

T.C.
Report

Report
on
Trolley Coach Application
for
Kedzie - California Line
Chicago Transit Authority

This report covers the investment and cost of operation of trolley coaches as compared to diesel or propane buses on the Kadzie - California line which is presently operated with two-man street cars on week days and with buses on Saturdays and Sundays.

The present week-day service with 40-seat street cars having a rush hour capacity of 90 passengers was used as the basis for making up a simplified schedule so as to make the comparison between the trolley coach and the bus. Saturday and Sunday schedules are generally comparable with the week-day service taking into account the fact that less service is required. The present Saturday and Sunday schedule with buses was not used for this comparison as the schedule now in effect is the first one which has been put in operation and following the CTA practice it is a very loose and relatively slow schedule which we have been informed will be changed as time goes on.

The simplified schedule referred to above was used to determine annual miles and hours. It should be noted that the mileage figure used includes only that mileage on the route and does not include any dead mileage to and from the maintenance garage or storage yard. Hours are based on platform hours plus layover time only. There is no time included for report time, lunch, etc. The rate of pay included for operators is \$1.89 per hour, plus a factor to include the fringes, such as insurance, pension, and the like which brings the rate to \$2.32 per hour.

Information on present schedule and rates of pay for operators was obtained from the CTA Schedule Department specifically Mr. F. Forty. Information on maintenance cost for diesel buses and trolley coaches as well as fuel cost for diesel buses was obtained from Mr. R. Ruppe; the maintenance

cost being actual figures for the year 1951 and the fuel cost being for a five month period, January 1 through May 31 of this year.

Costs for overhead construction were obtained from figures made up by Mr. C. W. Wolf of the CTA and Mr. L. W. Birch of the Ohio Brass Company. Although the line at the present time is 12.26 miles long - only 11.2 miles of trolley coach overhead are required owing to overhead already being in place on Chicago Avenue and on Kedzie Avenue from Archer to 51st Street. Maintenance cost for overhead was obtained by Mr. Birch from Mr. Wolf and includes all charges. Power cost was obtained also from Mr. Wolf having been determined by substation meter readings which measured actual power used and took into account the actual cost of power from the Edison Company plus conversion cost or 1.4654 cents per kilowatt hour.

The calculations included with this report do not take into account the extra investment required for spare vehicles even though it is necessary to have more spare buses available than trolley coaches. Records on availability of vehicles on any property operating trolley coaches will bear out this statement.

The comparison included herein makes no reference to the facilities required for storage and maintenance of the vehicles. If a portion of the Kedzie barn is converted to store and maintain these vehicles an additional expenditure will be required which is estimated approximately as follows:

Yard storage for 75 trolley coaches, \$12,750

Overhead facilities for 75 trolley coaches, \$34,500

Conversion of existing barn facilities to provide inspection and servicing facilities - this is estimated at not more than \$300 per coach - so that an expenditure of approximately \$70,000 would provide the facilities for the trolley coaches.

For a quantity of 75 vehicles the ratio of maintenance facilities required for buses over trolley coaches is in the ratio of 3 to 1; therefore the expenditure for inspection pits and servicing equipment will be considerably higher for the bus than for the trolley coach. Coupled with the fact that either indoor storage or engine heating facilities with outdoor storage will be required as well as fueling facilities would require an expenditure of from \$120,000 to \$175,000 for buses.

It should be kept in mind that the figures mentioned in the preceding paragraph are approximate only and do not reflect the actual conditions at the Kedzie barn. In the case of the expenditure required for overhead the figure is accurate in that it was worked out by Mr. Wolf and Mr. Birch.

C. MacDonald

July 21, 1952

SUMMARY SHEET

	Trolley Coach	Bus
Number Required	60	63
Investment in vehicles and overhead	\$1,480,350	\$1,291,500
Extra Investment for Trolley coaches	188,850	
Annual Fixed charges	144,625	154,980
Annual Operating Costs	696,597	755,613
Total Annual Fixed Charges and Operating Costs	841,222	910,593
Additional Annual Cost for Buses		69,371
Months to pay for additional investment from savings		33 Months.

INVESTMENT

	<u>Trolley Coach</u>	<u>Diesel or Propane Bus</u>
60 Trolley Coaches @ \$20,500	\$1,230,000	
63 Buses @ \$20,500		\$1,291,500
Overhead	250,350	
Total Investment	\$1,480,350	\$1,291,500

FIXED CHARGES

Trolley Coaches - 12 yrs. plus 4% of average investment	\$ 127,100	
Buses - 10 yrs. plus 4% of average investment		\$ 154,980
Overhead - 20 yrs. plus 4% of average investment	17,525	
Total Annual Fixed Charges	\$ 144,625	\$ 154,980

OPERATING COSTS

Maintenance Costs		
Rev. vehicles @ \$0.0392 per vehicle mile	\$ 91,346	
Rev. vehicles @ 0.0552 per vehicle mile		\$ 132,287
Overhead @ 0.0121 per vehicle mile	28,196	
Additional Servicing expense regd. for fueling etc. \$.01 per mile		23,929
Power @ \$.044 per mile	102,531	
Diesel fuel @ \$.0396 per mile		94,758
Transp. Operators @ \$2.32 per hr.	474,524	504,639
Total Annual Costs	\$ 696,597	\$ 755,613