

EARNINGS AND INVESTMENT IN TRANSIT FACILITIES.

THE following is abstracted from a report by Mr. Bion J. Arnold on the transportation facilities of the city of San Francisco. The same traffic expert is investigating traffic conditions in Toronto at the present time, and his report concerning the service, etc., of the Toronto Railway Company will no doubt have a good deal to do with the purchase by the city of the Toronto Street Railway and the Toronto Electric Light Company, since it has been stipulated that they cannot be purchased separately. The following extract, which contains the major part of Mr. Arnold's conclusions and recommendations to the city of San Francisco, is likely, therefore, to be of interest:—

An analysis of growth shows that San Francisco is now growing faster than during the five years before the fire, and at a rate of increase of about 145,000 per decade. The real growth of the city, excluding the effect of the fire, has been at the rate of 54% for the last decade, as against 22% shown by the census. At the present time the city contains about 450,000 people. This population, on the conservative basis assumed, should double in 26 years, and should reach 1,000,000 people in 1945, although it may far exceed this.

San Francisco and the commuter district now has a population of 730,000 people, and has increased 48% in the last decade. This population should double in 23 years, reach 1,000,000 in 1919 and 2,000,000 in 1945.

In spite of this rapid growth, other large cities of the Pacific Coast are growing on the average at a rate probably 50% faster than San Francisco.

As a result of the fire, San Francisco lost 100,000 people permanently. The trans-bay cities gained in population by an amount practically equal to San Francisco's loss. But traffic statistics show that Oakland and its surrounding communities are becoming self-supporting to such an extent that the exodus from San Francisco has practically ceased, and that Oakland will go forward at a normal rate as a supplementary community.

One beneficial result of the fire was a general exodus of residents from the congested inner city to the suburbs, amounting to 66,000 people in the last census period. This has necessarily increased railway earnings and should therefore have made possible correspondingly improved service. The present distribution of population within the 30-minute zone is unusually uniform, except Chinatown and Japtown. The outlying distribution indicates that people will live where proper streets and car-service facilities are provided.

The growth and interchange of population within the district shows that the broader movements of population absolutely disregard municipal boundaries. The idea of a metropolitan district control for the development of utilities and industries is therefore of unusual necessity for San Francisco and the Bay cities.

A review of industrial growth shows that the period of great activity occurring just before the fire was practically recovered by 1910, and that commercial operations now generally exceed those of 1905. The fact that bank clearings suffered no perceptible depression during the disastrous year of the fire indicates the sustaining power of the financial credit of the community.

Manufacturing within the industrial district has alone failed to keep pace with the population within the last decade. In this respect the Bay cities have gained di-

rectly from San Francisco's heavy loss. The evident need for a more united industrial district points unmistakably to the practical value of the metropolitan district control idea already suggested.

An analysis of railway earnings shows that they are increasing in proportion to the square of the population; that is, when the population doubles, earnings quadruple. United Railroads earnings alone should double in the next 13½ years; that is, should reach \$16,000,000 by 1924-25 and should quadruple by 1942. Earnings per capita are now the highest in the country—\$20 per capita for all companies.

In extension of track mileage, San Francisco is at least six years behind the necessities of the growth in population. Trackage should extend at least as fast as the population, if not faster. The total track mileage is now about the same as before the fire, due to abandonments, and the last 15 years shows a slower growth than at any period of the city's history.

The present necessities for track extension require about 15 miles per year up to 1920. This will be just sufficient to complete the extension schedule recommended, and is also required to catch up with the normal growth in population. From 1868 to the time of the Market Street Railway Co. consolidation in 1893, track mileage was extended at the rate of 8.1 miles per year, during the maximum period, 16 miles per year. Since consolidation, the rate of growth has only averaged 3.6 miles per year.

The total operating equipment of all companies in 1911 was 676 cars. Prior to the fire there were many more cars reported, but of smaller capacity, averaging about 30 seats, as against 42 seats at the present time. Several hundred obsolete and worn-out cars were retired in 1907.

The total seating capacity at the present time appears to be about the same as before the fire, but it is a question whether the service capacity, in proportion to traffic, is as great in view of the increased schedule speed, owing to the exodus of population from the inner city to the outlying districts within the last census period.

Assuming the new equipment now on order by the United Railroads had been available to rectify the service requirements of 1911, the future growth of the city until 1920 will require an average addition of from 40 to 50 cars per year. This is a minimum schedule that can be carried out without materially diluting the net earning capacity, as San Francisco has already the highest earning rate from its equipment of any large city in the country. From 1889 to 1896, an average of 67 cars per year was added to the system, with maximum rates of increase within the period of from 140 to 200 per year.

The only way the above increase in equipment called for may be reduced is through the more efficient use of available car-miles by improved routing and by further increase in schedule speed. The size of the car units has about reached a maximum for the streets of this city.

That the extension schedule of track and cars called for here is not unreasonable is further indicated by the fact that out of the annual budget of investment predicted, about 25% will remain up to 1920 for betterments of existing property over and above the investment in new extension and equipment.

An analysis of the purchasing power of the city with respect to its utilities shows that the underlying property valuation is increasing at a slower rate than the necessary railway investment; that is, as the 1.7 power of the increase in population, instead of the square as in the case