Street | 4,312 | 2 00 | 8,624 |
| S. P. 13 | " Alameda to Los Angeles | 120,705 | 2 27 | 273,906 |
| S. P. 14 | Arcade Team Yard | 87,992 | 3 66 | 322,498 |
| S. P. 15 | Arcade Depot Grounds | 85,508 | 2 50 | 213,770 |
| S. P. 16 | Corner Alameda and Sixth | 646,951 | 3 25 | 2,101,128 |
| S. P. 17 | Los Angeles Public Market Site | 11,369 | 3 00 | 34,107 |
| S. P. 18 | New R. W.—Mateo to River | 656,044 | 2 00 | 1,312,088 |
| S. P. 19 | Coach Yard—Alameda to Wilson | 144,024 | 1 12 | 162,185 cost |
| S. P. 20 | " Wilson to Mateo | 943,578 | 1 75 | 1,651,262 |
| S. P. 21 | R. W.—Mateo to Santa Fe Avenue | 54,562 | 1 00 | 54,562 |
| S. P. 22 | " Santa Fe Avenue to Santa Fe R. W. | 96,568 | 1 02 | 99,943 |
| S. P. 23 | " Alameda to Long Beach Avenue at 25th Street | 132,537 | 1 08 | 143,037 |
| S. P. 24 | W. S.—Alameda at 25th Street (S. of P. E. R. W.) | 174,032 | 34 | 59,295 |
| | | 52,310 | 50 | 26,155 |
| | Grand Total | 24,199,969 | 47 | \$11,405,490 |

*Per acre

AREAS AND VALUES

BY ENGINEERING DEPARTMENT

ATCHISON, TOPEKA AND SANTA FE RAILWAY LAND HOLDINGS IN
INDUSTRIAL DISTRICT, LOS ANGELES

AS SHOWN ON "LAND INDEX MAP"

| Index Map, Parcel No. | Location of Section | Area, Square Feet | Present Value (1918) | |
|--------------------------------|--|-------------------------|-------------------------|-------------|
| | | | Unit | Total |
| S. F. 1 | R. W.—Ave. 33 to San Fernando Blvd. Ave 20) .. | 151,369 | .29 | \$43,461 |
| S. F. 2 | " San Fernando Blvd. to Los Angeles River | 55,063 | .38 | 20,909 |
| S. F. 3 | " Across Los Angeles River..... | 34,300 | .075 | 2,572 |
| S. F. 4 | " Los Angeles River to North Spring..... | 107,672 | .53 | 56,696 |
| S. F. 5 | " North Spring to North Main Sts..... | 32,854 | .76 | 24,934 |
| S. F. 6 | " North Main to Alhambra Ave..... | 128,150 | .58 | 74,576 |
| S. F. 7 | " West Bank River, Alhambra to Macy St. | 222,523 | .56 | 125,459 |
| S. F. 8 | " Main Line, Alhambra to Macy St..... | 246,740 | .64 | 158,863 |
| S. F. 9 | " West Bank River, Macy to Aliso Sts..... | 135,246 | 1.00 | 135,972 |
| S. F. 10 | " Main Line, Macy to Aliso Sts..... | 78,971 | .92 | 72,487 |
| S. F. 11 | Yards—Aliso to First Sts..... | 464,615 | 1.12 | 519,696 |
| S. F. 12 | Leased Lands—First, Second, Santa Fe Ave..... | 225,686 | 2.57 | 579,798 |
| S. F. 13 | Freight Depo —Third, Fourth and Santa Fe Ave. | 466,145 | 2.18 | 1,015,647 |
| S. F. 14 | Station and Yards—First to Seventh Sts..... | 2,555,838 | 1.67 | 4,257,741 |
| S. F. 15 | Corner Willow and Santa Fe Ave..... | 40,243 | 1.50 | 60,364 |
| S. F. 16 | Corner Jesse and Mesquit..... | 25,628 | 1.25 | 32,035 |
| S. F. 17 | R. W.—Along Palmetto, Molino to Seaton..... | 26,147 | 1.26 | 32,922 |
| S. F. 18 | " Between Factory Pl. and 6th, East of Alameda..... | 44,004 | 1.50 | 66,006 |
| S. F. 19 | " Between Mateo, Mill, 6th, Industrial.... | 24,852 | 1.50 | 37,278 |
| S. F. 20 | " Mill to Alameda between 6th and Industrial | 35,400 | 1.75 | 61,950 |
| S. F. 21 | " Mill to Alameda between Industrial and Seventh..... | 50,783 | 2.00 | 101,566 |
| S. F. 22 | " Mateo to Mill between Industrial and Seventh..... | 24,830 | 1.75 | 43,452 |
| S. F. 23 | " Corner Industrial and Mill..... | 3,049 | 1.50 | 4,574 |
| S. F. 24 | New Freight Yards—Shearer near Alameda..... | 96,268 | 1.25 | 120,335 |
| S. F. 25 | R. W. and Coach Yards—Seventh to Ninth Sts.... | 1,029,869 | .74 | 764,285 |
| S. F. 26 | R. W. and Shop Yards—Ninth to Butte Sts..... | 2,402,042 | .34 | 804,932 |
| Total..... | | 8,708,287 | 1.06 | \$9,218,510 |

AREAS AND VALUES

BY ENGINEERING DEPARTMENT

PACIFIC ELECTRIC RAILWAY LANDS IN INDUSTRIAL DISTRICT,
LOS ANGELES

AS SHOWN ON "LAND INDEX MAP"

| Land Index, Parcel No. | Location of Section | Area in Square Feet | Tentative Value (1918) | |
|---------------------------------|--|---------------------------|---------------------------|-------------|
| | | | Unit | Total |
| P. E. 1 | P. E. Station, Sixth and Main | 69,488 | 22 50 | \$1,563,480 |
| P. E. 2 | Passenger Yards | 143,053 | 7 50 | 1,072,897 |
| P. E. 3 | R. W. for Elevated—Maple to San Pedro | 81,310 | 3 73 | 303,270 |
| P. E. 4 | Proposed R. W.—San Pedro to Central | 94,023 | 2 38 | 223,983 |
| P. E. 5 | " " Central Ave. to Alameda St | 83,664 | 2 50 | 209,160 |
| P. E. 6 | Shop Site—Seventh, Eighth and Alameda | 961,000 | 2 39 | 2,296,500 |
| P. E. 7 | Yards—Eighth to Ninth Sts. | 59,082 | 1 25 | 73,852 |
| P. E. 8 | " " Ninth to Fourteenth Sts. | 121,095 | 75 | 90,821 |
| P. E. 9 | R. W.—Fourteenth to Sixteenth Sts | 97,010 | 50 | 48,505 |
| P. E. 10 | Yards—Sixteenth to Washington | 218,790 | 50 | 109,395 |
| P. E. 11 | " " Washington to Twentieth | 291,334 | 40 | 116,534 |
| P. E. 12 | R. W.—Twentieth to Twenty-fifth Sts | 74,400 | 25 | 18,600 |
| P. E. 13 | " " Twenty-fifth to Jefferson (Thirty-sixth) | 111,900 | 25 | 27,975 |
| P. E. 14 | " " Jefferson to Thirty-eighth | 36,600 | 20 | 7,320 |
| P. E. 15 | " " Thirty-eighth to Vernon | 117,730 | 21 | 24,723 |
| P. E. 16 | " " Transfer Track—L. B. Ave. to Alameda St | 38,250 | 25 | 9,563 |
| P. E. 17 | " " Transfer Track—Alameda St. to Santa Fe Ave | 241,640 | 224 | 54,127 |
| P. E. 18 | Northwest corner Broadway and Sunset Blvd. | 58,400 | 1 76 | 102,736 |
| P. E. 19 | Fronting Aliso and Elliott, East of River | 33,305 | 60 | 19,983 |
| P. E. 20 | Yards—Aliso and Mission Rd. to Macy St. | 262,899 | 25 | 65,725 |
| P. E. 21 | Echandia Yards | 1,450,265 | 093 | 135,200 |
| Total | | 4,645,238 | 1 41 | \$6,574,349 |

AREAS AND VALUES

BY ENGINEERING DEPARTMENT

LOS ANGELES AND SALT LAKE LAND HOLDINGS IN INDUSTRIAL DISTRICT, LOS ANGELES

AS SHOWN ON "LAND INDEX MAP"

| Index Map, Parcel No. | Location of Section | Area, Square Feet | Present Value (1918) | |
|-----------------------|--|-------------------|----------------------|-------------|
| | | | Unit | Total |
| S. L. 1 | Arroyo Seco Gravel Pit..... | 1,139,796 | .075 | \$85,484 |
| S. L. 2 | R. W.—Artesea to Hoff Sts..... | 144,613 | .39 | 56,608 |
| S. L. 3 | " Hoff St. to Downey Ave. (North Spring). | 8,738 | .40 | 3,495 |
| S. L. 4 | " North Spring (Downey Ave.) to North Main..... | 210,066 | .40 | 84,373 |
| S. L. 5 | " North Main to Alhambra Ave..... | 110,992 | .41 | 45,621 |
| S. L. 6 | " Alhambra Ave. to Macy St..... | 165,588 | .31 | 51,452 |
| S. L. 7 | " Macy to Aliso Sts..... | 35,208 | .52 | 18,223 |
| S. L. 8 | Yards—Aliso to First Sts..... | 460,171 | .57 | 261,459 |
| S. L. 9 | " and Shop Site—First to Fourth Sts..... | 2,076,331 | .46 | 949,503 |
| S. L. 10 | " Fourth to Seventh Sts..... | 2,521,889 | .50 | 1,255,095 |
| S. L. 11 | " (Future) Seventh to Hollenbeck..... | 613,828 | .516 | 316,796 |
| S. L. 12 | " (Future) Hollenbeck to Ninth Sts..... | 984,280 | .27 | 263,997 |
| S. L. 13 | " (Future) Ninth to Alostia Sts..... | 234,724 | .16 | 38,094 |
| S. L. 14 | " (Future) Alostia, River, Soto St..... | 1,033,678 | .057 | 59,325 |
| S. L. 15 | " (Future) South of Alostia and East of Soto St..... | 720,439 | .046 | 33,078 |
| S. L. 16 | R. W.—Across Los Angeles River..... | 15,945 | .05 | 797 |
| S. L. 17 | " Along Butte St.—River to Harriet St.... | 60,340 | .175 | 10,559 |
| S. L. 18 | " " " " Harriet to Minerva..... | 90,454 | .225 | 20,352 |
| S. L. 19 | " " " " Minerva to Santa Fe Ave..... | 114,376 | .33 | 38,038 |
| S. L. 20 | " (Butte St. extended) Santa Fe to Alameda St..... | 162,043 | .20 | 32,550 |
| S. L. 21 | New R. W.—Sixteenth to Fifteenth Sts..... | 49,600 | .30 | 14,880 |
| S. L. 22 | " " Fifteenth to Fourteenth Sts..... | 143,800 | .29 | 42,260 |
| S. L. 23 | " " Fourteenth to Eleventh Sts..... | 20,000 | .20 | 4,000 |
| S. L. 24 | " " Eleventh to Tenth Sts..... | 38,837 | .25 | 9,709 |
| S. L. 25 | " " Tenth to Ninth Sts..... | 10,200 | .55 | 5,485 |
| S. L. 26 | " " Ninth to Hunter St..... | 27,771 | .54 | 15,147 |
| S. L. 27 | " " Hunter to Enterprise Sts..... | 61,223 | .75 | 45,917 |
| S. L. 28 | " " Enterprise to Damon Sts..... | 25,881 | .75 | 19,410 |
| S. L. 29 | Proposed Hunter St. Terminal—Alameda, Wilson, Hunter, Alley..... | 542,048 | .98 | 533,296 |
| | Total..... | 11,822,859 | .365 | \$4,315,003 |



University of California Survey, 1911. The map shows the layout of the city block, including the streets and the lots. The map is oriented with North at the top. The map is a detailed cadastral map of a city block, likely from the University of California Survey. The map shows a grid of streets and lots, with various areas shaded in colors such as red, blue, and yellow. Numerous lot numbers and street names are visible, including '2110', '2111', '2112', '2113', '2114', '2115', '2116', '2117', '2118', '2119', '2120', '2121', '2122', '2123', '2124', '2125', '2126', '2127', '2128', '2129', '2130', '2131', '2132', '2133', '2134', '2135', '2136', '2137', '2138', '2139', '2140', '2141', '2142', '2143', '2144', '2145', '2146', '2147', '2148', '2149', '2150', '2151', '2152', '2153', '2154', '2155', '2156', '2157', '2158', '2159', '2160', '2161', '2162', '2163', '2164', '2165', '2166', '2167', '2168', '2169', '2170', '2171', '2172', '2173', '2174', '2175', '2176', '2177', '2178', '2179', '2180', '2181', '2182', '2183', '2184', '2185', '2186', '2187', '2188', '2189', '2190', '2191', '2192', '2193', '2194', '2195', '2196', '2197', '2198', '2199', '2200'. The map also shows a large body of water in the center, possibly a lake or reservoir, and a street labeled 'A N B K E N'. The map is oriented with North at the top.

RECENT LARGE DEVELOPMENTS

There has been a very considerable development in recent years which has resulted in the absorption of a very large amount of the city's industrial land. Since 1911 a total of 6,500,000 square feet of land has been purchased by railroad companies to provide for contemplated development.

In 1911, the **Southern Pacific Company** purchased 2,000,000 square feet of land, completing the acquisition of their New North Yards in the lower end of the San Fernando Valley, north of the Pigeon Farm. The company now owns a total of 280 acres of land comprising these yards which were purchased in two periods, from 1906 to 1908 and from 1911 to 1913.

Between 1912 and 1918 the **Hanchett interests**, including the Industrial Terminal Railway, acquired upward of 1,500,000 square feet in the district lying east of Alameda and north of Aliso Streets. This property comprises in part the old Chinese section of the city and is being held for prospective development. The property is either occupied by temporary improvements or is entirely vacant. No advancement has taken place since the first purchase was made.

In 1913, the **Salt Lake Railroad Company**, to provide for future requirements, purchased over 700,000 square feet of undeveloped land upon the east side of the Los Angeles River south of Seventh Street. This property remains in its original state today as it has not yet come into use.

The **Santa Fe Railway**, in order to provide additional freight yard facilities, in 1913 purchased 100,000 square feet of land upon Shearer Street one block east of Alameda. This property now has railroad connection and will be put to immediate use.

The **Pacific Electric Railway**, seeing the necessity for the extension of its elevated tracks from San Pedro to Alameda Street, purchased lands between these streets for right of way use, aggregating 175,000 square feet. These purchases were made in two periods, the larger per cent being purchased in 1906-1907, and the more recent purchases occurring in 1913. There are still some of the required properties that have not yet been acquired.

The largest, most costly and most extensive development that has taken place recently was the acquisition by the **Los Angeles Union Terminal Company** of all private properties in the O. J. Mairs Tract at Eighth and Central Avenue. A total of 413,534 square feet was purchased from private individuals in 1915 and 1916. In addition to these private purchases, the Terminal Company acquired, through exchange with the Pacific Electric Railway, the former's car-barn site at Seventh Street and Central Avenue. This area amounted to 293,000 square feet, giving the Terminal Company a present area of 800,000 square feet of land. Extensive development has

occurred upon this property by the construction of modern two and three-story concrete buildings in which has been located a large part of the wholesale produce business of the city.

The most recent large purchase of industrial lands occurred when the Salt Lake Railroad in 1917 made its purchases for the proposed Hunter Street Terminal, located on Hunter Street east of and fronting on Alameda Street. These purchases provided for a large terminal area approximately 425 feet in width extending from Alameda Street to Lemon Street, with a right of way extending from the east end of the property to connection with existing Salt Lake tracks at Butte Street.

No development has yet taken place on this property outside of the clearing of the land.

PROBABLE FUTURE DEVELOPMENT

Business

The growth of the city has been sketched in Chapter III of this report. It may be well, however, even at the risk of repetition to deal with this subject once more from the point of view of our real estate studies.

The original center of the City of Los Angeles was around the old plaza. Expansion has gradually forced this center south and west. From the plaza, there was a move to First and Spring; from there to Fifth and Spring; and from there to Seventh and Broadway. This is the present shopping center of the city. Around this center a large area of flat land is adaptable to business purposes. This fact creates the opportunity for the widening of the business belt, so that at the present time this district is undergoing an expansion in a westerly as well as a southerly direction.

The center of the financial district at first coincided with the center of the shopping district. Later, when the latter district moved south on Broadway, the financial district remained on Spring Street. At the present time its center is at Sixth and Spring Streets.

The development of the main business district of Los Angeles within the course of a normal life will probably be confined to the territory bounded by Main, Pico, Figueroa, Sixth, Hill and First Streets.

Industrial

The main industrial development of Los Angeles will likely be in a southerly direction and will be confined to the territory east of Alameda Street from North Broadway to Seventh Street and continuing southerly into the large area of flat lands adaptable to development in the vicinity of Vernon.

All of the industries requiring a large amount of land will probably be ultimately located south of the present city limits in the City of Vernon.

The character of these lands renders them immediately desirable to industries requiring large areas, since they are in close proximity to a residential section particularly adapted to less expensive homes.

Among the chief advantages of this section are the adequate transportation facilities now available and the large flat areas uncut by streets and ready for the immediate establishment of all classes of large industrial concerns.

The present industrial district has a tendency to parallel the Los Angeles River. The main business streets of Los Angeles deviate from the general direction of the river, and therefore from the industrial district at approximately an angle of 45 degrees. Therefore, the further south the industrial district extends, the further away it will be from the business center.

This fact makes it apparent that in order to serve the business district adequately, industries must at some future date locate west of Alameda Street. At the present time, Alameda Street practically forms the western boundary of spur tracks. This is very satisfactory in the present condition of the city in that the distance between the business district and the industrial district is not so great as to cause inconvenience. But, as mentioned above, the entire business district is moving southward and through this movement a general divergence takes place between these two districts. We believe, therefore, that one of the developments of the future will be the changing of the western boundary of the industrial district from Alameda Street to Central Avenue. We also believe that there will be a demand for spur track facilities south of Sixth Street between Alameda Street and Central Avenue.

Residential

The future development of residential property will probably continue at a normal rate of growth in its present direction.

Effect of Recommendations

Our recommendations will affect the future business and industrial development of the city and, to a lesser extent, the residential development. Speaking of the "business district," a distinction should be made between what might be termed the "shopping district," the "financial district" and the "general business district" (office buildings, hotels, etc.). The shopping district will not be materially affected in its normal expansion as suggested heretofore. The location of a union terminal at the Plaza will tend to stabilize the financial, office and hotel area in the downtown district and there will be a further effect towards such stabilization by the elimination of grade crossings and the construction of viaducts across the river and

across the railroad trackage adjacent to the river as proposed in our recommendations. Stabilization will be even more affected by the carrying out of our recommendations with reference to electric rapid transit facilities, especially the construction of a subway on Main Street and the elevated railway near Sixth Street and east of Main Street.

While we are satisfied that the carrying out of these recommendations will have such an effect towards stabilization, the continued expansion and growth of the entire downtown business area will not be interfered with and the benefits that we expect will come largely from a stabilization of land and business values in areas that are already within the business district.

The industrial district, of course, will be very vitally affected by all of our recommendations, particularly by the ones dealing with the elimination of grade crossings, with Alameda Street and with the spur track situation. It is not necessary to repeat here what these effects in their entirety will be since they have already been discussed at length. Nor will it be necessary to repeat the benefits to all of the interests involved, especially to industrial and business districts. The residential development will be affected principally on the east side of the Los Angeles River through grade crossing elimination and in a more or less indirect manner in outlying and suburban districts and communities by all of our recommendations affecting rapid transit interurban service.

LAND ESTIMATES FOR VARIOUS PLANS

The total estimates for all plans considered in the reports and for all recommendations fall under three general heads:

- (1) Estimates dealing with union passenger stations.
- (2) Estimates dealing with improvements in freight handling.
- (3) Estimates dealing with grade crossing elimination.

Into the cost of the plans there enters the question of cost and value of lands. In all of our estimates, lands have been included and treated in the following manner: our estimates of cost include the amount of new money required and this includes the estimated cost of the acquisition of the necessary lands. As stated heretofore, the cost of acquisition includes in the case of private lands, a certain amount of money over and above the market value of the land, while in the case of railroad and city lands, the market value alone is taken into the estimates. The detailed data on all of these land estimates are available but, as in the case of other estimates, are not reproduced in this report.

The item of land estimated is not of controlling importance in connection with estimates made for grade crossing elimination and for improvement in the handling of freight. Costs of lands are of very great importance, however, and may possibly become the controlling factor in

connection with the plans for a union passenger terminal. It is for this reason that there is given in this chapter considerable detail on the real estate entering into the various passenger terminal plans.

Special land studies were made for each of the following union passenger terminal plans: (a) Southern Pacific plan, (b) Barnard plan, (c) Santa Fe plan, (d) Hawgood plan and (e) Storrow plan. In addition, there is the engineering department's Plaza plan, making six plans in all for which real estate estimates were made. For the Barnard, Hawgood and Storrow plans, the estimates cover only the station site and immediate approaches. For the other plans, the estimates include not only this land but also real estate necessary for connecting tracks, additional rights of way and parking or plaza areas. All of the details are available in the engineering department, and it is to be understood that the area assigned to the various plans and the estimated figures are not comparable until proper allowances for this differing treatment of the different plans have been made.

Southern Pacific Plan

The Southern Pacific plan provides for the location of the union passenger station at the present Arcade Depot.

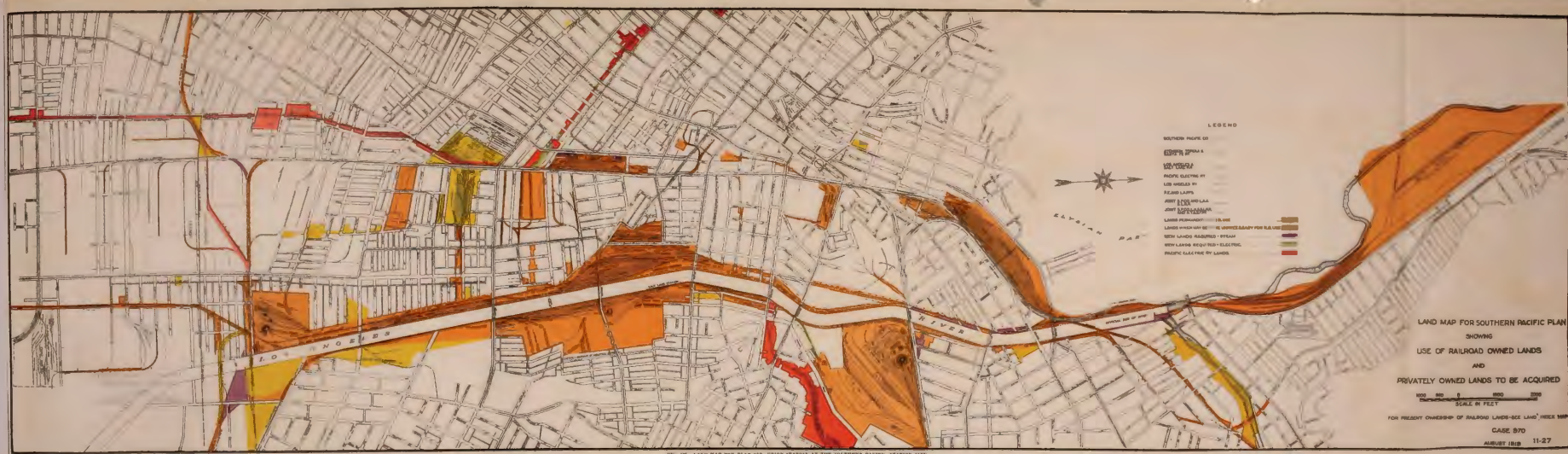
By far the largest per cent of real estate necessary is in present railroad ownership.

Fig. 181 (see page 493) shows, within the limits of the map, the lands which would be in railroad use if the Southern Pacific plan were adopted. This map covers, generally stated, the industrial and railroad district in Los Angeles. The following figures with reference to the lands involved in this plan cover only such lands as are shown on the map. (Similar Maps Fig. 182 (see page 497) and Fig. 183 (see page 499) are presented later for the Santa Fe and Plaza plans and in each case the gross area of the map is the same, so that the figures given under the three plans are comparable.

There is involved in the Southern Pacific plan a total of 49,529,872 square feet of land which will be used by the various railroads if the plan is adopted. This includes lands in present railroad ownership and lands in present private ownership which are necessary to provide adequate area. Lands which we recommend should not be continued in transportation use, mainly the Southern Pacific Coach Yard site, are not included in the figures. These lands have a total cost and value of \$31,179,943.

This total is comprised of properties held in the following ownership:

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LANDS IN RAILROAD USE—SOUTHERN PACIFIC PLAN

| Owner | Area Square Feet | Cost and Value |
|-----------------------------|---------------------|---------------------|
| Southern Pacific | 23,256,391 | \$9,754,228 |
| Santa Fe | 8,708,287 | 9,218,510 |
| Salt Lake | 11,532,651 | 4,223,522 |
| Pacific Electric | 4,645,238 | 6,574,349 |
| Total Railroad | 48,142,567 | \$29,770,609 |
| City of Los Angeles..... | 105,790 | 29,415 |
| Private | 1,281,515 | 1,379,919 |
| Grand Total | 49,529,872 | \$31,179,943 |

The adoption of the proposed Southern Pacific plan would make necessary the acquisition of certain lands in present private ownership. By far the largest percentage of the area making up the total is already in the possession of the Southern Pacific Company. The private lands, outside of those existing in the depot block itself, are made up entirely of small parcels necessary for rights of way and approaches. Of the total area of land involved, 1,281,515 square feet are in present private ownership. For this area, we estimate a total cost of \$1,379,919. The largest single area comprising this total is made up of certain private lands east of the Los Angeles River and south of Alostia Street. The most valuable single parcel is in the Arcade Depot block. Aside from the private lands needed to fill out the proposed depot site, all other new lands included in the plan are made up of parcels of varying sizes needed for right of way purposes.

Almost 50 per cent of the cost of the new lands required for the operation of this plan is comprised of private lands lying within the present Arcade Depot block. The intrinsic value of these properties is not particularly high, but the owners attach a certain strategic importance to them on account of the generally accepted fact that the Southern Pacific Company will ultimately require these parcels. The past purchases by this company in this block have been made at very high figures, and the effect of these purchases is reflected in the attitude of the owners.

To complete the area required for the station site itself, in this proposed plan, it will be necessary to acquire property in the block bounded by Fourth, Sixth, Central and Alameda Streets at present privately owned, aggregating 49,994 square feet, for which we estimate the sum of \$569,994 as being the probable cost to acquire.

The balance of this block is owned by the Southern Pacific Company and Wells Fargo and Company, as follows:

| | Area in Square Feet | Present Value by Eng. Dept. |
|--------------------------------|------------------------|--------------------------------|
| Southern Pacific Company | 646,951 | \$2,101,128 |
| Wells Fargo and Company..... | 10,000 | 70,000 |
| Total | 656,951 | \$2,171,128 |

As the Plaza plan provides an artistic plaza in front of the depot structure, it would be necessary, in order to make a fair comparison, to provide for a similar plaza in front of the present Arcade depot. The value of this location from a civic standpoint is not nearly so great as the Plaza location, and there is less opportunity for beautification or any development along the lines of city planning. Also there would be no sentimental value attached to any plaza at the Arcade site. To put the two plans upon a comparable basis, it has been necessary to estimate a probable cost for the creation of a plaza at the Arcade. The consummation of this idea can, however, be accomplished only at very great, if not prohibitive, expense. The property immediately adjoining the Arcade depot is of a valuable business character. Further, due to past activities, the speculative aspect is very apparent and enters very materially into any scheme which provides for the acquisition of additional land in that vicinity.

The development of Fifth Street is quite substantial and while it is not of a first class business character, the retail value of property along that street is considerable. An estimate covering the smallest amount of land that it would be possible to develop into a plaza would require a cost of \$739,251 for the land alone, exclusive of improvements estimated at \$243,000. This cost creates a plaza by no means equal to the one developed by us for the Plaza plan, allowing only 65,871 square feet of new private land for the Southern Pacific plan as against 161,202 square feet of the Plaza plan. We have not included the Southern Pacific plaza in any of our estimates.

The adoption of the Southern Pacific plan would cause the least re-adjustment of realty values of any of the plans. Practically no decreases in real estate values would result. On the other hand, no great gains would follow: Those that would come about would be limited to the very small area of business in the vicinity of the depot, together with the business district existing on Fifth Street. Also, property values on Third, Fourth and Sixth Streets would be slightly increased. The district in the vicinity of the Plaza would not be particularly affected. Rapid decrease has taken place in this district within recent years and the location of the Union Passenger Depot at the Southern Pacific site would not materially accelerate decrease in this territory. The Southern Pacific plan would not materially affect values in the vicinity of the Santa Fe station either by increasing or by decreasing them.

Santa Fe Plan

The Santa Fe plan provides for the location of the union passenger depot at the present site of La Grande Depot at First Street and Santa Fe Avenue. Practically all of the real estate involved in this plan is in present railroad ownership, by far the larger part of the railroad property involved belonging to the Santa Fe.

There is involved (within the limits considered) in the Santa Fe plan a total of 50,473,231 square feet of real estate which would be used by the several railroads in the operation of the plan. Fig. 182 (see page 497) shows these lands. Of this total area, 1,733,547 square feet represent new (private) lands, and 105,790 square feet are lands owned by the city. Land which we recommend be no longer continued in railroad use—the Southern Pacific Arcade site—is not included in the figures.

This total area of land aggregates a total estimated cost and value of \$9,900,108.

These real estate properties involved comprise lands in the following ownerships:

LANDS IN RAILROAD USE—SANTA FE PLAN

| Owner | Square Feet | Cost and Value |
|---------------------------|-------------|----------------|
| Southern Pacific | 23,457,510 | \$9,685,572 |
| Santa Fe | 8,708,287 | 9,218,510 |
| Salt Lake | 11,822,859 | 4,315,003 |
| Pacific Electric | 4,645,238 | 6,574,349 |
| Total Railroad | 48,633,894 | \$29,793,434 |
| City of Los Angeles | 105,790 | \$ 29,415 |
| Private | 1,733,547 | 1,227,662 |
| Grand Total | 50,473,231 | \$31,050,511 |

As shown in the total above, the private lands involved in this plan amount to 1,733,547 square feet. These lands have been appraised at an estimated present value of \$821,499, to which we have added an estimated additional cost to acquire of \$406,163, giving a total estimated cost of \$1,227,662.

The chief item of new lands pertaining to this plan is represented by additional lands required for the proposed coach yard site to be located at the present site of the Santa Fe shops at Butte Street. These new lands, aggregating a total area of 534,545 square feet, are appraised at a present value of \$250,360, to which has been added an estimated additional cost to acquire amounting to \$160,537, giving a total estimated cost of \$410,897. The balance of the new lands required for this plan is represented by parcels of various sizes necessary for right of way purposes.

The location of the union passenger depot on the proposed Santa Fe site would result in material decrease of properties in the vicinity of the Southern Pacific station. This decrease will not only result in a considerable loss upon the Southern Pacific station site itself, but would be further reflected in the business district in the vicinity of the Southern Pacific station along Fifth Street and also, to some extent, along Fourth and Sixth Streets.



Industrial values in the vicinity of the Santa Fe site would probably show material increase, but as this district is already permanent, the development would not be as marked as in the case of the Plaza plan.

By the opening of Fifth Street through the Southern Pacific station site (as in Plaza plan), another through and convenient street would exist to furnish quick access to the business district. The opening of this street would develop quite extensively the property east of the Arcade depot site and would tend to alleviate decrease in business values on Fifth Street.

Plaza Plan

There is involved (within the limits considered) in the Plaza plan a total of 50,415,983 square feet of land which will be used by the various rail lines if the plan is adopted. This includes lands in present railroad ownership and lands in present private ownership, which are necessary to provide adequate area. These lands have a total cost and value of \$32,100,225 and are shown on Fig. 183 (see page 499). Lands which we recommend be discontinued from transportation use—the Southern Pacific Arcade station site and the Southern Pacific coach yard site—are not included in these figures.

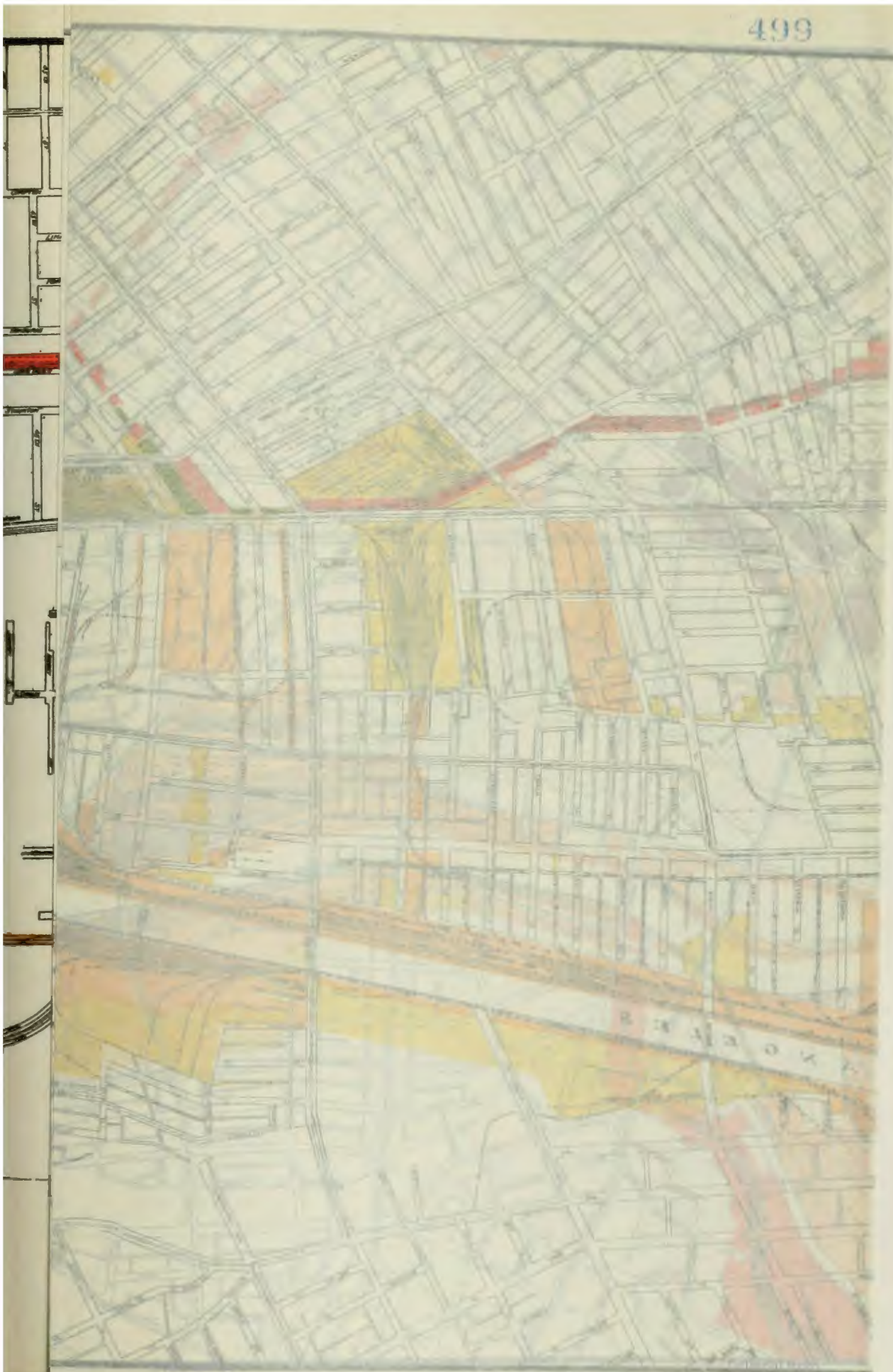
This total is comprised of properties held in the following ownerships:

LANDS IN RAILROAD USE—PLAZA PLAN

| Owner | Square Feet | Cost and Value |
|---------------------------|-------------|----------------|
| Southern Pacific | 22,513,932 | \$8,034,310 |
| Santa Fe | 8,708,287 | 9,218,510 |
| Salt Lake | 11,532,651 | 4,223,522 |
| Pacific Electric | 4,645,238 | 6,574,349 |
| Total Railroad | 47,400,108 | \$28,050,691 |
| City of Los Angeles | 162,141 | 144,412 |
| Private | 2,853,734 | 3,905,122 |
| Grand Total | 50,415,983 | \$32,100,225 |

Involved in the Plaza plan are some 2,853,734 square feet of private (new) lands, which have been appraised at an estimated present value of \$2,938,196, to which we have added an additional cost to acquire of \$996,926, giving a total estimated cost of \$3,905,122.

For the construction of the proposed Plaza union station as outlined in the Plaza plan, it is necessary to acquire a considerable amount of lands at present privately owned lying east of and adjoining North Main Street, with a depth of 500 feet easterly therefrom and extending from Commercial Street northeasterly to Redondo Street. For the proposed station site itself, it will be necessary to obtain possession of 1,782,858 square feet of land held in fee and bounded by North Main, Redondo, Date (approximately extended south) and Commercial Streets. This property will have to be purchased



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outright in its entirety and is all at present privately owned, with the exception of the small holdings of the Southern Pacific and the City lying within those boundaries. The probable cost of these private holdings we estimate at \$2,822,831.

The proposed Plaza station site bounded by Commercial, Redondo and North Main Streets and a line extending parallel thereto and distant 500 feet westerly therefrom, is comprised of the following lands:

OWNERSHIP OF LAND—PROPOSED PLAZA UNION STATION SITE

| Areas | Square Feet | Per Cent |
|---------------------------------|-------------|----------|
| Area in Railroad Ownership..... | 178,958 | 6.8 |
| Area in City Ownership..... | 56,351 | 2.1 |
| Area in Private Ownership..... | 1,547,549 | 59.1 |
| Total Area held in Fee..... | 1,782,858 | 68.0 |
| Area in Existing Streets..... | 840,590 | 32.0 |
| Total Area Proposed Site..... | 2,623,448 | 100.0 |

The estimated cost and value of the property is as follows:

OWNERSHIP AND COST AND VALUE OF LANDS PLAZA UNION STATION SITE

| Ownership | Estimated Cost and Value |
|----------------|--------------------------|
| Railroad | \$ 282,249 |
| Private | 2,822,831 |
| City | 114,997 |
| Streets | None |
| Total | \$3,220,077 |

The above tabulations are very important. It should be noted that of the total area comprising the proposed station site aggregating 2,623,448 square feet, 840,590 square feet, or 32 per cent, is represented by present street areas which will be absorbed in the plan. In other words, a station site comprising over 2,600,000 square feet can be obtained by the purchase of only 1,782,000 square feet of land held in fee by private individuals. By the purchase outright of 68 per cent of the total area required, 32 per cent additional can be obtained by the closing of existing streets, a net gain without cost.

As adequate means have been taken for the handling of all traffic, both present and prospective, through the rearrangement of streets in the vicinity of the proposed station site, the street areas above mentioned should be acquired without cost through proper action by the City. In view of the great civic improvement resulting from the adoption of this plan, it would be to the City's best interest to permit the closing of these streets.

The larger proportion of the cost attached to the proposed acquisitions pertains to property lying within the triangle formed by Commercial, North Main and Alameda Streets. The lands lying within this triangle amount to



FIG. 186. MAIN STREET NORTH FROM THE PLAZA

This view is looking north. All buildings in the immediate foreground lie within the proposed station site.



FIG. 187. MAIN STREET BETWEEN MARCHESSAULT AND MACY STREETS

This picture gives a close-up view of the buildings on the east side of Main Street, north of the Plaza.



FIG. 188. PLAZA STREET BETWEEN MAIN AND LOS ANGELES STREETS

This view shows existing buildings on this street between Main and Los Angeles Streets; also those on the east side of Los Angeles Street.

a total area of 582,426 square feet having a present value of \$1,393,843, for which has been estimated a total cost of \$1,827,479. The property contained in this triangle is of a business character and though it is located in a district that has depreciated very materially and very rapidly in recent years, the business value of the land adds greatly to the cost of the plan.

This cost, however, is offset by the many favorable features connected with the location, such as its ready accessibility and its adaptability to attractive development. Practically all of the lands contained within this triangle are improved properties. The improvements vary from two to three story buildings of an obsolete character (but of still good construction), used for retail business, to one story brick and frame shops carrying on a small manufacturing business.

The retail business is confined almost exclusively to the Main Street frontage, which is occupied by small retail stores catering mainly to Mexican trade. The business on Los Angeles Street is more of a wholesale nature. Between Los Angeles Street and Alameda Street the property at present comprises a section of Chinatown, being partially occupied by two-story brick buildings leased to Chinese.



FIG. 180. LOS ANGELES STREET BETWEEN COMERCIAL AND ARCADIA STREETS

This picture shows the character of improvements existing on the west side of the street.



FIG. 190. LOS ANGELES STREET FROM ARCADIA STREET TO PLAZA STREET

The character of existing improvements on the west side of the street is shown. The Plaza can be located by the tree in the right center of the picture.



FIG. 191. LOS ANGELES STREET FROM THE PLAZA TOWARD COMMERCIAL STREET

The buildings shown are the same as in Figs. 187 and 188 but looking north instead of south. This picture was taken from the Plaza and shows the west side of Los Angeles Street from the Plaza almost to Commercial Street.

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FIG. 102. LOS ANGELES STREET SOUTH FROM ALISO STREET

All buildings on both sides of street up to the first cross street (opposite the street car) in the foreground will be demolished.



FIG. 103. LOS ANGELES STREET AND "NEGRO ALLEY"

This picture shows the class of buildings on the Los Angeles Street frontage of the block bounded by Los Angeles, Aliso, Alameda and Ferguson Alley.



FIG. 194. FRONTAGE ON THE WEST SIDE OF THE INTERSECTION OF LOS ANGELES AND ALAMEDA STREETS

All buildings shown will be demolished. The large three-story brick building is the Plaza Substation of the Los Angeles Railway.



FIG. 195. INTERSECTION OF LOS ANGELES AND ALAMEDA STREETS

All buildings with the exception of that at the immediate left will be demolished.



FIG. 196. IMPROVEMENTS UPON THE PROPERTY OF THE OIL WELL SUPPLY COMPANY



FIG. 197. LOOKING EAST ACROSS ALHAMBRA AVENUE AT ALAMEDA STREET
This view shows the pipe yard of the Oil Well Supply Company with the plant of the Fulton Engine Works at the extreme left.

The balance of the proposed station site, other than this triangle, is made up of excellent industrial property, either used for that purpose at the present time or held for future development of that character. Alameda Street furnishes the valuable features of the location, as it is the main artery of travel through the industrial district. In this territory are three large industrial concerns that have been substantially located for a considerable period of time. There are, however, several large parcels of property of an industrial nature that await development. They are held for prospective sale and are vacant and practically without use at present.

In addition to the streets in this district, over which the City has control, it also owns outright fee to 56,351 square feet of land within this triangle, comprising a fire-house site upon Aliso Street, the parcel used by the Water Department upon Los Angeles Street, and the old Plaza. The value of these parcels is included.

The railroad lands contained in the estimates pertaining to this plan comprise all of the railroad holdings which will be used in conjunction with the operation of the various roads. It is assumed that no new money will be expended to accomplish the transfer from one railroad's use to another of these various railroad properties and that the only new money necessary will be for the purpose of acquiring lands at present privately owned.

A very large percentage of the costs of new lands pertaining to the Plaza plan is the result of the inclusion of a plaza in front of the new union station building. This is not necessary from a railroad operating standpoint, and traffic could probably be handled without this additional space. But from a civic standpoint it would not seem advisable to construct a new depot without giving it the proper setting. The Plaza will provide an attractive entrance to the station and will furnish additional parking space and more convenient access for the traveling public. From the standpoint of civic pride and public interest, the sentimental value of a new plaza, even though it carries a very material additional expense, is something that should be given weight.

Of the station site itself, 276,250 square feet are devoted to Plaza purposes, and of this area, 161,202 square feet will have to be purchased at an estimated cost of \$678,186.

Effect on Land and Business Values

The establishment of a union passenger station at the Plaza, in our opinion, will result in a marked increase in the desirability of the business district upon Main Street, from Sixth to Commercial Street; upon Spring Street, from Fifth to Temple Street; and upon Broadway, from Fifth to First Street. We also expect an increase in industrial values in the district lying north of First Street, between Alameda Street and the river, and also on

property on Los Angeles Street between Sixth and Commercial Streets. By the suggested opening of Fifth Street through the present Southern Pacific Station site, a material enhancement in values would take place in the industrial lands east of Alameda Street between Third and Sixth Streets. Values in the vicinity of the Santa Fe Station would not be subject to material changes, but whatever change takes place will be an increase. Some immediate, but temporary, decrease in values in the business district in the vicinity of the Southern Pacific Station may result and, if this station be abandoned, the station site itself may suffer a loss of value. The value of properties on Third and Fourth Streets would probably be unaffected.

Summing up the three plans: The Southern Pacific plan would result in the least unsettlement; the Plaza plan would make necessary the greatest adjustment; and the Santa Fe plan would fall midway between these two. The adjustment following the operation of the Plaza plan, while not particularly desirable to certain of the property owners in Los Angeles, would result in a very material net gain through the considerable increase of values throughout a large area.

In view of the very great immediate benefits and of the tremendous ultimate benefits resulting from the adoption of this plan, through which considerable profit will be directed toward owners of real estate in the general vicinity of the proposed station, we believe that the cost of these new lands, nearly \$3,000,000, can be greatly reduced, if not entirely covered, through private subscription of, or assessment upon, the owners of lands who will be materially benefited.

It is entirely logical to assume that persons deriving benefit from the location of the station at this site should bear a portion of the cost of such location, and it seems eminently fair to ask these beneficiaries to provide the necessary land.

This could be accomplished through voluntary action either by the formation of local associations to handle the problem or through legislative action by the City. This is a matter somewhat outside the scope of this report, but it should, in our opinion, be given special attention by the Commission and by the City authorities.

DAMAGES CAUSED BY PROPOSED VIADUCTS

As a result of the construction of the proposed new viaducts across the Los Angeles River, there would be certain damages to the lands fronting upon these viaducts due to the obstruction or loss of the frontage of these properties.

Estimates have been made of these damages, and it is found that they total \$530,516 for the several viaducts.

Due to the nature of the subject, no particular discussion can be engaged in without entering into the detail of each estimate, and for that

reason, reference here will be limited. The subject of viaduct land damages furnished a rather intangible situation in that it was necessary to view the viaduct as actually constructed and the property affected in its resultant condition after this construction. It was the object of our investigation to consider probable conditions resulting from the construction of these viaducts which would in any way influence the value of the properties fronting thereon. Individual ownership was considered as a basic standard and damage was regulated by the extent of the individual ownership involved.

The character of the property, such as its size and location within the limits of the viaducts, means of other access and its present physical condition, formed the basis of our estimates. Allowance and difference were made for the degree of obstruction or total loss, varying with the probable condition of the property after the construction of the viaducts.

We find that a total of 26,524 front feet of real estate is affected by the proposed construction.

Below is a tabulation of our estimates by viaducts:

**ESTIMATED DAMAGE RESULTING FROM PROPOSED
VIADUCT CONSTRUCTION**

| Viaduct | Front Feet Involved | Property Damages |
|-------------------------------------|------------------------|-----------------------------------|
| | | Estimated Amount of Damages |
| North Main over River | 3,441 | \$92,056 |
| North Main over Redondo Street..... | 1,902 | 67,310 |
| Macy Street over River..... | 1,545 | 30,495 |
| Macy Street over Depot..... | 1,324 | 31,951 |
| Aliso Street over River..... | 6,069 | 69,151 |
| First Street over River..... | 2,188 | 15,650 |
| Fourth Street over River..... | 4,063 | 36,632 |
| Seventh Street over River..... | 2,915 | 141,316 |
| Ninth Street over River..... | 3,077 | 45,955 |
| Butte Street over Santa Fe Ave..... | .... | None |
| Baker Street ..... | .... | None |
| Total | 26,524 | \$530,516 |

**LANDS THAT MAY BECOME UNNECESSARY FOR RAILROAD
USE (NON-OPERATIVE LANDS)**

Through the operation of either of the three principal plans, a great amount of real estate at present either used for railroad purposes or held for future development will, in our opinion, become unnecessary for railroad use and can be added to the total area of industrial lands susceptible of private development.

This does not mean that the railroad companies must necessarily dispose of a portion of their holdings, but in view of the fact that these lands will not be needed for railroad operation and the companies can voluntarily dispose of them or hold such areas as non-operative property, it was thought advisable to estimate their probable value in case they were so disposed of or salvaged.

The salvage value fixed in the estimates shown below, covering the salvage value of the lands which may become unnecessary for railroad use, make up the value which will probably pertain to these lands should they become non-operative.

In considering the possible release of these various parcels of railroad lands, it has not been assumed that a condition of forced sale will exist and the figures fixed do not represent a sacrifice condition. The figures placed upon these salvage parcels represent their probable value under normal conditions of absorption and with no restrictions placed upon their disposal. In other words, it is assumed that the carrier, if it should be desired to sell these lands, will be at liberty to carry the property for whatever period is deemed fit and that no specified date will be fixed at which all of these parcels will be disposed of.

This is a very important factor in the problem for, if it were assumed that upon the operation of any of the plans involved the carrier must necessarily throw upon the market all parcels possible of salvage, the figure obtained would undoubtedly be considered less than that placed upon the property, as it would not be possible to force the sale of so great an amount of land without a sacrifice.

The greatest differences existing between salvage value and present value pertain to the Southern Pacific station site. This is accounted for by the fact that the existence of the depot at this location today has created a certain desirability for the property in that locality which will be immediately destroyed should the station be abandoned at that point. A small business center has grown up around this depot and values for this business property exceed very materially the values which would prevail at the time of the abandonment.

The removal of the railroad facilities from this property would immediately place this vicinity in the same condition as other property along Central Avenue and Alameda Street, and the higher value, due to its special features, would be destroyed.

It is to be understood that the following list of possible non-operative properties has not been made use of in our estimates of the cost of the various plans. The list is an expression of opinion, merely, of what lands will not necessarily be operative after our plans will take care of all needs in Los Angeles for the near future. In our estimates there is credit taken for land salvaged only as follows:

LANDS CREDITED IN ESTIMATES OF COST OF PLANS

| Lands | Southern Pacific Plan | Santa Fe Plan | Plaza Plan |
|--|--------------------------|------------------|---------------|
| Southern Pacific Coach Yard..... | \$1,651,262 | ..... | \$1,651,262 |
| Southern Pacific Station Site ..... | ..... | \$1,719,918 | 1,719,918 |
| Salt Lake New Right of Way—Ninth to Sixteenth Sts. | 91,481 | ..... | 91,481 |
| Total | \$1,742,743 | \$1,719,918 | \$3,462,661 |

Following are tabulations showing, by plans, the property which may become unnecessary to railroad operation by the adoption of the respective plans:

TABLE SHOWING
SALVAGE VALUE OF LANDS
WHICH MAY BECOME UNNECESSARY FOR RAILROAD USE

SOUTHERN PACIFIC PLAN

| Location and Description of Parcels Proposed to be Salvaged | Area, Square Feet | Present Value (1918) by Engineering Department | | Estimated Salvage Value by Engineering Department | | Loss | |
|---|-------------------------|--|-------------|---|-------------|----------|-----------|
| | | Unit | Total | Unit | Total | Per Cent | Amount |
| LOS ANGELES & SALT LAKE | | | | | | | |
| Arroyo Seco Gravel Pit. | 1 029,869 | 075 | \$72,884 | 075 | \$72,884 | None | |
| Between North Spring and West Albion—Non-carrier Parcel. | 116,425 | 38 | 44,191 | 38 | 44,191 | None | |
| At First and Myers Sts.—Non-carrier Parcels (3) | 83,000 | 65 | 54,175 | 65 | 54,175 | None | |
| Yards—Between Seventh and Hollenbeck—Non-carrier Portion | 100,766 | 42 | 42,029 | 27 | 27,130 | 35 | 14,899 |
| Yards—Between Hollenbeck and Ninth—Non-carrier Portion. | 698,126 | 27 | 187,338 | 26 | 180,258 | 4 | 7,080 |
| Yards—Between Ninth and Alosta—Non-carrier Portion..... | 123,201 | 21 | 25,907 | 21 | 25,907 | None | |
| Between Alosta, Soto and River—Non-carrier Portion.. | 862,534 | 057 | 49,164 | 057 | 49,164 | None | |
| Bridge Across Los Angeles River..... | 15,945 | 05 | 797 | | | 100 | 797 |
| East of Soto and South of Alosta—Non-carrier Portion.. | 547,800 | 046 | 25,199 | 046 | 25,199 | None | |
| New R. W.—Hunter to Ninth Sts | 27,771 | 54 | 15,147 | 54 | 15,147 | None | |
| " " Ninth to Tenth Sts.. | 10,200 | 55 | 5,485 | 55 | 5,485 | None | |
| " " Tenth to Eleventh Sts | 38,837 | 25 | 9,709 | 25 | 9,709 | None | |
| " " Eleventh to Fourteenth Sts | 20,000 | 20 | 4,000 | 20 | 4,000 | None | |
| " " Fourteenth to Fifteenth Sts | 143,800 | 29 | 42,260 | 29 | 42,260 | None | |
| " " Fifteenth to Sixteenth Sts | 49,600 | 30 | 14,880 | 30 | 14,880 | None | |
| On Santa Fe Ave. near 26th St., Zone 48 C-N C | 40,728 | 40 | 16,291 | 40 | 16,291 | None | |
| Total.. | 3 908,602 | 16 | \$609,456 | 15 | \$586,680 | 4 | \$22,776 |
| SOUTHERN PACIFIC | | | | | | | |
| Coach Yard.. | 943,578 | 1 75 | \$1,651,262 | 1 75 | \$1,651,262 | None | |
| Northwest corner Violet and Santa Fe R. W.. | 35,804 | 1 00 | 35,804 | 75 | 26,853 | 25 | 8,951 |
| Fronting Alameda and Long Beach Aves. at Twenty-fifth St. | 100,469 | 25 | 25,118 | 20 | 20,094 | 20 | 5,024 |
| North Spring between Sotello and Mesnager | 10,716 | 50 | 5,358 | 50 | 5,358 | None | |
| Southeast corner North Spring and Sotello (Old River Station).. | 8,581 | 60 | 5,149 | 60 | 5,149 | None | |
| Total.. | 1,099,148 | 1 57 | \$1,722,691 | 1 55 | \$1,708,710 | 8 | \$14,975 |
| SANTA FE | | | | | | | |
| Shearer St. Freight Yard. | 96,268 | 1 25 | \$120,335 | 1 25 | \$120,335 | None | |
| North side Ninth—Adjoining Santa Fe R. W. | 49,871 | 75 | 37,403 | 70 | 34,910 | 7 | \$2,493 |
| South side Ninth—Adjoining Santa Fe R. W. | 145,324 | 60 | 87,609 | 58 | 84,620 | 3 | 2,989 |
| R. W. south of Butte St.—Harriett to Soto | 236,000 | 12 | 28,686 | 058 | 18,642 | 52 | 15,044 |
| Total.. | 527,643 | 52 | \$274,033 | 48 | \$253,507 | 8 | \$20,526 |
| PACIFIC ELECTRIC | | | | | | | |
| East side Santa Fe Ave., between Eight and Enterprise. | 5,600 | 90 | \$5,040 | 90 | \$5,040 | None | |
| Northwest corner Broadway and Sunset Blvd | 58,400 | 1 76 | 102,736 | 1 76 | 102,736 | None | |
| Corner Lyons and Aliso | 1,750 | 1 00 | 1,750 | 75 | 1,312 | 25 | \$438 |
| South side Eighth—Betwen San Julian and Wall | 8,150 | 1 94 | 15,800 | 1 94 | 15,800 | None | |
| Por. Shop Site (excl. proposed R. W.)... | 803,800 | 2 42 | 1,942,050 | 1 70 | 1,364,100 | 30 | 577,950 |
| Total.. | 877,700 | 2 36 | \$2,067,376 | 1 70 | \$1,488,988 | 27 | \$578,388 |
| WELLS FARGO & CO. | | | | | | | |
| Express Building Site in Arcade Depot Block | 10,000 | 7 00 | \$70,000 | 4 00 | \$40,000 | 43 | \$30,000 |
| Grand Total.. | 6,422,913 | 74 | \$4,743,556 | 64 | \$4,077,891 | 14 | \$665,665 |

**TABLE SHOWING
SALVAGE VALUE OF LANDS
WHICH MAY BECOME UNNECESSARY FOR RAILROAD USE**

PLAZA PLAN

| Location and Description of Parcels Proposed to be Salvaged | Area, Square Feet | Present Value (1918) by Engineering Department | | Estimated Salvage Value by Engineering Department | | Loss | |
|---|-------------------------|--|--------------------|---|--------------------|-------------|--------------------|
| | | Unit | Total | Unit | Total | Per Cent | Amount |
| LOS ANGELES & SALT LAKE | | | | | | | |
| Arroyo Seco Gravel Pit..... | 1,029,869 | .075 | \$72,884 | .075 | \$72,884 | None | |
| Between North Spring and West Albion—Non-carrier Parcel..... | 116,425 | .38 | 44,191 | .38 | 44,191 | None | |
| At First and Myers Sts.—Non-carrier Parcels (3) Shop Site—Between First and Fourth—Non-carrier Portion..... | 83,000 | .65 | 54,175 | .65 | 54,175 | None | |
| Yards—Between Fourth and Seventh—Non-carrier Portion..... | 784,691 | .41 | 321,185 | .36 | 285,849 | 11 | \$35,336 |
| Yards—Between Seventh and Hollenbeck—Non-carrier Portion..... | 1,174,054 | .46 | 539,528 | .46 | 539,528 | None | |
| Yards—Between Hollenbeck and Ninth—Non-carrier Portion..... | 520,019 | .52 | 268,687 | .48 | 257,646 | 4 | 11,041 |
| Yards—Between Ninth and Alosta—Non-carrier Portion..... | 847,171 | .27 | 229,018 | .27 | 225,246 | 1.6 | 3,772 |
| Between Alosta, Soto and River—Non-carrier Portion..... | 123,201 | .21 | 25,907 | .21 | 25,907 | None | |
| Bridge R. W. across Los Angeles River..... | 862,534 | .057 | 49,164 | .057 | 49,164 | None | |
| East of Soto and South of Alosta—Non-carrier Portion..... | 15,945 | .05 | 797 | | | 100 | 797 |
| New R. W.—Hunter to Ninth Sts..... | 547,800 | .046 | 25,199 | .046 | 25,199 | None | |
| " " Ninth to Tenth Sts..... | 27,771 | .54 | 15,147 | .54 | 15,147 | None | |
| " " Tenth to Eleventh Sts..... | 10,200 | .55 | 5,485 | .55 | 5,485 | None | |
| " " Eleventh to Fourteenth Sts..... | 38,837 | .25 | 9,709 | .25 | 9,709 | None | |
| " " Fourteenth to Fifteenth Sts..... | 20,000 | .20 | 4,000 | .20 | 4,000 | None | |
| " " Fifteenth to Sixteenth Sts..... | 143,800 | .29 | 42,260 | .29 | 42,260 | None | |
| On Santa Fe Ave. near 26th..... | 49,600 | .30 | 14,880 | .30 | 14,880 | None | |
| On Santa Fe Ave. near 26th..... | 40,728 | .40 | 16,291 | .40 | 16,291 | None | |
| Total..... | 6,435,645 | .27 | \$1,738,507 | .26 | \$1,687,561 | 3 | \$50,946 |
| SOUTHERN PACIFIC | | | | | | | |
| Coach Yard..... | 943,578 | 1.75 | \$1,651,262 | 1.75 | \$1,651,262 | None | |
| Arcade Team Yard..... | 85,508 | 2.50 | 213,770 | 2.00 | 171,016 | 20 | 42,754 |
| Arcade Depot Site..... | 646,951 | 3.25 | 2,101,128 | 2.33 | 1,508,902 | 28 | 592,226 |
| New R. W.—Mateo to River, between Sixth and Jesse..... | 144,024 | 1.12 | 162,185 | .88 | 126,830 | 22 | 35,355 |
| Northwest corner Violet and Santa Fe R. W..... | 35,804 | 1.00 | 35,804 | .75 | 26,853 | 25 | 8,951 |
| Southwest corner Sixth and Alameda..... | 11,369 | 3.00 | 34,107 | 2.50 | 28,422 | 17 | 5,685 |
| Fronting Alameda and Long Beach Aves. at Twenty-fifth St..... | 100,469 | .25 | 25,118 | .20 | 20,094 | 20 | 5,024 |
| North Spring between Sotello and Mesnager..... | 10,716 | .50 | 5,358 | .50 | 5,358 | None | |
| Southeast corner North Spring and Sotello (Old River Station)..... | 8,581 | .60 | 5,149 | .60 | 5,149 | None | |
| Total..... | 1,987,000 | 2.13 | \$4,233,881 | 1.78 | \$3,543,886 | 16 | \$689,995 |
| SANTA FE | | | | | | | |
| Shearer St. Freight Yard..... | 96,268 | 1.25 | \$120,335 | 1.25 | \$120,335 | None | |
| North side Ninth St.—Adjoining Santa Fe R. W..... | 49,871 | .75 | 37,403 | .70 | 34,910 | 7 | 2,493 |
| South side Ninth St.—Adjoining Santa Fe R. W..... | 145,324 | .60 | 87,609 | .58 | 84,620 | 3 | 2,989 |
| R. W. South of Butte St.—Harriett to Soto St..... | 236,000 | .12 | 28,686 | .058 | 13,642 | 52 | 15,044 |
| Total..... | 527,463 | .52 | \$274,033 | .48 | \$253,507 | 7.5 | \$20,526 |
| PACIFIC ELECTRIC | | | | | | | |
| East side Santa Fe Ave., between Eighth and Enterprise..... | 5,600 | .90 | \$5,040 | .90 | \$5,040 | None | |
| Northwest corner Broadway and Sunset Blvd..... | 58,400 | 1.76 | 102,736 | 1.76 | 102,736 | None | |
| Corner Lyon and Aliso..... | 1,750 | 1.00 | 1,750 | .75 | 1,312 | 25 | 438 |
| South side 8th, between San Julian and Wall Sts..... | 8,150 | 1.94 | 15,800 | 1.94 | 15,800 | | |
| Por. Shop Site (excl. proposed R. W.)..... | 803,800 | 2.42 | 1,942,050 | 1.70 | 1,364,100 | | 577,950 |
| Total..... | 877,700 | 2.36 | \$2,067,376 | 1.70 | \$1,488,988 | 28 | \$578,388 |
| WELLS FARGO & CO. | | | | | | | |
| Express Building Site in Arcade Depot Block..... | 10,000 | 7.00 | \$70,000 | 4.00 | \$40,000 | 43 | \$30,000 |
| Grand Total..... | 9,837,808 | .85 | \$8,383,797 | .71 | \$7,013,942 | 16.3 | \$1,369,855 |

TABLE SHOWING
SALVAGE VALUE OF LANDS
WHICH MAY BECOME UNNECESSARY FOR RAILROAD USE

SANTA FE PLAN

| Location and Description of Parcels Proposed to be Salvaged | Area, Square Feet | Present Value (1918) by Engineering Department | | Estimated Salvage Value by Engineering Department | | Loss | |
|--|-------------------------|--|--------------------|---|--------------------|------------|--------------------|
| | | Unit | Total | Unit | Total | Per Cent | Amount |
| LOS ANGELES & SALT LAKE | | | | | | | |
| Arroyo Seco Gravel Pit..... | 1,029,869 | 075 | \$72,884 | 075 | \$72,884 | None | |
| Between North Spring and West Albion—Non-Carrier Parcel..... | 116,425 | 38 | 44,191 | 38 | 44,191 | None | |
| At First and Myers Sts.—Non-carrier Parcel (3) Shop Site between First and Fourth—Non-carrier Portion..... | 83,000 | 65 | 54,175 | 65 | 54,175 | None | |
| Yards—Between Fourth and Seventh—Non-carrier Portion..... | 784,691 | 41 | 321,185 | 36 | 285,849 | 11 | \$35,336 |
| Yards—Between Seventh and Hollenbeck—Non-carrier Portion..... | 1,174,054 | 46 | 539,528 | 46 | 539,528 | None | |
| Yards—Between Hollenbeck and Ninth—Non-carrier Portion..... | 520,019 | 52 | 268,687 | 48 | 257,646 | 4 | 11,041 |
| Yards—Between Ninth and Alosta Sts.—Non-carrier Portion..... | 847,171 | 27 | 229,018 | 27 | 225,246 | 1 65 | 3,772 |
| Yards—Between Alosta, Soto and River—Non-carrier Portion..... | 123,201 | 21 | 25,907 | 21 | 25,907 | None | |
| Bridge R. W. across Los Angeles River..... | 862,534 | 057 | 49,164 | 057 | 49,164 | None | |
| East of Soto and South of Alosta—Non-carrier Portion..... | 15,945 | 05 | 797 | | | 100 | 797 |
| On Santa Fe Ave., near 26th St., Zone 48 C-N. C. | 547,800 | 046 | 25,199 | 046 | 25,199 | None | |
| | 40,728 | 40 | 16,291 | 40 | 16,291 | None | |
| Total..... | 6,145,437 | 27 | \$1,647,026 | 26 | \$1,596,080 | 3 | \$50,946 |
| SOUTHERN PACIFIC | | | | | | | |
| Arcade Team Yard..... | 85,508 | 2 50 | \$213,770 | 2 00 | \$171,016 | 20 | \$42,754 |
| Arcade Depot Site..... | 646,951 | 3 25 | 2,101,128 | 2 33 | 1,508,902 | 28 | 592,226 |
| Southwest corner Sixth and Alameda..... | 11,369 | 3 00 | 34,107 | 2 50 | 28,422 | 17 | 5,685 |
| Northwest corner Violet and Santa Fe R. W..... | 35,804 | 1 00 | 35,804 | 75 | 26,853 | 25 | 8,951 |
| Fronting Alameda and Long Beach Ave. at Twenty-fifth St..... | 100,469 | 25 | 25,118 | 20 | 20,094 | 20 | 5,024 |
| North Spring between Sotello and Mesnager | 10,716 | 50 | 5,358 | 50 | 5,358 | None | |
| Southeast corner North Spring and Sotello (Old River Station)..... | 8,581 | 60 | 5,149 | 60 | 5,149 | None | |
| Total..... | 899,398 | 2 70 | \$2,420,434 | 1 97 | \$1,765,794 | 27 | \$654,640 |
| SANTA FE | | | | | | | |
| Shearer St. Freight Yard..... | 96,268 | 1 25 | \$120,335 | 1 25 | \$120,335 | None | |
| North side Ninth—Adjoining Santa Fe R. W..... | 40,848 | 75 | 30,636 | 70 | 28,594 | 7 | \$2,042 |
| South side Ninth—Adjoining Santa Fe R. W..... | 68,274 | 62 | 42,000 | 61 | 40,427 | 3 7 | 1,573 |
| R. W. south of Butte—Harriett to Soto..... | 236,000 | 12 | 28,688 | 058 | 15,642 | 52 | 15,044 |
| Total..... | 441,390 | 50 | \$221,657 | 46 | \$202,998 | 8 5 | \$18,659 |
| PACIFIC ELECTRIC | | | | | | | |
| East side Santa Fe Ave., between Eighth and Enterprise (Lot 181)..... | 5,600 | 90 | \$5,040 | 90 | \$5,040 | None | |
| Northwest corner Broadway and Sunset Blvd..... | 58,400 | 1 76 | 102,736 | 1 76 | 102,736 | None | |
| Corner Lyons and Aliso (70x50 apx)..... | 1,750 | 1 00 | 1,750 | 75 | 1,312 | 25 | 438 |
| South side Eighth, between Wall and San Julian (79x100)..... | 8,150 | 1 94 | 15,800 | 1 94 | 15,800 | None | |
| Por. Shop Site (excl. proposed R. W.)..... | 803,800 | 2 42 | 1,942,050 | 1 70 | 1,364,100 | | 577,950 |
| Total..... | 877,700 | 2 36 | \$2,067,376 | 1 69 | \$1,488,988 | 28 | \$578,388 |
| WELLS FARGO & CO. | | | | | | | |
| Express Building Site—Arcade Depot Block..... | 10,000 | 7 00 | \$70,000 | 4 00 | \$40,000 | 43 | \$30,000 |
| Grand Total..... | 8,373,925 | 77 | \$6,426,493 | 61 | \$5,093,860 | 21 | \$1,332,633 |

LAND SUMMARY FOR ADOPTED FINAL RECOMMENDATIONS

The total estimated cost of lands involved in the Plaza plan (**immediate** recommendations) amount to a net figure of \$467,559, to which has been added interest during construction at varying rates and periods, amounting to \$610,819, giving a net total estimated cost of \$1,078,378.

For the Plaza plan (**ultimate** recommendations) the estimated cost of real estate involved aggregates a net figure of \$661,571, to which has been added interest during construction, amounting to \$629,921, giving a net total estimated cost of \$1,291,492.

By net totals, as mentioned above, is meant totals after deduction has been made of the credits due to the proposed release from transportation use of the Salt Lake right of way from Sixteenth Street to the New Hunter Street Terminal, amounting to \$91,481; salvage of Southern Pacific Arcade Station site, amounting to \$1,719,918; and salvage of the Southern Pacific Coach Yard site, amounting to \$1,651,262.

Following are two tables which are summaries of lands required for final adopted recommendations for the Plaza plan-immediate, and the Plaza plan-ultimate:

TABLE SHOWING
SUMMARY OF LANDS REQUIRED FOR PLAZA PLAN
IMMEDIATE PLAN

| Est. Sec. Key | Group | Item | Estimated Cost | Const'n Period (Months) | Interest | | Total Estimated Cost |
|----------------------|-------|--|--------------------|-------------------------|----------|------------------|----------------------|
| | | | | | Rate % | Amount | |
| STEAM ROADS | | | | | | | |
| | 1 | Passenger, Terminal, Approaches, etc.: | | | | | |
| CC | | Viaduct on Main St. over Redondo St. | | | | | |
| CE | | Viaduct on Macy St. over Terminal Yard. | \$195,010 | 24 | 12 | \$23,401 | \$218,411 |
| MCB | | Connections at Mission Tower—Modified | 84,539 | 6 | 3 | 2,536 | \$87,075 |
| MCF | | Passenger Station and Facilities—Modified | 2,949,812 | 36 | 18 | 530,966 | \$3,480,778 |
| | | Total | \$3,229,361 | | | \$556,903 | \$3,786,264 |
| MCA | 2 | Union Coach Yard | \$19,135 | 14 | 7 | \$1,339 | \$20,474 |
| MCJ | 4 | Union L. C. L. Freight Station: Union Terminal at Santa Fe Site—Modified | | | | | |
| M | 5 | Viaducts over Los Angeles River: | | | | | |
| T | | Viaduct at Macy St. | \$5,210 | 18 | 9 | \$469 | \$5,679 |
| | | Viaduct at Aliso St. | | | | | |
| | | Total | \$5,210 | | | \$469 | \$5,679 |
| N | 6 | Depression of and New Tracks along River: | | | | | |
| M2 | | Removal Santa Fe Crossings—Macy and Aliso Sts. | | | | | |
| M3 | | Depression Santa Fe Tracks—Aliso to Alhambra. | | | | | |
| | | Depression Salt Lake Tracks—Aliso to Alhambra | \$26,256 | 12 | 6 | \$1,575 | \$27,831 |
| | | Total | \$26,256 | | | \$1,575 | \$27,831 |
| E | 7 | Main Line Tracks and Connections Not Depressed: | | | | | |
| M-1 | | Connection S. P. and Santa Fe at North Broadway | | | | | |
| MD2 | | Connection S. L. and Santa Fe at Redondo Junction | | | | | |
| | | Connection S. L. and Santa Fe at Humboldt St. | \$11,250 | 2 | 1 | \$113 | \$11,363 |
| | | Total | \$11,250 | | | \$113 | \$11,363 |
| AC | 10 | New Trackage, River to Hobart and Connections: | | | | | |
| AD | | Second Track, Santa Fe, Soto St. to Hobart. | | | | | |
| M4 | | Connection S. L. and Santa Fe at Hobart | | | | | |
| | | Second Track, Santa Fe, Soto St. to Redondo Junction | | | | | |
| | | Total | | | | | |
| MA | 11 | New Freight Yards, Southern Pacific and Santa Fe: Yard for S. P. along San Fernando Rd.—Modified | | | | | |
| P | 13 | New Connections, Relief of Alameda St. Switching: | | | | | |
| M5 | | Connection Jackson St. and Santa Fe Tracks | | | | | |
| M6 | | Connection Alameda St. and S. F. near Industrial St. | | | | | |
| MY | | Connection S. L. Main Line and Butte St. Track | | | | | |
| | | Connection Alameda St. and Butte St. Track | \$18,329 | 2 | 1 | \$183 | \$18,512 |
| | | Total | \$18,329 | | | \$183 | \$18,512 |
| CD | 14 | Team Yards: Team Yard at S. P. Freight Station Site | | | | | |
| S | 16 | Release Southern Pacific Station Site | *1,719,918 | | | | *1,719,918 |
| V | 17 | Release Southern Pacific Coach Yard Site | *1,651,262 | | | | *1,651,262 |
| ELECTRIC ROAD | | | | | | | |
| | 20 | New Line—P. E. Station to Brooklyn Ave. and to Fourteenth St.: | | | | | |
| CK | | Abandon Pacific Electric in Los Angeles St., etc. | \$86,969 | 24 | 12 | \$10,436 | \$97,405 |
| CM | | Subway and Elevated—P. E. Station to Brooklyn Ave. | 442,229 | 18 | 9 | 39,801 | 482,030 |
| DR | | Elevated—Pacific Electric Station to Fourteenth St. | | | | | |
| | | Total | \$529,198 | | | \$50,237 | \$579,435 |
| | | Grand Total | \$467,559 | | | \$610,519 | \$1,078,378 |

*Credit.

**TABLE SHOWING
SUMMARY OF LANDS REQUIRED FOR PLAZA PLAN
ULTIMATE PLAN**

| Est. Sec Key | Group | Item | Estimated Cost | Const'n Period (Months) | Interest | | Total Estimated Cost |
|------------------------|-------|---|------------------|-------------------------|----------|------------------|----------------------|
| | | | | | Rate % | Amount | |
| STEAM RAILROADS | | | | | | | |
| | 1 | Union Passenger Terminal and Appurtenances: | | | | | |
| CB | | Depression of S. P. Tracks in Alhambra Ave. | \$84,539 | 6 | 2 | \$2,536 | \$87,075 |
| CC | | New Viaduct on North Main St. | | | | | |
| CE | | New Viaduct on Macy St. | 195,010 | 24 | 12 | 23,401 | 218,411 |
| CF | | New Passenger Station at the Plaza | 2,949,812 | 36 | 18 | 530,966 | 3,480,778 |
| CG | | Sub-tunnel for Street Cars in Broadway Tunnel. | | | | | |
| | | Total | \$3,229,361 | | | \$556,903 | \$3,786,264 |
| CA | 2 | Coach Yard | \$19,135 | 18 | 9 | \$1,722 | \$20,857 |
| CJ | 4 | Union Freight Station | | | | | |
| | 5 | Viaducts over Los Angeles River: | | | | | |
| F | | Baker St. Approach to North Broadway Bridge | | | | | |
| G | | Removal of North Spring St. Bridge | | | | | |
| H | | New Viaduct at Main St. | \$15,742 | 18 | 9 | \$1,417 | \$17,159 |
| M | | New Viaduct at Macy St. | 5,210 | 18 | 9 | 469 | 5,679 |
| R | | New Viaduct at Fourth St. | 42,262 | 20 | 10 | 4,226 | 46,488 |
| Q | | New Viaduct at First St. | | | | | |
| T | | New Viaduct at Aliso St. | | | | | |
| U | | New Viaduct at Seventh St. | | | | | |
| CN | | New Viaduct at Ninth St. | | | | | |
| | | Total | \$63,214 | | | \$6,112 | \$69,326 |
| | 6 | Depression of and Additional Tracks Along River: | | | | | |
| D | | Connections at East End of Humboldt St. Bridge | \$11,250 | 2 | 1 | \$113 | \$11,363 |
| E | | Connections at West End of Humboldt St. Bridge | | | | | |
| I | | Depression of Alhambra Ave. East of and at River | | | | | |
| K | | Depression and Double-tracking S. L. Tracks Along River | 26,256 | 24 | 12 | 3,151 | 29,407 |
| N | | Removal of Santa Fe Crossings—Macy and Aliso Sts. | | | | | |
| W | | Depression of Santa Fe Track South of Ninth St. | | | | | |
| CH | | Depression of Santa Fe Track—Broadway to Aliso | 92,646 | 12 | 6 | 5,559 | 98,205 |
| CL | | Depression of Santa Fe Track—Seventh to Ninth St. | | | | | |
| | | Total | \$130,152 | | | \$8,823 | \$138,975 |
| | 7 | New Trackage—East Bank—Humboldt St. to Dayton: | | | | | |
| B | | New Approach—Los Feliz Road Bridge | | | | | |
| C | | New Tracks—Humboldt St. to Dayton St.—East Bank | 29,228 | 14 | 7 | \$2,046 | \$31,274 |
| J | | New Connection—S. P. and S. L. at Alhambra and River | 18,374 | 4 | 2 | 367 | 18,741 |
| | | Total | \$47,602 | | | \$2,413 | \$50,015 |
| | 8 | Butte St. Trackage and Santa Fe Ave. Subway: | | | | | |
| X | | Tracks—Butte St.—Alameda St. to River | \$3,506 | 12 | 6 | \$210 | \$3,716 |
| Y | | New Connections—Alameda St. to Butte St. | 18,329 | 3 | 1.5 | 275 | 18,604 |
| AA | | Santa Fe Subway | | | | | |
| | | Total | \$21,835 | | | \$485 | \$22,320 |
| | 9 | New Trackage—River to Hobart and Connections: | | | | | |
| Z | | New Bridge and Wye East of River | \$47,505 | 8 | 4 | \$1,900 | \$49,405 |
| AC | | Second Track North of Present Santa Fe Main Line | | | | | |
| AD | | Connection at Hobart between Santa Fe and S. L. | 6,186 | 4 | 2 | 124 | 6,310 |
| | | Total | \$53,691 | | | \$2,024 | \$55,715 |
| | 10 | New Freight Yards—Southern Pacific and Santa Fe: | | | | | |
| A | | New S. P. Yard—San Fernando Rd. | | | | | |
| O | | New Santa Fe Yard—East of Hobart | | | | | |
| | 11 | New Freight Terminal—Salt Lake | | | | | |
| | 12 | New Connections—Relief Alameda St. Switching | | | | | |
| | 13 | Team Yard: | | | | | |
| AO | | New Yard—S. L. Terminal—Alameda and Hunter Sts. | *91,481 | | | | *91,481 |
| AT | | New Yard—L. A. Market Property | | | | | |
| CD | | New Yard—S. P. Freight Station Site | | | | | |
| | | Total | *91,481 | | | | *91,481 |
| S | 15 | Release S. P. Station Site | 11,719,918 | | | | 11,719,919 |
| V | 16 | Release S. P. Coach Yard Site | 11,651,262 | | | | 11,651,262 |
| | | ELECTRIC RAILROAD | | | | | |
| | 19 | New Line—P. E. Station to Brooklyn Ave. and to Fourteenth St.: | | | | | |
| CK | | Removal and Reconstruction of P. E.—Los Angeles St. and First St. | | | | | |
| CM | | Double Track Subway in Main St. | \$86,969 | 24 | 12 | \$10,436 | \$97,405 |
| DR | | Double Track Elevated for P. E. | 442,229 | 18 | 9 | 39,801 | 482,030 |
| | | Total | \$529,198 | | | \$50,237 | \$579,435 |
| | 20 | New Surface Line to Proposed Union Station | | | | | |
| | 21 | Freight Tracks: | | | | | |
| L | | Macy St. and River to Echandia Yard | \$30,044 | 8 | 4 | \$1,202 | \$31,246 |
| AB | | Raise Transfer Tracks—Santa Fe Ave. and Butte St. | | | | | |
| | | Total | \$30,044 | | | \$1,202 | \$31,246 |
| | | Grand Total | \$661,571 | | | \$629,921 | \$1,291,492 |

* Credit.

EFFECT OF RECOMMENDATIONS UPON DEVELOPMENT AND LAND VALUES

The adoption of the recommendations set forth in this report will have a great and far-reaching beneficial effect on the development of the city, with a simultaneous benefit applying to real estate values.

The chief benefits following the adoption of these recommendations, which will be reflected directly in improved real estate conditions, are cited below:

Immediate Benefits

1. Great increase in the values of realty fronting upon the proposed station site and in its immediate vicinity.
2. Increase in the value of properties upon Los Angeles Street from Commercial Street to Third Street.
3. Material increase in values upon San Pedro Street between Commercial and Third Street.
4. Immediate acceleration in the desirability of industrial property north of First Street.
5. Immediate increase in the desirability of business property upon Main, Spring and Broadway, between Temple Street and Third Street.

Ultimate Benefits

1. Recuperation and stabilization of values now rapidly deteriorating in the business district north of Fifth Street on Main, Spring, Broadway and Hill Streets.
2. Increase in values upon Los Angeles and San Pedro Streets (especially Los Angeles Street) due to improvement and change in character of business conducted upon them.
3. Main Street Subway—Will eliminate congestion of traffic through removal of Pacific Electric trains which will reclaim, to a large extent, former business values upon Main Street north of Sixth Street.
4. Material improvement in the convenience and desirability of the industrial district east of Alameda Street and north of Ninth Street, with resulting increase in values.
5. Increase in values of both the industrial and residential property lying east of the River, due to more convenient and quicker access.
6. Improvement of commutation conditions, both train and vehicular, between Los Angeles and outlying cities, with equivalent increase in the desirability of these districts for homes.
7. Increased safety of vehicular traffic between Los Angeles and Pasadena and material saving of time, reflected in increased values.
8. Inestimable benefit resulting from increased safety and elimination of delay to traffic of all classes while traversing industrial district.

CHAPTER XIX

OUTLINE

Franchise and Legal Matters

Financial Matters

 Financing of Expenditures Directly Connected with a Union Terminal

 Financial Plans of New York and Chicago

 Tentative Plan for Division of First Cost

 Tentative Plan for Division of Operating and Maintenance Cost

 Pacific Electric Railway and Rapid Transit

CHAPTER XIX

FRANCHISE, LEGAL AND FINANCIAL MATTERS

FRANCHISE AND LEGAL MATTERS

Although this report is primarily of an engineering nature, it seems necessary to call attention to a few of the legal points that have been encountered in the course of the work, since the determination of legal matters must necessarily precede construction.

In Chapter IV, several points relating to subways and elevated lines have already been enumerated.

The main line franchises of the Southern Pacific Company dealing principally with Alameda Street and Alhambra Avenue are in our possession and have been considered. One reason why, in our opinion, it will be difficult to remove Southern Pacific tracks from Alameda Street without the railroad's consent is found in what appears to be a perpetual franchise (see franchise passed by Los Angeles Common Council on September 5, 1872). We quote from this franchise:

"Sec. 1. That the right of way for the railroad track of the Southern Pacific Railroad Company in and out of the City of Los Angeles, for the distance said Company may wish to use same, be, and the same is hereby granted to said Company, its successor and assigns, over and upon the street and its extension, commonly called Alameda Street. . . ."

This franchise apparently does not contain any reversion or time clause whatever. The franchise situation has not, however, been with us one of the controlling factors for our recommendations that tracks be permitted to remain on Alameda Street. We believe that these tracks are necessary for the proper service to the Los Angeles industries.

On July 24, 1873, the Common Council of Los Angeles granted the Southern Pacific Company another franchise dealing not only with Alameda Street but also with certain other streets. We quote in full:

"An ordinance providing a free right of way for the Southern Pacific Railroad through the City of Los Angeles.

"WHEREAS, by a certain ordinance, passed October 24, 1872, the Mayor and Common Council of the City of Los Angeles obligated said city to give the Southern Pacific Railroad Company a free right of way for its road through said city, and said obligation having received the endorsement of a majority of the qualified voters of said city under the provisions of said above-mentioned ordinance; and,

"WHEREAS, The proper agents of said railroad company have selected as the lines for entering and leaving said city, and the necessary connections therewith, the grounds occupied by and embraced in the recently opened streets, named, respectively, San Fernando and Mission Streets, and a portion of Alameda Street, as recently enlarged, now, therefore;

"The Mayor and Common Council of the City of Los Angeles do ordain as follows:

"Section 1.—That all of San Fernando and Mission Streets, from their initial to their terminal points, together with that portion of Alameda Street between the present depot of the Los Angeles and San Pedro Railroad Company; subject to the provisos, resolutions and conditions hereinafter contained, be and the same is hereby set apart from the public highways of the City of Los Angeles to the unreserved and unrestricted use of the Southern Pacific Railroad Company, and the right of way over and along the same, subject as aforesaid, is hereby granted to said company for the building, maintaining and operating of its railroad thereupon by and through the track or tracks which said company shall deem it necessary to build along and over the same, and with the privilege to said company of making such embankments and excavations upon said streets as shall be found necessary by company's engineers to the proper construction of said railroad and its connections within the said city.

"PROVIDED, that the use of said Alameda Street, as hereinbefore provided for shall not at any time nor in any manner interfere with, nor preclude the city or the public from the right to use and enjoy as a public street of said City that portion of said street not actually occupied by the tracks of said company; and provided that neither the construction nor operation of said railroad over or upon the streets herein granted shall at any time interfere with any of the present and existing zanjas, water courses or ditches, nor preclude said city from any time making or constructing in, upon or along said streets crossings for new streets or for the extension of old ones; from making or constructing sewers, zanjas, water ditches and acequias or from laying down water pipes and gas pipes therein, or in either of them. Such crossings, constructions and improvements not to interfere with the grade and the efficiency of said road or its operation; and provided further, that whenever said company shall build its road across any road, street, water witch or zanja now open and in use, good and proper crossings shall then be built and maintained by said company, and all waterways shall be left in as good condition to pass water through the same as before such crossing of said railroad was made; and provided further, that if said railroad company shall fail or neglect to construct its road over and along said streets, or if when constructed said railroad company should at any time abandon or relinquish that portion of said road so constructed along said streets, then the rights hereby granted shall cease, determine and be void, and the lands embraced in and occupied by said streets shall revert to and again become vested in said City in the same manner and estate as if this ordinance had never been passed.

"Section 2. This Ordinance shall take effect and be in force from and after its passage, approval and publication.

"Passed—Session July 24, 1873.

"Approved:—July 26, 1873.

J. R. Toberman, Mayor."

This franchise makes a distinction between Alameda Street and other streets mentioned in the franchise, namely, San Fernando (now North Spring) and Mission (now Alhambra). It appears that the railroad's rights on Alameda Street are restricted and that the City expressly retains the right "to use and enjoy as a public street of said city that portion of said

street not actually occupied by the tracks of said company." No such restriction on San Fernando Street (now North Spring) or Mission Street (now Alhambra) were provided.

None of our recommendations, we believe, interfere with the Company's rights on either North Spring Street or Alhambra Avenue.

Another question of considerable importance to the Southern Pacific is the legal status of the so-called Wolkskill land now forming part of the Southern Pacific Arcade station site. One provision of this deed was to the effect that if the railroad company did not maintain a passenger station and a restaurant on the property deeded, then this property would revert to the grantor. Whether or not this clause, if we have correctly interpreted it, is of force when change in the location of railroad facilities is made by Government authorities rather than by the choice of the railroad company, is a legal question which will have to be considered.

FINANCIAL MATTERS

This report would be incomplete if it did not include a general discussion of a financial program to accompany the plans which we have presented. Such a program should take into account not only the financing of the actual construction, but also the operation of the properties as planned. In fact, after a set of definite recommendations has been adopted, the financial program must be worked out immediately.

We realize that the financial program must be a special and detailed study and consider it within our province only to point out various possibilities based on experience elsewhere and certain special features connected with the Los Angeles problem.

Detailed study of the financial program should not be undertaken until a rather definite set of plans dealing with all three branches of our investigation (the grade crossing elimination, the union passenger terminal and the freight situation) have been decided on.

It is eminently desirable to secure the interest and co-operation of the railroads in carrying out a plan. In our recommendations it has been our endeavor to make them practical. The fullest use has been made of existing railway properties in order to reduce the amount of new capital necessary, although this need not necessarily be the ruling consideration in determining which plan is best. From the standpoint of the roads, not only the first cost must be considered, but the general efficiency under operation. From the standpoint of the public, not only the general effect on values but the general convenience and the saving of time must be taken into account. The charge has been brought against the railroads, in the past, that the civic viewpoint has been too often neglected, and this is easily understood when it is remembered that the people who control and own the roads do not always have an adequate conception of local needs.

Referring to the financing of the union passenger terminal, and possibly to the union freight station, also, and excluding from consideration all expenditures clearly to be borne by individual roads or by the public, we find several methods for financing such a terminal:

(1) Financing by the **individual railroads with the formation of a union terminal company** and with the participation by the City or other public bodies. The independent terminal company may either be an altogether private corporation financed independently and in the open money market, or may be a "close corporation" and be participated in mainly by the interested carriers. This company would issue its own securities, guaranteed, if the second alternative were chosen, by the railroads. After the construction of the terminal, the income would be secured from the lease of its facilities to individual roads and other users of the property (express, mail, advertising, offices, stores and restaurants). This method is superior to the first but is not, in our opinion, the best for the Los Angeles situation for the reason that more complete co-operation on the part of the public is desirable.

(2) The financing could be by the **individual railroads without the formation of a union terminal company** and without participation by the City or other public bodies. This method, in our opinion, would not be the best in Los Angeles for a number of reasons. The most important objection to this plan lies in the fact that the cost would be higher than under any other scheme. Under such a method it would not be likely that the project would receive the co-operation of the public and the benefit of public lands and other grants as might be secured under a better plan.

(3) The financing could be by a **union terminal company with a participation** by not only the railroads but also by such public bodies as may benefit by the consummation of the project (the City of Los Angeles and possibly the County of Los Angeles). This would necessitate either the creation of a bond issue by the City or arrangements for the purchase of the bonds of the Terminal Company in the proper amount by the City. In addition to the participation in the project of the City as a whole, there might be a participation by an assessment district including such territory as will particularly benefit by appreciation of realty values and by other causes.

This method of financing the terminal project appears to us the best. The capitalization of such a terminal company with participation of the railroad, the City, a special terminal district, and possibly private individuals, should be equal to the total cost and value of the property devoted to terminal use. In other words, credit should be given in the form of securities or otherwise to the lands and other property contributed for joint use by the present individual owners on the basis of an agreed and fair valuation. All, or a portion of the new money to be raised should be con-

tributed in proportion to the uses made of the terminal by the individual carriers and by other users, and, in the case of the City or other public bodies, in proportion to the interest in the project. Under such a plan there should be a joint guarantee of the investment by the railroads and by the City. There would consequently be available for financing the combined credit of the carriers and of the public. The result will be the possibility of a very economic financing by a large proportion of bonds and a small proportion of stock. To the extent that the issuance of stock is associated with the idea of speculation, it would seem desirable to eliminate as far as possible all speculative features and to consider the project from a high grade investment standpoint rather than from a speculative standpoint.

We proceed on the assumption that the railroads will return to private control and that Government ownership is not a possibility of the immediate future. As long as Government control continues as at present, of course, it is clear that the railroad corporations can make no engagements for the assumption of capital expenditures, or, to a much greater degree, for future operating expenditures, without the approval of the United States Railroad Administration. It is true that the railroad corporations are free to finance such capital improvements as may seem to them desirable, but the practical effect of the situation is that no important financing of any nature will be undertaken until operating control again reverts to the railroads.

Financing of Expenditures Directly Connected with a Union Terminal

By whatever method the union terminal project is to be financed, it will be necessary to distinguish between expenditures for the terminal and expenditures for work not a part of the union terminal such as grade separations, bridges across the Los Angeles River, subway and tunnel construction, expenditures for the modification of street railway systems, etc.

To the extent that such expenditures should be borne jointly by the carriers and by the public, it will be necessary to segregate the money to be furnished by the roads from the money to be furnished by the City of Los Angeles, by the County, by the State and, perhaps, by other public bodies.

In the following chapter (Chapter XX) there are given detailed estimates of the amounts of new money required for the various plans. Considering only the estimates for our final recommendations, there is required for the immediate plan \$15,666,102 and for the ultimate plan \$25,396,633.

The ultimate plan is for a construction program of from twenty to thirty years. The immediate plan is intended to take care not only of essential construction consistent with our effort to include sufficient improvement in our estimates to secure the relief desired by the City and necessary to the railroads, but to fix the ultimate development definitely along the lines of our recommendations. It is possible, of course, to increase the program for the immediate future, and in view of the general conditions obtaining in the country today and in line with the general policy urged by the Federal and State governments in regard to all public works, it may be

desirable to shorten considerably the period for the ultimate program. To make a great portion of the recommended improvements in the near future would not only give greater employment to labor but would also secure greater benefits in a shorter time to the City and all interested parties.

It may be useful to consider the financial plans in similar cases elsewhere:

Financial Plans of New York and Chicago

The transportation of New York is being financed by co-operation between the railroads and the city. Half of the money is being furnished by the city by a bond issue, upon which the railroads pay interest and sinking fund charges.

In Chicago an entirely different state of affairs existed in 1907, at the time of the expiration of the cable railway franchises. Although the city had, by the ballot, declared itself in favor of "immediate municipal ownership," it found itself without the funds to rebuild new lines. The money could not be raised by bond issue without exceeding the charter limit. The old cable line had been obsolete for many years and it was necessary to install electric lines and in this dilemma, the city evolved what has since been known as the "Chicago Plan." The city granted the company an indeterminate franchise under a profit sharing agreement. After paying operating expenses, the city and company were each allowed 5 per cent of the gross earnings and the surplus was divided, 60 per cent to the company and 40 per cent to the city. The city reserved the right to acquire the property at such a time as the purchase could be financed. The resettlement plan included a definite price based upon the condition in 1907, with provision for additions and betterments subsequently. The effect of unification was obtained by a Traction Board in which the city was represented and the 60 per cent the company was allowed under the terms furnished the competitive element or the incentive. The city participates as a silent partner and is relieved of the direct responsibilities of operation.

Tentative Plan for Division of First Cost

For the highway bridges across the Los Angeles River, the railroads should pay the difference between the cost of elevated viaducts, as planned, and the cost of installing similar bridges at grade. By this arrangement the roads would pay for all track depression, the approaches and that part of the main span due to increased height.

Street railways using the highway bridges should pay the difference between the cost of simple highway bridges and the cost of bridges as designed, with extra width and loading due to use by these lines. The lines should pay whatever proportion of the street paving it is customary for them to pay under the provisions of their franchises.

The state and county should pay their proper portion of the cost of all bridges on the state and county highway systems.

For the union passenger terminal, the natural lines of divisions of cost

are less marked than in the case of grade separation. With the station located at the Plaza, there will be a large enhancement in realty and business values. It would be but fair to expect that those chiefly benefited would be willing to form an assessment district to share a portion of the first cost of the station building and new land required. An acceptable station, we estimate, can be built for \$1,000,000 (contract cost). It is suggested that the City might increase this sum in case a more elaborate building is desired, and might furnish the Plaza in front of the station as was done in Washington, D. C. As the Federal Building also will face this Plaza, it may be possible to secure a government appropriation to cover a portion of the cost. The remainder of the terminal cost, except express facilities, should be borne by the railroads. The mail facilities can be leased to the Federal Government.

A union less than carload station and other facilities should be furnished by the railroads.

Tentative Plan for Division of Operating and Maintenance Cost

The bridges and viaducts should be maintained by the city, except that the railroads should protect and maintain all steel work over their tracks. The state and county should maintain the paving on the bridges which are part of the state and county highway systems. The union passenger station should be operated by a terminal company as suggested above.

The union coach yard should be under the jurisdiction and operating control of the operating union terminal company.

Leasing charges and rentals should be proportional to use and sufficient only to cover operating expenses, sinking fund requirements and fixed charges.

The union less than carload freight station may or may not be included in the property and the operations of the union terminal company. It is desirable, however, to have this facility under the exclusive operating control of the railroads. Cost of maintenance should be proportional to the tonnage handled.

Repair shops and mechanical facilities should be pooled for such work as can be done jointly to the best advantage.

Pacific Electric Railway and Rapid Transit

We recommend a subway in Main Street from Seventh to Sunset Boulevard. This subway can be built by the City and leased to the operating company as is done in New York. In this case the City would receive a rental and would in addition have the use of this subway for conduits, pipes, etc. The very costly and constant tearing up of main business thoroughfares as it is now going on would be avoided and the City would be provided with a facility in which to place future water pipes or electric conduits for municipal power.

As pointed out heretofore, Charter amendments may be necessary to enable the City to enter into such arrangements.

CHAPTER XX

OUTLINE

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With Union Passenger Station at Santa Fe Station Site

CHAPTER XX

ESTIMATES

SOURCES OF DATA

It goes without saying that a very large amount of data was required for the purposes of this report. A considerable portion of the time and expense of the entire investigation is chargeable to the accumulation, verification and assembly of the necessary underlying information. Without the co-operation of the carriers, and of the city authorities, we should have been unable to complete the report in the time consumed and much valuable data could not have been obtained at all.

Information regarding carriers' statistics and physical characteristics was requested from the railroads. Much of this information was a matter of record; some was furnished at a minimum expenditure of time and some required a month or more to analyze and record. Other information was not a matter of record and required surveys, or such work as counting passengers; certain information was submitted as confidential, particularly costs of lands, or passengers carried to and from certain points, and we have agreed to regard such data as executive. Generally, all railroad data was satisfactory and only in a few cases was it necessary to make corrections.

We wish to say that our requests were cheerfully met, in an evident spirit of co-operation, and the data furnished as rapidly as was possible under existing conditions. These conditions, arising from the lack of clerical and other help, caused by the war and the federal control of railroads, were fully realized by us and we have been careful to request only such data as was deemed essential, and not to press the carriers in the matter of time.

In addition to information received from the carriers, the City of Los Angeles, through its City Engineer and the Chief Engineer of the Board of Public Utilities, the Board of Education and the Registrar, furnished us with considerable data, always most courteously and promptly. The County of Los Angeles, particularly through the Assessor's office, has also furnished a large amount of data, and here, too, we have received the earnest co-operation of the officials with whom we took up our questions.

General information has been supplied by certain quasi-public bodies, notably the Chamber of Commerce.

MAPS AND PROFILES

Our first task, almost, was to construct a "base map" to be used as a basis for future studies. The City of Los Angeles Exhibit No. 3—"Railroad and Industrial Map of the City of Los Angeles," Drawing No. 515, Scale 1 inch to 200 feet, was found to be, after some investigation, best suited for this purpose. After tracing this map, it was found in some cases the street

names did not agree with those on the ground, that certain streets were shown which appeared to be vacated, and that there were several other questions which required some verification for our purposes. This is in no manner a reflection on this Exhibit, but is simply drawing attention to the fact that the map only purported to be correct up to September 11, 1917, and that certain changes had taken place in the interim. Furthermore, the original map was made for a purpose different from ours and had to be adapted to our needs. Accordingly, we obtained from the City of Los Angeles prints of the so-called "District Map" which is on a larger scale, and which is, as we understand, kept up to date as far as street names, new streets, and vacated streets are concerned, and endeavored to have our "Base Map" agree with this "District Map." As we decided to make our tracing somewhat larger than the Board of Public Utilities' map, Mr. F. D. Howell, the Chief Engineer of the Board, kindly consented to plot for us the land and street names in part of the district, which were outside of the boundary of the map prepared by the Board.

It also developed that there were a few minor discrepancies between the spur tracks, as shown on the City's Exhibit, and as they actually existed upon the ground, some of which were due to the construction or rearrangement of these spur tracks subsequent to the date of the City of Los Angeles Exhibit No. 3. These have been corrected, as far as was possible, within the limits covered by our "Base Map." This map is on file with the Commission and is the original from which the photo-reproductions appearing in this report were prepared. The original is too large to be made a part of any report, being about 18 feet long.

As the lands owned by the carriers appeared to be of primary importance, we early attempted to secure the limits of such lands, whether owned, leased, or owned and leased to others. This information was obtained by sending a copy of City of Los Angeles Exhibit No. 3 to the Southern Pacific Company, the Atchison, Topeka and Santa Fe Railway Company-Coast Lines, Los Angeles and Salt Lake Railway Company, and the Los Angeles Railway Corporation, with the request that they show this information for their properties in color. After having received these maps, the ownership of the lands involved was verified at the County Assessor's office and all discrepancies ironed out and the necessary corrections made. This map is the basis of the small maps in this report showing carrier lands.

In connection with the elimination of grade crossings adjacent to the Los Angeles River it was necessary to secure profiles of the river and of the adjacent tracks of the Santa Fe and Salt Lake Railways and of the various streets crossing the river. The City of Los Angeles Exhibit No. 1 appeared to present part of the information desired, but since the Chief Engineer of the Board of Public Utilities verbally advised that the profile was made up from such information as was at hand, and since the report of Messrs. Ham-

lin, Howell and Storrow (which was attached to the Application in Case 970 and marked Exhibit "A") also states that this profile was made up from information available at the time, it was thought advisable to verify the grade lines of the two carriers whose tracks are adjacent to the railroad. The Salt Lake advised that the grade of its track was correct. The Santa Fe, however, submitted a profile of its track which differs slightly from map shown by City of Los Angeles Exhibit No. 2.

The Southern Pacific and Salt Lake, in response to our request, made surveys to determine the profiles of the various streets crossing the river, and these have been used as a basis for the studies of possible viaducts across the river and for the street grades of the approaches.

For a study of the excavation required for the depression of the Santa Fe and Salt Lake tracks along the Los Angeles River, we used cross-sections which were obtained from these two roads. The Salt Lake had, we found, rather recently taken cross-sections of its roadbed at 200 feet intervals, which were available. The Santa Fe found it necessary to cross-section its roadbed, which was also done at 200 feet intervals, and prepare a profile. These cross-sections are of special value because, among other information, they present a profile of the bed of the river right up to date. This is in general below the grade of previous records, showing the constant lowering of the river bottom, except south of Ninth Street, where there was evidently a raise between 1914 and 1918.

With these changes, City of Los Angeles Exhibit No. 1 was made a basis for the study of the elimination of grade crossings adjacent to the river, the present elevation of tracks and river bed being shown on the four profiles found in Chapter VI. On all drawings elevations have been referred, as far as possible, to the official city datum plane, the surveys made by the carriers having been made with this datum as a basis.

There are, of course, very many other maps, profiles, etc., which have been used in this work, but those mentioned are the most important.

OCCUPANCY SURVEY

With a view of ascertaining the occupancy in the industrial district an "occupancy survey" was made. This survey was made to show the:

1. Location of all buildings.
2. Kind of building (whether frame, brick, concrete, etc.), and number of stories,
3. Location of vacant land,
4. Nature of business carried on in each structure.

This data has been mapped and now, at a glance, it is possible to form a reasonably accurate opinion as to whether a street or spur track can be located or a change of grade made without excessive damage to improvements.

Near the proposed sites of union passenger terminals, and in the vicinity of approaches to possible bridges across the Los Angeles River, this data was supplemented by an appraisal of the buildings, this appraisal of buildings being made to obtain two elements of value:

1. Cost—an estimate of original cost,
2. Present value—an estimate of present "sound value."

The appraisal was made by a man of long experience in Los Angeles and, in the cost estimates, it was attempted to use unit costs which approximate those prevalent in the period in which the structure was evidently constructed.

For present value, an estimate of depreciation and "sound value" was made, this latter figure being the amount which an owner could reasonably expect to obtain from an insurance company if his building were to burn down, provided sufficient insurance be in force.

As a check against our valuation the figures developed in 1915 by the Los Angeles City and County Bureau of Appraisal were obtained. As a matter of fact, the latter figures were first obtained and an attempt made to verify them, but considerable discrepancy was found in various buildings and our appraisal was then started. On the whole, the figures from the two sources agree very closely for a large area, but vary widely in individual buildings.

CONTENTS OF ESTIMATES

What the Estimates Include

We are at first concerned with the cost of the proposed facilities, regardless of how the cost should be divided between the interested parties. That matter must be equitably adjusted after a decision is reached as to what is to be done and at what time. With this in view, it must be apparent that the estimates should cover the new money to be raised, rather than the value of existing facilities. Although one road may compensate another for rights acquired (because of proposed joint use of facilities), no new money—money not previously invested in transportation facilities—is required as far as the use of existing railroad property is concerned. On the other hand, private property to be acquired, or new construction, or reconstruction and rearrangement clearly require new money. The estimates cover only the new money required.

It might be here noted that inasmuch as different use is made of several of the larger carrier tracts, there are a number of carrier buildings which would be destroyed. Manifestly these buildings are of value to the carrier and it is only fair that the carrier should be paid the present value of the building, either directly, or by crediting the proper amount against its proportion of the cost of the entire construction. To do otherwise would,

in our opinion, be confiscation without just compensation. We have, therefore, included in our estimates "compensation for facilities displaced" to cover such cases and also include the estimated cost of moving, to some other location, the contents of the buildings, such as machinery, records, furniture, etc. If the facility displaced is not to be destroyed, as a track scale, the estimates include moving the scale and setting it up on a new foundation.

In general, the salvage value of buildings, either privately or carrier owned, is considered equal to the cost of removal, and neither item of cost appears in the estimates.

The cost of the establishment of the various facilities herein considered and set forth are made up of many items, which fall into the following general classes:

1. **Physical Construction.**—This item covers construction of new facilities, or, as in the case of rearrangement of tracks, the estimated cost of making the change, including credits for material left over, if any, and moving carrier facilities from one location to another.
2. **Overhead Expenditures.**—This item, as explained later, covers the cost of engineering, administration and interest during construction, and is added as a percentage to Class 1, above.
3. **Compensation for Facilities Displaced.**—This item covers the payment to be made to the owner of property which would otherwise be confiscated without compensation. Included is the estimated value of existing buildings on private property to be acquired for transportation purposes, or buildings on carrier property which would be destroyed in the course of the proposed changes, alterations on private buildings where it is not necessary to destroy them, and moving of carrier equipment in these buildings. Equipment in private buildings is not included, as the estimate of land cost purports to be sufficient to pass the fee. "Overhead Expenditures," except interest during construction, are not applied to items in this class.
4. **Lands.**—This item covers not only the estimated market value of non-carrier lands which it is proposed to acquire, but the estimated cost of acquisition through condemnation and interest during construction on the total cost. No other overhead expenditures are applied to this item. Credits for lands released from transportation use are deducted. (The land and real estate studies form an important part of this report and are separately discussed in Chapter XVIII.)
5. **Damages.**—This item is found only in the estimates for viaducts and covers the estimated damages to real property occasioned by the change in grade of the street. No overhead expenditures are applied to this item, nor is interest estimated thereon.

Unit Costs in Estimates

Construction costs were first estimated with unit prices approximately as of 1916. During the time this report was in course of preparation, the labor and material markets were in a most chaotic condition. This was due to the war and, with conditions so unsettled, and changing from day to day,

it was thought advisable to use 1916 prices and, if necessary, bring them up to any date by the addition of a percentage applicable to a later date. Since the close of the war, unit prices have been revised and the present estimates show figures of costs of what, in our opinion, may reasonably be expected during the next five years.

Take rails, for example: For about sixteen years the price was \$28.00 (per gross ton) f. o. b. eastern points, with about \$11.00 freight, or \$39.00 f. o. b. Pacific Coast. During practically all of 1918 the price was \$55.00 east with about \$26.00 freight, or \$81.00 Pacific Coast, this being a government price and freight rate. We have assumed a price of \$60.00 Pacific Coast, based on the assumption that there will be some reduction, but that the price will not reach the old low level. Other track material prices have been treated in a similar manner. It should be stated that the price of \$55.00 was simply the settling price between the Railroad Administration and the mills, and while not good evidence of a market price, it is the only indication available as practically no rails were rolled since the first of 1917.

This does not apply to lands. Estimates of costs of lands to be acquired are intended to represent, as nearly as may be, our opinion of this cost if the lands are acquired during the next few years. This matter has been fully discussed in Chapter XVIII.

Schedules of unit costs used in our estimates are available in the Commission's office. As arranged, these apply principally to standard railroad construction, no effort being made to set forth the many various unit costs for building estimates, etc., because of the large number of items involved. We have used as a basis for track estimates a composite track practically equal to that of either of the three steam roads entering Los Angeles. This avoids three different sets of figures and makes no material difference in the end. Four different classes of tee rail track are assumed; main line, passenger station yard, freight yard and industry, decreasing in cost in the order given.

Overhead Expenditures

This term includes expenditures ordinarily charged to the following accounts (Interstate Commerce Commission Classification of Expenditures), but which, due to the method of estimate, are provided for by the addition of a percentage to the estimate of physical construction:

- Account No. 1—Engineering,
- “ “ 71—Organization expenses,
- “ “ 72—General officers and clerks,
- “ “ 73—Law,
- “ “ 74—Stationery and printing,
- “ “ 75—Taxes,
- “ “ 76—Interest during construction,
- “ “ 77—Other expenditures—General.

The percentages applied to cover the above expenditures are not applied to land, to credits for materials, nor to amounts estimated as compensation to the owners for buildings to be abandoned, except Account 76, interest as applied to expenditures for land.

Engineering is estimated at $4\frac{1}{2}$ per cent of the total for construction.

Accounts 71 to 75 (inclusive), and 77, are grouped together and estimated at $1\frac{1}{2}$ per cent of the total for physical construction.

Account 76—Interest During Construction—is based upon a rate of 6 per cent per annum. For physical construction it is applied on the theory that half the total of the estimate is the average amount upon which interest during construction should be paid, using the full period of construction. The period of construction is estimated separately for each section, as shown in the following tabulation:

ESTIMATED CONSTRUCTION PERIODS OF CONSTRUCTION UNITS

| Estimate Section Key | Construction Period Months | Estimate Section Key | Construction Period Months | Estimate Section Key | Construction Period Months |
|----------------------|----------------------------|----------------------|----------------------------|----------------------|----------------------------|
| A | 24 | V | 4 | CE | 24 |
| B | 6 | W | 10 | CF | 36 |
| C | 14 | X | 12 | CG | 24 |
| D | 2 | Y | 3 | CH | 12 |
| E | 2 | Z | 8 | CJ | 30 |
| F | 6 | AA | 10 | CK | 6 |
| G | .. | AB | 4 | CL | 6 |
| H | 18 | AC | 4 | CM | 24 |
| I | 6 | AD | 4 | CN | 18 |
| J | 4 | AG | 4 | DB | 6 |
| K | 24 | AK | 12 | DH | 12 |
| L | 8 | AL | 12 | DJ | 30 |
| M | 18 | AM | 18 | DK | 6 |
| N | 1 | AN | 18 | DL | 8 |
| O | 24 | AO | 6 | DM | 18 |
| P | 1 | AS | 8 | DN | 18 |
| Q | 18 | AT | 8 | DO | 14 |
| R | 20 | CA | 18 | DP | 18 |
| S | 8 | CB | 6 | DQ | 4 |
| T | 18 | CC | 16 | DR | 18 |
| U | 18 | CD | 8 | DV | 10 |

For land, the rate of interest is applied on the entire construction period and to the total estimated cost of acquiring the land, on the theory that land must be purchased before construction begins and interest will accrue until operation commences. This will probably not be strictly the case in all instances and a slight reduction in this item may be expected.

Contingencies

Ten per cent is added to estimates of physical construction to cover unforeseen expenditures, small items not separately estimated, changes in plan

and contingencies in the prices of materials and the cost of labor. This is applied to the same totals used for the calculation of overhead expenditures, including the allowance for contingencies.

Construction Estimate Summaries

In order to take into consideration all of the various influences of the interdependent matters of grade crossing elimination, union passenger station and freight handling, we have made estimates which are called the Plaza Plan (Plan C), the Southern Pacific-Salt Lake Plan (Plan A), and the Santa Fe Plan (Plan D), and which cover not only the union passenger terminal, but the proposed grade separations and improvements in the handling of freight which accompany the location of the passenger station on the three different sites.

The summaries are made by combining estimates for a number of various sections. Some of these sections are common to the three plans, some to two and others to one plan only. Where the ultimate plan (and this happens in a few estimates) must remain somewhat indefinite as to the ultimate number of tracks, we have, in such sections, estimated on the immediate improvements only. We should here say, however, that in these sections the difference is of small consequence. All estimates include all the land necessary for the ultimate plan.

In general, a single-letter section applies to all three plans; the first letter of two-letter section indicates the plan to which the section is peculiar, but there are several exceptions to this system of nomenclature.

In order to present clearly the location and limits of the estimate sections, we are including 3 maps (Figs. 198, 199 and 200) upon which this information is shown. These show graphically the relation of the different sections to the plan and to one another.

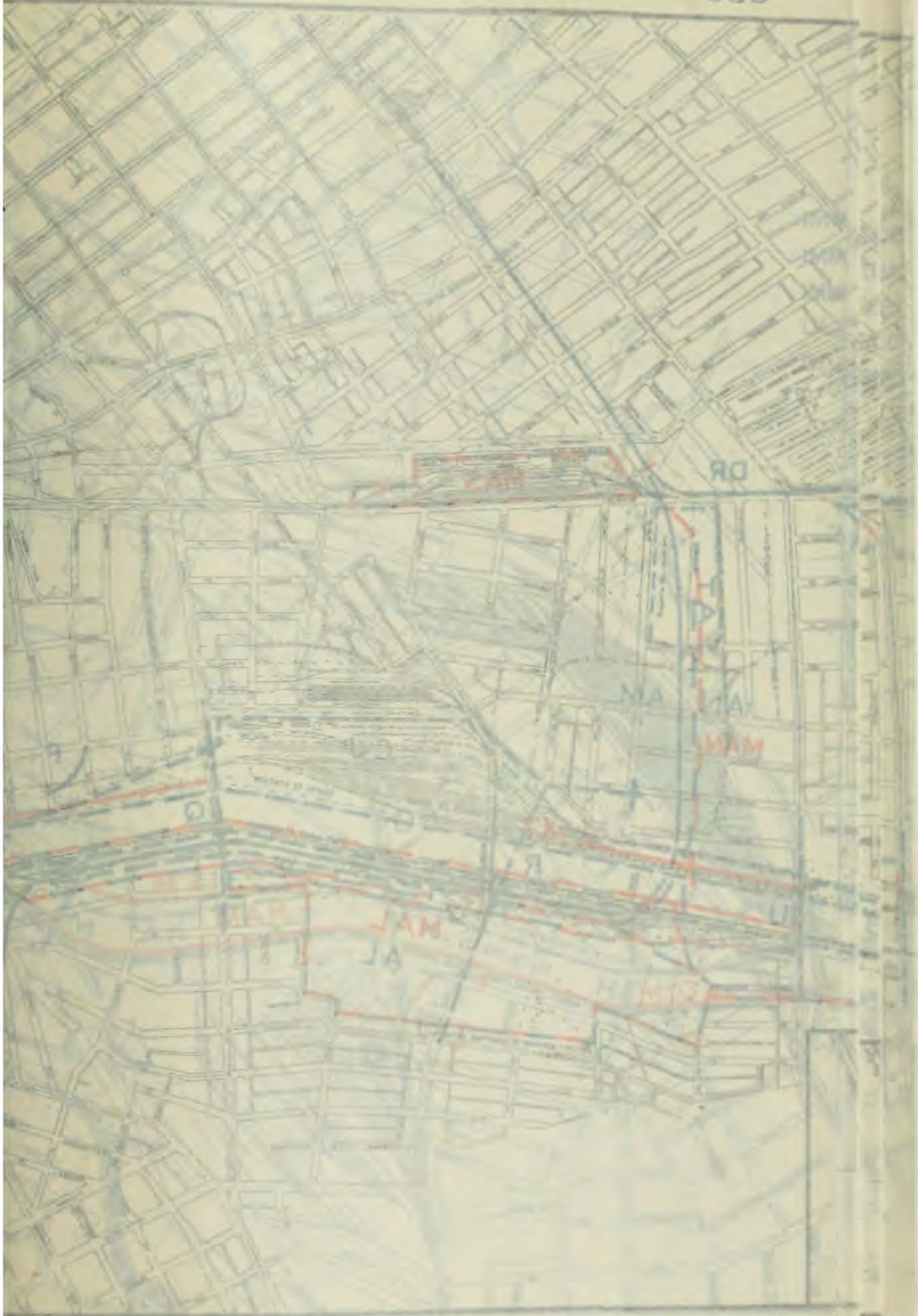
KEY TO UNIT ESTIMATES

"A" Plan—Union passenger station at Southern Pacific site.

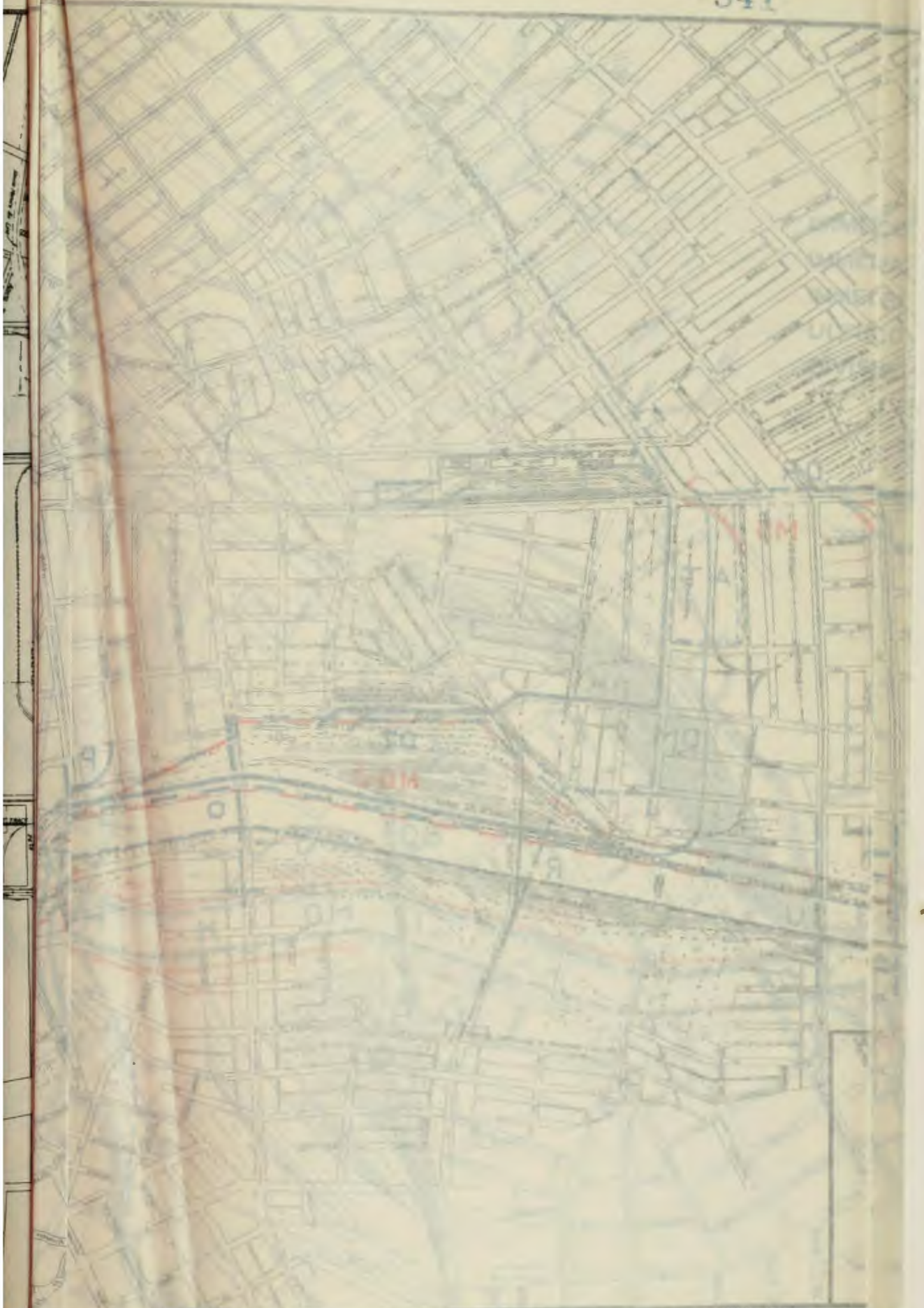
"C" Plan—Union passenger station at the Plaza.

"D" Plan—Union passenger station at Santa Fe site.

The following list indicates the sections comprising the various items entering each or all of the plans. The estimate for each section is complete in itself and includes lands, buildings, reconstruction of tracks and streets, etc., and the so-called overhead percentages, such as cost of acquisition of land and engineering, legal and general expenses incidental to construction. In all cases the existing facilities have been used as far as possible and all abandoned material possible to salvage has been credited. The estimates cover "new money" only, except where otherwise noted. The grand total of any one plan is obtained by adding the totals of various sections in that plan, as noted later.

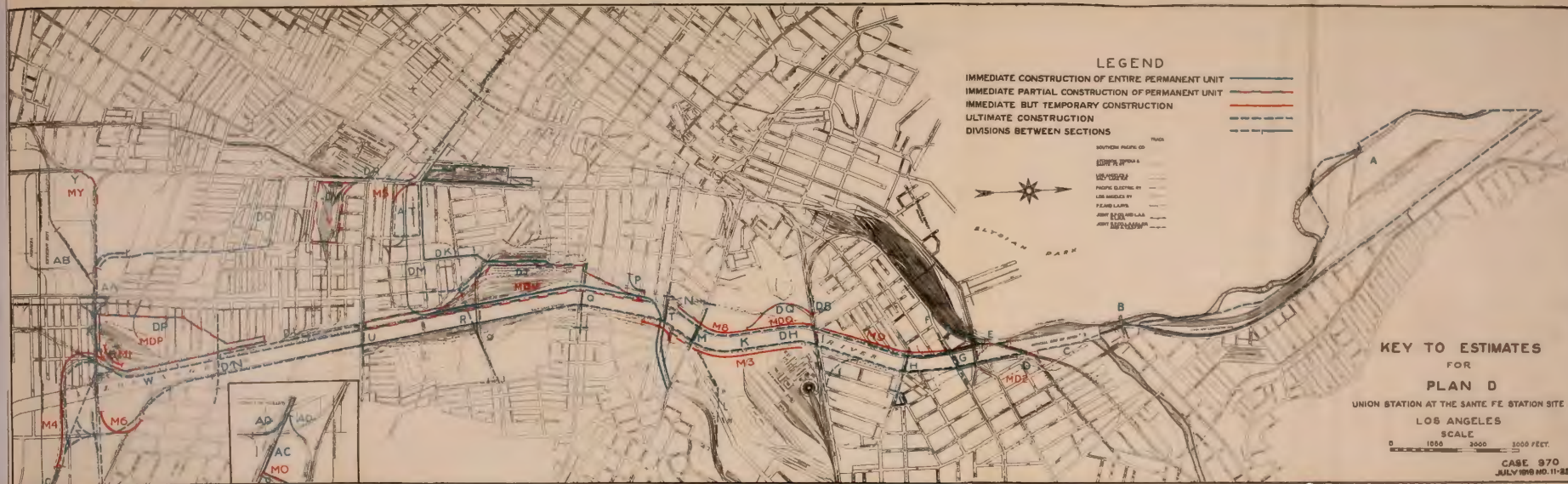


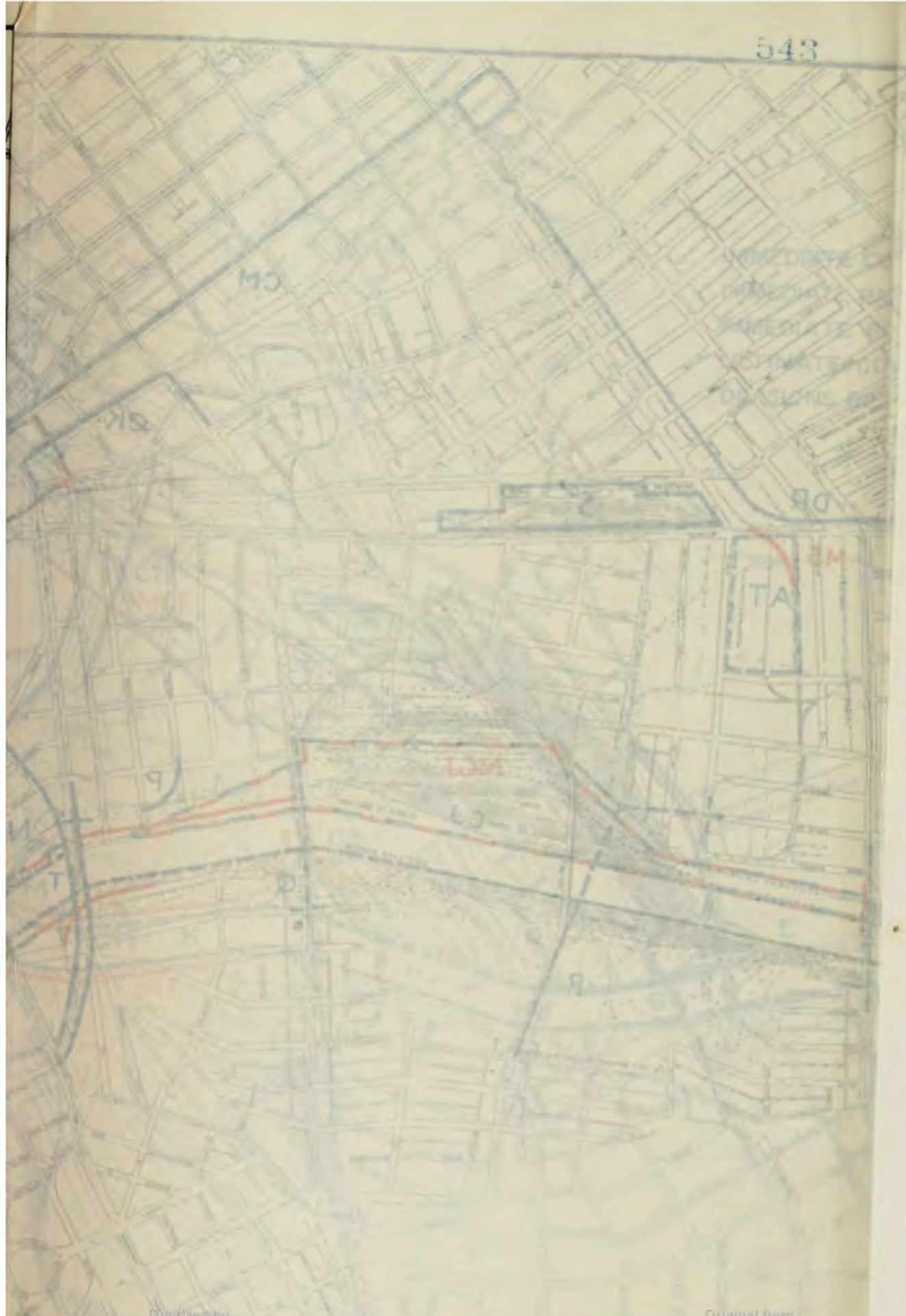
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ESTIMATES FOR ULTIMATE CONSTRUCTION BY UNITS

| Sections Common to all Plans | Estimated Cost |
|--|-------------------|
| A—New classification yard—Southern Pacific Company—along San Fernando Road from a point approximately 500 feet north of Los Feliz Road to the northerly limit of the proposed yard. This estimate covers the items additional to the work already done. No new land is required..... | \$1,878,157 |
| B—New bridge carrying Los Feliz Road across the Los Angeles River, presents Southern Pacific tracks and the new trackage mentioned under C, following. No new land required.. | 67,272 |
| C—New double track along east bank of the river from Santa Fe tracks at Humboldt Street to Southern Pacific tracks at Pigeon Farm, or Section A. Includes interlocking at junction with Section A, and bridge across Arroyo Seco..... | 173,464 |
| D—New double track connection at east end of Santa Fe Bridge at Humboldt Street, between Salt Lake tracks and Section C and rearrangement of present connection between Santa Fe and Salt Lake. Small amount of land required..... | 59,841 |
| E—New connection between Southern Pacific and Santa Fe tracks at the south end of the Santa Fe Bridge on west side of river opposite Humboldt Street. The southerly limit of this section is the northerly end of the changes introduced by the depression of tracks along the west bank of the river. No new land required..... | 23,479 |
| F—New approach in Baker Street to North Broadway viaduct. New land required | 111,051 |
| G—Removal of North Spring Street Bridge..... | 0 |
| H—New viaduct on North Main Street across the river and adjacent tracks. No new land required..... | 543,084 |
| I—Depression of Southern Pacific tracks in Alhambra Avenue from the west bank of the river to a point 1440 feet east of the east bank, where the new grade intersects the old, including lowering of Southern Pacific Bridge, and part of a southerly connection between Salt Lake and Southern Pacific tracks. No new land required..... | 45,983 |
| J—New double track connection between the Salt Lake tracks along the river, approximately opposite Cardinal Street, and Southern Pacific tracks in Alhambra Avenue. Land partly acquired | 64,502 |
| L—Trackage for Pacific Electric freight between the river and the Pacific Electric main line, and includes new single-track from just north of Macy Street to the main line, including a tunnel under Mission Road near water tank in Southern Pacific shop grounds; three 1000 ft. transfer tracks are included. New land is necessary..... | 141,392 |
| M—New viaduct across the river and adjacent tracks at Macy Street, including widening of street east of river. New land for street widening, necessary | 357,558 |
| N—Removal of present Santa Fe main line tracks and crossings from Macy and Aliso Streets. Lands not affected..... | 1,047 |

| | |
|---|---------|
| O—New freight yard for Santa Fe at Hobart. Land already acquired | 957,030 |
| P—Connection of Jackson Street spur with Santa Fe tracks east of Center Street | 4,436 |
| Q—New viaduct across the river and adjacent tracks at First Street. No new land required..... | 390,209 |
| R—New viaduct in new location across the river and adjacent tracks at 4th Street, including widening of street west of river. Some new land required..... | 856,285 |
| T—New viaduct at Aliso Street for electric railway only—no highway. Reconstruction of present structure into 2-track viaduct by raising present bridge and using inside girders. Approaches with two tracks only, east approach extending to Brooklyn Avenue. No new land required..... | 416,936 |
| U—New viaduct across the river and adjacent tracks at Seventh Street. No new land required..... | 567,591 |
| W—Depression of Santa Fe main line track from center line of Ninth Street to westerly end of bridge proposed across the river south of Butte Street, double track all the way. Includes reconstruction of Redondo Branch north of Lenard Street, as may be necessary, and abandonment and removal of bridge and present main line from Redondo Junction to the point east of Soto Street where new Section Z begins. No new land required, some right of way abandoned..... | 201,272 |
| X—Reconstruction and double-tracking of Salt Lake tracks from westerly end of new bridge south of Butte Street to beginning of curve, about 600 ft. east of Alameda Street, including grading for grade separation at Santa Fe Avenue and reconstruction of spur track to L. W. Blinn and removal of Salt Lake Butte Street Bridge and track east of river to Salt Lake present main line. Small additional right of way. | 97,258 |
| Y—New double-track connection through Hammond Lumber Company from Section X to Southern Pacific tracks in Alameda Street. Additional interlocking at Clement Junction Tower included. New right of way is necessary..... | 57,773 |
| Z—New bridge across Los Angeles river south of Butte Street on a line with the tangent of Santa Fe track through Hobart produced westerly, including connection to Salt Lake tracks near Boyle Avenue and Alostia Street and third side of wye across Soto and Lugo Streets. New right of way is necessary | 322,124 |
| AA—Subway in Santa Fe Avenue at Butte Street including bridge carrying trackage from Section X across Santa Fe Avenue. No new land required..... | 37,860 |
| AB—Reconstruction of easterly end of Pacific Electric transfer tracks west of Santa Fe Avenue to meet elevated tracks covered in Section X. No new land required..... | 8,694 |
| AT—New team yard tracks at the present site of the Los Angeles Market, at Sixth and Alameda Streets, with a surface connection with freight tracks in Alameda Street. No new land required | 176,694 |

DR—New double-track elevated construction for Pacific Electric from San Pedro Street, paralleling Sixth Street to Alameda, thence south along private right of way and coming to grade on present line between Ninth and Fourteenth Streets, including reconstruction of present elevated from Wall Street to San Pedro Street. New land is necessary..... 1,671,590

Sections included in Southern Pacific Plan Only—Plan "A"

AG—New connection from Salt Lake San Pedro Branch to Santa Fe tracks east of Hobart at Hobart Junction. New land is necessary 66,729

AK—Depression of Salt Lake tracks along east bank of the river from Humboldt Street (Section D) to a point south of Ninth Street. This covers a double-track alongside the river all the way and new double-track from north foot of the proposed elevated near Fourth Street into the double-track alongside the river at Aliso Street, also includes necessary industry track changes. New land necessary near Macy Street to move tracks outside official river bed..... 398,249

AL—Reconstruction of the present Salt Lake freight yard and shop grounds between 1st and 7th on the east bank of the river into a union coach yard and engine terminal, including a connection from the yard to the elevated track. No new land necessary 1,099,475

AM—New double track elevated construction for the Pacific Electric from a point on Section DR west of Alameda Street, parallel to Section AN, across Los Angeles River, and north to the present main line at Brooklyn Avenue. These tracks will come to the depressed grade just north of Fourth Street and rise again at First Street to cross over steam road tracks adjacent on the east side and continue as elevated across Aliso Street and Mission Road, meeting present grade at Brooklyn Avenue. On same land as AN..... 902,423

AN—New double-track elevated construction for steam roads entering proposed union terminal at present Southern Pacific Station site and extending from near Sixth and Alameda along private right of way about 350 ft. south of and parallel to 6th Street, crossing the Los Angeles River with two curved bridges turning north and south. The southerly leg (fill south of Hollenbeck Avenue) comes to grade at Ninth Street; the northerly leg just north of Fourth Street, passing under Fourth Street viaduct. The elevated wye will connect the northerly and southerly legs just east of the river. This section will include the interlocking plant to control movements at the junction of the bridges. Land already acquired, except that proposed to be leased..... 1,545,322

AS—Reconstruction of the present Southern Pacific passenger station facilities, together with the express buildings and land, into a union terminal. This will include the present S. P. team yard north of Fourth Street. New land is necessary.. 1,420,946

Sections included in Plaza Plan Only—Plan "C"

| | |
|---|-----------|
| CA—Reconstruction of present Southern Pacific freight yard between North Broadway and North Spring Street into union coach yard, including double track connection with proposed union station as far as center line of North Main Street. Small right of way necessary..... | 629,710 |
| CB—Depression of Southern Pacific tracks in Alhambra Avenue from west side of Los Angeles river to a point 800 feet west, including double track connections north and south to depressed Santa Fe river tracks. New land is necessary.. | 165,902 |
| CC—New viaduct on North Main Street across Redondo Street. No new land necessary..... | 359,536 |
| CE—New viaduct on Macy Street connecting with Sunset Boulevard and Broadway, across proposed union passenger terminal (Section CF). New lands are necessary..... | 730,901 |
| CF—New passenger terminal at the Plaza connecting with Section CA at North Main Street and Section CB 800 feet west of the west bank of the river. Includes new plaza. Practically all land to be acquired..... | 8,665,233 |
| CG—Sub-tunnel for street cars in Broadway tunnel between Sunset Boulevard and California Street. No new land required.... | 381,920 |
| CH—Depression and double-tracking of Santa Fe tracks along the river from point of change of grade near North Broadway (Section E) to center line of Aliso Street, including tracks from Broadway to Main Street on new right of way out of river, industry spur changes and Keller Street connection. Intermediate step; three tracks along river. New land is necessary..... | 206,459 |
| CK—Removing present Pacific Electric double tracks on Los Angeles Street from First Street to Aliso and San Pedro, and reconstruction of present double track to a double three-rail track on First Street from Los Angeles Street to San Pedro Street, including special work at First Street and San Pedro Street. No new land necessary..... | 39,074 |
| CM—Double track subway in Main Street from Seventh Street to and under proposed union passenger station at the Plaza, changing to elevated railway along Ramirez Street and continuing as elevated to present Pacific Electric main line at Brooklyn Avenue via and including two-track bridge over Los Angeles River at Aliso Street. Includes single-track loop in Seventh and Los Angeles Streets and under Pacific Electric Building and stations at Pacific Electric Main Street Station, Second Street and union passenger station. Some new land required..... | 3,880,816 |

Sections included in Santa Fe Plan Only—Plan "D"

| | |
|--|-------|
| DJ—New union passenger terminal at the present Santa Fe passenger site, including all changes between the center lines of Aliso and Seventh Streets. No new land required..... | 3,513 |
|--|-------|

| | |
|--|-----------|
| DK—New double-track surface line of the Pacific Electric from Sixth and Ceres Avenue, via Sixth and Mateo Streets, to proposed union station (Section DJ), including terminal tracks at station. No new land required..... | 238,944 |
| DL—Depression of Santa Fe main line tracks along the river between center lines of Seventh and Ninth Streets, including reconstruction of old main line and coach yard. No new land required | 129,408 |
| DM—New double-track elevated construction for Pacific Electric from a point on Section DR west of Alameda Street to near Fourth Street viaduct and from opposite Turner Street across the Los Angeles River at Aliso Street to the present main line at Brooklyn Avenue via private right of way 350 feet south of and parallel to Sixth Street and also new trackage through union station yard. Includes interlocking at junction of Section DR. Land practically all in carrier ownership | 885,633 |
| DN—New viaduct across the river at Ninth Street, including crossing of proposed new coach yard. No new land required.... | 436,255 |
| DO—New Salt Lake freight terminal between Eighth and Hunter Streets, including double-track connection to Butte Street (Section X). No new land necessary..... | 286,564 |
| DP—New union coach yard at Santa Fe shop site, including that part of the coach yard tracks north of Ninth Street. New land is necessary | 1,166,277 |
| DQ—New double-track connection between Santa Fe tracks along the river north of Macy Street and Southern Pacific tracks in Alhambra Avenue. New land is necessary..... | 123,650 |
| DV—New team yard at present site of Southern Pacific coach yard, including connection with freight tracks in Alameda Street and cost of removal of present facilities. No new land necessary | 528,203 |

Sections Common to Southern Pacific and Plaza Plans

| | |
|--|-----------|
| V—Abandonment of all Southern Pacific facilities at their present coach yard at Shearer and Alameda Streets with all cost of removal. Lands released from transportation use..(Credit) | 1,574,382 |
| AO—Team track at proposed Salt Lake freight terminal site between Eighth and Hunter Streets, including a connection to tracks in Alameda Street. No new land necessary..... | 304,056 |
| CD—Reconstruction of Southern Pacific L. C. L. freight facilities east of Alameda and North Spring Streets and between Llewellyn and Alpine Streets, into a team yard, and including removal of present freight houses. No new land required | 148,271 |
| CJ—New L. C. L. station at Santa Fe site, including all changes between center lines of Aliso and Seventh Streets. No new land required | 2,575,942 |
| CL—Depression and double-tracking of Santa Fe tracks along the river between the center lines of Seventh and Ninth Streets, including depression of old main line, and south of Seventh | |

| | |
|---|---------|
| Street, to pass under Seventh Street viaduct and connection between coach yard and new tracks along the river. No new land required | 46,227 |
| CN—New viaduct across the river at Ninth Street. No new land required | 415,419 |

Sections Common to Southern Pacific and Santa Fe Plans

| | |
|--|---------|
| DB—Depression of Southern Pacific tracks in Alhambra Avenue from the west bank of the river to a point 1145 feet west. No new land required..... | 12,122 |
| DH—Depression and double-tracking of Santa Fe tracks (on new right of way between Spring and Main Streets, removing tracks from the official bed of river), from point of change of grade near North Broadway (Section E) to center line of Aliso Street, including spur changes and Keller Street connections. New land is necessary..... | 215,298 |

Sections Common to Plaza and Santa Fe Plans

| | |
|---|--------------------|
| K—Depression and double-tracking of Salt Lake tracks along the river from approximately Humboldt Street (Section D) to the point where the new connecting tracks mentioned under Z. meet the present tracks near Alosta Street and Boyle Avenue. Includes necessary industry track and yard changes and connection with Pacific Electric transfer at Elliott Street and part of connection between Salt Lake and Southern Pacific at Alhambra Avenue. New land necessary near Macy Street | 353,602 |
| S—Abandonment of all Southern Pacific and Wells-Fargo facilities at the present site of the Southern Pacific passenger station, with all costs of removal. Lands released from transportation purposes | (credit) 1,243,654 |
| AC—Second track on northerly side of present Santa Fe main line from Section Z to connection with track No. 1 of new Santa Fe yard east of Hobart. No new land necessary..... | 31,510 |
| AD—Single track connection between Santa Fe and Salt Lake at Hobart. New land is necessary..... | 47,510 |

ESTIMATES FOR IMMEDIATE CONSTRUCTION UNITS

The foregoing sections are used in estimating the total cost of the ultimate plans. It will not, however, be necessary to provide all of the ultimate facilities at once. The following list indicates the sections for such construction as is deemed necessary at once (M = Modification):

Sections for Southern Pacific Plan—Plan "A."

| | |
|------------------------------|-----------|
| B—Same as ultimate plan..... | \$ 67,272 |
| C— do do | 173,464 |
| G— do do ..... | ..... |
| M— do do | 357,557 |

| | | | | |
|-------|--|----|----------------|-----------|
| N— | do | do | ..... | 1,047 |
| P— | do | do | ..... | 4,436 |
| T— | do | do | ..... | 416,936 |
| V— | do | do | (Credit) | 1,574,382 |
| AM— | do | do | ..... | 902,423 |
| DR— | do | do | ..... | 1,671,590 |
| M-1— | Single-track connection with Salt Lake tracks on Butte Street and Santa Fe tracks at Redondo Junction. No new land is required | | | 9,116 |
| M-2— | Depression of Santa Fe tracks along the river, between First Street and Alhambra Avenue, including double-tracking and the abandonment of the present main line. No new land is required | | | 126,828 |
| M-6— | Temporary single-track connection between Butte Street line of the Salt Lake and the main line of the Salt Lake, between the Los Angeles River and Soto Street. No new land necessary | | | 5,715 |
| M-7— | Depression on the Santa Fe tracks to pass under the proposed Southern Pacific elevated tracks just south of Sixth Street. A temporary grade would be run from Station 127 to Station 133 plus 38 and from Station 142 to Station 151 plus 52 (Fig. 27, page 147). No new land is required..... | | | 24,826 |
| M-10— | Double-tracking of Salt Lake from Alhambra Avenue to Humboldt Street (Section MD) on present grade. No new land is required | | | 48,290 |
| MJ— | Same as ultimate plan, except for grading. In the immediate plan Alhambra Avenue is not to be depressed..... | | | 65,631 |
| MY— | A single-track connection instead of a double track, as proposed in the ultimate plan. Same land required as for ultimate plan. New land is necessary..... | | | 49,707 |
| MAK— | Construction of new steam passenger double tracks from foot of elevated north of Fourth Street to Alhambra Avenue on depressed grade and depression and double-tracking of the Salt Lake tracks from Alhambra Avenue to Seventh Street, to pass under the proposed bridges at Macy and Aliso Streets. Under this plan the main line passenger tracks' center lines would be built 77 ft. and 90 ft. from the official river bank between First and Aliso Streets and 15 ft. and 28 ft. from the official river bank between Alhambra Avenue and Aliso Street. A temporary grade would be constructed from Station 50 (Fig. 27, page 147) just south of Alhambra Avenue, to Station 74 plus 90—Macy Street. Between Macy Street and First Street the tracks would be on their ultimate grade. South of First Street the estimate for immediate construction is based on construction of two freight tracks 15 and 28 feet from the official bank of the river, two main line steam passenger tracks at 77 ft. and 90 ft., respectively, from the official bank of the river, and two Pacific Electric tracks 46 ft. and 59 ft. from the official bank of the river. These last four tracks would join Section AN at the foot of the trestle approach to the proposed curved bridges across the Los Angeles River north of Seventh Street. For all six tracks the ultimate grade would be fol- | | | |

lowed from First Street to the foot of the trestle. The two tracks to be built adjacent to the river (15 feet and 28 feet centers) would be constructed on their ultimate grade from Aliso Street to the northerly curved bridge (Station 136 plus 50) and on a temporary grade from this point to Seventh Street, rising in this distance from the ultimate depressed grade to the present grade at Seventh Street. New land is required the same as in Section AK..... 310,518

MAL—Same as ultimate Section AL, except less trackage..... 919,662

MAN—Same as ultimate plan, except grading. The southerly 1000 feet of the south approach will be on a different grade, to connect with present tracks at present elevation at Ninth Street 1,555,749

MAS—Same as ultimate plan, with the exception of smaller buildings for express 1,177,412

MD-1—Connections between new double tracks along east bank of river and Santa Fe and Salt Lake tracks at Humboldt Street, including interlocking 60,035

Sections for Plaza Plan—Plan "C"

| | |
|--|--------------------|
| E—Same as ultimate plan..... | \$ 23,479 |
| M— do do | 357,557 |
| N— do do | 1,047 |
| P— do do | 4,436 |
| S— do do | (Credit) 1,243,654 |
| T— do do | 416,936 |
| V— do do | (Credit) 1,574,382 |
| AC— do do | 31,510 |
| AD— do do | 47,510 |
| CC— do do | 359,536 |
| CD— do do | 148,271 |
| CE— do do | 730,901 |
| CK— do do | 39,074 |
| CM— do do | 388,081 |
| DR— do do | 167,159 |
| M-1—Same as M-1 in "A" Plan | 9,116 |
| M-2—Depression and double-tracking of the Santa Fe tracks between First Street and Alhambra Avenue, to pass under proposed viaducts at Macy and Aliso Streets. No new land is required | 126,828 |
| M-3—Depression of the Salt Lake tracks between First Street and Alhambra Avenue to pass under Macy Street and Aliso Street viaducts. Grading for double track. New land is required to remove tracks from official bed of river..... | 162,482 |
| M-4—Same as M-4 in "D" Plan | 32,550 |
| M-5—Single-track connections between Santa Fe tracks on private right of way between Industrial and Sixth Streets and Southern Pacific tracks on Alameda Street. No new land is required | \$ 7,351 |
| M-6—Same as in "A" Plan | 5,715 |
| MA—Enlargement of the classification yard along the San Fernando Road sufficient to replace the trackage diverted from freight | |

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|---|-----------|
| use by the use of the present freight yard as a coach yard.. | 1,198,127 |
| MY—Same as MY for "A" Plan | 49,707 |
| MCA—Same as ultimate plan, except westerly half of yard is allowed to remain as at present..... | 516,264 |
| MCB—Same as ultimate plan, with the exception of additional grading, the ultimate plan being predicated on the depression of Alhambra Avenue | 155,835 |
| MCF—Same as ultimate plan, with the exception of fewer tracks and smaller buildings for baggage and express..... | 7,696,720 |
| MCJ—Construction of Sheds A and B and necessary house tracks, re-arrangement of yard and double tracks along river from First Street to 1215 feet north of Seventh Street to 1215 feet north of Seventh Street. No new land required..... | 772,333 |
| MD-2—Single-track connection on ultimate alignment between Santa Fe tracks at east end of Humboldt Bridge and Salt Lake tracks in Humboldt Street. New land is required, same as in Section D | 38,447 |

Sections for Santa Fe Plan—Plan "D"

| | |
|---|--------------------|
| E—Same as ultimate plan..... | 23,479 |
| M— do do | 357,557 |
| N— .. do do | 1,047 |
| P— do do | 4,436 |
| S— do do | (Credit) 1,243,654 |
| T— do do | 416,936 |
| V— do do | (Credit) 1,574,382 |
| AC— do do | 31,510 |
| AD— do do | 47,510 |
| DK— do do | 238,944 |
| DM— do do | 885,633 |
| DR— do do | 1,671,590 |
| M-1—Same as M-1 in "A" Plan | 9,116 |
| M-3—Same as in "C" Plan | 162,482 |
| M-4—Double-tracking of the Santa Fe main line from Redondo Junction to east end of first curve east of Los Angeles River, to join Section AC. No new land is required..... | 32,550 |
| M-5—Same as in "C" Plan..... | 7,351 |
| M-6— do do | 5,715 |
| M-8—Same as Section M-2 in "C" Plan, with the exception of extending from Aliso Street to Alhambra Avenue instead of from First Street to Alhambra Avenue. No new land is required | 53,827 |
| M-9—Double-tracking of Santa Fe tracks, Alhambra Avenue to Section E by conversion of present passing tracks into second track main line. On present alignment, no new land is required | 9,086 |
| MO—Construction of sufficient trackage at new Santa Fe yard at Hobart, to take the place of the freight yard used as a union passenger station site under this plan. Land already acquired | 579,127 |
| MY—Same as in Plan "A" | 49,707 |
| MD-2—Same as MD-2 in Plaza Plan | 38,447 |
| MDJ—Union Passenger Station. Same as ultimate plan, except smaller buildings and facilities. Includes depression between | |

| | |
|---|-----------|
| Aliso Street and Station 122 plus 77 (Fig. 26) with temporary use of present grade between Station 122 plus 77 and Seventh Street | 2,577,040 |
| MDP—Same as ultimate plan, except that "future tracks" are omitted | 1,005,673 |
| MDQ—Same as ultimate plan, with the exception of grading, the grading for the temporary plan being based on Alhambra Avenue not being depressed | 121,570 |

The following tabulations show for the A, C and D Plans, both ultimate and immediate:

KEYS TO ASSEMBLY OF UNIT ESTIMATES FOR COMPLETE PLANS

ULTIMATE PLAN

PLANS IN WHICH ESTIMATE SECTIONS OCCUR

| | | Plans | | | | | |
|-----|-----|-------|-----|-----|---------|---------|---------|
| ALL | | A | C | D | A and C | A and D | C and D |
| A | P | AG | CA | DJ | V | DB | K |
| B | Q | AK | CB | DK* | AO | DH | S |
| C | R | AL | CC | DL | CD | | AC |
| D | T | AM* | CE | DM* | CJ | | AD |
| E | U | AN | CF | DN | CL | | |
| F | W | AS | CG | DO | CN | | |
| G | X | | CH | DP | | | |
| H | Y | | CK* | DQ | | | |
| I | Z | | CM* | DV | | | |
| J | AA | | | | | | |
| L* | AB* | | | | | | |
| M | AT | | | | | | |
| N | DR* | | | | | | |
| O | | | | | | | |
| 27 | | 6 | 9 | 9 | 6 | 2 | 4-63 |

SECTION IN EACH PLAN

| A | | | C | | | D | | |
|----|-----|-----|----|-----|-----|----|-----|-----|
| A | P | AL | A | Q | CA | A | O | AD |
| B | Q | AM* | B | R | CB | B | P | AT |
| C | R | AN | C | S | CC | C | Q | DB |
| D | T | AO | D | T | CD | D | R | DH |
| E | U | AS | E | U | CE | E | S | DJ |
| F | V | AT | F | V | CF | F | T | DK* |
| G | W | CD | G | W | CG | G | U | DL |
| H | X | CJ | H | X | CH | H | W | DM* |
| I | Y | CL | I | Y | CJ | I | X | DN |
| J | Z | CN | J | Z | CK* | J | Y | DO |
| L* | AA | DB | K | AA | CL | K | Z | DP |
| M | AB* | DH | L* | AB* | CM* | L* | AA | DQ |
| N | AG | DR* | M | AC | CN | M | AB* | DR* |
| O | AK | | N | AD | DR* | N | AC | DV |
| | | | O | AO | | | | |
| | | | P | AT | | | | |
| 41 | | | 46 | | | 42 | | |

* Sections for Pacific Electric Railway, not involving steam roads.

IMMEDIATE CONSTRUCTION
PLANS IN WHICH ESTIMATE SECTIONS OCCUR
 Plans

| ALL | A | C | D | A and C | C and D |
|-----|------|-----|-----|---------|---------|
| M | B | CC | DK* | V | E |
| N | C | CD | DM* | M-2 | S |
| P | G | CE | M-8 | | AC |
| T | AG | CK* | M-9 | | AD |
| DR* | AM* | CM* | MO | | M-3 |
| M-1 | M-7 | MA | MDJ | | M-4 |
| M-6 | M-10 | MCA | MDP | | M-5 |
| MY | MJ | MCB | MDQ | | MD-2 |
| | MAK | MCF | | | |
| | MAL | MCJ | | | |
| | MAN | | | | |
| | MAS | | | | |
| | MD-1 | | | | |
| 8 | 13 | 10 | 8 | 2 | 8=49 |

SECTIONS IN EACH PLAN

| A Plan | | | C Plan | | | D Pla | | |
|--------|------|------|--------|-----|------|-------|-----|------|
| B | AG | MJ | E | CD | M-6 | E | DK | M-9 |
| C | AM* | MY | M | CE | MA | M | DM* | MO |
| G | DR* | MAK | N | CK* | MY | N | DR* | MY |
| M | M-1 | MAL | P | CM* | MCA | P | M-1 | MD-2 |
| N | M-2 | MAN | S | DR* | MCB | S | M-3 | MDJ |
| P | M-6 | MAS | T | M-1 | MCF | T | M-4 | MDP |
| T | M-7 | MD-1 | V | M-2 | MCJ | AC | M-5 | MDQ |
| V | M-10 | | AC | M-3 | MD-2 | AD | M-6 | |
| | | | AD | M-4 | | | M-8 | |
| | | | CC | M-5 | | | | |
| | 23 | | | 28 | | | 24 | |

* Sections for Pacific Electric Railway not involving steam roads.

The next tabulation gives an alphabetical list of estimate sections, the plans in which they are used and the estimate for each section.

**ALPHABETICAL LIST OF ESTIMATE SECTIONS AND PLANS
IN WHICH THEY OCCUR**

| Section | Plan | Amount | Section | Plan | Amount | Section | Plan | Amount |
|---------|---------|-------------|---------|---------|-----------|---------|---------|-----------|
| A | A, C, D | \$1,878,157 | AK | A | \$398,249 | DV | D | \$528,203 |
| B | A, C, D | 67,272 | AL | A | 1,099,475 | | | |
| C | A, C, D | 173,464 | AM | A | 902,423 | MA | C | 1,198,127 |
| D | A, C, D | 59,841 | AN | A | 1,545,322 | MAK | A | 310,518 |
| E | A, C, D | 23,479 | AO | A, C, | 304,056 | MAL | A | 919,662 |
| F | A, C, D | 111,051 | AS | A | 1,420,946 | MAN | A | 1,555,749 |
| G | A, C, D | 0 | AT | A, C, D | 176,694 | MAS | A | 1,177,412 |
| H | A, C, D | 543,084 | CA | C | 629,710 | MCA | C | 516,264 |
| I | A, C, D | 45,983 | CB | C | 165,902 | MCB | C | 155,835 |
| J | A, C, D | 64,502 | CC | C | 359,536 | MCF | C | 7,696,720 |
| K | C, D | 353,602 | CD | A, C | 148,271 | MCJ | C | 772,333 |
| L | A, C, D | 141,392 | CE | C | 730,901 | MD1 | A | 60,035 |
| M | A, C, D | 357,557 | CF | C | 8,665,233 | MD2 | C, D | 38,447 |
| N | A, C, D | 1,047 | CG | C | 381,920 | MDJ | D | 2,577,040 |
| O | A, C, D | 957,030 | CH | C | 206,459 | MDP | D | 1,005,673 |
| P | A, C, D | 4,436 | CJ | A, C | 2,575,942 | MDQ | D | 121,570 |
| Q | A, C, D | 390,209 | CK | C | 39,074 | MJ | A | 65,631 |
| R | A, C, D | 856,285 | CL | A, C | 46,227 | MO | D | 579,127 |
| S | C, D | 1,243,654* | CM | C | 3,880,816 | MY | A, C, D | 49,707 |
| T | A, C, D | 416,936 | CN | A, C | 415,419 | M1 | A, C, D | 9,116 |
| U | A, C, D | 567,591 | DB | A, D | 12,122 | M2 | A, C | 126,828 |
| V | A, C | 1,574,382* | DH | A, D | 215,298 | M3 | C, D | 162,482 |
| W | A, C, D | 201,272 | DJ | D | 3,513,541 | M4 | C, D | 32,550 |
| X | A, C, D | 97,258 | DK | D | 238,944 | M5 | C, D | 7,351 |
| Y | A, C, D | 57,773 | DL | D | 129,408 | M6 | A, C, D | 5,715 |
| Z | A, C, D | 322,124 | DM | D | 885,633 | M7 | A | 24,826 |
| AA | A, C, D | 37,860 | DN | D | 436,255 | M8 | D | 53,827 |
| AB | A, C, D | 8,694 | DO | D | 286,564 | M9 | D | 9,086 |
| AC | C, D | 31,510 | DP | D | 1,166,277 | M10 | A | 48,290 |
| AD | C, D | 47,510 | DQ | D | 123,650 | | | |
| AG | A | 66,729 | DR | A, C, D | 1,671,590 | | | |

* Credit.

The total of the amounts in the above table is \$57,645,593. This figure gives some idea of the large amount of estimating which was done and the quantity of detail work necessary. In addition, many other estimates were made, the grand total approximating \$100,000,000.

Assembly of Unit Estimates for Complete Plans

The following six tables (Tables A-1, C-1, D-1, A-2, C-2 and D-2) show the assembly, or grouping of the estimate sections into primary groups. This was done in order to reduce the number of divisions into which the whole plan is divided and to bring the sections together under brief headings which are more descriptive of the different phases of work necessary than the titles of the estimate sections.

The two tables in Chapter XIV (pages 394 and 395), which are a final summary of each complete plan and comparisons of the three plans, are the result of the assembly and grouping shown in the six tables above referred to.

The following tabulations show for the A, C and D Plans, both ultimate and immediate,—

- (1) In which plans the various sections occur.
- (2) The sections to be assembled for each of the three plans.
- (3) Distinguishment between steam road and Pacific Electric construction.

TABLE A-1
ASSEMBLY OF ESTIMATE SECTIONS INTO PRIMARY GROUPS
PLAN "A"
ULTIMATE PLAN

| Est. Sec. Key Group | Item | Acquisition of Property | | | | Total |
|--|---|-------------------------|--------------|--------------|-----------------|--------------|
| | | Physical Construction | Land | Improvements | Property Damage | |
| UNION PASSENGER STATION AT SOUTHERN PACIFIC STATION SITE | | | | | | |
| STEAM ROADS | | | | | | |
| AN | 1 Passenger Terminal, Approaches, etc.: | | | | | |
| | Elevated Approach from East side Los Angeles River | \$1,514,052 | \$31,270 | | | \$1,545,322 |
| AS | Station Facilities | 585,765 | 665,594 | \$169,587 | | 1,420,946 |
| | Total | \$2,099,817 | \$696,864 | \$169,587 | | \$2,966,268 |
| AL | 2 Union Coach Yard | \$1,011,295 | | \$88,180 | | \$1,099,471 |
| CJ | 4 Union Freight Station | \$2,304,404 | | \$181,538 | | \$2,575,942 |
| 5 Viaducts over Los Angeles River: | | | | | | |
| | Baker St. Approach to North Broadway Bridge | \$111,051 | | | | \$111,055 |
| | Removal of North Spring St. Bridge | | | | | |
| F | New Viaduct at Main St. | 433,869 | \$17,159 | | \$92,056 | 543,084 |
| H | New Viaduct at Macy St. | 321,383 | 5,679 | | 30,495 | 357,557 |
| M | New Viaduct at Fourth St. | 773,165 | 40,488 | | 36,532 | 850,285 |
| R | New Viaduct at First St. | 374,559 | | | 15,650 | 390,209 |
| Q | New Viaduct at Aliso St. | 347,785 | | | 69,151 | 416,936 |
| T | New Viaduct at Seventh St. | 426,276 | | | 141,316 | 567,591 |
| U | New Viaduct at Ninth St. | 369,464 | | | 45,955 | 415,419 |
| CN | Total | \$3,157,551 | \$69,326 | | \$431,255 | \$3,658,132 |
| 6 Depression of, and New, Tracks along River: | | | | | | |
| | Connections East end Humboldt St. Bridge | \$41,256 | \$11,363 | \$7,222 | | \$59,841 |
| D | Connections West end Humboldt St. Bridge | 23,479 | | | | 23,479 |
| E | Depression Alhambra Ave. East of and at River | 45,983 | | | | 45,983 |
| I | Removal Macy and Aliso Santa Fe Crossings | 1,047 | | | | 1,047 |
| N | Depression Santa Fe South of Ninth St. | 201,272 | | | | 201,272 |
| W | Depression Salt Lake—Humboldt to Alosta | 287,765 | 28,619 | \$1,865 | | 398,249 |
| AK | Depression Santa Fe—Seventh to Ninth | 46,227 | | | | 46,227 |
| CL | Depression Santa Fe—Broadway to Aliso | 101,622 | 98,205 | 15,471 | | 215,298 |
| DH | Depression Alhambra West of River | 12,122 | | | | 12,122 |
| DB | Total | \$760,773 | \$138,187 | \$104,558 | | \$1,003,518 |
| 8 New Tracks for Southern Pacific, East Bank of River, North of Humboldt St.: | | | | | | |
| | New Approach—Los Feliz Road Bridge | \$67,272 | | | | \$67,272 |
| B | New Tracks—Humboldt to Dayton, East Bank | 138,070 | \$31,274 | \$4,120 | | 173,464 |
| C | New Connection—Southern Pacific and Salt Lake at Alhambra and River | 39,895 | 18,741 | 5,866 | | 64,502 |
| J | Total | \$245,237 | \$50,015 | \$9,986 | | \$305,238 |
| 9 Butte St. Trackage and Santa Fe Subway: | | | | | | |
| | Tracks—Butte St., Alameda St. to River | \$90,186 | \$3,716 | \$3,356 | | \$97,258 |
| X | New Connection—Alameda St. to Butte St., S. E. | 29,712 | 18,604 | 9,457 | | 57,773 |
| Y | Santa Fe Ave. Subway | 37,860 | | | | 37,860 |
| AA | Total | \$157,758 | \$22,320 | \$12,813 | | \$192,891 |
| 10 New Trackage—River to Hobart and Connections: | | | | | | |
| | New Bridge and Wye East of River | \$269,218 | \$49,405 | \$3,501 | | \$322,124 |
| Z | New Connection—Salt Lake Br. to Santa Fe | 61,640 | 5,089 | | | 66,729 |
| AG | Total | \$330,858 | \$54,494 | \$3,501 | | \$388,853 |
| 11 New Freight Yards—Southern Pacific and Santa Fe: | | | | | | |
| | New Southern Pacific Yard—San Fernando Rd | \$1,878,157 | | | | \$1,878,157 |
| A | New Santa Fe Yard—East of Hobart | 957,030 | | | | 957,030 |
| O | Total | \$2,835,187 | | | | \$2,835,187 |
| 12 New Freight Terminal—Salt Lake | | | | | | |
| 13 New Connections Relief of Alameda St. Switching | | | | | | |
| P | | \$4,346 | | | | \$4,346 |
| 14 Team Yards: | | | | | | |
| | New Yard—Salt Lake Terminal, Alameda and Hunter Sts. | \$395,537 | *\$91,481 | | | \$504,056 |
| AO | New Yard—Los Angeles Market Property | 176,694 | | | | 176,694 |
| AT | New Yard—Southern Pacific Freight Station Site | 50,155 | | \$98,116 | | 148,271 |
| CD | Total | \$622,386 | *\$91,481 | \$98,116 | | \$811,983 |
| 16 Release Southern Pacific Station Site | | | | | | |
| V | 17 Release Southern Pacific Coach Yard Site | *\$44,964 | *\$1,651,262 | \$121,844 | | *\$1,818,070 |
| ELECTRIC ROAD | | | | | | |
| 20 New Line—Pacific Electric Station to Brooklyn Ave. and to Fourteenth St.: | | | | | | |
| | Elevated—Sixth and Alameda to Brooklyn Ave. via Salt Lake | \$902,423 | | | | \$902,423 |
| AM | Elevated—Wall St. near Sixth to Fourteenth St. | 1,092,114 | \$482,030 | \$97,446 | | 1,671,589 |
| DR | Total | \$1,994,537 | \$482,030 | \$97,446 | | \$2,574,013 |
| 21 New Surface Line to Proposed Union Station | | | | | | |
| 22 Freight Tracks: | | | | | | |
| | Macy St. and River to Echandia Yard | \$110,146 | \$31,246 | | | \$141,392 |
| L | Raise Transfer Tracks—Santa Fe Ave. and Butte St. | 8,694 | | | | 8,694 |
| AB | Total | \$118,840 | \$31,246 | | | \$150,086 |
| | Grand Total | \$15,688,115 | *\$198,261 | \$887,569 | \$431,255 | \$16,805,678 |

* Credit.

TABLE C-I
ASSEMBLY OF ESTIMATE SECTIONS INTO PRIMARY GROUPS

PLAN "C"
ULTIMATE PLAN

UNION PASSENGER STATION AT PLAZA SITE

| Est. Sec. Key Group | Item | Acquisition of Property | | | | | Total |
|---------------------|--|-------------------------|--------------------|--------------------|------------------|---------------------|-------|
| | | Physical Construction | Land | Improvements | Property Damage | | |
| STEAM ROADS | | | | | | | |
| 1 | Passenger Terminal, Approaches, etc.: | | | | | | |
| CB | Depression of Southern Pacific tracks in Alhambra Ave. | \$71,279 | \$87,075 | \$7,548 | | \$165,902 | |
| CC | New Viaduct on North Main St. | 292,226 | | | \$87,310 | 359,536 | |
| CE | New Viaduct on Macy St. | 400,070 | 218,411 | 90,469 | 31,951 | 730,901 | |
| CF | New Passenger Terminal at the Plaza | 4,136,261 | 3,480,778 | 1,048,194 | | 8,665,233 | |
| CG | Sub-tunnel for street cars in Broadway tunnel | 381,920 | | | | 381,920 | |
| | Total | \$5,281,756 | \$3,786,264 | \$1,136,211 | \$99,261 | \$10,303,492 | |
| CA | 2 Union Coach Yard | \$543,760 | \$20,857 | \$65,093 | | \$629,710 | |
| CJ | 4 Union Freight Station | \$2,394,404 | | \$181,538 | | \$2,575,942 | |
| 5 | Viaducts over Los Angeles River: | | | | | | |
| F | Baker St. approach to North Broadway Bridge | \$111,051 | | | | \$111,051 | |
| G | Removal of North Spring St. Bridge | | | | | | |
| H | New Viaduct at Main St. | 433,869 | \$17,159 | | \$92,056 | 543,084 | |
| M | New Viaduct at Macy St. | 321,383 | 5,679 | | 30,495 | 357,557 | |
| R | New Viaduct at Fourth St. | 773,165 | 46,488 | | 36,632 | 856,285 | |
| Q | New Viaduct at First St. | 374,559 | | | 15,650 | 390,209 | |
| T | New Viaduct at Aliso St. | 347,785 | | | 69,151 | 416,936 | |
| U | New Viaduct at Seventh St. | 426,275 | | | 141,316 | 567,591 | |
| CN | New Viaduct at Ninth St. | 369,464 | | | 45,955 | 415,419 | |
| | Total | \$3,157,551 | \$69,326 | | \$431,255 | \$3,658,132 | |
| 6 | Depression of and New Tracks Along River: | | | | | | |
| D | Connections at East end of Humboldt St. Bridge | \$41,256 | \$11,363 | \$7,222 | | \$59,841 | |
| E | Connections at West end of Humboldt St. Bridge | 23,479 | | | | 23,479 | |
| I | Depression of Alhambra Ave. East of and at River | 45,983 | | | | 45,983 | |
| K | Depression and Double-tracking Salt Lake Tracks Along River | 271,389 | 29,407 | 27,806 | \$25,000 | 353,602 | |
| N | Removal of Santa Fe Crossings, Macy and Aliso Sts. | 1,047 | | | | 1,047 | |
| W | Depression of Santa Fe Track South of Ninth St. | 201,272 | | Salvage negligible | | 201,272 | |
| CH | Depression of Santa Fe Track, Broadway to Aliso St. | 92,783 | 98,205 | 15,471 | | 206,459 | |
| CL | Depression of Santa Fe Track, Seventh to Ninth Sts. | 46,227 | | | | 46,227 | |
| | Total | \$723,436 | \$138,975 | \$50,499 | \$25,000 | \$937,910 | |
| 8 | New Tracks for Southern Pacific, East Bank of River, North of Humboldt St.: | | | | | | |
| B | New Approach—Los Feliz Road Bridge | \$67,272 | | | | \$67,272 | |
| C | New Tracks—Humboldt to Dayton, East Bank | 138,070 | \$31,274 | \$4,120 | | 173,464 | |
| J | New Connection—Southern Pacific and Salt Lake at Alhambra and River | 39,895 | 18,741 | 5,856 | | 64,502 | |
| | Total | \$245,237 | \$50,015 | \$9,986 | | \$305,238 | |
| 9 | Butte St. Trackage and Santa Fe Ave. Subway: | | | | | | |
| X | Tracks—Butte St., Alameda St. to River | \$90,186 | \$3,716 | \$3,356 | | \$97,258 | |
| Y | New Connection—Alameda St. to Butte St. | 29,712 | 18,604 | 9,457 | | 57,773 | |
| AA | Santa Fe Ave. Subway | 37,860 | | | | 37,860 | |
| | Total | \$157,758 | \$22,320 | \$12,813 | | \$192,891 | |
| 10 | New Trackage—River to Hobart and Connections: | | | | | | |
| Z | New Bridge and Wye, East of River | \$269,218 | \$49,405 | \$3,501 | | \$322,124 | |
| AC | Second Track North of present Santa Fe Main Line | 31,510 | | | | 31,510 | |
| AD | Connection at Hobart between Santa Fe and Salt Lake | 41,200 | 6,310 | | | 47,510 | |
| | Total | \$341,928 | \$55,715 | \$3,501 | | \$401,144 | |
| 11 | New Freight Yards—Southern Pacific and Santa Fe: | | | | | | |
| A | New Southern Pacific Yard—San Fernando Rd. | \$1,878,157 | | | | \$1,878,157 | |
| O | New Santa Fe Yard—East of Hobart | 957,030 | | | | 957,030 | |
| | Total | \$2,835,187 | | | | \$2,835,187 | |
| 12 | New Freight Terminal—Salt Lake | | | | | | |
| 13 | New Connections—Relief of Alameda St. Switching | \$4,436 | | | | \$4,436 | |
| 14 | Team Yards: | | | | | | |
| AO | New Yard—Salt Lake Terminal, Alameda and Hunter St. | \$395,537 | \$91,481 | | | \$304,056 | |
| AT | New Yard—Los Angeles Market Property | 176,694 | | | | 176,694 | |
| CD | New Yard—Southern Pacific Freight Station Site | 50,155 | | \$98,116 | | 148,271 | |
| | Total | \$622,386 | \$91,481 | \$98,116 | | \$629,021 | |
| S | 16 Release Southern Pacific Station Site | \$396,840 | \$1,719,918 | \$573,104 | | \$1,243,654 | |
| V | 17 Release Southern Pacific Coach Yard Site | \$44,964 | \$1,651,262 | \$121,844 | | \$1,574,382 | |
| 20 | ELECTRIC ROAD | | | | | | |
| 20 | New Line—Pacific Electric Station to Brooklyn Ave. and to Fourteenth St.: | | | | | | |
| CK | Removal and Reconstruction of Pacific Electric—Los Angeles St. and First St. | \$39,074 | | | | \$39,074 | |
| CM | Double Track Subway in Main St. | 3,757,251 | \$97,405 | \$26,160 | | 3,880,816 | |
| DR | Double Track Elevated for Pacific Electric | 1,092,114 | 482,030 | 97,446 | | 1,671,590 | |
| | Total | \$4,888,439 | \$579,435 | \$123,606 | | \$5,591,480 | |
| 21 | New Surface Line to Proposed Union Station. | | | | | | |
| 22 | Freight Tracks: | | | | | | |
| L | Macy St. and River to Echandia Yard | \$110,146 | \$31,246 | | | \$141,392 | |
| AB | Raise Transfer Tracks—Santa Fe Ave. and Butte St. | 8,694 | | | | 8,694 | |
| | Total | \$118,840 | \$31,246 | | | \$150,086 | |
| | Grand Total | \$21,173,314 | \$1,291,492 | \$2,376,311 | \$555,516 | \$25,396,633 | |

NOTE: * Designates credit.

**TABLE D-1
ASSEMBLY OF ESTIMATE SECTIONS INTO PRIMARY GROUPS**

**PLAN "D"
ULTIMATE PLAN**

UNION PASSENGER STATION AT SANTA FE STATION SITE

| Est. Sec. Key Group | Item | Physical Construction | Acquisition of Property | | | Total |
|--|---|-----------------------|-------------------------|--------------------|------------------|---------------------|
| | | | Land | Improvements | Property Damage | |
| STEAM ROADS | | | | | | |
| DJ | 1 Passenger Terminal, Approaches, etc.: New Union Passenger Terminal at Santa Fe Site... | \$3,333,278 | | \$180,263 | | \$3,513,541 |
| DQ | Connection between Southern Pacific and Santa Fe Along River Total | 47,318 | \$71,725 | 4,607 | | 123,650 |
| DP | 2 Union Coach Yard | \$3,380,596 | \$71,725 | \$184,870 | | \$3,637,191 |
| | 4 Union Freight Station | \$643,952 | \$460,424 | \$61,901 | | \$1,166,277 |
| 5 Viaducts over Los Angeles River: | | | | | | |
| F | Baker St. Approach to North Broadway Bridge | \$111,051 | | | | \$111,051 |
| G | Removal of North Spring St. Bridge | | | | | |
| H | New Viaduct at Main St. | 433,869 | \$17,159 | | \$92,056 | \$549,084 |
| M | New Viaduct at Macy St. | 321,383 | 5,679 | | 30,495 | 357,557 |
| R | New Viaduct at Fourth St. | 773,165 | 46,488 | | 36,632 | \$856,285 |
| Q | New Viaduct at First St. | 374,559 | | | 15,650 | 390,209 |
| T | New Viaduct at Aliso St. | 347,785 | | | 69,151 | \$416,936 |
| U | New Viaduct at Seventh St. | 426,275 | | | 141,316 | \$567,591 |
| DN | New Viaduct at Ninth St. | 390,300 | | | 45,955 | \$436,255 |
| | Total | \$3,178,387 | \$69,326 | | \$431,255 | \$3,678,968 |
| 6 Depression of and New Tracks Along River: | | | | | | |
| D | Connections at East end of Humboldt St. Bridge... | \$41,256 | \$11,363 | \$7,222 | | \$59,841 |
| E | Connections at West end of Humboldt St. Bridge.... | 23,479 | | | | 23,479 |
| I | Depression of Alhambra Ave East of and at River.... | 45,983 | | | | 45,983 |
| K | Depression and Double-tracking Salt Lake Tracks along River | 271,389 | 29,407 | 37,806 | \$25,000 | \$363,602 |
| N | Removal of Santa Fe Crossings—Macy and Aliso Sts.... | 1,047 | | | | 1,047 |
| W | Depression of Santa Fe Track South of Ninth St..... | 201,272 | | | | 201,272 |
| DB | Depression of Southern Pacific Track in Alhambra Ave | 12,122 | | | | 12,122 |
| DH | Depression of Santa Fe Track between Spring and Main | 101,622 | 98,205 | 15,471 | | 215,298 |
| DL | Depression of Santa Fe Track, Main Line, along River | 70,473 | | 58,935 | | 129,408 |
| | Total | \$768,643 | \$138,975 | \$109,434 | \$25,000 | \$1,042,052 |
| 8 New Tracks for Southern Pacific, East Bank of River, North of Humboldt St.: | | | | | | |
| B | New Approach—Los Feliz Road Bridge | \$67,272 | | | | \$67,272 |
| C | New Tracks—Humboldt to Dayton, East Bank | 138,070 | \$31,274 | \$4,120 | | \$173,464 |
| J | New Connection—Southern Pacific and Salt Lake at Alhambra and River | 39,895 | 18,741 | 5,866 | | \$64,502 |
| | Total | \$245,237 | \$50,015 | \$9,986 | | \$305,238 |
| 9 Butte St. Trackage and Santa Fe Ave. Subway: | | | | | | |
| X | Tracks—Butte St., Alameda St. to River | \$90,186 | \$3,716 | \$3,356 | | \$97,258 |
| Y | New Connection—Alameda St. to Butte St. | 29,712 | 18,604 | 9,457 | | \$57,773 |
| AA | Santa Fe Subway | 37,860 | | | | \$37,860 |
| | Total | \$157,758 | \$22,320 | \$12,813 | | \$192,891 |
| 10 New Trackage—River to Hobart and Connections: | | | | | | |
| Z | New Bridge and Wye, East of River | \$269,218 | \$49,403 | \$3,501 | | \$322,124 |
| AC | Second Track North of present Santa Fe Main Line.... | 31,510 | | | | 31,510 |
| AD | Connection at Hobart between Santa Fe and Salt Lake | 41,200 | 6,310 | | | \$47,510 |
| | Total | \$341,928 | \$55,715 | \$3,501 | | \$401,144 |
| 11 New Freight Yards—Southern Pacific and Santa Fe: | | | | | | |
| A | New Southern Pacific Yard—San Fernando Rd. | \$1,878,157 | | | | \$1,878,157 |
| O | New Santa Fe Yard—East of Hobart | 957,039 | | | | 957,039 |
| | Total | \$2,835,197 | | | | \$2,835,197 |
| DO | 12 New Freight Terminal—Salt Lake | \$286,564 | | | | \$286,564 |
| P | 13 New Connections—Relief of Alameda St. Switching | \$4,436 | | | | \$4,436 |
| 14 Team Yards: | | | | | | |
| AT | New Yard—Los Angeles Market Property | \$176,694 | | | | \$176,694 |
| DV | New Yard at present Southern Pacific Coach Yard Site... | 402,922 | | \$125,281 | | \$528,203 |
| | Total | \$579,616 | | \$125,281 | | \$704,897 |
| S | 16 Release Southern Pacific Station Site | \$306,849 | \$1,719,918 | \$573,104 | | \$3,600,871 |
| | 17 Release Southern Pacific Coach Yard Site | | | | | |
| ELECTRIC ROADS | | | | | | |
| 20 New Line—Pacific Electric Station to Brooklyn Ave. and to Fourteenth St.: | | | | | | |
| DM | New Double-track Elevated for Pacific Electric | \$954,309 | \$31,270 | | | \$985,579 |
| DR | New Double-track Elevated for Pacific Electric | 1,092,114 | 482,030 | \$97,446 | | \$1,671,590 |
| | Total | \$1,946,423 | \$513,300 | \$97,446 | | \$2,557,223 |
| DK | 21 New Surface Line to Proposed Union Station | \$238,944 | | | | \$238,944 |
| 22 Freight Tracks: | | | | | | |
| L | Macy St. and River to Echandia Yard | \$110,146 | \$31,246 | | | \$141,392 |
| AB | Raise Transfer Tracks—Santa Fe Ave. and Butte St. | 8,694 | | | | 8,694 |
| | Total | \$118,840 | \$31,246 | | | \$150,086 |
| | Grand Total | \$14,629,725 | \$306,872 | \$1,178,336 | \$456,255 | \$15,957,444 |

* Credit

TABLE A-2
ASSEMBLY OF ESTIMATE SECTIONS INTO PRIMARY GROUPS

PLAN "A"
IMMEDIATE PLAN
UNION PASSENGER STATION AT SOUTHERN PACIFIC STATION SITE

| Est. Sec. Key Group | Item | Physical Construction | Acquisition of Property | | | Total |
|----------------------|---|-----------------------|-------------------------|------------------|-----------------|--------------------|
| | | | Land | Improvements | Property Damage | |
| STEAM ROADS | | | | | | |
| | 1 Passenger Terminal, Approaches, etc.: | | | | | |
| MAN | Elevated Tracks into Union Terminal at Southern Pacific Site..... | \$1,524,479 | \$31,270 | | | \$1,555,749 |
| MAS | Reconstruction of Southern Pacific Station into Union Terminal..... | 503,350 | 665,594 | \$8,468 | | 1,177,412 |
| | Total..... | \$2,027,829 | \$696,864 | \$8,468 | | \$2,733,161 |
| MAL | 2 Union Coach Yard..... | \$836,182 | | \$83,480 | | \$919,662 |
| | 4 Union L. C. L. Freight Station..... | | | | | |
| | 5 Viaducts Over Los Angeles River: | | | | | |
| G | Removal of North Spring St. Bridge..... | | | | | |
| M | New Viaduct of Macy St..... | \$321,383 | \$5,679 | | \$30,495 | \$357,557 |
| T | New Viaduct of Aliso St..... | 347,785 | | | 69,151 | 416,936 |
| | Total..... | \$669,168 | \$5,679 | | \$99,646 | \$774,493 |
| | 6 Depression of and New Tracks Along River: | | | | | |
| N | Removal of Santa Fe Crossings—Macy and Aliso St..... | \$1,047 | | | | \$1,047 |
| M2 | Depression of Santa Fe Tracks—Aliso to Alhambra..... | 126,828 | | | | 126,828 |
| M7 | Depression of Santa Fe Tracks under Southern Pacific Elevated..... | 24,826 | | | | 24,826 |
| MAK | New Steam Passenger Double Tracks..... | 198,252 | \$27,569 | \$84,697 | | 310,518 |
| | Total..... | \$350,953 | \$27,569 | \$84,697 | | \$463,219 |
| | 7 Main Line Tracks and Connections, Not Depressed: | | | | | |
| MI | New Connection—Salt Lake and Santa Fe at Redondo Junction..... | \$9,116 | | | | \$9,116 |
| MIO | Double Tracking Salt Lake—Alhambra to Humboldt..... | 48,290 | | | | 48,290 |
| MDI | Connection between Double Tracks along River and Santa Fe and Salt Lake Tracks.. | 48,672 | \$11,363 | | | 60,035 |
| | Total..... | \$106,078 | \$11,363 | | | \$117,441 |
| | 8 New Tracks for Southern Pacific—East Bank of River, North of Humboldt St.: | | | | | |
| B | New Approach—Los Feliz Road Bridge..... | \$67,272 | | | | \$67,272 |
| C | New Tracks—Humboldt to Dayton, East Bank | 138,070 | \$31,274 | \$4,120 | | 173,464 |
| MJ | New Double Track Connection between Salt Lake and Southern Pacific..... | 41,144 | 18,650 | 5,837 | | 65,631 |
| | Total..... | \$246,486 | \$49,924 | \$9,957 | | \$306,367 |
| AG | 10 New Trackage—River to Hobart and Connections | \$61,640 | \$5,089 | | | \$66,729 |
| | 11 New Freight Yards, Southern Pacific and Santa Fe | | | | | |
| | 13 New Connections—Relief of Alameda St. Switching: | | | | | |
| P | Connection—Jackson St. Spur and Santa Fe Tracks..... | \$4,436 | | | | \$4,436 |
| M6 | Connection—Salt Lake Main Line and Butte St. Track..... | 5,715 | | | | 5,715 |
| MY | Connection—Alameda St. Track and Butte St. Track..... | 21,785 | \$18,512 | \$9,410 | | 49,707 |
| | Total..... | \$31,936 | \$18,512 | \$9,410 | | \$59,858 |
| | 14 Team Yards..... | | | | | |
| | 16 Release Southern Pacific Station Site..... | | | | | |
| | 17 Release Southern Pacific Coach Yard Site..... | *\$44,964 | *\$1,651,262 | \$121,844 | | *\$1,574,382 |
| ELECTRIC ROAD | | | | | | |
| | 20 Elevated—Pacific Electric Station to Brooklyn Ave. and to Fourteenth St.: | | | | | |
| AM | Elevated—Sixth and Alameda to Brooklyn Ave. via Salt Lake..... | \$902,423 | | | | \$902,423 |
| DR | Elevated—Pacific Electric Station to Fourteenth St..... | 1,092,114 | \$482,030 | \$97,446 | | 1,671,590 |
| | Total..... | \$1,994,537 | \$482,030 | \$97,446 | | \$2,574,013 |
| | Grand Total..... | \$6,279,845 | *\$354,232 | \$415,302 | \$99,646 | \$6,440,561 |

NOTE: * Designates credit.

TABLE C-2
ASSEMBLY OF ESTIMATE SECTIONS INTO PRIMARY GROUPS

PLAN "C"
IMMEDIATE PLAN
UNION PASSENGER STATION AT PLAZA SITE

| Est. Sec. Key Group | Item | Physical Construction | Acquisition of Property | | | Total |
|----------------------|--|-----------------------|-------------------------|--------------|-----------------|--------------|
| | | | Land | Improvements | Property Damage | |
| STEAM ROADS | | | | | | |
| 1 | Passenger Terminal, Approaches, etc.: | | | | | |
| CC | Viaduct on Main St. over Redondo St. | \$292,226 | | | \$67,310 | \$359,536 |
| CE | Viaduct on Macy St. over Terminal Yard. | 400,070 | \$218,411 | \$80,469 | 31,951 | 730,901 |
| MCB | Connections at Mission Tower—Modified | 61,212 | 87,075 | 7,548 | | 155,835 |
| MCF | Passenger Station and Facilities—Modified | 3,167,748 | 3,480,778 | 1,048,194 | | 7,696,720 |
| | Total | \$3,921,256 | \$3,786,264 | \$1,136,211 | \$99,261 | \$8,942,902 |
| MCA | 2 Union Coach Yard | \$453,090 | \$20,474 | \$42,700 | | \$516,264 |
| 4 | Union L. C. L. Freight Station: | | | | | |
| MCJ | Union Terminal at Santa Fe Site—Modified | \$677,316 | | \$95,017 | | \$772,333 |
| 5 | Viaducts Over Los Angeles River: | | | | | |
| M | Viaduct at Macy St. | \$321,383 | \$5,679 | | \$30,495 | \$357,557 |
| T | Viaduct at Aliso St. | 347,785 | | | 69,151 | 416,936 |
| | Total | \$669,168 | \$5,679 | | \$99,646 | \$774,493 |
| 6 | Depression of and New Tracks Along River: | | | | | |
| N | Removal Santa Fe Crossings—Macy and Aliso Sts. | \$1,047 | | | | \$1,047 |
| M-2 | Depression Santa Fe Tracks—Aliso to Alhambra. | 126,828 | | | | 126,828 |
| M-3 | Depression Salt Lake Tracks—Aliso to Alhambra. | 49,186 | \$27,831 | \$85,465 | | 162,482 |
| | Total | \$177,061 | \$27,831 | \$85,465 | | \$290,357 |
| 7 | Main Line Tracks and Connections, Not Depressed: | | | | | |
| E | Connection—Southern Pacific and Santa Fe at North Broadway | \$23,479 | | | | \$23,479 |
| M-1 | Connection—Salt Lake and Santa Fe at Redondo Junction | 9,116 | | | | 9,116 |
| MD-2 | Connection—Salt Lake and Santa Fe at Humboldt St. | 19,862 | \$11,363 | \$7,222 | | 38,447 |
| | Total | \$52,457 | \$11,363 | \$7,222 | | \$71,042 |
| 10 | New Trackage—River to Hobart and Connections: | | | | | |
| AC | Second Track—Santa Fe, Soto St. to Hobart. | \$31,510 | | | | \$31,510 |
| AD | Connection Salt Lake and Santa Fe at Hobart | 41,200 | \$6,310 | | | 47,510 |
| M-4 | Second Track—Santa Fe, Soto St. to Redondo Junction | 32,550 | | | | 32,550 |
| | Total | \$105,260 | \$6,310 | | | \$111,570 |
| 11 | New Freight Yards—Southern Pacific and Santa Fe: | | | | | |
| MA | Yard for Southern Pacific along San Fernando Road—Modified | \$1,198,127 | | | | \$1,198,127 |
| 13 | New Connections—Relief of Alameda St. Switching: | | | | | |
| P | Connection—Jackson St. and Santa Fe Tracks | \$4,436 | | | | \$4,436 |
| M-5 | Connection—Alameda St. and Santa Fe near Industrial St. | 7,351 | | | | 7,351 |
| M-6 | Connection—Salt Lake Main Line and Butte St. Track | 5,715 | | | | 5,715 |
| MY | Connection—Alameda St. and Butte St. Track | 21,785 | \$18,512 | \$9,410 | | 49,707 |
| | Total | \$39,287 | \$18,512 | \$9,410 | | \$67,209 |
| 14 | Team Yards: | | | | | |
| CD | Team Yard at Southern Pacific Freight Station Site | \$50,155 | | \$98,116 | | \$148,271 |
| S | 16 Release Southern Pacific Station Site | \$96,840 | \$1,719,918 | \$573,104 | | \$1,243,654 |
| V | 17 Release Southern Pacific Coach Yard Site | \$44,964 | \$1,651,262 | \$121,844 | | \$1,574,352 |
| ELECTRIC ROAD | | | | | | |
| 20 | New Line—Pacific Electric Station to Brooklyn Ave. and to Fourteenth St.: | | | | | |
| SK | Abandon Pacific Electric in Los Angeles St., etc. | \$39,074 | | | | \$39,074 |
| CM | Subway and Elevated—Pacific Electric Station to Brooklyn Ave. | 3,757,251 | \$97,405 | \$26,160 | | 3,880,816 |
| DR | Elevated—Pacific Electric Station to Fourteenth St. | 1,092,114 | 482,030 | 97,446 | | 1,671,590 |
| | Total | \$4,888,439 | \$579,435 | \$123,606 | | \$5,591,480 |
| | Grand Total | \$12,089,812 | \$1,084,688 | \$2,292,695 | \$198,907 | \$15,665,102 |

* Credit.

TABLE D-2
ASSEMBLY OF ESTIMATE SECTIONS INTO PRIMARY GROUPS
PLAN "D"
IMMEDIATE PLAN
UNION PASSENGER STATION AT SANTA FE STATION SITE

| Est. Sec. Key Group | Item | Physical Construc- tion | Acquisition of Property | | | Total |
|---------------------------|--|-------------------------------|-------------------------|-------------------|--------------------|--------------|
| | | | Land | Improve- ments | Property Damage | |
| STEAM ROADS | | | | | | |
| MDJ | 1 Passenger Terminal, Approaches, etc. | \$2,396,777 | | \$180,263 | | \$2,577,040 |
| MDP | 2 Union Coach Yard | \$544,067 | \$451,975 | \$9,631 | | \$1,005,673 |
| | 4 Union Freight Terminal | | | | | |
| | 5 Viaducts Over Los Angeles River: | | | | | |
| M | New Viaduct at Macy St. | \$321,383 | \$5,679 | | \$30,495 | \$357,557 |
| T | New Viaduct at Aliso St. | 347,785 | | | 69,151 | 416,936 |
| | Total | \$669,168 | \$5,679 | | \$99,646 | \$774,493 |
| | 6 Depression of and New Tracks Along River: | | | | | |
| N | Removal of Santa Fe Crossings—Macy and Aliso Sts. | \$1,047 | | | | \$1,047 |
| M-3 | Depression of Salt Lake Tracks—Aliso to Alhambra | 49,186 | \$27,831 | \$85,465 | | 162,482 |
| M-8 | Depression of Santa Fe Tracks—First St. to Alhambra | 53,827 | | | | 53,827 |
| | Total | \$104,060 | \$27,831 | \$85,465 | | \$217,356 |
| | 7 Main Line Tracks and Connections, Not Depressed: | | | | | |
| | Connections at West end of Humboldt St. Bridge | \$23,479 | | | | \$23,479 |
| M-1 | Connection—Salt Lake and Santa Fe at Redondo Junction | 9,116 | | | | 9,116 |
| M-9 | Double-tracking Santa Fe Tracks | 9,086 | | | | 9,086 |
| MD-2 | Connection of Salt Lake and Santa Fe at Humboldt St. | 19,862 | \$11,363 | \$7,222 | | 38,447 |
| MDQ | Double-track Connection between Santa Fe and Southern Pacific | 45,238 | 71,725 | 4,607 | | 121,570 |
| | Total | \$106,781 | \$83,088 | \$11,829 | | \$201,698 |
| | 10 New Trackage—River to Hobart and Connections: | | | | | |
| AC | Second Track—Santa Fe, Soto St. to Hobart | \$31,510 | | | | \$31,510 |
| AD | Connection—Salt Lake and Santa Fe at Hobart | 41,200 | \$6,310 | | | 47,510 |
| M-4 | Double-tracking Santa Fe Main Line at Redondo Junction | 32,550 | | | | 32,550 |
| | Total | \$105,260 | \$ 6,310 | | | \$111,570 |
| | 11 New Freight Yards—Southern Pacific and Santa Fe: | | | | | |
| MO | New Trackage—Santa Fe Yard at Hobart | \$579,127 | | | | \$579,127 |
| | 13 New Connections—Relief of Alameda St. Switching: | | | | | |
| P | Connection—Jackson St. Spur and Santa Fe Tracks | \$4,436 | | | | \$4,436 |
| M-5 | Connection—Alameda St. and Santa Fe, near Industrial St. | 7,351 | | | | 7,351 |
| M-6 | Connection—Salt Lake Main Line and Butte St. Track | 5,715 | | | | 5,715 |
| MY | Connection—Alameda St. Track and Butte St. Track | 21,785 | \$18,512 | \$9,410 | | 49,707 |
| | Total | \$39,287 | \$18,512 | \$9,410 | | \$67,209 |
| | 14 Team Yards | | | | | |
| S | 16 Release Southern Pacific Station Site | *\$96,840 | *\$1,719,918 | \$573,104 | | *\$1,243,654 |
| V | 17 Release Southern Pacific Coach Yard Site | | | | | |
| ELECTRIC ROAD | | | | | | |
| | 20 Elevated—Pacific Electric Station to Brooklyn Ave. and to Fourteenth St.: | | | | | |
| DM | Elevated—Pacific Electric Double Track | \$854,363 | \$31,270 | | | \$885,633 |
| DR | Elevated—Pacific Electric Station to Fourteenth St. | 1,092,114 | 482,030 | \$97,446 | | 1,671,590 |
| | Total | \$1,946,477 | \$513,300 | \$97,446 | | \$2,557,223 |
| | Grand Total | \$6,394,164 | *\$613,223 | \$967,148 | \$99,646 | \$6,847,735 |

* Credit.

Appendix

TABLE I
GROWTH IN AUTOMOBILE REGISTRATION

| Political Subdivision | Registrations in Year Ending December 31 | | | | | | | | | |
|--------------------------------------|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | 1914 | | 1915 | | 1916 | | 1917 | | 1918 | |
| | Auto- mobiles | Motor- cycles | Auto- mobiles | Motor- cycles | Auto- mobiles | Motor- cycles | Auto- mobiles | Motor- cycles | Auto- mobiles | Motor- cycles |
| Los Angeles County | 43,099 | 7,685 | 55,217 | 8,088 | 74,709 | 9,724 | 93,654 | 9,599 | 107,232 | 8,797 |
| Orange County | 3,761 | 801 | 4,913 | 932 | 6,440 | 1,092 | 8,132 | 1,095 | 9,430 | 947 |
| San Bernardino County | 3,198 | 977 | 4,404 | 1,051 | 6,249 | 1,307 | 7,737 | 1,211 | 8,342 | 938 |
| Ventura County | 1,410 | 186 | 1,797 | 190 | 2,540 | 213 | 3,307 | 196 | 3,763 | 142 |
| Sub Total "A" | 51,468 | 9,649 | 66,331 | 10,261 | 89,938 | 12,336 | 112,830 | 12,101 | 128,767 | 10,824 |
| Imperial County | 1,515 | 111 | 1,785 | 116 | 3,022 | 149 | 4,446 | 162 | 6,001 | 91 |
| San Diego County | 5,665 | 1,009 | 7,232 | 1,069 | 9,271 | 1,180 | 10,983 | 1,157 | 12,713 | 908 |
| Riverside County | 2,128 | 760 | 2,844 | 832 | 3,934 | 832 | 5,108 | 744 | 5,934 | 630 |
| Santa Barbara County | 1,796 | 304 | 2,469 | 320 | 3,885 | 388 | 5,293 | 358 | 6,113 | 329 |
| Sub Total "B" | 62,572 | 11,833 | 80,661 | 12,598 | 110,050 | 14,885 | 138,660 | 14,522 | 159,528 | 12,782 |
| Balance of State | 60,944 | 12,876 | 83,134 | 13,803 | 122,390 | 16,109 | 168,256 | 15,895 | 205,272 | 13,191 |
| Total State | 123,516 | 24,709 | 163,795 | 26,401 | 232,440 | 30,994 | 306,916 | 30,417 | 364,800 | 25,973 |
| Percentage of Total Registrations in | | | | | | | | | | |
| Los Angeles County | 35 | 31 | 33 | 31 | 32 | 31 | 31 | 32 | 29 | 34 |
| Sub Total "A" | 42 | 39 | 40 | 39 | 38 | 40 | 37 | 40 | 35 | 42 |
| Sub Total "B" | 51 | 48 | 49 | 48 | 47 | 48 | 45 | 48 | 44 | 49 |

Compiled from Records of State Motor Vehicle Department.

Digitized by
INTERNET ARCHIVE

TABLE II
TRAVEL OVER BRIDGES ACROSS LOS ANGELES RIVER
YEARLY TOTALS BASED ON AVAILABLE INFORMATION

| Bridge at Street At Grade Crossings | People in Vehicles | | | Pedestrians and Bicycles | | | People on Street Cars | | | Total | | |
|--|--------------------|--------------|-----------|--------------------------|--------------|----------|-----------------------|--------------|-----------|-------------------|---------------|------------|
| | Number | % | % | Number | % | % | Number | % | % | Number | % | % |
| North Main..... | 2,176,600 | (9) | 43 | 636,600 | (14) | 12 | 2,326,100 | (6) | 45 | 5,139,300 | (8) | 100 |
| Macy..... | 4,296,100 | (18) | 59 | 481,400 | (11) | 7 | 2,432,400 | (6) | 34 | 7,209,900 | (11) | 100 |
| Aliso..... | 816,200 | (3) | 6 | 527,400 | (12) | 4 | 11,261,700 | (31) | 90 | 12,605,300 | (19) | 100 |
| Seventh..... | 3,776,400 | (15) | 48 | 435,100 | (10) | 5 | 3,724,100 | (10) | 47 | 7,935,600 | (12) | 100 |
| Ninth..... | 226,300 | (1) | 62 | 141,600 | (3) | 38 | ..... | .. | .. | 367,900 | (.5) | 100 |
| Total..... | 11,291,600 | 46) | 34 | 2,222,100 | (50) | 7 | 19,744,300 | (53) | 59 | 33,258,000 | (50.5) | 100 |
| At Bridges Over Tracks | | | | | | | | | | | | |
| North Broadway..... | 8,236,400 | (34) | 49 | 207,300 | (4) | 12 | 8,316,900 | (23) | 49 | 16,760,600 | (26) | 100 |
| North Spring..... | 559,300 | (2) | 59 | 295,600 | (7) | 31 | 96,000 | (2) | 10 | 950,900 | (1.5) | 100 |
| First..... | 2,490,900 | (10) | 26 | 1,305,600 | (29) | 13 | 5,851,300 | (16) | 61 | 9,647,800 | (15) | 100 |
| Fourth..... | 2,003,500 | (8) | 41 | 452,300 | (10) | 9 | 2,409,400 | (6) | 50 | 4,865,200 | (7) | 100 |
| Total..... | 13,290,100 | (54) | 41 | 2,260,800 | (50) | 7 | 16,673,600 | (47) | 52 | 32,224,500 | (49.5) | 100 |
| Grand Total and Bridges..... | 24,581,700 | (100) | 37 | 4,482,900 | (100) | 7 | 36,417,900 | (100) | 56 | 65,482,500 | (100) | 100 |
| AVERAGE DAY..... | 67,350 | | 37 | 12,280 | | 7 | 99,780 | | 56 | 179,400 | | 100 |

Original from
UNIVERSITY OF CALIFORNIA

TABLE III
STATEMENT SHOWING PASSENGER TRAINS, FREIGHT TRAINS AND LIGHT ENGINE MOVEMENTS
ALONG ALAMEDA ST., LOS ANGELES, FOR THE YEAR ENDING DECEMBER 31st, 1917

SWITCHING NOT INCLUDED

| Month | Passenger Train Direction from Arcade Depot | | | | Through Freight Train North and South of Arcade Depot | | | | Light Road Engines North of Arcade Depot | | | | | |
|--------------------|--|----------------|----------------|----------------|---|----------------|----------------|----------------|--|----------------|----------------|----------------|----------------|----------------|
| | North | | South | | North | | South | | North | | South | | | |
| | Mid. 6 A.M. | 6 A.M. Noon | Noon 6 P.M. | 6 P.M. Mid. | 6 A.M. Noon | Noon 6 P.M. | Mid. 6 A.M. | 6 A.M. Noon | Noon 6 P.M. | 6 P.M. Mid. | Mid. 6 A.M. | 6 A.M. Noon | Noon 6 P.M. | 6 P.M. Mid. |
| January | 8 | 471 | 266 | 384 | 62 | 62 | 131 | 81 | 67 | 144 | 8 | 533 | 328 | 384 |
| February | 9 | 429 | 248 | 351 | 56 | 56 | 112 | 67 | 60 | 125 | 9 | 485 | 304 | 351 |
| March | 14 | 490 | 289 | 384 | 62 | 62 | 128 | 53 | 56 | 123 | 14 | 552 | 351 | 384 |
| April | 20 | 481 | 291 | 404 | 60 | 60 | 127 | 59 | 47 | 108 | 20 | 541 | 351 | 404 |
| May | 6 | 470 | 269 | 417 | 62 | 62 | 147 | 48 | 30 | 113 | 6 | 532 | 331 | 417 |
| June | 3 | 456 | 248 | 392 | 60 | 60 | 135 | 44 | 38 | 131 | 3 | 516 | 308 | 392 |
| July | 5 | 472 | 256 | 405 | 62 | 62 | 133 | 59 | 52 | 147 | 5 | 534 | 318 | 405 |
| August | 23 | 480 | 285 | 399 | 62 | 62 | 166 | 66 | 59 | 146 | 23 | 542 | 347 | 399 |
| September | 30 | 472 | 272 | 364 | 62 | 62 | 153 | 71 | 58 | 141 | 30 | 534 | 334 | 364 |
| October | 26 | 474 | 277 | 388 | 62 | 62 | 158 | 78 | 76 | 137 | 26 | 536 | 339 | 388 |
| November | 35 | 471 | 265 | 380 | 60 | 60 | 126 | 52 | 46 | 135 | 35 | 531 | 325 | 380 |
| December | 45 | 498 | 309 | 362 | 62 | 62 | 128 | 61 | 56 | 132 | 45 | 560 | 371 | 362 |
| Total | 224 | 5664 | 3275 | 4630 | 732 | 732 | 1644 | 739 | 645 | 1582 | 224 | 6396 | 4007 | 4630 |
| Average Day | 61 | 15.5 | 9.0 | 12.7 | 2.0 | 2.0 | 4.5 | 2.0 | 1.8 | 4.3 | .57 | 17.5 | 11.0 | 12.7 |

| Kind of Movement | Year | Average | | Time of Movement | Year | Average | |
|---------------------------|---------------|-----------|------------|--------------------|---------------|-----------|------------|
| | | Day | % | | | Day | % |
| Passenger Movements | 15 257 | 42 | 43 | Midnight to 6 A.M. | 2 092 | 6 | 6 |
| Through Freight Movements | 4 610 | 12 | 14 | 6 A.M. to Noon | 13 531 | 37 | 38 |
| Light Engine Movement | 15 257 | 42 | 43 | Noon to 6 P.M. | 8 659 | 24 | 25 |
| | | | | 6 P.M. to Midnight | 10 842 | 29 | 31 |
| Movements | 35 124 | 96 | 100 | | 35 124 | 96 | 100 |

Compiled from information furnished by Southern Pacific Company.

TABLE IV

**PASSENGERS HANDLED BY STEAM RAILROADS AT LOS ANGELES
 BASED UPON EIGHT DAY COUNT IN APRIL, 1918**

ROAD AND NUMBER OF PASSENGERS

| Date | Day of Week | Southern Pacific | | | Santa Fe | | | Salt Lake | | | Combined | | |
|--------------------------------|-------------|------------------|---------|-----------|----------|---------|---------|-----------|---------|---------|-----------|-----------|-----------|
| | | Arrive | Depart | Total | Arrive | Depart | Total | Arrive | Depart | Total | Arrive | Depart | Total |
| 10 | Wednesday | 1,688 | 2,116 | 3,804 | 1,177 | 1,243 | 2,420 | 297 | 444 | 741 | 3,162 | 3,803 | 6,965 |
| 11 | Thursday | 1,690 | 1,767 | 3,457 | 1,070 | 1,339 | 2,409 | 276 | 415 | 691 | 3,036 | 3,521 | 6,557 |
| 12 | Friday | 1,622 | 1,910 | 3,532 | 1,277 | 1,149 | 2,426 | 319 | 419 | 738 | 3,218 | 3,478 | 6,696 |
| 13 | Saturday | 1,908 | 1,990 | 3,898 | 1,792 | 1,476 | 3,268 | 305 | 368 | 673 | 4,005 | 3,834 | 7,839 |
| 14 | Sunday | 2,096 | 2,002 | 4,098 | 1,417 | 1,839 | 3,256 | 330 | 372 | 702 | 3,843 | 4,213 | 8,056 |
| 15 | Monday | 1,578 | 2,257 | 3,835 | 1,389 | 1,371 | 2,760 | 306 | 553 | 859 | 3,273 | 4,181 | 7,454 |
| 16 | Tuesday | 1,836 | 2,038 | 3,874 | 1,152 | 1,286 | 2,438 | 361 | 441 | 802 | 3,349 | 3,765 | 7,114 |
| 17 | Wednesday | 1,683 | 1,905 | 3,588 | 1,077 | 1,378 | 2,455 | 264 | 426 | 690 | 3,024 | 3,709 | 6,733 |
| Total, 8 days | | 14,101 | 15,985 | 30,086 | 10,351 | 11,081 | 21,432 | 2,458 | 3,438 | 5,896 | 26,910 | 30,504 | 57,414 |
| Average, 1 day | | 1,763 | 1,998 | 3,761 | 1,294 | 1,385 | 2,679 | 307 | 430 | 737 | 3,364 | 3,813 | 7,177 |
| Maximum of days | | 2,096 | 2,257 | 4,098 | 1,792 | 1,839 | 3,268 | 361 | 553 | 859 | 4,005 | 4,213 | 8,056 |
| Total per year, based on above | | 643,495 | 729,270 | 1,372,765 | 472,310 | 505,525 | 977,835 | 112,055 | 156,950 | 269,005 | 1,227,860 | 1,391,745 | 2,619,605 |
| Proportions | | | | 52.4% | | | 37.3% | | | 10.3% | | | 100% |

Above figures based on actual count made by carriers on days shown. Troop trains are excluded, otherwise all persons riding on trains are included, regardless of form of transportation.

TABLE V

PASSENGERS HANDLED BY STEAM RAILROADS AT LOS ANGELES
 BASED ON ACTUAL COUNT OF SEPTEMBER, 1918

RAILROAD AND NUMBER OF PASSENGERS CARRIED

| Date | Item Day of Week | Southern Pacific | | | Santa Fe | | | Salt Lake | | | Combined | | |
|--------------------------------|---------------------|------------------|---------|-----------|----------|---------|---------|-----------|---------|---------|-----------|-----------|-----------|
| | | Arrive | Depart | Total | Arrive | Depart | Total | Arrive | Depart | Total | Arrive | Depart | Total |
| 23 | Monday | 1,725 | 1,813 | 3,538 | *753 | *1,328 | 2,081 | 976 | 974 | 1,950 | 3,454 | 4,115 | 7,569 |
| 24 | Tuesday | 1,835 | 1,840 | 3,675 | †700 | †1,173 | 1,873 | 1,028 | 948 | 1,976 | 3,563 | 3,961 | 7,524 |
| 25 | Wednesday | 1,879 | 1,782 | 3,661 | 693 | 1,013 | 1,706 | 996 | 984 | 1,980 | 3,568 | 3,779 | 7,347 |
| 26 | Thursday | 1,947 | 1,940 | 3,887 | 802 | 1,002 | 1,804 | 924 | 1,014 | 1,938 | 3,673 | 3,956 | 7,629 |
| 27 | Friday | 1,863 | 1,955 | 3,818 | 819 | 1,112 | 1,931 | 1,010 | 954 | 1,964 | 3,692 | 4,021 | 7,713 |
| 28 | Saturday | 2,069 | 1,841 | 3,910 | 1,079 | 1,179 | 2,258 | 1,015 | 1,051 | 2,066 | 4,163 | 4,071 | 8,234 |
| 29 | Sunday | 2,085 | 2,004 | 4,089 | 874 | 1,156 | 2,030 | 731 | 721 | 1,452 | 3,690 | 3,881 | 7,571 |
| 30 | Monday | 1,895 | 1,864 | 3,759 | 805 | 1,306 | 2,111 | 993 | 1,079 | 2,072 | 3,693 | 4,249 | 7,942 |
| Total, 8 days | | 15,298 | 15,039 | 30,337 | 6,525 | 9,269 | 15,794 | 7,673 | 7,725 | 15,398 | 29,496 | 32,033 | 61,529 |
| Average, 1 day | | 1,912 | 1,880 | 3,792 | 816 | 1,159 | 1,975 | 959 | 966 | 1,925 | 3,687 | 4,005 | 7,692 |
| Maximum of days | | 2,085 | 2,004 | 4,089 | 1,079 | 1,328 | 2,258 | 1,028 | 1,079 | 2,072 | 4,163 | 4,249 | 8,234 |
| Total per year, based on above | | 697,880 | 686,200 | 1,384,080 | 297,840 | 423,035 | 720,875 | 350,035 | 352,590 | 702,625 | 1,345,755 | 1,461,825 | 2,807,580 |
| Proportions | | 24.9% | 24.4% | 49.3% | 10.6% | 15.1% | 25.7% | 12.4% | 12.6% | 25.0% | 47.9% | 52.1% | 100% |

* Tuesday—October 1, 1918.
 † Wednesday—October 2, 1918.

TABLE VI

TICKET SALES AT LOS ANGELES IN YEAR 1917
SOUTHERN PACIFIC, SANTA FE AND SALT LAKE RAILWAYS

| Road and Office | Class of Ticket | | | | | |
|-------------------------|---------------------|-----------------------|---------------------|-----------------------------|---------------------|-----------------------|
| | Local | | Interline | | Total | |
| | No. of Tickets Sold | Revenue | No. of Tickets Sold | Revenue to Originating Road | No. of Tickets Sold | Revenue |
| Southern Pacific | | | | | | |
| Arcade Depot..... | 255,787 | \$1,411,127.00 | 16,568 | \$275,935.00 | 272,355 | \$1,687,062.00 |
| River Depot..... | 4,844 | 7,944.00 | 6 | 132.00 | 4,850 | 8,076.00 |
| *Pacific Elec. Depot. | 1,950 | 16,876.00 | 372 | 6,232.00 | 2,322 | 23,108.00 |
| Uptown Office..... | 76,239 | 687,486.00 | 35,462 | 656,653.00 | 111,701 | 1,344,139.00 |
| Total..... | 338,820 | \$2,123,433.00 | 52,408 | \$938,952.00 | 391,228 | \$3,062,385.00 |
| Santa Fe | | | | | | |
| Depot Office..... | 148,330 | \$588,864.23 | 15,451 | \$288,465.40 | 163,781 | \$877,329.63 |
| Uptown Office..... | 21,777 | 144,417.75 | 36,901 | 1,153,862.00 | 58,678 | 1,298,279.75 |
| Total..... | 170,107 | \$733,281.98 | 52,352 | \$1,442,327.40 | 222,459 | \$2,175,609.38 |
| Salt Lake | | | | | | |
| Depot Office..... | 52,883 | \$121,970.67 | 5,010 | \$59,021.27 | 57,893 | \$180,991.94 |
| Uptown Office..... | 8,796 | 89,000.32 | 16,506 | 364,158.36 | 25,302 | 453,158.68 |
| Total..... | 61,679 | \$210,970.99 | 21,516 | \$423,179.63 | 83,195 | \$634,150.62 |
| Combined | | | | | | |
| Depot Offices..... | 463,794 | \$2,146,781.90 | 37,407 | \$629,785.67 | 501,201 | \$2,776,567.57 |
| Uptown Offices..... | 106,812 | 920,904.07 | 88,869 | 2,174,673.36 | 195,681 | 3,095,577.43 |
| Total..... | 570,606 | \$3,067,685.97 | 126,276 | \$2,804,459.03 | 696,882 | \$5,872,145.00 |
| Comparisons | | | | | | |
| Depot Offices..... | 81.3% | 70% | 29.6% | 22.5% | 71.9% | 47.3% |
| Uptown Offices..... | 18.7% | 30% | 70.4% | 77.5% | 28.1% | 52.7% |
| Local and Interline.. | 100% | 100% | 100% | 100% | 100% | 100% |
| | 82% | 52% | 18% | 48% | 100% | 100% |
| Averages | | | | | | |
| Revenue per ticket: | | | | | | |
| Depot Offices..... | | \$4.63 | | \$16.84 | | \$5.54 |
| Uptown Offices..... | | 8.62 | | 24.47 | | 15.82 |
| Totals..... | | 5.38 | | 22.21 | | 8.43 |

"Interline" does not include tickets sold by other roads and "Interline Revenue" is proportion which accrues to the three roads shown from the tickets they sell direct.

* Five months only.

Compiled from statistics furnished by carriers.

TABLE VII
SCHEDULED PASSENGER TRAINS AT LOS ANGELES AS OF
DECEMBER 31, 1917

(Compiled from Employees' Timetables)

| Train No. | Leaving Time | | | Train No. | Arriving Time | | |
|-----------|------------------|----------|-----------|-----------|------------------|----------|-----------|
| | Southern Pacific | Santa Fe | Salt Lake | | Southern Pacific | Santa Fe | Salt Lake |
| 30 | A.M. | | 6:35N | 79 | A.M. | 6:00S | |
| 55 | | 6:50N | | 37 | | 6:45NE | |
| 8 | | | 7:45S | 9 | | | 7:10N |
| 107 | | 7:50N | | 1 | | 7:15NE | |
| 77 | | 8:00N | | 8 | | 7:30N | |
| 102 | | 8:30NE | | 102 | | 7:45N | |
| 42 | | | 8:30N | 121 | | 7:50S | |
| 23 | | | | 22 | | | 8:10S |
| 20 | | | 9:00S | 50 | | 8:10N | |
| 2 | | | | 65 | | | 8:20S |
| 72 | | | 9:00S | 1 | | | 8:20S |
| 21 | | 9:00N | | 1 | | | 8:30S |
| 122 | | 10:00S | | 105 | | 8:30NE | |
| 52 | | | 10:45S | 31 | | | 8:35N |
| 4 | | 11:45NE | | 17 | | | 8:45S |
| 4 | P.M. | | 1:10N | 15 | | | 8:45N |
| 74 | | | 1:15S | 26 | | 8:50N | |
| 8 | | | | 76 | | 9:45N | |
| 18 | | | 2:00N | 41 | | | 10:15N |
| 36 | | | | 51 | | | 11:00S |
| 79 | | 2:55N | | 56 | | 11:25N | |
| 76 | | | 3:00S | 22 | | 11:30N | |
| 2 | | 3:00NE | | 24 | P.M. | | 12:15S |
| 106 | | 3:05NE | | 71 | | | 12:50S |
| 110 | | 3:30NE | | 33 | | | 12:55N |
| 54 | | | 4:00S | 110 | | 1:40N | |
| 38 | | | | 123 | | 2:20S | |
| 25 | | | 4:35N | 3 | | 2:30NE | |
| 17 | | 5:00N | | 19 | | | 2:30S |
| 16 | | | 5:00N | 7 | | | 2:30S |
| 57 | | 5:15N | | 3 | | | 2:40N |
| 124 | | 5:20S | | 35 | | | 3:55N |
| 66 | | | 5:25S | 7 | | | 4:30S |
| 12 | | | | 11 | | | 4:45S |
| 25 | | 6:00N | | 73 | | 4:50S | |
| 22 | | | 6:40N | 53 | | 5:00S | |
| 40 | | | | 80 | | 6:00N | |
| 49 | | 7:30N | | 75 | | | 6:30S |
| 75 | | 8:00N | | 58 | | 6:35N | |
| 2 | | | 8:00S | 108 | | 7:00N | |
| 10 | | | 8:30N | 37 | | | 7:00N |
| 56 | | | 8:30S | 26 | | | 7:10S |
| 101 | | 10:15N | | 21 | | | 7:50S |
| 109 | | 11:30N | | 45 | | | 7:55N |
| 38 | | 11:30NE | | 39 | | | 8:35N |
| 78 | | | 11:59S | 109 | | 8:55NE | |
| | | | | 101 | | 9:30NE | |
| | | | | 78 | | 9:59N | |
| 46 | | 20 | 16 | 10 | 48 | 20 | 16 |
| 23N | | 12N | 7N | 4N | 22N | 12N | 5N |
| 6NE | | 6NE | | 6NE | 6NE | 6NE | 5N |
| 17S | | 2S | 9S | 6S | 20S | 2S | 11S |
| | | | | | | | 7S |

NOTE: Mixed trains, or trains running less than 6 days per week are not included. Directions entering or leaving: N, North; NE, North via Alhambra Ave.; S, South.

TABLE VIII

**SCHEDULED PASSENGER TRAINS AT LOS ANGELES
AS OF JUNE 2, 1918**

(Compiled from Employees' Timetables)

| Train No. | Leaving Time | | | Train No. | Arriving Time | | | |
|-----------|------------------|----------|-----------|-----------|------------------|----------|-----------|----|
| | Southern Pacific | Santa Fe | Salt Lake | | Southern Pacific | Santa Fe | Salt Lake | |
| 21 | A.M. | | 5:40S | 37 | A.M. | 6:45NE | | |
| 23 | | | 6:50S | 79 | | 7:15S | | |
| 107 | | | | 8 | | 7:25N | | |
| 30 | | | 7:45N | 101 | | 7:30NE | | |
| 77 | | | | 121 | | 7:50S | | |
| 52 | | 8:00S | | 26 | | 8:30N | | |
| 4 | | 9:00NE | | 17 | | 8:30N | | |
| 2 | | 9:00N | | 1 | | 8:30S | | |
| 72 | | 9:05S | | 110 | | 8:45N | | |
| 2 | | | 9:30S | 31 | | | 9:05N | |
| 25 | | | 9:35S | 22 | | | 9:10S | |
| 36 | | 9:40NE | | 50 | | 9:25N | | |
| 122 | | 10:00S | | 76 | | 10:15N | | |
| 4 | | 10:00N | | 1 | | 11:00NE | | |
| 102 | | 11:00NE | | 9 | | 11:00N | | |
| 8 | P.M. | 1:00S | | 51 | | 11:00S | | |
| 2 | | 2:00NE | | 56 | | 11:25N | | |
| 18 | | 2:00N | | 24 | P.M. | | 12:15S | |
| 74 | | 2:05S | | 7 | | 12:45S | | |
| 79 | | 2:55N | | 71 | | 12:50S | | |
| 110 | | 3:00NE | | 123 | | 1:20S | | |
| 54 | | 4:00S | | 3 | | | 4:15S | |
| 27 | | | 4:40S | 35 | | 4:40NE | | |
| 25 | | 5:00N | | 73 | | 4:50S | | |
| 57 | | 5:15N | | 3 | | 5:30NE | | |
| 124 | | 5:20S | | 3 | | 5:30N | | |
| 34 | | | 5:35N | 1 | | | 5:30S | |
| 76 | | 6:00S | | 53 | | 5:50S | | |
| 17 | | 6:15N | | 80 | | 6:00N | | |
| 49 | | 7:30N | | 26 | | | 6:10S | |
| 75 | | 8:00N | | 75 | | 6:30S | | |
| 10 | | 9:00N | | 35 | | | 7:00N | |
| 4 | | | 10:00S | 28 | | | 7:10S | |
| 109 | | 11:30N | | 108 | | 7:20N | | |
| 38 | | 11:30NE | | 109 | | 9:05NE | | |
| 78 | | 11:59S | | 78 | | 10:45N | | |
| 36 | | 17 | 11 | 8 | 36 | 17 | 11 | 8 |
| 15N | | 9N | 4N | 2N | 14N | 9N | 3N | 2N |
| 6NE | | 6NE | | | 6NE | 6NE | | |
| 15S | | 2S | 7S | 6S | 16S | 2S | 8S | 6S |

NOTE: Mixed trains, or trains running less than 6 days per week are not included. Direction entering or leaving: N, North; NE, North via Alhambra Ave.; S, South.

TABLE IX

BAGGAGE RECEIVED AT AND FORWARDED FROM LOS ANGELES, YEAR 1917

| Month | Road and Number of Pieces | | | | | | | | | | | |
|-------------|---------------------------|---------|---------|----------|---------|---------|-----------|--------|---------|----------|---------|-----------|
| | Southern Pacific | | | Santa Fe | | | Salt Lake | | | Combined | | |
| | Rec'd | For'd | Total | Rec'd | For'd | Total | Rec'd | For'd | Total | Rec'd | For'd | Total |
| January | 26,225 | 26,003 | 52,228 | 14,697 | 11,823 | 26,520 | 6,073 | 5,645 | 11,718 | 46,995 | 43,471 | 90,466 |
| February | 10,181 | 25,637 | 35,818 | 14,268 | 11,821 | 26,089 | 5,928 | 3,950 | 9,878 | 30,377 | 41,408 | 71,785 |
| March | 27,803 | 32,780 | 60,583 | 15,636 | 16,067 | 31,703 | 8,855 | 4,854 | 13,709 | 52,294 | 53,701 | 105,995 |
| April | 27,108 | 31,212 | 58,320 | 12,733 | 16,789 | 29,522 | 11,147 | 5,481 | 16,628 | 50,988 | 53,482 | 104,470 |
| May | 27,303 | 28,748 | 56,051 | 14,606 | 13,942 | 28,548 | 9,950 | 5,338 | 15,288 | 51,859 | 48,028 | 99,887 |
| June | 27,873 | 27,800 | 55,673 | 14,356 | 15,084 | 29,440 | 10,511 | 5,746 | 16,257 | 52,740 | 48,630 | 101,370 |
| July | 30,938 | 30,171 | 61,109 | 13,815 | 11,624 | 25,439 | 8,417 | 5,138 | 13,555 | 53,170 | 46,933 | 100,103 |
| August | 32,134 | 34,174 | 66,308 | 14,644 | 14,303 | 28,947 | 9,095 | 5,047 | 14,142 | 55,875 | 53,524 | 109,397 |
| September | 31,940 | 32,839 | 64,779 | 13,899 | 15,720 | 29,619 | 8,408 | 5,539 | 13,947 | 54,247 | 54,098 | 108,345 |
| October | 31,274 | 30,378 | 61,652 | 14,492 | 14,199 | 28,691 | 7,281 | 5,704 | 12,985 | 53,047 | 50,281 | 103,328 |
| November | 29,820 | 26,631 | 56,451 | 15,998 | 12,601 | 28,599 | 6,278 | 5,355 | 11,633 | 52,096 | 44,587 | 96,683 |
| December | 33,945 | 27,767 | 61,712 | 16,838 | 13,640 | 30,478 | 4,990 | 4,471 | 9,461 | 55,773 | 45,878 | 101,651 |
| Total | 336,544 | 354,140 | 690,684 | 175,982 | 167,613 | 343,595 | 96,933 | 62,268 | 159,201 | 609,459 | 584,021 | 1,193,480 |
| Average Day | 922 | 970 | 1,892 | 482 | 459 | 941 | 266 | 170 | 436 | 1,670 | 1,600 | 3,270 |

Compiled from information furnished by carriers.

TABLE X
EXPRESS RECEIVED AT AND FORWARDED FROM LOS ANGELES DURING 1917 BY WELLS
FARGO AND COMPANY EXPRESS, AT SOUTHERN PACIFIC AND SANTA FE STATIONS
AND BY AMERICAN EXPRESS COMPANY AT SALT LAKE STATION
YEAR 1917

| | Tons of Express | | | | | | | | | | | | | | |
|------------------|-------------------------|--------|--------|----------|-------|--------|--------|-------|--------|----------------------|-------|-------|----------|-------|--------|
| | Wells Fargo and Company | | | | | | | | | American Express Co. | | | | | |
| | Southern Pacific | | | Santa Fe | | | Total | | | Salt Lake | | | Combined | | |
| | Rec'd | Del'd | Total | Rec'd | Del'd | Total | Rec'd | Del'd | Total | Rec'd | Del'd | Total | Rec'd | Del'd | Total |
| Total: | | | | | | | | | | | | | | | |
| Received..... | 29,964 | | | 9,898 | | | 39,862 | | | 2,451 | | | 42,313 | | |
| Delivered..... | | 24,709 | | | 9,956 | | 34,665 | | | 2,737 | | | 37,402 | | |
| Total..... | | | 54,673 | | | 19,854 | | | 74,527 | | | 5,188 | | | 79,715 |
| Average Day..... | 99 | 33 | 132 | 82 | 33 | 115 | 182 | 66 | 248 | 8 | 9 | 17 | 108 | 158 | 266 |
| Per Cent of: | | | | | | | | | | | | | | | |
| Each Total..... | 55 | 45 | 100 | 49 | 51 | 100 | 53 | 47 | 100 | 47 | 53 | 100 | 53 | 47 | 100 |
| W. F. Total..... | | | 73 | | | 27 | | | 100 | | | | | | |
| Grand Total..... | | | 68 | | | 25 | | | 93 | | | 7 | | | 100 |

| | Tons of Express Transferred | | | | | | | | | |
|---------------------------------------|------------------------------|-----|----------|-----|-------|-----|------------------------|---|----------|-----|
| | Wells Fargo and Company From | | | | | | American Exp. Co. From | | | |
| | Southern Pacific | | Santa Fe | | Total | | Salt Lake | | Combined | |
| | Tons | % | Tons | % | Tons | % | Tons | % | Tons | % |
| To Southern Pacific..... | | | | | | | | | | |
| Santa Fe..... | 4,320 | 92 | 2,880 | 98 | 2,880 | 38 | 516 | | 7,716 | 95 |
| Salt Lake..... | 360 | 8 | 48 | 2 | 408 | 6 | | | 408 | 5 |
| Total..... | 4,680 | 100 | 2,928 | 100 | 7,608 | 100 | 516 | | 8,124 | 100 |
| Average Day..... | 15 | | 10 | | 25 | | 2 | | 27 | |
| Per Cent of Wells Fargo to Total..... | 60 | | 40 | | 100 | | | | | |
| Grand Total..... | 58 | | 36 | | | | 6 | | 100 | |

Information furnished by Express Companies.

TABLE XI

TRACKAGE AND CAR CAPACITY OF PASSENGER STATION AND COACH YARDS, LOS ANGELES, 1918

| Class of Track | Salt Lake | | Santa Fe | | Southern Pacific | | Combined Total | |
|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | Total Length, Feet | Car Capacity, Cars | Total Length, Feet | Car Capacity, Cars | Total Length, Feet | Car Capacity, Cars | Total Length, Feet | Car Capacity, Cars |
| Passenger Depot..... | 3,108 | 34 | 22,025 | 210 | 32,367 | 284 | 57,500 | 528 |
| Coach Yard..... | 10,446 | 106 | 14,915 | 141 | 31,751 | 270 | 57,112 | 517 |
| Total | 13,554 | 140 | 36,940 | 351 | 64,118 | 554 | 114,612 | 1,045 |

Car capacity estimates based on 70 feet per car and extended only for such tracks as cars may stand upon without interference to operation on other tracks.

TABLE XII

TRACKAGE AND CAR CAPACITY OF STEAM RAILROAD TRACKAGE, LOS ANGELES, 1918

(Passenger Station and Coach Yards Excluded)

| Class of Track | Salt Lake | | Santa Fe | | Southern Pacific | | Combined Total | |
|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | Total Length, Feet | Car Capacity, Cars | Total Length, Feet | Car Capacity, Cars | Total Length, Feet | Car Capacity, Cars | Total Length, Feet | Car Capacity, Cars |
| Freight Yard..... | 45,501 | 795 | 101,805 | 1,276 | 250,066 | 4,143 | 397,372 | 6,214 |
| Freight House..... | 4,802 | 81 | 10,694 | 176 | 10,438 | 129 | 25,934 | 386 |
| Team..... | 4,296 | 82 | 16,227 | 304 | 18,627 | 252 | 39,150 | 638 |
| Transfer..... | 13,007 | 72 | 4,368 | 60 | 2,145 | 18 | 19,520 | 150 |
| Shop and Engine..... | 23,201 | 301 | 28,139 | 442 | 113,468 | 1,680 | 164,808 | 2,423 |
| Industrial..... | 41,830 | 657 | 139,236 | 1,741 | 135,238 | 1,626 | 316,304 | 4,024 |
| Total | 132,637 | 1,988 | 300,460 | 3,900 | 529,982 | 7,848 | 963,088 | 13,835 |

(25.1 Miles)

(56.9 Miles)

(100.4 Miles)

(182.4 Miles)

Car capacity based on 43 feet per car and estimated only for such tracks as cars may stand upon without interference to operation on other tracks.

TABLE XIII
STATEMENT SHOWING FREIGHT CARS HANDLED IN AND OUT OF LOS ANGELES YARD,
YEAR 1917, BY SOUTHERN PACIFIC COMPANY

| Direction | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|--------------------------|---------------|----------------|----------------|----------------|---------------|---------------|----------------------|---------------|---------------|---------------|----------------|---------------|----------------|
| East via Shorb: | | | | | | | | | | | | | |
| Received: Loads..... | 5,345 | 5,305 | 6,332 | 6,988 | 7,148 | 7,189 | 6,266 | 5,850 | 5,383 | 5,468 | 5,152 | 4,869 | 71,295 |
| Empties..... | 6,886 | 7,399 | 6,517 | 7,922 | 5,333 | 4,395 | 5,631 | 6,378 | 6,159 | 5,628 | 4,800 | 5,621 | 72,669 |
| Forwarded: Loads..... | 10,402 | 8,821 | 9,744 | 8,013 | 8,334 | 8,171 | 8,845 | 8,788 | 8,454 | 9,957 | 9,075 | 10,346 | 108,950 |
| Empties..... | 1,529 | 1,322 | 2,320 | 1,964 | 1,641 | 1,660 | 1,250 | 1,155 | 1,327 | 1,641 | 1,440 | 947 | 18,196 |
| South (Florence): | | | | | | | | | | | | | |
| Received: Loads..... | 3,799 | 2,664 | 4,055 | 4,506 | 3,381 | 4,958 | 3,413 | 4,195 | 3,016 | 2,982 | 2,585 | 1,876 | 41,430 |
| Empties..... | 666 | 423 | 658 | 481 | 551 | 327 | 380 | 720 | 579 | 813 | 826 | 660 | 7,084 |
| Forwarded: Loads..... | 1,507 | 1,237 | 1,347 | 1,325 | 1,274 | 1,319 | 1,388 | 1,459 | 1,515 | 1,460 | 1,108 | 1,106 | 16,045 |
| Empties..... | 2,874 | 2,192 | 2,436 | 2,744 | 2,434 | 2,609 | 2,885 | 2,851 | 1,847 | 1,327 | 1,679 | 1,784 | 27,662 |
| Coast: | | | | | | | | | | | | | |
| Received: Loads..... | 4,126 | 2,775 | 3,796 | 2,778 | 2,828 | 2,645 | 3,088 | 3,087 | 4,009 | 4,385 | 3,754 | 3,984 | 41,255 |
| Empties..... | 1,067 | 966 | 1,151 | 1,222 | 1,329 | 1,440 | 1,136 | 1,100 | 945 | 946 | 1,090 | 689 | 13,081 |
| Forwarded: Loads..... | 2,821 | 2,830 | 3,348 | 3,817 | 3,518 | 3,150 | 3,076 | 2,889 | 3,011 | 3,083 | 3,004 | 2,664 | 37,211 |
| Empties..... | 1,599 | 1,613 | 952 | 1,543 | 1,202 | 999 | 957 | 1,492 | 1,952 | 1,724 | 1,442 | 1,761 | 17,236 |
| Valley: | | | | | | | | | | | | | |
| Received: Loads..... | 6,344 | 5,529 | 5,561 | 4,537 | 4,608 | 4,349 | 5,975 | 5,623 | 4,983 | 5,548 | 4,796 | 5,871 | 63,724 |
| Empties..... | 1,122 | 440 | 1,306 | 713 | 1,400 | 1,079 | 734 | 592 | 394 | 522 | 702 | 453 | 9,457 |
| Forwarded: Loads..... | 2,347 | 2,162 | 2,634 | 3,257 | 3,513 | 3,670 | 3,125 | 3,026 | 2,382 | 2,584 | 2,730 | 1,889 | 33,319 |
| Empties..... | 4,905 | 4,495 | 4,756 | 3,994 | 4,019 | 2,358 | 3,968 | 4,751 | 3,171 | 2,936 | 2,336 | 2,622 | 44,311 |
| Totals: | | | | | | | | | | | | | |
| Received: Loads..... | 19,614 | 16,273 | 19,744 | 18,809 | 17,965 | 19,141 | 18,742 | 18,755 | 17,391 | 18,383 | 16,287 | 16,600 | 217,704 |
| Empties..... | 9,741 | 9,228 | 9,632 | 10,338 | 8,613 | 7,241 | 7,881 | 8,790 | 8,077 | 7,909 | 7,418 | 7,423 | 102,291 |
| Forwarded: Loads..... | 17,077 | 15,050 | 17,073 | 16,412 | 16,639 | 16,310 | 16,434 | 16,162 | 15,362 | 17,084 | 15,917 | 16,005 | 195,525 |
| Empties..... | 10,907 | 9,622 | 10,464 | 10,245 | 9,296 | 7,626 | 9,060 | 10,249 | 8,297 | 7,628 | 6,897 | 7,114 | 107,405 |
| Totals..... | 57,339 | 50,173 | 56,913 | 55,804 | 52,513 | 50,318 | 52,117 | 53,956 | 49,127 | 51,004 | 46,519 | 47,142 | 622,925 |
| Max'um Day..... | 2,206 | 1,952 | 2,167 | 2,103 | 1,907 | 1,891 | 1,822 | 1,962 | 1,911 | 1,807 | 1,830 | 1,741 | ..... |
| Summary: | | | | | | | | | | | | | |
| | | Loads | Empties | Total | | | | | | Loads | Empties | Total | |
| Received per year..... | | 217,704 | 102,291 | 319,995 | | | Per average day..... | | | 596 | 280 | 876 | |
| Forwarded per year..... | | 195,525 | 107,405 | 302,930 | | | Per average day..... | | | 536 | 294 | 830 | |
| Total..... | | 413,229 | 209,696 | 622,925 | | | Per average day..... | | | 1,132 | 574 | 1,706 | |

From information furnished by Southern Pacific Company, Los Angeles, March 29, 1918.

TABLE XIV

FREIGHT CARS HANDLED IN AND OUT OF LOS ANGELES BY STEAM RAILROADS DURING YEAR 1917

General Direction of Line Haul from Center of Industrial District

| | Northwest | | | Northeast | | | South | | | Total | | |
|------------------------------|----------------|---------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|----------------|
| | Loads | Empties | Total | Loads | Empties | Total | Loads | Empties | Total | Loads | Empties | Total |
| Inbound | | | | | | | | | | | | |
| Southern Pacific | 104,979 | 22,538 | 127,517 | 71,295 | 72,669 | 143,964 | 41,430 | 7,084 | 48,514 | 217,704 | 102,291 | 319,995 |
| Santa Fe | | | | 22,009 | 6,786 | 28,795 | 30,052 | 14,972 | 45,024 | 52,061 | 21,758 | 73,819 |
| Salt Lake | | | | 1,252 | 1,096 | 2,348 | 32,452 | 9,778 | 42,230 | 33,704 | 10,874 | 44,578 |
| Total Year | 104,979 | 22,538 | 127,517 | 94,556 | 80,551 | 175,107 | 103,934 | 31,834 | 135,768 | 303,469 | 134,923 | 438,392 |
| Average Day | 287 | 62 | 349 | 259 | 221 | 480 | 285 | 87 | 372 | 832 | 369 | 1,201 |
| Ratio, Loads, Empties | 82% | 18% | 100% | 54% | 46% | 100% | 77% | 23% | 100% | 69% | 31% | 100% |
| Ratio, Roads | | | 29% | | | 40% | | | 31% | | | 100% |
| Outbound | | | | | | | | | | | | |
| Southern Pacific | 70,530 | 61,547 | 132,077 | 108,950 | 18,196 | 127,146 | 16,045 | 27,662 | 43,707 | 195,525 | 107,405 | 302,930 |
| Santa Fe | | | | 8,882 | 3,568 | 12,450 | 45,538 | 18,338 | 63,876 | 54,420 | 21,906 | 76,326 |
| Salt Lake | | | | 2,426 | 164 | 2,590 | 22,695 | 21,676 | 44,371 | 25,121 | 21,840 | 46,961 |
| Total Year | 70,530 | 61,547 | 132,077 | 120,258 | 21,928 | 142,186 | 84,278 | 67,676 | 151,594 | 275,066 | 151,151 | 426,217 |
| Average Day | 193 | 169 | 362 | 329 | 61 | 390 | 231 | 185 | 416 | 754 | 414 | 1,168 |
| Ratio, Loads, Empties | 53% | 47% | 100% | 84% | 16% | 100% | 56% | 44% | 100% | 65% | 35% | 100% |
| Ratio, Roads | | | 31% | | | 33% | | | 36% | | | 100% |
| Inbound Plus Outbound | | | | | | | | | | | | |
| Southern Pacific | 175,509 | 84,085 | 259,594 | 180,245 | 90,865 | 271,110 | 57,475 | 34,746 | 92,221 | 413,229 | 209,696 | 622,925 |
| Santa Fe | | | | 30,891 | 10,354 | 41,245 | 75,590 | 33,310 | 108,900 | 106,481 | 43,664 | 150,145 |
| Salt Lake | | | | 3,678 | 1,260 | 4,938 | 55,147 | 31,454 | 86,601 | 58,825 | 32,714 | 91,539 |
| Total Year | 175,509 | 84,085 | 259,594 | 214,814 | 102,479 | 317,293 | 188,212 | 99,510 | 287,722 | 578,535 | 286,074 | 864,609 |
| Average Day | 481 | 230 | 711 | 588 | 281 | 869 | 515 | 273 | 788 | 1,585 | 783 | 2,368 |
| Ratio, Loads, Empties | 68% | 32% | 100% | 67% | 33% | 100% | 65% | 35% | 100% | 67% | 33% | 100% |
| Ratio, Roads | | | 30% | | | 37% | | | 33% | | | 100% |

Northwest: Coast and Valley Routes of Southern Pacific.

Northeast: Pasadena Line of Santa Fe, Glendale and Pasadena Lines of Salt Lake and East via Shorb on Southern Pacific.

South: South along Los Angeles River or Alameda St.

Information furnished by carriers.

Digitized by
INTERNET ARCHIVE

TABLE XV
CARS INTERCHANGED AT LOS ANGELES DURING YEAR 1917

| | | Transfer Points | | | | | | | | | | | Grand Total | | |
|------------------------|--------------------|---------------------------------|--------------------------|----------------------|-----------------------|---------------------|----------------------|-----------------|-----------------------|---------------------------|------------------------|----------|--------------|----------------|------------|
| Name | | Downey | Shops | 8th and Alameda | Clement | Macy | Water | Hobart | Aliso | Anderscn | Butte | | Freight Cars | Passenger Cars | Total Cars |
| Location | | South End North Broadway Bridge | Alhambra East Side River | 8th and Alameda Sts. | 24th and Alameda Sts. | Aliso and Lyon Sts. | Ave. 18 and Humboldt | Hobart Junction | Aliso West Side River | Elliott St. and Miss. Rd. | Butte of Santa Fe Ave. | St. West | | | |
| Road | Item | | | | | | | | | | | | | | |
| Southern Pacific: | Received: | Freight..... 33,050 | 16,734 | 20,408 | 24,926 | 18,432 | | | | | | | 113,550 | | 114,472 |
| | Passenger... 737 | | 152 | 19 | 14 | | | | | | | | | 922 | |
| | Delivered: | Freight..... 35,269 | 17,120 | 37,116 | 9,837 | 20,249 | | | | | | | 119,591 | | 120,407 |
| | Passenger... 601 | | 169 | 23 | 23 | | | | | | | | | 816 | |
| | | | | | | | | | | | | | 233,141 | 1,738 | 234,879 |
| Santa Fe: | Received: | Freight..... 35,269 | | | | | 10,493 | 1,929 | 594 | | | 6,942 | 58,227 | | 59,079 |
| | Passenger... 601 | | | | | | 233 | | | | | 18 | | 852 | |
| | Delivered: | Freight..... 33,050 | | | | | 11,727 | | 941 | | | 9,526 | 55,244 | | 56,122 |
| | Passenger... 737 | | | | | | 137 | | | | | 4 | | 878 | |
| | | | | | | | | | | | | | 113,471 | 1,730 | 115,201 |
| Salt Lake: | Received: | Freight..... | 17,120 | | | | 11,727 | | | 613 | 6,344 | | 35,804 | | 36,128 |
| | Passenger... 189 | | 189 | | | | 137 | | | | 18 | | | 324 | |
| | Delivered: | Freight..... | 16,734 | | | | 10,493 | 1,929 | | 595 | 5,562 | | 35,313 | | 35,710 |
| | Passenger... 152 | | 152 | | | | 233 | | | | 12 | | | 397 | |
| | | | | | | | | | | | | | 71,117 | 721 | 71,838 |
| Pacific Electric: | Received: | Freight..... | | 37,116 | 9,837 | 20,249 | | | 941 | 595 | 5,562 | 9,526 | 83,826 | | 83,888 |
| | Passenger... 23 | | | 23 | 23 | | | | | | 12 | 4 | | 62 | |
| | Delivered: | Freight..... | | 20,408 | 24,926 | 18,432 | | | 594 | 613 | 6,344 | 9,942 | 81,259 | | 81,328 |
| | Passenger... 19 | | | 19 | 14 | | | | | | 18 | 18 | | 69 | |
| | | | | | | | | | | | | | 165,085 | 131 | 165,216 |
| Cars Actually Handled: | All Roads: | Freight..... 68,319 | 33,854 | 57,524 | 34,763 | 38,681 | 22,220 | 1,929 | 1,535 | 1,208 | 11,906 | 19,468 | 291,407 | | 293,567 |
| | Passenger... 1,338 | | 321 | 42 | 37 | | 370 | | | 30 | 922 | | | 2,160 | |
| | | 69,657 | 34,175 | 57,566 | 34,800 | 38,681 | 22,590 | 1,929 | 1,535 | 1,208 | 11,936 | 19,490 | 291,407 | 2,160 | 293,567 |

Information received from Joint Car Inspector, J. B. Garson, C. J. I.

Original from
UNIVERSITY OF CALIFORNIA

TABLE XVI
CARLOAD FREIGHT, INBOUND AND OUTBOUND, AT LOS ANGELES
DURING 1917

| Carload Freight | No. of Cars, Railroad and Ratios | | | | |
|---|----------------------------------|----------|-----------|----------------------|------------|
| | Southern Pacific Co. | Santa Fe | Salt Lake | Pacific Electric Ry. | Combined % |
| I—Inbound at Los Angeles and: | | | | | |
| A—Set on Industry Tracks from: | | | | | |
| 1. Company Line Haul | 24,312 | 14,074 | 3,774 | 536 | 42,696 |
| 2. Other Roads Line Haul | 14,203 | 26,615 | 5,105 | 1,048 | 46,971 |
| B—Set on: | 38,515 | 40,689 | 8,879 | 1,584 | 89,667 |
| | 43% | 45% | 10% | 2% | 100% |
| 1. Team Tracks | 8,732 | 5,154 | 3,651 | 137 | 17,674 |
| 2. House Tracks | 15,490 | 11,478 | 5,662 | 3,885 | 36,515 |
| C—Transferred to Other Roads for: | 24,222 | 16,632 | 9,313 | 4,022 | 54,189 |
| | 45% | 31% | 17% | 7% | 100% |
| 1. Line Haul | 11,456 | 6,479 | 4,871 | 18,525 | 41,331 |
| 2. Los Angeles Delivery | 17,579 | 5,907 | 9,947 | 9,837 | 43,270 |
| | 29,035 | 12,386 | 14,818 | 28,362 | 84,601 |
| | 34% | 15% | 18% | 33% | 100% |
| D—Company Freight | 7,174 | 912 | 1,227 | 940 | 10,253 |
| | 71% | 8% | 12% | 9% | 100% |
| E—Through or Passing Freight | 133,433 | 8,057 | 3,259 | 10,074 | 154,823 |
| | 87% | 5% | 2% | 6% | 100% |
| F—Total Not Transferred (A1, B, D, E) | 189,141 | 39,675 | 17,573 | 15,572 | 261,961 |
| | 74% | 15% | 6% | 5% | 100% |
| G—Total Transferred, A2, C1 | 25,659 | 33,094 | 9,976 | 19,573 | 88,302 |
| | 29% | 38% | 11% | 22% | 100% |
| Grand Total—Inbound | 214,800 | 72,769 | 27,549 | 35,145 | 350,263 |
| | 61% | 20% | 9% | 10% | 100% |
| II—Outbound at Los Angeles and: | | | | | |
| A—Received from Industry Tracks for: | | | | | |
| 1. Company Line Haul | *17,931 | 12,969 | 903 | 474 | 32,277 |
| 2. Other Roads Line Haul | 7,300 | 9,472 | 3,185 | 1,884 | 21,841 |
| B—Received from: | 25,231 | 22,441 | 4,088 | 2,358 | 54,118 |
| | 46% | 41% | 8% | 5% | 100% |
| 1. Team Tracks | 5,426 | 683 | 240 | 1,888 | 8,237 |
| 2. House Tracks | 25,386 | 19,078 | 6,199 | 6,586 | 57,249 |
| C—Received from Foreign: | 30,812 | 19,761 | 6,439 | 8,474 | 65,486 |
| | 46% | 30% | 10% | 14% | 100% |
| 1. Line Haul | 21,171 | 8,833 | 7,824 | 5,912 | 43,740 |
| 2. Los Angeles Industries | 8,401 | 3,020 | 3,348 | 3,413 | 18,182 |
| | 29,572 | 11,853 | 11,172 | 9,325 | 61,922 |
| | 47% | 19% | 18% | 16% | 100% |
| D—Company Freight | 6,554 | 1,493 | 4,288 | 1,084 | 13,419 |
| | 48% | 11% | 33% | 8% | 100% |
| E—Through or Passing Freight | 132,928 | 8,022 | 3,259 | 10,074 | 154,283 |
| | 87% | 5% | 2% | 6% | 100% |
| F—Total Not Transferred (A1, B, D, E) | 188,225 | 42,245 | 14,889 | 20,106 | 265,465 |
| | 71% | 16% | 6% | 7% | 100% |
| G—Total Transferred, A2, C1 | 28,471 | 18,305 | 11,009 | 7,896 | 65,581 |
| | 43% | 28% | 17% | 12% | 100% |
| Grand Total—Outbound | 216,696 | 60,550 | 25,898 | 27,902 | 331,046 |
| | 65% | 18% | 8% | 9% | 100% |
| III—Total Inbound and Outbound | 431,496 | 133,319 | 53,447 | 63,047 | 681,309 |
| | 63% | 20% | 8% | 9% | 100% |
| IV—Origin and Destination in Los Angeles | | | | | |
| | 3,038 | 4,361 | 341 | 1,905 | 9,645 |
| | | | | | 100 |

Note.—Error in both Inbound and Outbound between Items A2 and C2 is neglected in favor of Item A2.

* Proportions estimated by Southern Pacific Co.

TABLE XVII

**LESS THAN CARLOAD FREIGHT TRAFFIC
LOS ANGELES, YEAR 1917**

| Item | Tons (2,000 Lbs.) | | | | | Ratios |
|--|-------------------|----------|-----------|------------------|-----------|--------|
| | Southern Pacific | Santa Fe | Salt Lake | Pacific Electric | All Roads | |
| Inbound: | | | | | | |
| Tons: | | | | | | |
| Received at Freight House... | 50,144 | 54,132 | 31,725 | 26,750 | 162,751 | |
| Through—Santa Fe Points... | | 10,669 | | | 10,669 | |
| Delivered Connecting Lines... | 5,288 | 2,869 | 2,382 | 8,218 | 18,757 | |
| Total Received, Year..... | 55,432 | 67,670 | 34,107 | 34,968 | 192,177 | 35% |
| Total Received, Average Day (308 Days)..... | 180 | 220 | 111 | 113 | 624 | |
| Ratios..... | 29% | 35% | 18% | 18% | 100% | |
| Cars: | | | | | | |
| Number Set on House Tracks | 15,490 | 11,478 | 5,662 | 3,885 | 36,515 | |
| Tons per Car..... | 3.58 | 5.89 | 6.05 | 9.00 | 5.26 | |
| Outbound: | | | | | | |
| Tons: | | | | | | |
| Original Freight House..... | 157,226 | 97,051 | 23,236 | 52,962 | 330,475 | |
| Through—Santa Fe..... | | 10,669 | | | 10,669 | |
| From Connecting Lines..... | 7,032 | 3,427 | 1,393 | 6,312 | 18,164 | |
| Total Forwarded, Year..... | 164,258 | 111,147 | 24,629 | 59,274 | 359,308 | 65% |
| Total Forwarded, Average Day | 533 | 361 | 80 | 192 | 1,166 | |
| Ratios..... | 46% | 31% | 7% | 16% | 100% | |
| Cars: | | | | | | |
| Number from House Tracks.. | 25,386 | 19,078 | 6,199 | 6,586 | 57,249 | |
| Tons per Car..... | 6.46 | 5.84 | 3.94 | 9.00 | 6.27 | |
| Inbound and Outbound: (Neglecting duplications in transfers) | | | | | | |
| Tons: | | | | | | |
| To and from Freight House.. | *207,370 | 172,521 | 54,961 | 79,712 | 514,564 | |
| To and from Connecting Lines | 12,320 | 6,296 | 3,775 | 14,530 | 36,921 | |
| Total..... | 219,690 | 178,817 | 58,736 | 94,242 | 551,485 | 100% |
| Total, Average Day..... | 713 | 581 | 191 | 305 | 1,790 | |
| Ratios..... | 40% | 32% | 11% | 17% | 100% | |
| Cars: | | | | | | |
| To and from House Tracks... | 40,876 | 30,556 | 11,861 | 10,471 | 93,764 | |
| Tons per Car..... | 5.37 | 5.85 | 4.95 | 9.00 | 5.23 | |

* Including through Santa Fe points.
Information furnished by carriers. Year at 308 days.

TABLE XVIII
 CARS INTERCHANGED AT LOS ANGELES DURING YEAR 1917

| | | Areas—Square Feet | | | | | | *Feet Load Length | Car Capacity | Con- struction |
|--------------------------|--|-------------------|------------------|----------|-------------------------|----------------------|---------|-------------------------|-----------------|-------------------|
| Company | Location | Traffic | Freight House | Platform | Shed and Platform | Transfer Platform | Total | | | |
| Southern Pacific.. | Alameda and North Spring St. | Inbound | A 28,320 | 18,466 | 4,800 | | 51,586 | 874 | 102 | Frame |
| | | | C 21,384 | 12,200 | | | 33,584 | 560 | 45 | " |
| | Total | | 49,704 | 30,666 | 4,800 | | 85,170 | 1,434 | 147 | |
| | Outbound | B 24,000 | 9,720 | 3,108 | | 36,828 | 848 | 51 | " | |
| Total Southern Pacific.. | | | 73,704 | 40,386 | 7,908 | | 121,998 | 2,282 | 198 | |
| Santa Fe..... | Santa Fe Ave. between Third and Fourth Sts. | Inbound | 54,000 | 1,885 | 6,936 | 15,878 | 78,699 | 1,253 | 76 | Reinforced |
| | | Outbound | 48,000 | 1,885 | 8,994 | 14,998 | 73,877 | 950 | 94 | Concrete |
| Total Santa Fe..... | | | 102,000 | 3,770 | 15,930 | 30,876 | 152,576 | 2,203 | 170 | |
| Salt Lake..... | Aliso and Myers Sts. | Inbound | C 15,939 | 6,603 | | | 22,542 | 340 | 14 | Frame |
| | | Outbound | A 11,338 | 6,281 | | | 17,619 | 342 | 27 | " |
| | | B 12,960 | 7,904 | | | 20,864 | 431 | 18 | " | |
| | Total | | 24,298 | 14,185 | | | 38,483 | 773 | 45 | |
| Total Salt Lake..... | | | 40,237 | 20,788 | | | 61,025 | 1,113 | 59 | |
| Total—Steam Roads..... | | | 215,941 | 64,944 | 23,838 | 30,876 | 335,599 | 5,598 | 427 | |
| Pacific Electric.... | Eighth and Alameda Sts. | Inbound | 17,520 | 4,412 | 3,600 | | 25,532 | 352 | 14 | Frame |
| | | Outbound | 15,616 | 2,032 | 11,928 | | 29,576 | 590 | 53 | " |
| Total—Electric Road .. | | | 33,136 | 6,444 | 15,528 | | 55,108 | 942 | 67 | |
| Grand Total | | Inbound | 137,163 | 43,566 | 15,336 | 15,878 | 211,943 | 3,379 | 251 | |
| | | Outbound | 111,914 | 27,822 | 24,030 | 14,998 | 178,764 | 3,161 | 243 | |
| Inbound and Outbound | | | 249,077 | 71,388 | 39,366 | 30,876 | 390,707 | 6,540 | 494 | |

* Frontage available for wagons and trucks.

TABLE XIX

ESTIMATE OF COST, BY STEPS, OF BUILDINGS AND DRIVEWAYS
FOR PROPOSED UNION L.C.L. FREIGHT STATION

| | Areas Square Feet | Estimated Cost | | |
|-----------------------------|-------------------------|----------------|-----------|-----------|
| | | Class A | Class C | |
| 1st Step: | | | | |
| Shed A..... | 54,520 | 178,278 | 166,919 | |
| Shed B..... | 64,960 | 209,099 | 195,583 | |
| Platforms A-B..... | 37,760 | 28,316 | 28,316 | |
| Platform B to C..... | 3,750 | 3,000 | 3,000 | |
| Lift Bridges A-B..... | | 10,500 | 10,500 | |
| Driveway A..... | 54,000 | 27,000 | 27,000 | |
| Driveway B-C..... | 80,500 | 40,250 | 40,250 | |
| Total..... | *160,990 | 496,443 | 471,568 | |
| 2nd Step: | | | | |
| Shed C..... | 56,028 | 181,926 | 170,285 | |
| Shed D..... | 53,360 | 174,656 | 163,566 | |
| Platforms C-D..... | 27,900 | 23,760 | 23,760 | |
| Platform D to E..... | 3,000 | 1,650 | 1,650 | |
| Lift Bridges C-D..... | | 7,000 | 7,000 | |
| Driveway D-E..... | 66,500 | 33,250 | 33,250 | |
| Total..... | *140,288 | 422,242 | 399,511 | |
| 3rd Step: | | | | |
| Shed E..... | 50,808 | 166,291 | 155,729 | |
| Shed F..... | 51,678 | 170,517 | 159,776 | |
| Platforms E-F..... | 27,000 | 21,600 | 21,600 | |
| Platform F to G..... | 4,050 | 3,240 | 3,240 | |
| Lift Bridge E-F..... | | 7,000 | 7,000 | |
| Driveway F-G..... | 70,000 | 35,000 | 35,000 | |
| 2-Story Office Section..... | 93,960 | 253,692 | 238,658 | |
| Total..... | *133,536 | 657,340 | 621,003 | |
| 4th Step: | | | | |
| Shed G..... | 48,836 | 164,358 | 154,174 | |
| Shed H..... | 43,210 | 145,051 | 136,029 | |
| Platforms G-H..... | 31,885 | 23,612 | 23,612 | |
| Lift Bridges G-H..... | | 7,000 | 7,000 | |
| Driveway H..... | 62,300 | 12,460 | 12,460 | |
| Total..... | *123,931 | 352,481 | 333,275 | |
| Summary— | | | | |
| | Sheds Only: | | | |
| 1st Step..... | 119,480 square feet | 160,990 | 496,443 | 471,568 |
| 2nd Step..... | 109,388 square feet | 140,288 | 422,242 | 399,511 |
| 3rd Step..... | 102,486 square feet | 133,536 | 657,340 | 621,003 |
| 4th Step..... | 92,046 square feet | 123,931 | 352,481 | 333,275 |
| Grand Totals..... | 423,400 square feet | *558,745 | 1,928,506 | 1,825,357 |

* Area of sheds and transfer platforms only.

TABLE XX

NUMBER OF FREIGHT CARS HAULED, AND SET OUT AT VARIOUS POINTS, ALONG ALAMEDA STREET
 BETWEEN ALHAMBRA AVENUE AND SOUTH SWITCHING LIMITS (NEAR SLAUSON AVENUE)
 BY SOUTHERN PACIFIC COMPANY, YEAR 1917

| Location | | | No. of Ind. | Destination and Number of Cars Set | | | | | | | | | | |
|----------|-------------|-----------|-------------|------------------------------------|-------|--------|-------------|-------|--------|----------------------------|--------|-------|--------|---------|
| Sec. | From Street | To Street | | Industries | | | Team Tracks | | | Pacific Electric Transfers | | | Totals | |
| | | | Load | Empty | Total | Load | Empty | Total | Load | Empty | Total | Load | Empty | Total |
| A | College | Ord | 6 | 952 | 86 | 1,038 | 4,549 | 1,168 | 5,717 | | | 5,501 | 1,254 | 6,755 |
| B | Ord | Macy | 2 | 596 | 138 | 734 | | | | | | 596 | 138 | 734 |
| C | Macy | Aliso | 12 | 128 | 238 | 366 | 4,544 | 1,173 | 5,717 | | 20,249 | | | 26,332 |
| D | Aliso | 1st | 9 | 3,103 | 310 | 3,413 | | | | | | 3,102 | 310 | 3,413 |
| E | 1st | 2nd | 53 | 2,870 | 147 | 3,017 | | | | | | 2,870 | 147 | 3,017 |
| F | 2nd | 3rd | 6 | 1,724 | 159 | 1,883 | | | | | | 1,724 | 159 | 1,883 |
| G | 3rd | 4th | 9 | 1,217 | 328 | 1,545 | 2,588 | 219 | 2,807 | | | 3,805 | 547 | 4,352 |
| H | 4th | 6th | 2 | 110 | 0 | 110 | | | | | | 110 | 0 | 110 |
| I | 6th | 7th | 34 | 1,754 | 888 | 2,642 | | | | | | 1,754 | 888 | 2,642 |
| J | 7th | 8th | 70 | 3,464 | 865 | 4,329 | | | | | | 3,464 | 865 | 4,329 |
| K | 8th | 9th | 10 | 1,143 | 47 | 1,190 | | | | | 37,116 | | | 38,306 |
| L | 9th | 20th | 21 | 2,832 | 245 | 3,077 | | | | | | 2,832 | 245 | 3,077 |
| M | 20th | 25th | 1 | 301 | 81 | 382 | | | | | 9,837 | | | 10,219 |
| N | 25th | Dodsworth | 43 | 5,210 | 2,356 | 7,566 | | | | | | 5,210 | 2,356 | 7,566 |
| | | | 278 | 25,404 | 5,888 | 31,292 | 11,681 | 2,560 | 14,241 | | 67,202 | | | 112,735 |

Air Line (included in Pacific Electric Transfer, Sec. M): No. of Industries, 26; Loads, 2,501; Empty, 138; Total, 2,639.

Pacific Electric Transfer in Sec. M includes oil cars for November and December (beginning of this traffic) and industries on Air Line.

Pacific Electric Transfer in Sec. C includes 15,575 cars hauled through city for Pacific Electric by Southern Pacific (Sec. M to Sec. C).

Pacific Electric Transfer in Sec. K includes 15,495 cars hauled through city for Pacific Electric by Southern Pacific (Sec. C to Sec. K).

NOTE: An industry is allocated to a district by location of spur point of switch in Alameda Street, rather than by location of its quarters.

From information furnished by Carriers, except cars set on transfer tracks, from Chief Joint Inspector.

TABLE XXI

DATA ON SOUTHERN PACIFIC ARCADE STATION, LOS ANGELES

DATES

| | |
|------------------------------|----------------|
| Ground broken for depot..... | March 28, 1914 |
| Use of depot commenced..... | May 2, 1915 |
| Official opening..... | June 12, 1915 |

FLOOR AREAS

(From S. P. Drwg. L. A. Div., M. of W., F6096, dated 12-22-18—File A2-1)

| Item | Division and Use | No. of Square Feet and Floor | | | | Total |
|------|--|------------------------------|--------|--------|--------|--------|
| | | Basement | First | Second | Third | |
| 1 | Baggage, Used..... | | 11,421 | | | 11,421 |
| 2 | Baggage, Vacant..... | | | 8,832 | | 8,832 |
| 3 | Concourse..... | | 9,521 | | | 9,521 |
| 4 | Dining Room..... | | 3,456 | | | 3,456 |
| 5 | Exit from Trains..... | | 3,150 | | | 3,150 |
| 6 | Engine and Boiler Rooms..... | 3,278 | | | | 3,278 |
| 7 | Elevators..... | | 340 | 340 | 340 | 1,020 |
| 8 | Halls and Stairs..... | | 1,717 | 1,186 | 3,808 | 6,711 |
| 9 | Information, Telephone and Telegraph..... | | 994 | | | 994 |
| 10 | Kitchen and Store..... | | 1,991 | | | 1,991 |
| 11 | Ladies' Room and Lounge (Lounge on Mezzanine) | | 877 | *2,417 | | 3,294 |
| 12 | Mail Room..... | | 704 | | | 704 |
| 13 | Men's Lounge..... | | | *2,417 | | 2,417 |
| 14 | News Stand..... | | 189 | | | 189 |
| 15 | Offices, Used..... | | 320 | | 11,198 | 11,518 |
| 16 | Offices, Vacant..... | | | | 6,877 | 6,877 |
| 17 | Offices, Temporary..... | | | 4,355 | | 4,355 |
| 18 | Parcel Room..... | | 994 | | | 994 |
| 19 | Smoking Room..... | | 877 | | | 877 |
| 20 | Ticket Office..... | | 1,050 | | | 1,050 |
| 21 | Toilets..... | 3,046 | 1,145 | | 785 | 4,976 |
| 22 | Totals..... | 6,324 | 38,746 | 19,547 | 23,008 | 87,625 |
| 23 | | | 1,717 | 1,186 | 3,808 | 6,711 |
| 24 | Net Totals..... | 6,324 | 37,029 | 18,361 | 19,200 | 80,914 |

* Mezzanine.

| Possible Future Seating Capacity: | Present | Possible Future |
|------------------------------------|---------|-----------------|
| Concourse, Main Floor..... | 240 | 240 |
| Mezzanine, Men's End..... | 40 | 140 |
| Mezzanine, Women's End..... | 27 | 54 |
| Total..... | 307 | 434 |
| Dining Room: | | |
| Number of Seats (approximate)..... | 76 | 100 |
| Number of Meals Served..... | 400-500 | 1,000 |
| Ticket Windows..... | 10 | ... |

TABLE XXII

**PHYSICAL CHARACTERISTICS OF PASSENGER STATIONS,
LOS ANGELES**

| Item | Passenger Stations | | | | | | | | | | | |
|----------------------------------|---|--------|----------------------------------|-------------------|---------------------------------------|-------|-------------------|-------------------|----------------|-------|----------|---------|
| | Southern Pacific, 5th and Central | | Santa Fe, 2nd and Santa Fe | | Salt Lake, 1100 East 1st Street | | Pacific Electric, | | | | | |
| | Floor Space | | Floor Space | | Floor Space | | 6th and Main | | Hill Street | | Combined | |
| | Sq. Ft. | Total | Sq. Ft. | Total | Sq. Ft. | Total | Sq. Ft. | Total | Sq. Ft. | Total | Sq. Ft. | Total |
| Station Building | | | | | | | | | | | | |
| 1. Public Facilities: | | | | | | | | | | | | |
| Concourse: | | | | | | | | | | | | |
| Open Waiting Room | | | | 2,226 | | | | | | 2,148 | | 4,374 |
| Enclosed Waiting Room | 8,676 | | 1,750 | | 1,024 | | 22,420 | | | 3,381 | 37,251 | |
| Exits | 3,120 | 11,796 | 700 | 2,450 | | | 7,140 | 29,560 | | | 10,960 | 48,211 |
| Halls and Stairs | | 1,426 | | 36 | | | | 714 | | | | 2,178 |
| Ticket Office | | 960 | | 378 | | 248 | | 560 | | 210 | | 2,356 |
| 2. Public Service: | | | | | | | | | | | | |
| Information | 404 | | Included in News Stand | | | | 648 | | At Parcel Room | | 1,052 | |
| Telephone and Telegraph | 466 | | 95 | | 36 | | 400 | | 36 | | 1,033 | |
| News Stand, etc. | 238 | | 650 | 745 | 189 | 225 | 1,508 | | 480 | | 3,065 | |
| Parcel Room | 860 | 1,968 | Included in News Stand | | | | 360 | 2,916 | 108 | 624 | 1,328 | 6,478 |
| 3. Public Retiring Rooms: | | | | | | | | | | | | |
| Ladies' Rest Room | 2,909 | | 733 | | | | 320 | | 96 | | 4,058 | |
| Men's Rest Room | 2,168 | | | | | | | | | | 2,168 | |
| Smoking Room | 701 | | | | | | | | | | 701 | |
| Toilets: | | | | | | | | | | | | |
| Ladies | 858 | | 125 | | 99 | | 630 | | 314 | | 2,026 | |
| Men | 1,908 | 8,544 | 125 | 983 | 75 | 174 | 2,373 | 3,323 | 493 | 903 | 4,974 | 13,927 |
| 4. Catering Department: | | | | | | | | | | | | |
| Dining Room | 3,424 | | 1,225 | | Included in News Stand | | 2,000 | | 255 | | 6,904 | |
| Kitchen and Larder | 1,972 | 5,396 | 1,229 | 2,454 | | | 440 | 2,440 | 108 | 363 | 3,749 | 10,653 |
| Total | | | | | | | | | | | | |
| Passenger Space | | 30,090 | | 9,272 | | 1,671 | | 39,513 | | 7,620 | | 88,175 |
| 5. Office Space: | | | | | | | | | | | | |
| General Offices: | | | | | | | | | | | | |
| Used | 14,604 | | 1,870 | | 4,160 | | | | | | 20,634 | |
| Vacant | 4,579 | | | | | | | | | | 4,579 | |
| Temporary | 3,258 | 22,441 | | | | | | | | | 3,258 | 28,471 |
| Total | | 52,531 | | 11,142 | | 5,831 | | 39,513 | | 7,620 | | 116,646 |
| Equipment | | | | | | | | | | | | |
| 6. Ticket Office: | | | | | | | | | | | | |
| No. Windows | | 9 | | 8 | | 3 | | 8 | | 3 | | 39 |
| Counters, Lin. Ft. | | 31 | | 30 | | 16 | | 60 | | 12 | | 141 |
| 7. Waiting Room: | | | | | | | | | | | | |
| Seats Installed | | 307 | | 166 | | 100 | | 246 | | 117 | | 936 |
| Possible Increase | | 127 | | | | | | | | | | 127 |
| 8. Dining Room: | | | | | | | | | | | | |
| Seats Installed | | 76 | | 48 | | 0 | | 84 | | 19 | | 233 |
| Seats Increase | | 45 | | | | | | | | | | 45 |
| Meals served per diem | | 500 | | 500 light lunches | | | | 400 light lunches | | | | 1,400 |

Data from maps and field inspection. Los Angeles, June, 1918.

TABLE XXIII

PHYSICAL CHARACTERISTICS OF BAGGAGE FACILITIES AT PASSENGER STATIONS, LOS ANGELES

| Item | | Passenger Stations | | | | | Combined |
|----------------------------|----------|--------------------|----------|-----------|------------------|--|----------|
| | | Southern Pacific | Santa Fe | Salt Lake | Pacific Electric | | |
| | | | | | Main St. | Hill St. | |
| Baggage Facilities: | | | | | | | |
| Floor Area: | | | | | | | |
| Used | Sq. Ft. | 13,674 | 7,985 | 2,954 | 5,681 | Handled by Wells Fargo at Arcade Station | 30,294 |
| *Vacant | Sq. Ft. | 11,487 | ..... | ..... | ..... | ..... | 11,487 |
| Total | | 25,161 | 7,985 | 2,954 | 5,681 | | 41,781 |
| Frontage: | | | | | | | |
| Team | Lin. Ft. | 96 | 180 | 97 | 54 | | 427 |
| Team | No. | 12 | 22 | 12 | 6 | | 52 |
| Car | Lin. Ft. | 272 | 103 | 97 | 120 | | 592 |
| Car | No. | 4 | 2 | 2 | 2 | | 10 |

* Portion of second floor, 3,258 square feet designed for baggage space is now being used as temporary offices, and so listed.

Data from maps and field inspection, Los Angeles, June, 1918.

TABLE XXIV

PHYSICAL CHARACTERISTICS OF EXPRESS FACILITIES AT PASSENGER STATIONS, LOS ANGELES

| Item | | Passenger Stations | | | | | Combined |
|--------------------------|----------|--------------------|----------|-----------|------------------|------------------|----------|
| | | Southern Pacific | Santa Fe | Salt Lake | Pacific Electric | | |
| | | | | | Main St. | Hill St. | |
| Express Building: | | | | | | | |
| Floor Area: | | | | | | | |
| Express | Sq. Ft. | 16,400 | 8,000 | 3,042 | Handled at Depot | Handled at Depot | 27,442 |
| Offices | Sq. Ft. | 7,642 | ..... | ..... | ..... | ..... | 7,642 |
| Total | Sq. Ft. | 24,042 | 8,000 | 3,042 | | | 35,084 |
| Frontage: | | | | | | | |
| Team | Lin. Ft. | 200 | 210 | 100 | | | 510 |
| Team | No. | 25 | 26 | 12 | | | 63 |
| Car | Lin. Ft. | 194 | 160 | 100 | | | 454 |
| Car | No. | 3 | 2 | 2 | | | 7 |

Data from maps and field inspection, Los Angeles, June, 1918.

TABLE XXV

PHYSICAL CHARACTERISTICS OF MAIL FACILITIES AT PASSENGER STATIONS, LOS ANGELES

| Item | | Passenger Stations | | | | | Combined |
|-------------------------|----------|--------------------|----------|----------------------------|------------------|-----------------------------|----------|
| | | Southern Pacific | Santa Fe | Salt Lake | Pacific Electric | | |
| | | | | | Main St. | Hill St. | |
| Mail Facilities: | | | | | | | |
| Floor Area: | | | | | | | |
| | Sq. Ft. | 726 | 3,247 | Handled Direct from Wagons | 1,105 | Handled at Main St. Station | 5,078 |
| Frontage: | | | | | | | |
| Team | Lin. Ft. | 16 | 52 | Cars to | 17 | | 85 |
| Team | No. | 2 | 6 | | 2 | | 10 |
| Car | Lin. Ft. | 24 | 52 | | * | | 76 |
| Car | No. | 1 | 1 |  | ..... |  | 2 |

* Handled by elevator from elevated track to Mail Room.

Data from maps and field inspection, Los Angeles, June, 1918.

TABLE XXVI
 PHYSICAL CHARACTERISTICS OF PASSENGER STATIONS AT LOS ANGELES INCLUDING BAGGAGE, EXPRESS AND MAIL FACILITIES

| Station Building | Passenger Stations | | | | | |
|---------------------------------|--------------------|--------------|--------------|------------------|--------------|--------------|
| | Southern Pacific | Santa Fe | Salt Lake | Pacific Electric | | Combined |
| | | | | Main Street | Hill Street | |
| 1. Public Facilities: | | | | | | |
| Concourse: | Sq. Ft. | Sq. Ft. | Sq. Ft. | Sq. Ft. | Sq. Ft. | Sq. Ft. |
| Open..... | | 2,226 | | | 2,148 | 4,374 |
| Enclosed..... | 11,796 | 2,450 | 1,024 | 29,562 | 3,381 | 48,211 |
| Hall and Stairs..... | 1,426 | 36 | | 714 | | 2,176 |
| Ticket Office..... | 960 | 378 | 248 | 560 | 210 | 2,356 |
| 2. Public Service: | | | | | | |
| Information, Telephone, etc. | 1,968 | 745 | 225 | 2,916 | 624 | 6,478 |
| 3. Public Retiring Rooms | 8,544 | 983 | 174 | 3,323 | 903 | 13,927 |
| 4. Catering Department: | | | | | | |
| Dining Room..... | 5,396 | 2,454 | | 2,440 | 363 | 10,653 |
| Total Passenger Space..... | 30,090 | 9,272 | 1,671 | 39,513 | 7,629 | 88,175 |
| 5. Office Space: | | | | | | |
| Used..... | 17,862 | 1,870 | 4,160 | | | 23,892 |
| Vacant..... | 4,579 | | | | | 4,579 |
| Total..... | 52,531 | 11,142 | 5,831 | 39,513 | 7,629 | 116,646 |
| 6. Baggage Space: | | | | | | |
| Used—Sq. Ft..... | 13,674 | 7,985 | 2,954 | 5,681 | | 30,294 |
| Vacant—Sq. Ft..... | 11,487 | | | | | 11,487 |
| 7. Express Space: | | | | | | |
| Express—Sq. Ft..... | 16,400 | 8,000 | 3,042 | | | 27,442 |
| Office—Sq. Ft..... | 7,642 | | | | | 7,642 |
| 8. Mail Space—Sq. Ft. | 726 | 3,247 | | 1,105 | | 5,078 |
| Total..... | 49,920 | 19,232 | 5,996 | 6,786 | | 81,943 |
| Grand Total..... | 102,460 | 303,74 | 11,827 | 46,299 | 7,629 | 198,589 |
| 9. Ticket Office: | | | | | | |
| Windows..... | 9 | 8 | 3 | 8 | 3 | 31 |
| Counters—Lin. Ft..... | 31 | 30 | 16 | 60 | 12 | 149 |
| 10. Waiting Room: | | | | | | |
| Seats Installed..... | 307 | 166 | 100 | 246 | 117 | 936 |
| Possible Increase..... | 127 | | | | | 127 |
| 11. Dining Room: | | | | | | |
| Seats Installed..... | 76 | 48 | 6 | 84 | 19 | 233 |
| Possible Increase..... | 45 | | | | | 45 |
| Number of Meals Served..... | 500 | 500 | | 400 | | 1,400 |
| | Frontage | Frontage | Frontage | Frontage | Frontage | Frontage |
| | Lin. Ft. No. | Lin. Ft. No. | Lin. Ft. No. | Lin. Ft. No. | Lin. Ft. No. | Lin. Ft. No. |
| 12. Team Space: | | | | | | |
| Baggage..... | 96 12 | 180 22 | 97 12 | 54 6 | | 427 52 |
| Express..... | 200 25 | 210 26 | 100 12 | | | 510 63 |
| Mail..... | 16 2 | 52 6 | | 17 2 | | 85 10 |
| Total..... | 312 39 | 442 54 | 197 24 | 71 8 | | 1,022 125 |
| 13. Car Space: | | | | | | |
| Baggage..... | 272 4 | 103 2 | 97 2 | 120 2 | | 592 10 |
| Express..... | 194 3 | 160 2 | 100 2 | | | 454 7 |
| Mail..... | 24 1 | 52 1 | | | | 76 2 |
| Total..... | 490 8 | 315 5 | 197 4 | 120 2 | | 1,122 19 |

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